2 Clogheen Business Park,
Blarney Road, Cork,
Ireland.

T: +353 (0)21 4399799
F: +353 (0)21 4399797
E: admin@rka.ie
W: www.rka.ie

CONSULTING ENGINEERS
CIVIL | STRUCTURAL | PROJECT MANAGEMENT

Site Specific Flood Report Assessment

Proposed Development at Gobnait Terrace, Ballyvourney, Co. Cork

For Cork County Council

www.rka.ie

REV 3, MAR. 2025

1 TABLE OF CONTENTS

1 INTRODUCTION

RKA Consulting Engineers were commissioned by the Cork County Council to prepare a Site-Specific Flood Risk Assessment (SSFRA) for a proposed residential development on Gobnait Terrace, Ballyvourney, Co. Cork.

The purpose of this report is to provide an updated assessment of the proposed development, reflecting recent changes to the original design plan. Initially, the development consisted of 20 houses in 5 terraces of 4 houses each. However, following a revision, the proposed development now includes 8 houses, divided into a terrace of 4 houses and a separate block of 4 apartments (2 at ground floor and 2 at first floor).

This SSFRA was prepared to comply with current planning legislation and forms part of proposed planning process for the subject site.

1.1 SCOPE

1.1.1 Objectives

The objectives of this report are to inform the planning process regarding flood risk for the potential development of the lands. The report will assess the site and development proposal in accordance the requirements of "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (referred to as The Guidelines in the remainder of this report). The report will provide the following;

- The site's flood zone category.
- Information to allow an informed decision of the planning application in the context of flood risk.
- Appropriate flood risk mitigation and management measures for any residual flood risk

1.1.2 Flood Risk Assessment Scope

This SSFRA relates only to the proposed development site and its immediate surroundings. This report uses information obtained from various sources, together with an assessment of flood risk for the existing land and proposed development. The report follows the requirements of The Guidelines.

1.1.3 Existing site

The existing site is located in the western end of Ballyvourney Village, north of the main Cork-Killarney road. The Sullane River flows through Ballyvourney running east-west about 150m to the southwest of the site. The river has been known to flood mainly to the west and upstream of Ballyvourney Bridge and onwards through lower areas of the village, and also upstream of Ballymakeery Bridge further east in the village. The proposed site is located approximately 180m north of the Ballyvourney Bridge. Maps of the existing site are shown in appendix 1 of this report. A map of the existing features is shown in Appendix 3 of this report.

The site itself is a relatively flat site, which slopes very gently northwards away from the N22. The lower southern end of the site at the N22 is 119.5m OD rising to the 121.5m OD on the northern end of the site. It is proposed to locate the new houses on the northern, higher side of the site, above the 120.5 contour. OPW flood maps and sections through the site are shown in Appendix 2 of this report.

Figure 1 Ballyvourney Bridge (upstream and downstream)

1.1.3.1 Lee CFRAM & OPW Flood Relief Scheme

The Lee CFRAM study concluded that a standalone study focusing on Ballyvourney should be carried out. There was an engineering study undertaken in 2013. The study included a range of flood relief options for the study area and justified a preferred flood relief scheme option. The option includes a combination of embankments, walls, channel straightening, bridge underpinning and localised dredging. The latest report on the progress and details of the flood relief scheme is appended to this study.

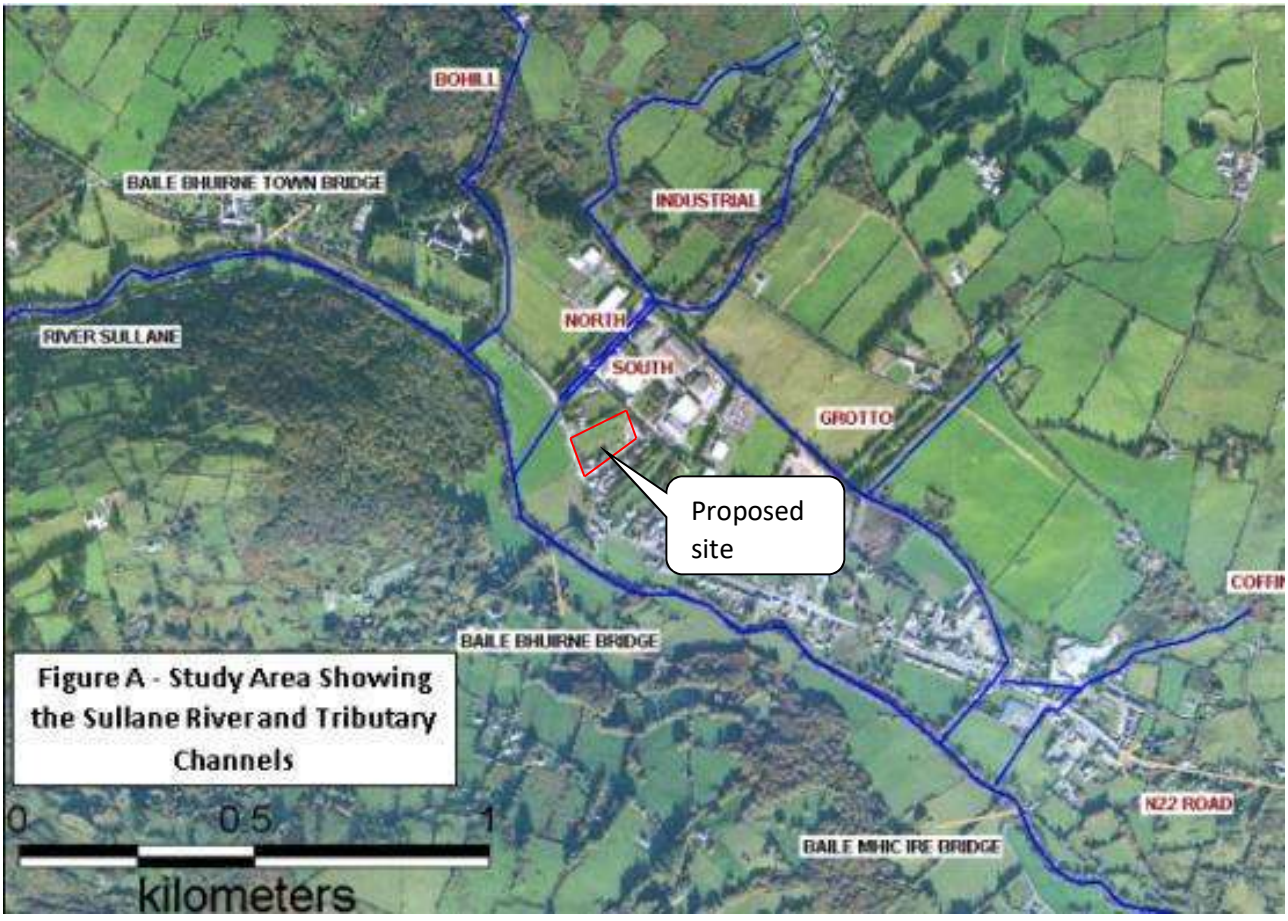

Figure 2 Excerpt from Ballymakeera/Ballyvourney FRS update by OPW

The proposed flood relief scheme recommends improvements which will remove the risk of flooding from the Sullane River in the future. The improvement works close to the site include widening the river channel to the west of Ballyvourney Bridge, upgrading the embankment across the N22 on the opposite side of the road from the proposed site, constructing new flood defence walls and a new flood defence embankment close to the Ballyvourney Bridge. Stage 3 of the flood relief scheme- "Detailed Engineering Design and Tender" was due to be completed in 2019. Stage 4 & 5 "Construction & Handover" are due to be completed during 2022. Appendix 3 to this report includes an update on the latest information available on this scheme and it also includes a map of the catchment, watercourses, existing and proposed flood defences.

Figure3 Floodplain south of the site below the N22

1.1.3.2 Flood Risk & Historical Data

Approximately the southern third of the site is liable to flooding according to current scenario flood maps published by the OPW. The .1% or 1:1000 flood covers the southern area of the site up to the 120.5 OD contour which runs east to west through the site. The 1% or 1:100 flood covers slightly less of the southern portion of the site approximately up to to 120.0 OD contour. The 10% or 1:10 year flood only reaches the south-western boundary of the site, approximately at the 119.5m OD contour.

The flood maps published by OPW for the site provides extreme event water level estimates. The nodes on the map closest to the proposed site are 5SUL-23223, 5-SUL23104U and 5SUL-22988. The flood levels in these nodes are as follows:-

Node	10% AEP	1% AEP	0.1% AEP
5SUL-23223	120.198	120.479	120.836
5SUL-23104U	119.546	120.112	120.655
5SUL-22988	119.263	120.036	120.618

The flood study maps show that the 0.1% flood level does not cross the 120.5 OD contour through the site, and does not cross the 120.0 OD contour on Gobnait Terrace. Further information on the site was obtained directly from the OPW using the most up to date data available from the Bally Mhic Ire FRS. This data was given for the actual site and gives the following data (see also Fig 7 below):-

Location	1% AEP	1% AEP +CC	0.1% AEP
Proposed site	120.340	120.610	120.835

The OPW advised that the latest information from the Bally Mhic Ire FRS supersedes the information on the CFRAMs flood maps. The information from the OPW is evidently higher than the information in the CFRAM maps and is therefore governing set of values for the site. RKA consulted with OPW and Cork County Council in September 2024 and it was confirmed that the information received from the OPW in 2020 remains current.

The OPW website www.floodmaps.ie contains records of significant historical flood events which have affected Ballyvourney. These typically flooded sections of the N22 and south of the N22 to the river. There is no record of these events affecting the proposed site. There is record of significant floods in 1962, 1986, 2006, 2009 and 2011. There is evidence of recurring floods to properties on the southern side on the N22 in the village. Appendix 5 includes reports on historic flooding in Ballymakeera/Ballyvourney.

1.1.4 Proposed Development

The proposed development is located in an existing complex of residential development. The proposed development includes 8 houses, divided into a terrace of 4 houses and a separate block of 4 apartments (2 at ground floor and 2 at first floor). It is proposed to build the houses on the northern side of the site, more or less north of, and higher than, the 120.5 contour. The southern side of the site is proposed to remain as a green area.

The site is served by the access road named Gobnait Terrace, which also serves the existing residential development to the east and north east of the proposed site.

1.2 METHODOLOGY.

The methodology adopted for the Flood Risk Assessment is to apply the sequential approach as identified in The Guidelines. This approach is outlined below in Figure 4.

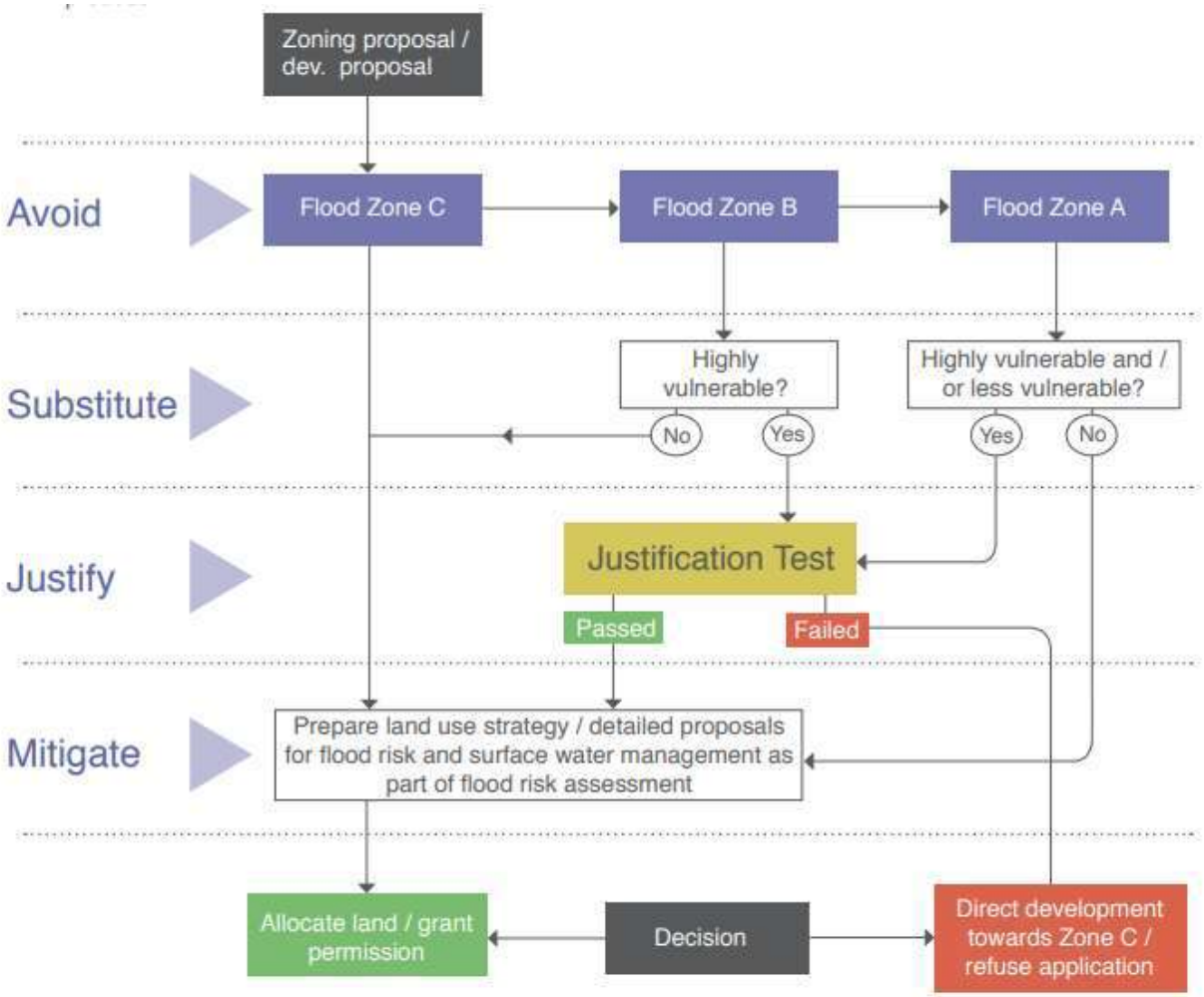

Figure 4

The process involves carrying out an Initial Stage Flood Risk Identification. This is followed by an Initial Flood Risk Assessment Stage. The results of the Initial Flood Risk Assessment Stage will determine whether or not a justification test is required for the site. The principals of the sequential test are outlined in Figure 5 below. This filtering process provides a holistic approach to addressing Flood Risk Assessments.

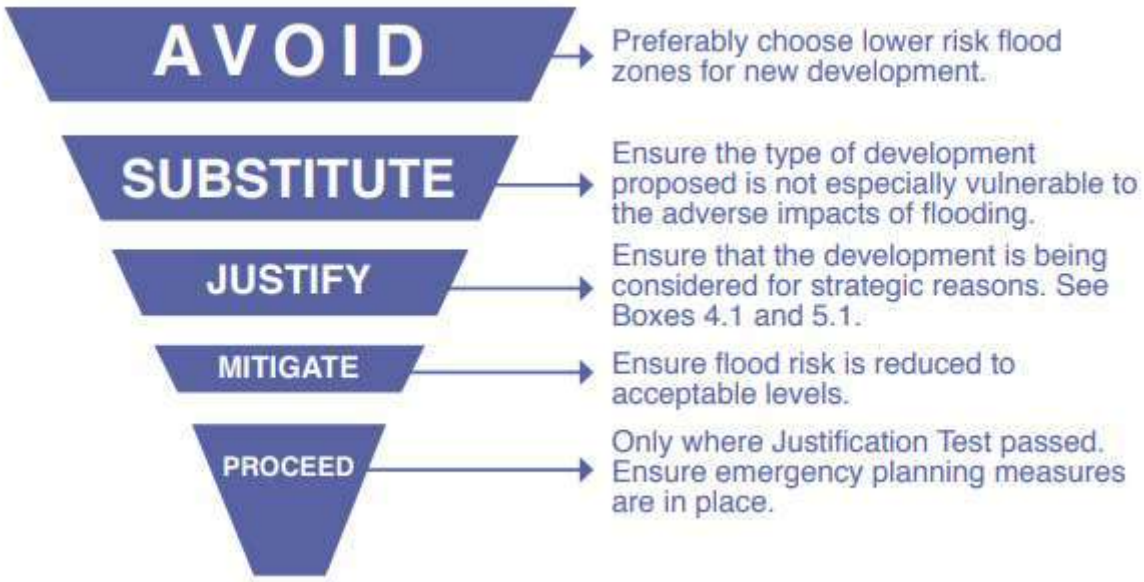

Figure 5

2 Stage 1 Flood Risk Identification.

The available flood risk information mapping for the site includes:-

- OPW mapping for fluvial flood risks
- Latest information from OPW relief scheme study
- floodmaps.ie & floodinfo.ie
- Cork County Development Plan
- Topographic Survey Plan
- Local Authority Drainage Records
- Historic Planning Applications in the vicinity of the site

See Appendices for details.

3 Stage 2 Initial Flood Risk Assessment.

3.1 Flood Zone Category.

Based upon the information identified above an assessment has been carried out to determine if the site falls within Flood Zone A, Flood Zone B or Flood Zone C. The definition of Flood Zones A, B and C are identified in Figure 6 below.

Zone	Description
Zone A High probability of flooding.	This zone defines areas with the highest risk of flooding from rivers (i.e. more than 1% probability or more than 1 in 100) and the coast (i.e. more than 0.5% probability or more than 1 in 200).
Zone B Moderate probability of flooding.	This zone defines areas with a moderate risk of flooding from rivers (i.e. 0.1% to 1% probability or between 1 in 100 and 1 in 1000) and the coast (i.e. 0.1% to 0.5% probability or between 1 in 200 and 1 in 1000).
Zone C Low probability of flooding.	This zone defines areas with a low risk of flooding from rivers and the coast (i.e. less than 0.1% probability or less than 1 in 1000).

Figure 6

3.1.1 Initial Fluvial Flooding Risk Assessment.

In order to assess the site using most up to date information RKA contacted the OPW in 2020 when this study was first undertaken. The design for the Ballyvourney FRS was in progress. On the 2nd of March 2020 Mark Hayes, Flood Risk Management - Flood Relief Design, of the OPW, advised that the flood level in Gobnait Terrace is 120.34m OD 1%, and 120.61 1% plus climate change (see figure 7). On the 3rd of March 2020 Mark Hayes further confirmed by email *"For the Baile Mhic Ire FRS study, the 0.1% AEP for this area is 120.835m OD".* These flood levels are higher than the flood levels on the online OPW maps. Mark Hayes also confirmed by email on the same day *"Yes the 2016 maps have been superseded with the Baile Mhic Ire FRS study".*

When RKA re-did this flood study in 2024 for the Part 8 permission for 8 housing units we re-contacted the OPW and Cork County Council and it was confirmed that there is no further information available from either authority, and the 2020 information remains current. Therefore, for this flood study, Zone C in Gobnait Terrace is above **120.835m OD.** This is higher than the flood maps on line, which are still shown as the 2016 mapping. A detailed topographic survey of the site has been done by CCC. This topographic survey was checked by RKA and agrees with the floor levels in the OPW data for Gobnait Terrace. In appendix 2 maps RKA have overlaid the 120.835m OD line from the topographic survey on the OPW online flood maps- the houses in this development are above the 120.835m level and are in Zone C.

The County Development Plan mapping indicates the site is within Zone B- however the map is very pixelated and does not have any high level of clarity. The maps and figures from the OPW, and the topographic survey clearly have a higher level of accuracy.

There is no risk to other sites from this development. This is based on the fact that there are no water pathways affected by the proposed development and the works are taking place outside the floodplain. Part of the parking area will be in Zone B; however, this is at existing levels and will not affect the floodplain.

The road and parking area serving the houses will be built partly within the 0.1% flood plain and is therefore within flood zone B. In section 3 of the guidelines local transport infrastructure is deemed "less vulnerable development" and as shown in table 3.2 of the guidelines it is deemed appropriate development.

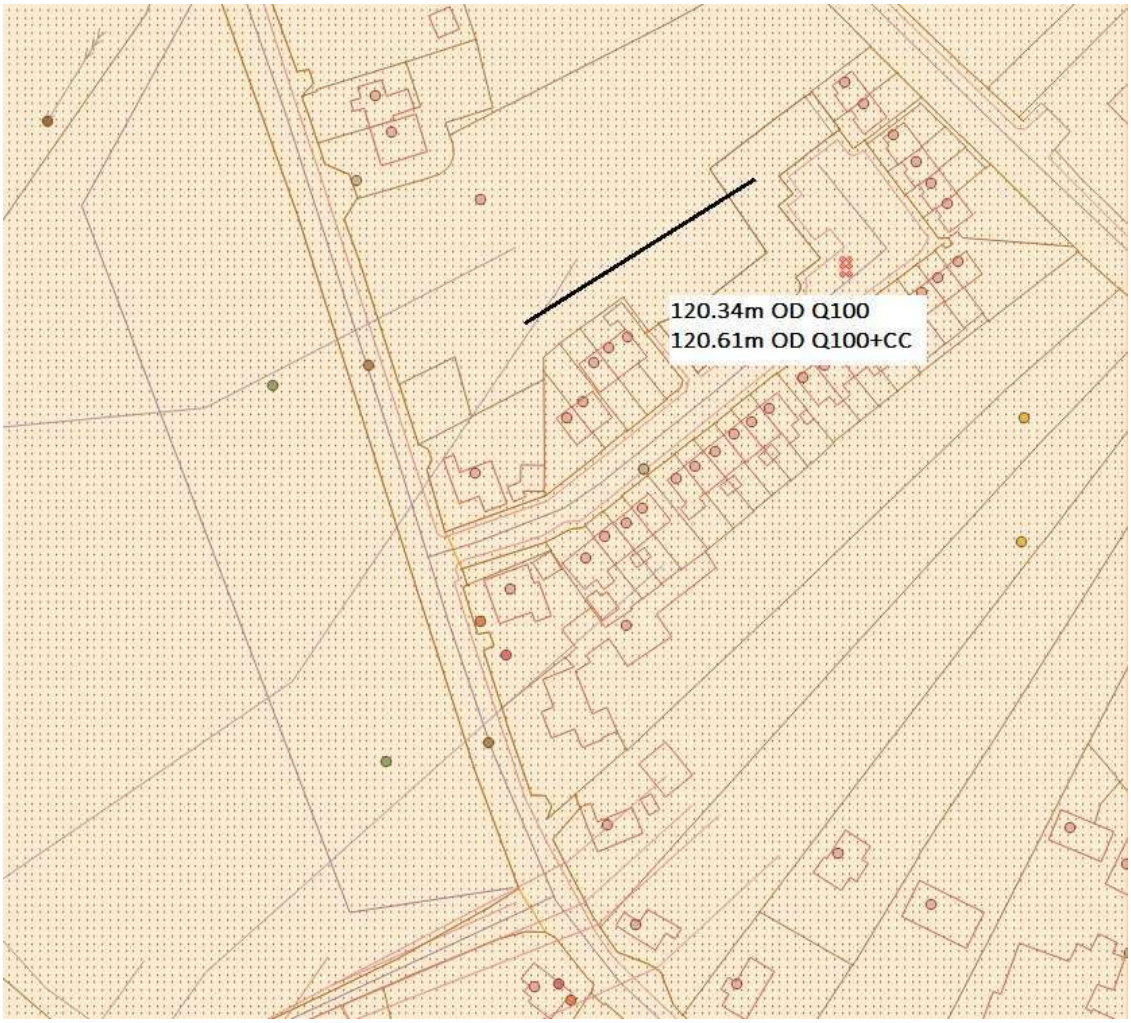

Figure 7 Site specific information from OPW received in 2020

3.2 Tidal Flood Risk Assessment.

The site is located a significant distance from the sea and tidal flooding is not possible at this site.

3.3 Initial Pluvial Flood Risk Assessment.

Pluvial flooding is possible in the site but unlikely. The site has no immediate uphill catchment. If pluvial flooding were to occur the only location it would arise would be in the lower side of the site, which is proposed to remain as green area.

3.4 Drainage Systems

Flooding from drainage systems is remote as the underground drainage and water supplies are well below the FFL's of the existing and proposed houses on Gobnait Terrace.

4 Site Access and Justification Test

The proposed development is at the perimeter of the flood zone B. The proposed housing units will be outside the 0.1% flood zone in Zone C, the existing ground level and the proposed floor levels for the houses are in flood zone C. Less vulnerable works, namely the road serving the development will take place within the 0.1% flood zone, in "Zone B". The existing access to the site from the N22 on Gobnait Terrace and the N22 itself adjacent to the site are both subject to flooding in the 10% or 1:10 year flood levels. The flooding on the access route and N22 will not be affected by the proposed development. As the access to

the site is affected by flooding and part of the site is in flood zone B, it is conservatively deemed necessary to carry out a justification test on the access to the site. The following is a justification test following the guidelines.

In accordance with section 5 of the guidelines, and Box 5.1, it can be demonstrated that:-

1. The proposed site is within the development boundary of Ballyvourney Village and the proposed use of residential development is suitable for the site (See appendix 6). The site is in an area zoned as "Existing Built-up Areas", the definition of this in the development plan is "*Existing Built Up Areas Normally encourage through the Local Area Plan's development that supports in general the primary land use of the surrounding existing built up area. Development that does not support, or threatens the vitality or integrity of, the primary use of these existing built up areas will be resisted*". The area around the proposed site is a mainly residential, with some services, such as the adjacent Health Centre to the west.
2. The proposed development will:-
    i. Not increase flood risk elsewhere as works are on the edge of the 0.1% flood level, with the finished floor levels of the houses being in flood zone C and only less vulnerable local infrastructure works taking place within Zone B, or below the 0.1% flood level. The existing "floodplain" is unaffected and no water pathways within the flood zone are affected.
    ii. The proposal includes additional measures to minimise flood risk to people and property by setting floor levels of the proposed houses at a level that is comfortably above the predicted flood levels on the site. The floor levels have been set as high as is reasonably possible without affecting the streetscape negatively. The houses are being built on the higher part of the site above the 0.1% AEP flood level on the site.
    iii. Ensure the residual risk on the site is low as the proposed development is being done above the 0.1% AEP level. The access to the site is via the N22 and local road network of which parts are in the 10% flood zone. The risk to the road network is not increased by this development. The flooding of the N22 is being dealt with by the OPW funded Ballyvourney/Ballymakeera flood relief scheme.
    iv. There are measures in place to address future flood risk management of the access to the site and the development of the site is compatible with the achievement of wider planning objectives for the area. The OPW funded flood relief scheme is underway and it is at stage I: Scheme Development & Preliminary Design.

5 SURFACE WATER

The site is low lying; there is evidence of a storm water network on the existing roads serving the road gullies. It is unlikely to be permitted to connect to an existing storm water or combined sewer system. A connection to existing storm sewers would require to achieve Greenfield run-off rates- therefore attenuation would be required. Attenuation on a low lying site such as this would likely require pumping and be impractical. Therefore the recommended approach on this site would be to minimise impermeable areas and dispose of surface water to soakaways.

From geological maps the bedrock geology is sandstone, siltstone and mudstone. The permeability of the overlying soils would require to be checked by tests on site. Planning permission was obtained for 10 houses to the west of the site under planning reference 07/7767, 5 of these houses were built, planning for three more houses was granted under 15/06420- making a total a of eight houses granted permission. The surface water for this development was disposed of to soakaways. Further west a house was granted permission under 19/5592 and this development also disposed of surface water to soakaways. The use of soakaways on both these sites was acceptable to the Area Engineer. The site layouts for these developments are included in Appendix 6.

Given the successful use of soakaways nearby it is expected that there will be sufficient permeability on site to dispose of surface water to soakaways on the green areas on the proposed site. For the new road and parking areas it is recommended to consider a permeable surfacing, such as permeable paving or asphalt. The final design for the disposal of surface water would depend on the results of testing to determine infiltration rate of the soil and the height of the water table which would need to be determined by testing on site. It would be preferred to have the proposed soakaways on the northern side of the site, in Zone C, with less than 0.1% probability of flooding.

6 CONCLUSION

A flood risk assessment has been carried out for the site. The proposed houses are in flood zone C. Some road and parking works are taking place in the edge of flood zone B, this work will be at existing levels and it will not displace waters or increase flood risk elsewhere. The findings of this flood study do not depend on the Ballyvourney Flood Relief Scheme, and are based on most conservative flooding information in the current scenario, i.e. before the Ballyvourney FRS works are completed.

On the County Development Maps and the OPW levels part of the access to the site is in flood zone B and therefore the site requires a justification test. Applying a justification test to the site identifies that the development is suitable. The proposed houses are in flood zone C. The flooding of the existing road network around the site will not be affected by the proposed development and will be addressed by the OPW flood relief scheme, currently in stage I: Scheme Development & Preliminary Design.

Appendices

6.1 APPENDIX 1:-

Existing and proposed plans
Proposed development overlaid onto county development plan map

6.2 APPENDIX 2:-

OPW flood maps
Proposed Development and latest flood level data from OPW overlaid onto OPW flood maps
Sections through proposed development to indicate flood levels

6.3 APPENDIX 3:-

Ballymakeera/Ballyvourney Flood Relief Scheme information including:-

- Map of existing watercourses, existing and proposed flood defences
- Proposed programme, due for completion 2022

6.4 APPENDIX 4:-

Flood study nearby for planning reference 19/5592

6.5 APPENDIX 5:-

Map and reports of historic flooding

6.6 APPENDIX 6:-

Zoning map and site layouts for nearby planning applications to the west

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APPENDIX 1

Existing and Proposed Plans

Proposed Development overlaid onto County Development Plan Map

Note :
Dimensions not to be scaled from drawing.
For any discrepancies found consult with design office.

This drawing to be read in conjunction with all the Specification Documents.

N

SITE LAYOUT LEGEND

S I T E

Site boundary - 0.27 Hectares (0.66 Acres)
ITM - 520316.88
577263.67

Lands in ownership of Applicant

Rev / Issue No.	Revision / Issue Description	Date
01	Issued for Stage 1 Submission	March 2024

Project Stage: **Stage 1&2**

Job Title: **St Gobnaits, Ballyvourney**
Co Cork

Architects Department
Housing Directorate

County Hall, Cork
Tel: (021) 4285430
e-mail: architects@corkcoco.ie

Senior Architect: Ruth Henry

Drawing Title: **Site Location Map**
–

Design Team:
Architect: **R Fenton**
Technician: **E Sheahan**
Surveyor: **R. Brosnan**

Date: **March 2024**
Scale: **1:1000**
Sheet: **A1**

Dwg. No. **1.01**

Job No. **S_2019_026**

Rialtas na hÉireann Government of Ireland
Tionscadal Éireann Project Ireland 2040

Note :
Dimensions not to be scaled from drawing.
For any discrepancies found consult with design office.

This drawing to be read in conjunction with all the Specification Documents.

N

SITE LAYOUT LEGEND

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577263.67

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01	Issued for Stage 1 Submission	March 2024
Rev / Issue No.	Revision / Issue Description	Date

Project Stage: **Stage 1&2**

Job Title: **St Gobnaits, Ballyvourney**
Co Cork

Architects Department
Housing Directorate

County Hall, Cork
Tel: (021) 4285430
e-mail: architects@corkcoco.ie

Senior Architect: Ruth Henry

Drawing Title: **Existing Site Layout**

_

Design Team:
Architect: **R Fenton**
Technician: **E Sheahan**
Surveyor: **R. Brosnan**

Date: **March 2024**
Scale: **1:250**
Sheet: **A1**

Dwg. No. **1.02**

Job No. **S_2019_026**

Rialtas na hÉireann Government of Ireland
Tionscadal Éireann Project Ireland 2040

proposed new pedestrian crossing on a raised table at the location
coloured dashed line indicates location of existing traffic calming ramp to be removed
2.5m opening in new wall with 450 x 450mm piers both sides and 1.0 high cast iron bollard place centrally in the opening
existing trees, hedgerow etc. to be retained
line of existing conc post and wire mesh fence
proposed opening of existing boundary and new pedestrian crossing at this location
SITE BOUNDARY IN RED.
existing concrete post and wire fencing to be removed
line of existing conc post and wire mesh fence
line of existing block wall to existing site boundary
existing boundary wall with neighbouring estate
proposed footpath
No. 30
No. 31
No. 32
No. 33
FFL=121,350
BINS + BIKES
BINS
No. 29
No. 28
No. 27
No. 26
No. 25
No. 24
No. 23
No. 22
proposed footpath and grass verge in front of existing dwellings Nos. 28 and 29
1.2m high stone clad wall in front of houses to match existing ones in St Gobnait's estate
purple dashed line indicates location of the existing kerb of the existing parking area
SITE BOUNDARY IN RED.
surface treatment here to match existing adjacent car parking area, parking spaces delineated using contrasting coloured pavers
dashed purple line in this location indicates existing car park kerbing and footpath to be removed to facilitate new reconfigured parking area
remove existing tree from this location
St. Gobnait's Estate (EXISTING)
existing parking spaces retained
No. 37
No. 35
No. 36
No. 34
FFL=121,500
BINS STORE
BIKES SHELTER
proposed bin store set into proposed 1.8m high stone wall
proposed footpath
stone clad 1.2m high wall in front of apartments finish to match existing on St Gobnait's estate
new concrete footpath linking into existing estate
SITE BOUNDARY IN RED.
proposed footpath
dashed purple line in this location indicates existing site boundary wall to be removed
EXISTING OPEN AREA
existing footpath retained
Cross hatched area indicates meadow and assorted wild flower planting
proposed 1.2m high timber post and rail fence on the proposed site boundary line on the existing grassed area.
SITE BOUNDARY IN RED.

CAR PARKING	spaces
Existing Car Parking:	24
Existing Car Parking to be removed	- 05
total existing remaining	19
proposed new car parking	13
total proposed + existing	31
net increase	07

no. of dwellings:	
existing	10
proposed	08
total	18 No.

LEGEND - Site Layout

01	Grass /Lawn	
02	Footpath	
03	concrete paviors	
04	gravel	
05	patio/terrace paving	
A	1.8m high s/c rendered conc block wall with pc concrete capping	
B	Existing s/c rendered conc block wall with pc concrete capping to be cleaned and painted to selected colour	
C	New 1.8m high treated timber panel fence with pc concrete posts and plinth	
D	1.2m high conc block wall with selected random rubble type stone cladding to match existing low walls to existing dwellings in St Gobnait's estate	
D.1	as type D above except that this section of wall is 1.8m high	
E	bin store and bicycle store comprising 1.27m high dash rendered 215mm block walls with timber sheeted doors on galvanized steel frames, roof/lid to be cast in-situ reinforced concrete with 1:50 fall and cast-in 20mm drip at the slab edge.	
F	1.2 m high treated timber post and rail fence	

LEGEND - TREES and SHRUB Landscaping

#1	**Tree Type # 1** - Rowan ("Sorbus aucuparia") Sheer water seedling	
#2	**Tree Type # 2** - Wild Cherry ("Prunus avium")	
#3	**Tree Type # 3** - Silver Birch (Betula pendula)	
#4	**Tree Type # 4** - Whitebeam ("Sorbus aria Majestica")	
#A	**Shrub/Hedge Planting # A** - Wild Privet ("Ligustrum vulgare")	
#B	**Shrub/Hedge Planting # B** - Gelder Rose ("Viburnum opulus")	
#C	**Shrub/Hedge Planting # C** - Dogwood ("Cornus sanguine")	

Site area: 0.38 Ha.

Site Boundary: — Boundary of adjoining properties owned by Cork Co.Council —

To be removed or demolished - - -

PLANNING

P1	03.10.24	ISSUED FOR INFORMATION
P2	04.11.24	SURFACE FINISHES, NOTES, DIMENSIONS AND LANDSCAPING ADDED - FOR INFORMATION
P3	11.11.24	TREE AND SHRUB SPECIES AND SPEC. NOTES ADDED
P4	14.11.24	BINS STORE AND BIKE STORE CONFIGURATION ALTERED
P5	19.11.24	RECONFIGURATION OF HOUSES LOCATION, BOUNDARY WALLS, BIN AND BIKE STORES AND ADJUSTMENTS TO KERBING, FOOTPATHS AND CAR PARKING

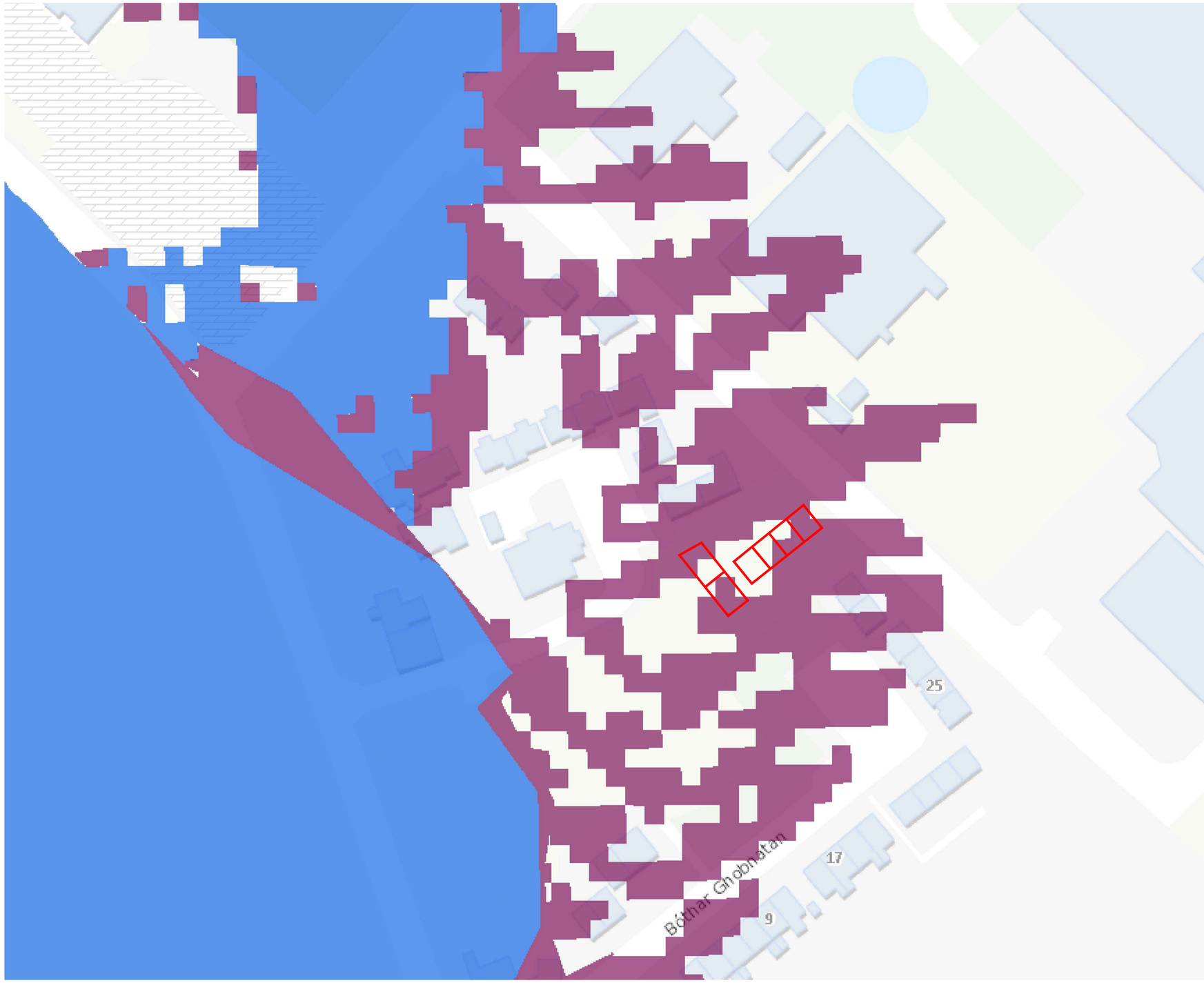
Paul Redmond Architecture
Architecture Design Planning Project Management Consultants
Acorn Business Centre, Blackrock, Cork Ireland
T +353 (0)21 461 4286 | F +353 (0)21 435 0666 | www.prarch.ie | info@prarch.ie

Project: Proposed Social Housing Units at St Gobnaits Estate Ballyvourney, Co. Cork for Cork Co. Council
Job No: 24301 | Scale: 1:200@A1 | Date: Sept 2024
Drawing title: PROPOSED SITE LAYOUT
Drawing: 1000 | Drn: pr | Rev: P5

PaulRedmondArchitecture

Original Drawing Size A1

Notes



ZONE A

ZONE B

PROPOSED DEVELOPMENT

Rev	Date	Drawn	Description	Ch'k'd
R	Sep. '24	TA	Issued for Flood Risk Assessment Report	BA

2 Clogheen Business Park,
Blarney Road, Cork,
Ireland.
T: +353 (0)21 4399799
F: +353 (0)21 4399797
E: admin@rka.ie
W: www.rka.ie
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Client:
Cork County Council

Project:
Proposed Housing Development
at St. Gobnaits, Ballyvourney,
Co. Cork.

Drawing Title:
Proposed Development Overlaid onto
County Development Plan Map

Designed:	BA	Drawn:	TA	Date:	Sep. '24
Eng Chk:	BA	Dwg. Chk:	BA	Scale:	1:500
Project. No:	587-000				
Drawing No:	03			Status:	Report
				Rev:	0

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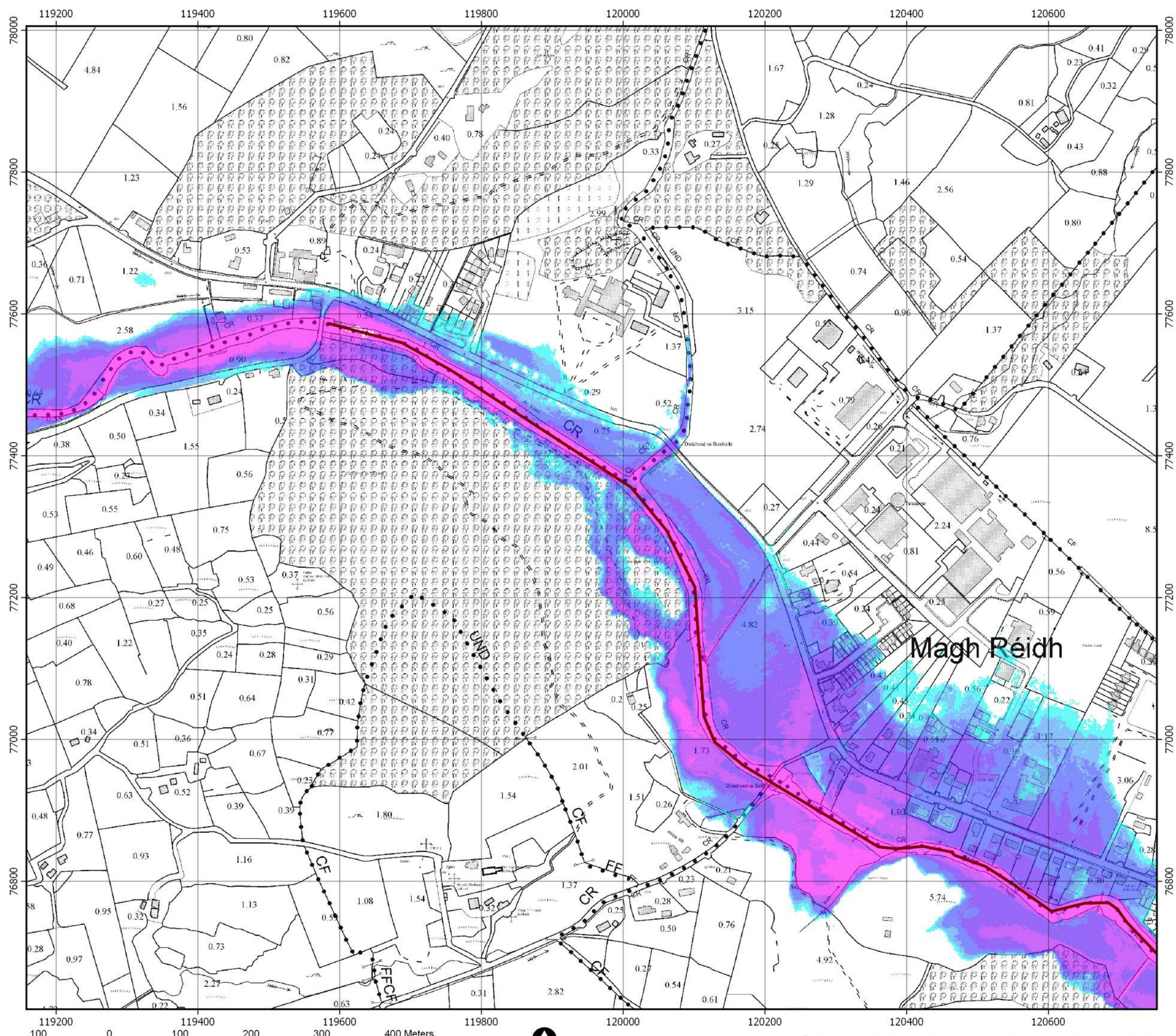
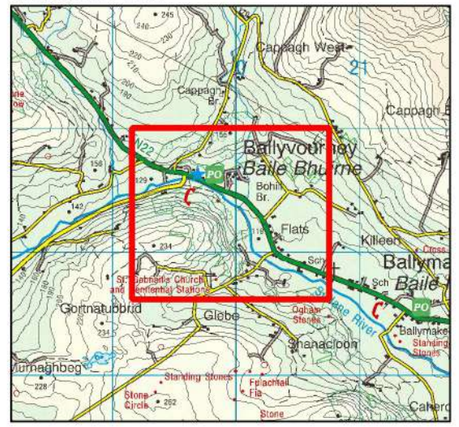
APPENDIX 2

Proposed Development overlaid onto OPW Flood Maps

Sections through proposed development to indicate flood levels



Location Plan:



LEGEND

Modelled River Centreline

0.1% AEP Fluvial Flood Depth

- 0 - 0.25m
- 0.25 - 0.5m
- 0.5 - 1.0m
- 1.0 - 1.5m
- 1.5 - 2m
- > 2.0m

IMPORTANT USER NOTE:
THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

OPW
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The Office of Public Works

The Office of Public Works
Jonathan Swift Street
Trim
Co. Meath

Project:

BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLOOD RELIEF SCHEME

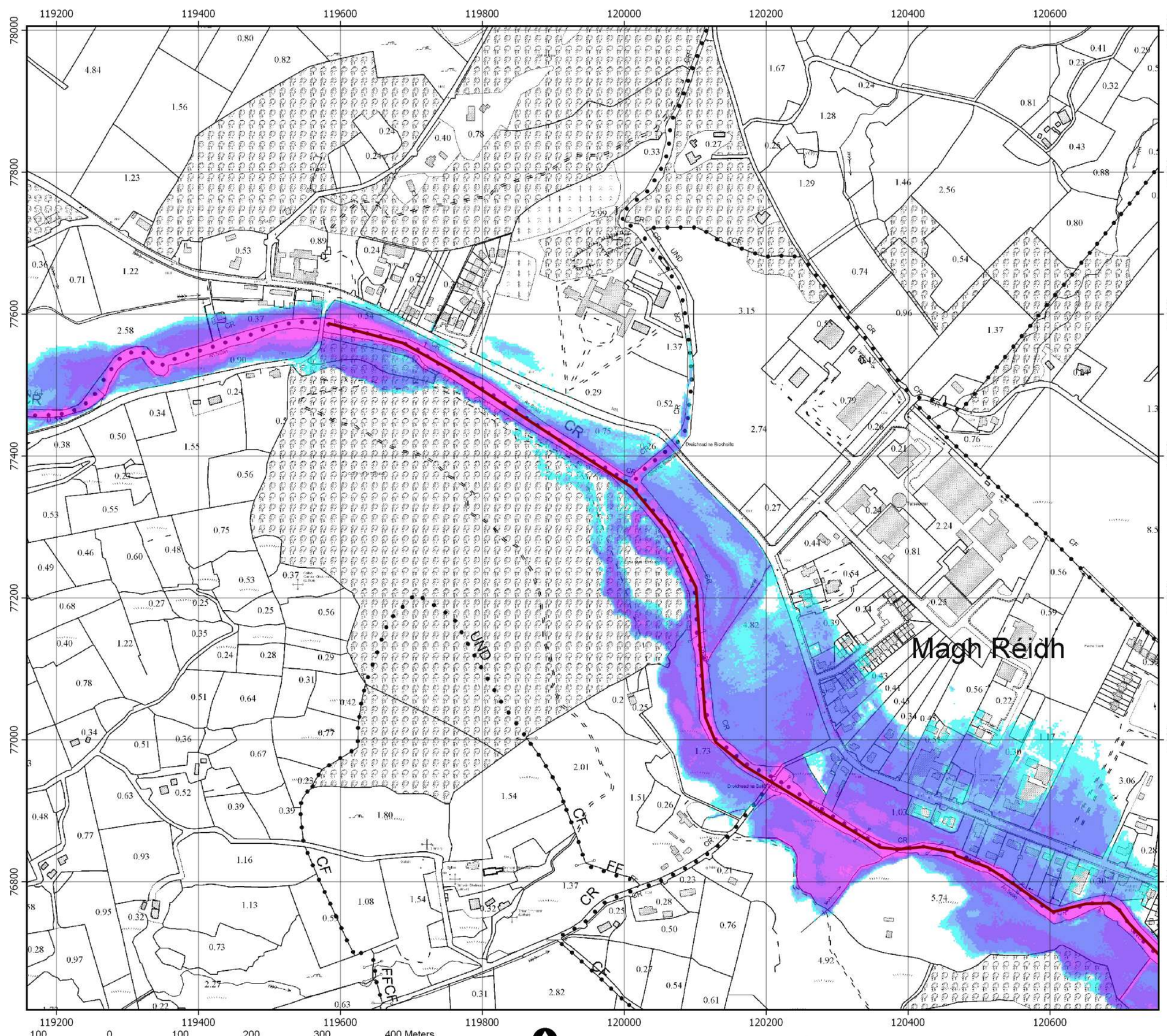
Map: **BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLUVIAL FLOOD DEPTH MAP**

Map Type:	DEPTH		
Source:	FLUVIAL		
Map Area:	HPW		
Scenario:	CURRENT		
Drawn by:	IH	Date:	Jul - 2016
Checked by:	DD	Date:	Jul - 2016
Approved by:	JM	Date:	Jul - 2016

Map No.:
I19BMI_DPFCD001_F1_Sht001

Revision: F1

Map Scale: 1:5,000 Plot Scale: 1:1 @ A3



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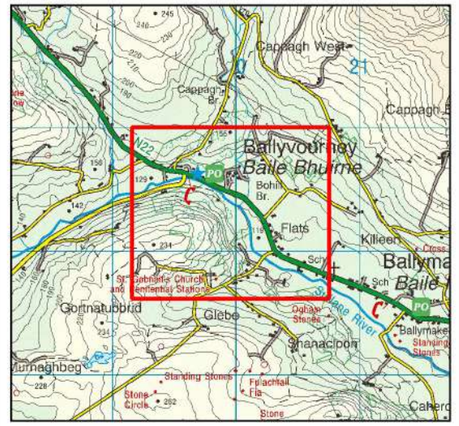

LEGEND

Modelled River Centreline

1% AEP Fluvial Flood Depth

- 0 - 0.25m
- 0.25 - 0.5m
- 0.5 - 1.0m
- 1.0 - 1.5m
- 1.5 - 2m
- > 2.0m

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Project:

BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLOOD RELIEF SCHEME

Map: **BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLUVIAL FLOOD DEPTH MAP**

Map Type:	DEPTH		
Source:	FLUVIAL		
Map Area:	HPW		
Scenario:	CURRENT		
Drawn by:	IH	Date:	Jul - 2016
Checked by:	DD	Date:	Jul - 2016
Approved by:	JM	Date:	Jul - 2016

Map No.:
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Revision: F1

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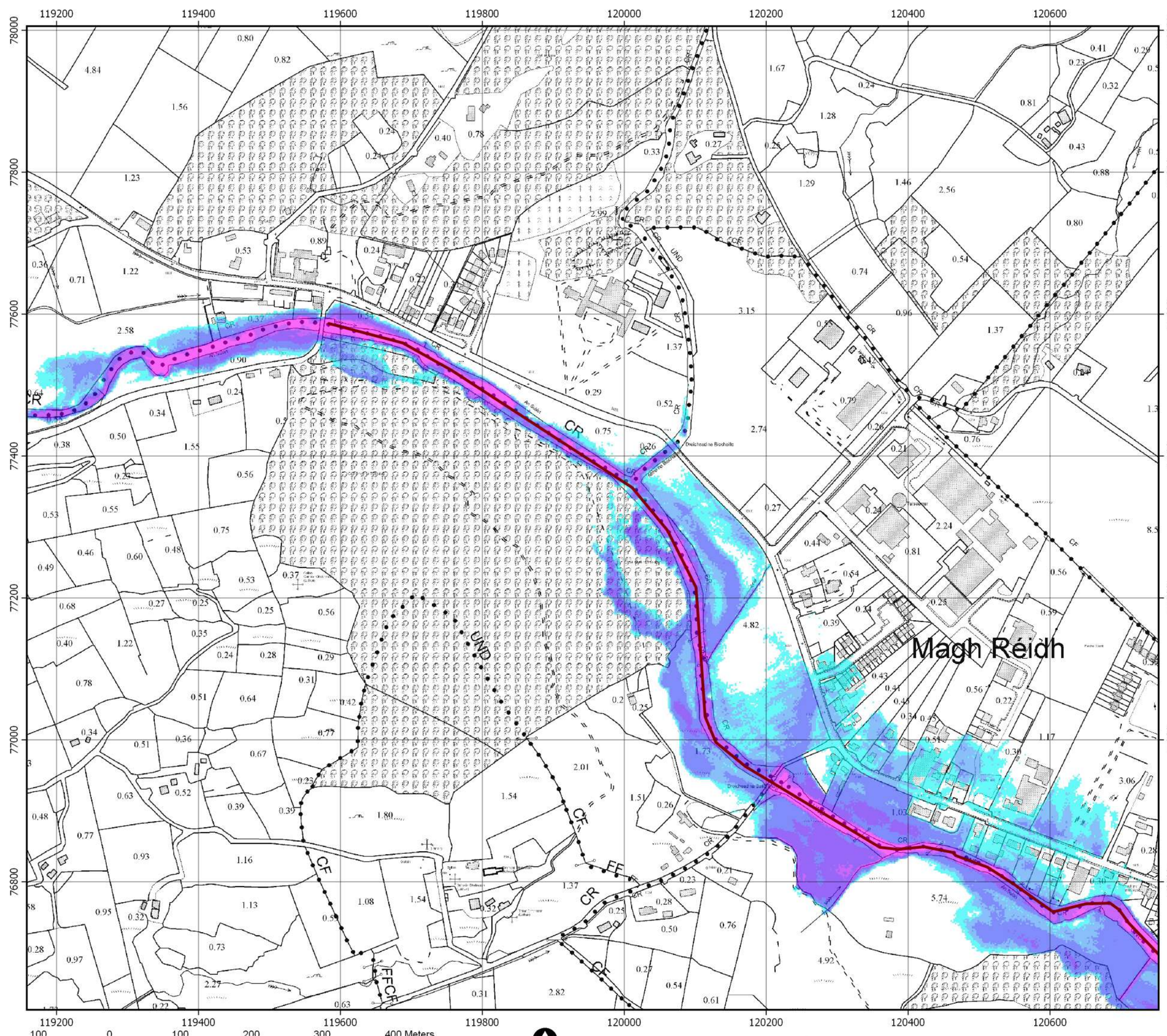

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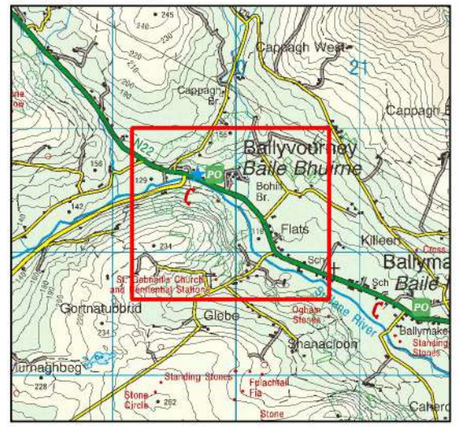

LEGEND

Modelled River Centreline

10% AEP Fluvial Flood Depth

- 0 - 0.25m
- 0.25 - 0.5m
- 0.5 - 1.0m
- 1.0 - 1.5m
- 1.5 - 2m
- > 2.0m

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The Office of Public Works
Jonathan Swift Street
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Co. Meath

Project:

BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLOOD RELIEF SCHEME

Map: **BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLUVIAL FLOOD DEPTH MAP**

Map Type:	DEPTH		
Source:	FLUVIAL		
Map Area:	HPW		
Scenario:	CURRENT		
Drawn by:	IH	Date:	Jul - 2016
Checked by:	DD	Date:	Jul - 2016
Approved by:	JM	Date:	Jul - 2016

Map No.: I19BMI_DPFCD100_F1_Sht001

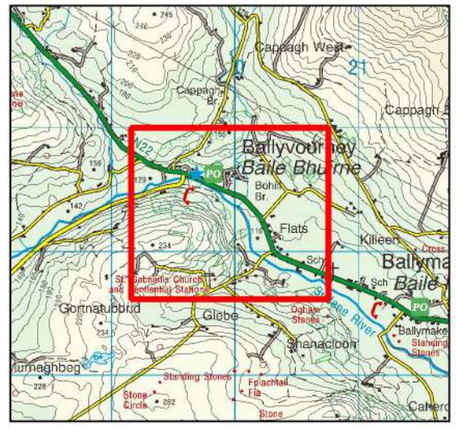
Revision: F1

Map Scale: 1:5,000 Plot Scale: 1:1 @ A3

Node Label	Water Level (mOD) 10% AEP	Water Level (mOD) 1% AEP	Water Level (mOD) 0.1% AEP
5SUL_24509	128.14	128.557	128.895
5SUL_24106	125.781	126.486	127.035
5SUL_23951	125.416	126.262	126.848
5SUL_23940U	125.389	126.248	126.838
5SUL_23940D	124.907	125.544	126.143
5SUL_23923	124.514	125.07	125.47
5SUL_23803	123.137	123.85	124.385
5SUL_23689	122.469	123.104	123.554
5SUL_23573	121.957	122.583	123.031
5SUL_23459	121.189	121.621	121.925
5SUL_23340U	120.791	121.082	121.36
5SUL_23340D	120.806	121.101	121.383
5SUL_23223	120.198	120.479	120.836
5SUL_23104U	119.543	120.111	120.664
5SUL_23104D	119.546	120.112	120.665
5SUL_22988	119.263	120.036	120.618
5SUL_22949U	119.201	120.014	120.601
5SUL_22949D	118.842	119.24	119.611
5SUL_22930U	118.831	119.231	119.604
5SUL_22930D	118.693	119.109	119.492
5SUL_22795	118.151	118.617	119.006
5SUL_22662	117.679	118.119	118.481
22635	117.58	118.011	118.381
5SUL_22541	117.218	117.658	118.055
22425	116.85	117.233	117.622
5SUL_22423	116.499	116.973	117.347
22370X	116.314	116.756	117.178

Magh Réidh

Location Plan:



LEGEND

- AFA Boundary
- Defended Area
- Modelled River Centreline
- Node Point
- 10% AEP Fluvial Extent (High Risk)
- 1% AEP Fluvial Extent (Medium Risk)
- 0.1% AEP Fluvial Extent (Low Risk)
- Flood Defence - Embankment
- Flood Defence - Wall
- Gate
- NODE123 — Node Label
- x.x% AEP — Standard of Protection of Flood Defence

IMPORTANT USER NOTE:
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The Office of Public Works

The Office of Public Works
Jonathan Swift Street
Trim
Co. Meath

Project:
BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLOOD RELIEF SCHEME

Map: **BAILE MHIC IRE/BAILE BHUIRNE (BALLYMAKEARY/BALLYVOURNEY) FLUVIAL FLOOD EXTENT MAP**

Map Type:	EXTENT		
Source:	FLUVIAL		
Map Area:	HPW		
Scenario:	CURRENT		
Drawn by:	IH	Date:	Jul - 2016
Checked by:	DD	Date:	Jul - 2016
Approved by:	JM	Date:	Jul - 2016

Map No.: I19BMI_EXFCD_F1_Sht001

Revision: F1

Map Scale: 1:5,000 Plot Scale: 1:1 @ A3

Original Drawing Size A3

Notes

LEGEND:

01 / 02 = SECTION MARK '01' - ON DWG. No. '02'

= 0.1% AEP FLUVIAL EXTENT (LOW RISK)

= 1% AEP FLUVIAL EXTENT (MEDIUM RISK)

= 10% AEP FLUVIAL EXTENT (HIGH RISK)

0.1% AEP FLOOD LEVEL LINE ADVISE BY OPW (120.835 OPW FLOOD LEVEL)

St. Gobnait's Estate (EXISTING)

AREA FOR 20m x 10m

PROPOSED CONTRACTOR'S COMPOUND DURING CONSTRUCTION

EXISTING OPEN AREA

0.1% AEP FLOOD LEVEL LINE ADVISE BY OPW (120.835 OPW FLOOD LEVEL)

Rev	Date	Drawn	Description	Ch'k'd
R 2	Feb. '25	TA	Issued for Flood Risk Assessment Report	BA
R 1	Dec. '24	TA	Issued for Flood Risk Assessment Report	BA
R	Sep. '24	TA	Issued for Flood Risk Assessment Report	BA

2 Clogheen Business Park,
Blarney Road, Cork,
Ireland.
T: +353 (0)21 4399799
F: +353 (0)21 4399797
E: admin@rka.ie
W: www.rka.ie
CONSULTING ENGINEERS
CIVIL | STRUCTURAL | PROJECT MANAGEMENT

Client:
Cork County Council

Project:
Proposed Housing Development
at St. Gobnaits, Ballyvourney,
Co. Cork.

Drawing Title:
Proposed Development Overlaid onto OPW Flood Maps

Designed:	-	Drawn:	TA	Date:	Sep. '24
Eng Chk:	BA	Dwg. Chk:	BA	Scale:	A3 @ 1:500
Project. No:	587-000				
Drawing No:	01			Status:	Report
				Rev:	R 2

Original Drawing Size A1

Notes

LEGEND:

01
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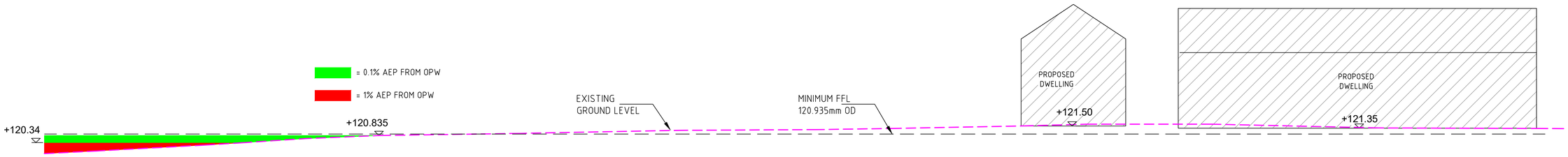

SECTION 01
SCALE 1:150 02

DRAFT
ISSUED FOR REVIEW

Rev	Date	Drawn	Description	Ch'k'd
R	Sep. '24	TA	Issued for Flood Risk Assessment Report	BA

2 Clogheen Business Park,
Blarney Road, Cork,
Ireland.
T: +353 (0)21 4399799
F: +353 (0)21 4399797
E: admin@rka.ie
W: www.rka.ie
CONSULTING ENGINEERS
CIVIL | STRUCTURAL | PROJECT MANAGEMENT

Client:
Cork County Council

Project:
Proposed Housing Development
at St. Gobnaits, Ballyvourney,
Co. Cork.

Drawing Title:
Section Through Proposed Development
To Indicate Flood Levels

Designed:	BA	Drawn:	TA	Date:	Sep. '24
Eng Chk:	BA	Dwg. Chk:	BA	Scale:	1:150
Project. No:	587-000				
Drawing No:	02			Status:	Report
				Rev:	0

CONSULTING ENGINEERS
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APPENDIX 3

Ballymakeera/Ballyvourney Flood Relief Scheme information including:-

- **Map of existing watercourses, existing and proposed flood defences**
- **Proposed programme, due for completion 2022**

Ballymakeera / Ballyvourney (Baile Mhic Ire / Baile Bhúirne)
Flood Relief Scheme

Introduction

The Lee CFRAM study highlighted Baile Mhic Ire as an area where a flood relief scheme was justifiable based on social, environmental and costs benefits analyses. A review of the Lee CFRAM study concluded that a standalone study focusing on the Baile Mhic Ire area was required.

Source of Flooding

The causes of flooding in the town are from the river itself, surface water flooding along the main street including backing up of surface water mains, overland flow and localized flooding from a number of minor tributaries entering the Sullane River through the town from the north.

Historically the flood areas include; upstream of Baile Bhuirne Bridge, through the middle of the town at the garage yard, upstream of Baile Mhic Ire Bridge and just west of the Post Office where surface water is backed up from the river.

Progress to Date

The Ballymakeera / Ballyvourney (Baile Mhic Ire / Baile Bhúirne) Engineering report completed in September 2013 included a range of flood relief options for the study area and justified a preferred flood relief scheme option. The option includes a combination of embankments, walls, channel straightening, bridge underpinning and localised dredging.

The stretch of the Sullane River within the study area has a history of Fresh Water Pearl Mussels (FWPM), due to this and the preferred options need for in channel works, a stage two FWPM survey was required – this survey was complete in June 2014.

The survey found FWPM along all the reaches, which the preferred option required in-channel works. On the environmental consultant's advice, for the preferred option to be environmentally viable, a solution to avoid damage to the FWPM was required to be illustrated. A proposed solution was to translocate the effected FWPM during the construction of the preferred scheme option then re-introduce them post the scheme works.

To attain an evaluation on such a solution, the National Parks and Wildlife Service (NPWS) as the responsible authority was contacted and a proposal prepared and forwarded to them for evaluation.

NPWS provided a positive response to the proposal and as a result, the OPW are in a position to proceed. The stage two public consultation day has taken place and an environmental impact statement will be prepared followed closely by the schemes exhibition.

Current Status of Scheme

The Ballymakeera / Ballyvourney (Baile Mhic Ire / Baile Bhúirne) scheme is currently at outline design stage. A ground investigation survey completed in 2017 will assist in determining the final option for the scheme.

A second public information day was held in the Abbey Hotel, Ballyvourney on March 22, 2018 to offer an opportunity for local representatives and stakeholders to raise issues and discuss their concerns. Further submissions from local representatives and stakeholders will be accepted up until the end of April 2018. All comments submitted will be considered when reviewing the final option for the Ballymakeera / Ballyvourney flood relief scheme.

Scheme proposal presented at the Abbey Hotel can be viewed below.

NOTES:

Figured dimensions only to be taken from this drawing, do not scale.
The project engineer to be informed immediately of any discrepancies noted.

Rev	Date	Checked	Description

O.P.W. Engineering Services
Flood Relief Design Section

Director Of Engineering Services John Curtin
Assistant Chief Engineer Mark Adamson
Grade 1 Engineer Timothy Joyce
Project Engineer Mark Hayes
Telephone. +353 (0)1 6476000 Fax. +353 (0)1 6761714
E-mail engineering.services@opw.ie

PROJECT
RIVER SULLANE (Baile Mhic Ire) DRAINAGE SCHEME

DRAWING
SCHEME PROPOSALS

Scales	NTS
Date	19/02/18
Drawn	ND
Checked	MH
Approved	TJ

The Office of Public Works
Oifig na nOibreacha Poiblí

Purpose Of Issue: INFORMATION

Drawing No. 2254/DR/001a

Ballymakeera & Ballyvourney Flood Relief Scheme (River Sullane)

Flooding at Ballymakeera Bridge October 2011

Flooding at Ballyvourney Bridge October 2011

Flooding on Main Street September 2015

Study Objectives & Overview

The purpose of the project is to develop a Flood Relief Scheme to reduce the frequency and impact of flooding in Ballymakeera and Ballyvourney.

Stage 1 – Risk Assessment & Preferred Option Selection

Identify the preferred scheme through an assessment of a range of measures both structural and non-structural, to determine their technical, economical & environmental viability.

Status: Complete March 2018

Stage 2 – Environmental Assessment & Consent

The Preferred Scheme will be finalised pending the outcome of consultation, further refined into an outline design, assessed under the EIA and AA processes and advanced for consent.

Expected Completion: Autumn/Winter 2018

Stage 3 – Detailed Engineering Design & Tender

Expected Completion: 2019

Stage 4 & 5 – Construction & Handover

Expected Completion during 2022

Contact the Project Team by email at SullaneFRS@rpsgroup.com

Ballymakeera & Ballyvourney Flood Relief Scheme (River Sullane)

Public Information Day No. 1 - Outcomes

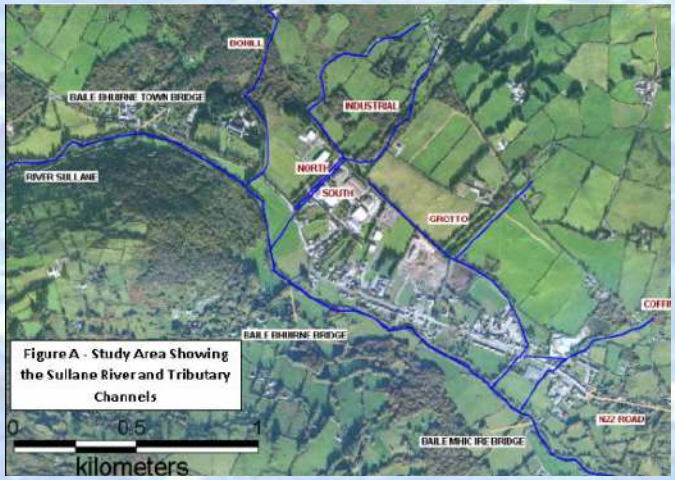


Figure A - Study Area Showing the Sullane River and Tributary Channels

Study Area




Key Outputs

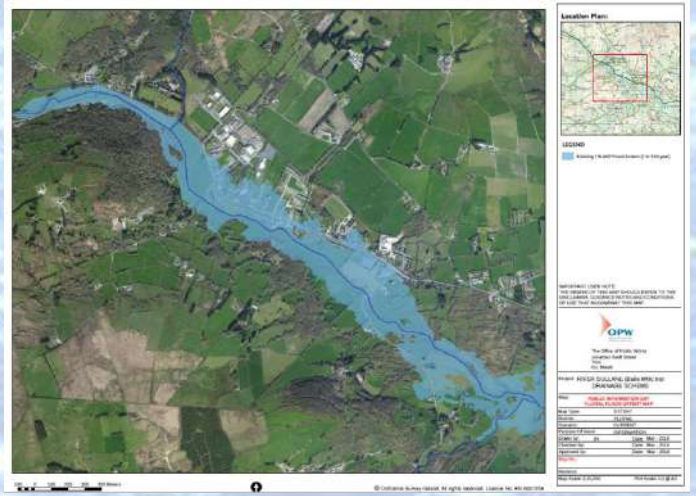
- Approx. 50 people attended the Public Information Day, the majority of whom live or work in the Study Area.
- Questionnaire respondents were a mix of residential or commercial property owners or were involved in community facilities in the villages.
- A number of sources of flooding were referenced in the responses, particularly the Sullane River, but also tributaries of the Sullane and drains.
- Flood events from 1962 up to 2009 and 2011 were discussed.
- A number of respondents had installed flood protection barriers or had taken other measures to protect their properties from flooding.
- Dredging was identified as the most preferred method to prevent future flooding, followed by channel widening, and then walls / embankments. The relocation of properties was the least favoured potential response to flooding issues.

Contact the Project Team by email at SullaneFRS@rpsgroup.com

Ballymakeera & Ballyvourney Flood Relief Scheme (River Sullane)

❑ Progress since Public Information Day No.1

- Installation of Two Hydrometric Gauges Oct. 2011, at Ballymakeera Bridge and Ballyvourney Bridge, resulting in a change in Design Flow.
- Additional topographical survey, to aid in the tributary channels flood relief measure assessment.
- Site Investigations and Screening for Appropriate Assessment.
- Commencement of ecology surveys and translocation feasibility studies for Freshwater Pearl Mussel.
- Updated Flood Relief Study Engineering and Options Report.
- Updated Flood Relief Options works costs.
- Updated Cost Benefit Analysis and Multi Criteria Analysis.
- Updated Preferred Option.
- Tender for Interim Works Advertised.



Current 100-Year Flood Extent
(Draft Mapping for Main Channel of Sullane)

❑ Next Steps

- Refine and Finalise Preferred Option
- Environmental Impact Assessment / Appropriate Assessment
- Consent Process

Contact the Project Team by email at SullaneFRS@rpsgroup.com

Ballymakeera & Ballyvourney Flood Relief Scheme (River Sullane)

An Environmental Constraints Study was undertaken to determine and document the key constraints that may inform the selection and design of the proposed Flood Relief Scheme.

Key Potential Environmental Constraints Identified included:

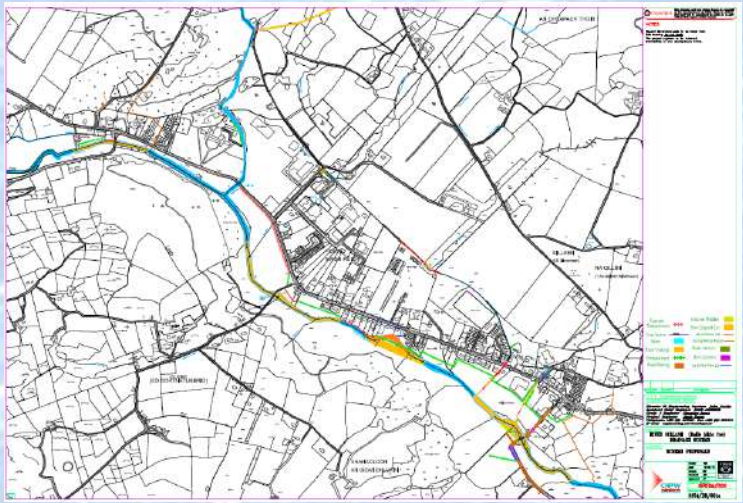
- ❑ Dust, noise and water quality impacts during the construction stage along with disruption to traffic and services;
- ❑ Loss of freshwater pearl mussel and associated habitat;
- ❑ Impact on Kerry Slug;
- ❑ Impact on salmonids and salmonid habitat / fisheries;
- ❑ Impact on St. Gobnait's Wood SAC;
- ❑ Impacts to bats, otter and kingfisher due to impacts on bankside vegetation and treelines;
- ❑ Impacts to bridges and other cultural heritage features;
- ❑ Impact on private amenity areas and boundary treatments; and
- ❑ Visual impacts from scenic routes and from sensitive receptors.

Key Recommendations for EIA Stage:

- ❑ Best Practice Construction methods to minimise dust, noise, pollution of waters and consultation with utility providers and local authority;
- ❑ Translocation and Assisted Breeding Programme for Freshwater Pearl Mussel;
- ❑ Kerry Slug Survey;
- ❑ Fisheries Assessment, Avoidance of in-stream works where possible; agreed Method Statements, Seasonal Restrictions;
- ❑ Appropriate Assessment Screening;
- ❑ Otter, Kingfisher and Bat Surveys;
- ❑ Invasive Species Surveys;
- ❑ Archaeological Assessment (including underwater); consultation with National Monuments Service and Cork County Council;
- ❑ Avoidance of Private Gardens / reinstatement where possible; and
- ❑ Keeping hard defences back from main routes.

Contact the Project Team by email at SullaneFRS@rpsgroup.com

Ballymakeera & Ballyvourney Flood Relief Scheme (River Sullane)



A range of flood risk management measures were analysed against technical, economic, social and environmental criteria. The following is a summary of the combination of works that are emerging as being the **Preferred Option** to be recommended as part of the Ballymakeera & Ballyvourney Flood Relief Scheme:

1) River Sullane

Dredging and undrerpinning in the vicinity of Ballymakeera, Ballyvourney and Ballyvourney Town Bridges

Infilling of the 'Village Bend' and Creation of New Channel

Localised Channel Widening

Provision of Hard Defences in the form of New Embankments & Flood Walls and Upgrade of Existing Embankments

Tributaries

2) Bohill River

Localised Embankments

3) Industrial Channel

New Channel Cut and Culvert Installations

4) Grotto Channel

Localised Channel re-grading, New Culvert, Gravel Trap, Walls and Embankments

5) Coffin Channel

New Surface Water Pipes, New Channel Cut, Embankments and Localised Walls

6) Other Works

Road Raising and New Culverts at Balymakeera Bridge

7) Interim Works

Temporary Hard Defences, Localised Land Raising and Non-return Valves

Contact the Project Team by email at SullaneFRS@rpsgroup.com

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APPENDIX 4

Flood study nearby for planning reference 19/5592

195592-26/09/2019-FI Site Specific Flood Risk Assessment

Engenuiti
In Design

Site Specific Flood Risk Assessment

Report

The Flats, Ballyvourney, Co. Cork

Dan O'Connor

Robert White BE BSc MEngSc
MIEI MIHE
Coolea, Macroom, Co. Cork
Cork, P12 F883

+353 (0) 86 387 9353

04 September 2018
Project Reference: 120819
Document Reference: DoC_007
Revision: [1]
Prepared For: Dan O'Connor

Status / Revisions

Rev.	Date	Reason for issue	Prepared		Reviewed		Approved	
[1]	12/08/19	Information	RW	12/08/19	RW	04/09/19	RW	11/09/19

Table of contents

1 Introduction

1.1 General

This document outlines the results of a site-specific flood risk assessment for the site at The Flats, Ballyvourney, Co. Cork. The land is adjacent the N22 and close to the local GAA sports pavilion. This document forms part of a planning application submission to Cork County Council for the development of a 2 storey dwelling house, new entrance and driveway to serve existing dwelling and associated site works; Planning Reference 19/05592.

1.2 Site Description

The site area is 0.152hA the land comprises of an existing dwelling house and garden space with connections to local storm and foul services in place. The proposed development is the construction of a new 2 storey dwelling house on the south eastern end of the site, the existing dwelling shall be retained, and a new boundary wall constructed between the houses. The terrain is generally flat with ground levels ranging from +120.85m to 121.05m OD Malin (Figure 1.1). The gradient is generally towards the West with the lowest part of the site located along the existing entrance roadway from the N22.

A detailed topographic survey was carried out, spot levels are shown in Figure 1.1. This survey data along with other onsite observations have been used in the preparation of this report.

1.3 Potential Sources of Flood Risk

The various potential flood risk components associated with this site have been evaluated. These are summarized in table below. Only fluvial flooding is identified as a concern in the request for further information from Cork County Council and is addressed in detail in this report.

No.	Source of Flooding	Likelihood of Flooding	Risk	Note/Action
1	Pluvial	Possible	Low	Site has no immediate uphill catchment. There is a possibility of pluvial flooding along the entrance road when Sullane levels are high.
2	Groundwater	Remote	Low	Site is well drained with no springs identified
3	Drainage Systems	Remote	Low	Water supply and drainage system is located well below existing and proposed FFL's

Table 1.1 – Flood Risk Summary

1.4 Local Watercourses

The Sullane river is located some 130m from the site entrance and 160m from the nearest existing and proposed dwellings. Watercourse is shown on Figure 1.3

1.5 Flood Risk Indicator & Historical Data

Part of the site lies within the indicative 1%AEP (100-year) flood zone identified in the OPW National Preliminary Flood Risk Assessment (Figure 1.4)

The Cork County Council 2017 MDLAP (Figure 1.5) shows a small part of the site within a designated zone B (moderate probability of flooding). The entrance driveway and grassed lawn areas are within this zone.

The OPW website www.floodmaps.ie (Figure 1.6) has records of several historical floods that have affected Ballyvourney. Between 1962 and 2011 there were six significant events that resulted in the N22 being flooded. None of these events occurred within 0.5km of the site.

1.6 Lee CFRAM

Mapping produced by the OPW for the Lee CFRAM study shows flooding along the Western entrance of the site (Figure 1.7)

The Lee CFRAMS Hydraulics Report provides extreme event water level estimates at the model node 5SUL_23223 which is to the west of the site (Figure 1.7). These levels are tabulated below:

The values presented are for the current climate scenario (CS) and a Mid-Range Future Scenario (MRFS). The MRFS as defined by LeeCFRAMS is the most likely climate change scenario, characterized by 20% extra fluvial flows, 550mm sea level rise, time to flood peak reduced by 1/6 due to afforestation and increased urbanization by 0.90% per year to 2020 and 0.16% per year to 2100.

The LeeCFRAMS water levels when combined with the 2018 site survey show flooding along the entrance at the N22 as indicated in Figure 1.7. The lowest FFL of any dwelling on the site is 121.20m OD Malin.

Model Node	10%AEP	1%AEP	0.1%AEP
Current Scenario	120.26	120.45	120.61
Mid-Range Future Scenario	120.41	120.63	120.81

1.7 OPW Flood Relief Study and Engineering Report

The Lee CFRAM study highlighted Ballyvourney as a location where a flood relief scheme (FRS) was necessary and justifiable. A standalone investigation was conducted by the OPW to determine the likely layout of a suitable flood relief scheme. This study was completed in 2013.

Flood defense measures proposed by the OPW and outlined in the FRS will result in significant areas of the village and N22 being protected against a 1%AEP event (Figure xx)

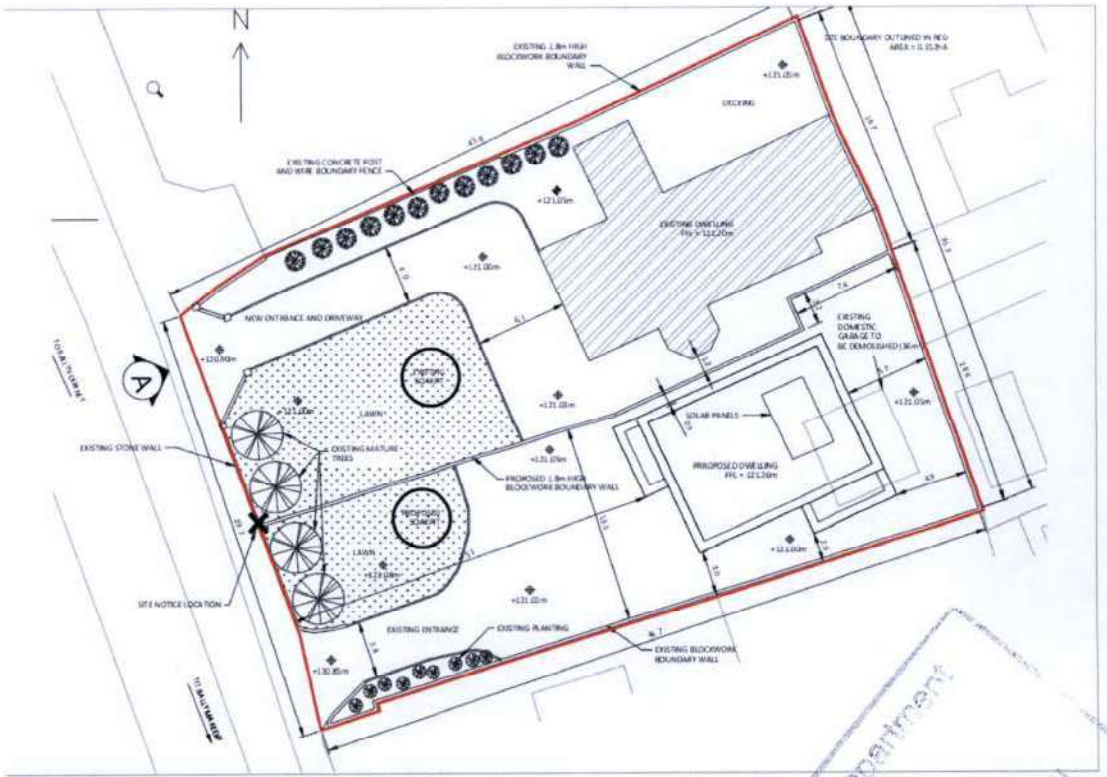

Figure 1.1 – Site Layout Plan with SPOT LEVELS

Figure 1.3 – Watercourses adjacent to site

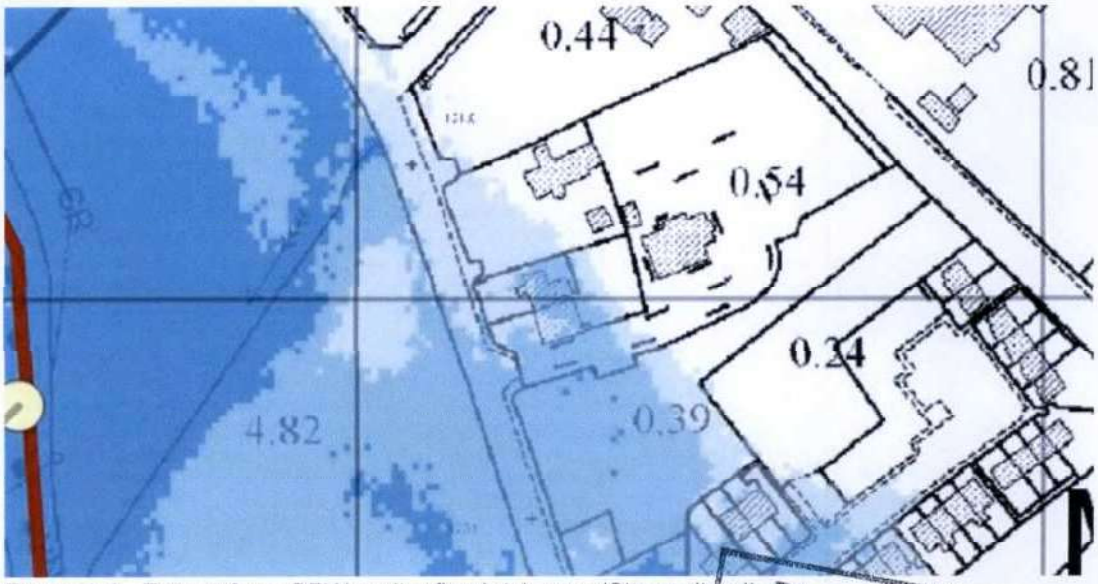

Figure 1.4 - Extract from OPW prelim flood risk map (Site outlined)

Figure 1.5 – Cork County Council MDLAP flood zones (Site Outlined)

Figure 1.6 – OPW floodmaps.ie report (Reported flooding)

Figure 1.7 – Extract from LeeCFRAMS MRFS showing river flood zone areas


Figure 1.8 – OPW FRS 100-year flood extent

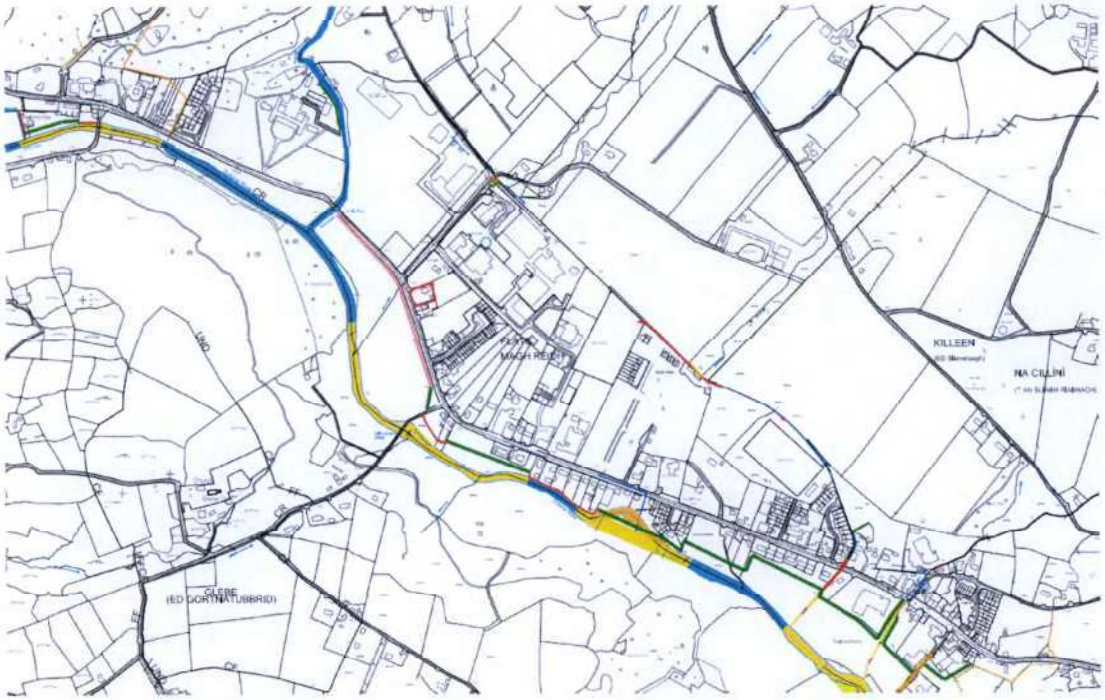

Figure 1.9 – OPW FRS 100 Year Flood extent with defense works

2 Flood Risk Assessment

2.1 Sources of Flooding

The sources of potential flooding at the site are as follows:

- Internal site works;
- Flood waters from the Sullane River

2.2 Site Works

The proposed site works will involve the removal of the existing garage and levelling and landscaping on the open areas. These works will not impact on the flood plain or interfere with any watercourse. Therefore, there will be no increase in flood risk to the existing site or neighboring properties.

2.3 Sullane River

The Sullane River has the potential to cause flooding on the site approach road from the N22. During such an event approximately 10m of access roadway may be inundated to a depth of about 0.25m. The N22 itself may be affected during an event as will much of the village of Ballymakeery.

The proposed OPW flood relief scheme is expected to be completed in the next few years. This will protect the N22 and the site entrances and ensure access at all times.

3 Conclusions

A flood risk assessment has been carried out for the site. The source of fluvial floodwaters is from the nearby Sullane river to the West of the N22. The majority of the proposed site and the individual properties are elevated and well above the possible influence of any river floodwaters. The existing access road from the N22 is low-lying for about 10m and is at risk of flooding from the Sullane.

An OPW funded flood relief scheme is underway and should be completed within the next few years. This will protect the site from flooding during the 1%AEP event. The design includes a freeboard on the proposed defense structures that will cater for more extreme events. The proposed FRS works in the vicinity of the site are shown in Figure 1.9 and will include a wall to the East of the Sullane which will fully protect the site in future flood events.

The proposed site works do not increase flood risk to the property or and adjoining dwellings. There is no interference with any watercourse.

The proposed future flood defense works will protect the N22 and allow unhindered access at all times.

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APPENDIX 5

Map and reports of historic flooding

OPW National Flood Hazard Mapping

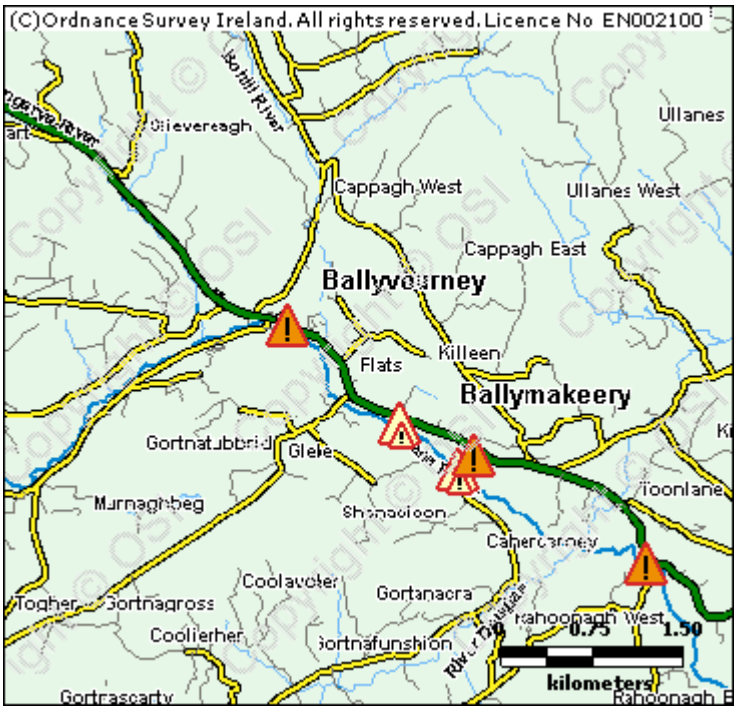
Summary Local Area Report

This Flood Report summarises all flood events within 2.5 kilometres of the map centre.

The map centre is in:

County: Cork

NGR: W 204 772



Map Scale 1:62,129

Map Legend	
	Flood Points
	Multiple / Recurring Flood Points
	Areas Flooded
	Hydrometric Stations
	Rivers
	Lakes
	River Catchment Areas
	Land Commission *
	Drainage Districts *
	Benefiting Lands *

* Important: These maps do not indicate flood hazard or flood extent. Thier purpose and scope is explained in the Glossary.

6 Results

1. Ballymakeery, Macroom, Co.Cork 19th Nov 2009
Start Date: 19/Nov/2009
County: Cork
Flood Quality Code:3
Additional Information: Reports (1) More Mapped Information

2. Sullane Ballyvourney 6 August 1986
Start Date: 05/Aug/1986
County: Cork
Flood Quality Code:3
Additional Information: Reports (1) Press Archive (1) More Mapped Information

3. Sullane Ballymakeery 6 August 1986
Start Date: 05/Aug/1986
County: Cork
Flood Quality Code:3
Additional Information: Reports (2) More Mapped Information

4. Sullane Ballymakeery December 2006
Start Date: 07/Dec/2006
County: Cork
Flood Quality Code:1
Additional Information: Reports (1) More Mapped Information

5. Ballymakeeragh and Ballyvourney Co.Cork
Start Date:
County: Cork
Flood Quality Code:4

6. Sullane Ballymakeery 2001

Start Date:

County: Cork

Flood Quality Code:3

Additional Information: Reports (1) More Mapped Information

Technical note

Project	Lee CFRAMS	**Date**	1 March 2007
Note	Site visit to Ballymakeery and Ballyvourney after the flooding of 30 November and 02 December 2006.	**Ref**	WBLFRM\TN007
Author			v1.1

1 Ballymakeery site visit notes

1.1 The following technical note gives a brief account of the flooding in Baile Mhic Íre on the 7 and 9 December 2006. This technical note was written up after an extensive site visit and discussion with local residents and business owners on 11 December. The technical note includes a flood map showing the approximate extent of the flood envelope, the depth of flooding at various locations and properties inundated.

1.2 Flooding in Baile Mhic Íre took place on both the 7 and 9 December 2006. The first event was not as extensive as the second. The general consensus was that the flooding on the 9th was worse than the flooding that took place in the village in 2001 but not as bad as the flooding of 1986. A visit to Baile Bhuirne indicated that there was no flooding of this village in December 2006.

1.3 One of the worst affected businesses wa at the east of the village. Flood waters inundated the and rose to approximately 50mm ir

1.4 A local farmer described it as unusual to have such extensive flooding in Baile Mhic Íre and have no flooding in Baile Bhuirne. He described the flows in the Bohill River, a tributary of the River Sullane between Baile Bhuirne and Baile Mhic Íre, as some of the highest he has ever witnessed. He was of the opinion that the flows in this tributary were a major contributor to the flooding in Baile Mhic Íre. He described the rainfall in the upper catchment of this tributary as very heavy over a number of days.

1.5 A number of local residents, described how flood waters rose to within millimetres of flooding their properties. To the west of the village, downstream of Baile Bhuirne Bridge, flood waters surrounded a number of properties, but did not rise to finished floor levels. Residents described how

flood water flowed down the main street, pouring out of a gateway just downstream of Baile Bhuirne Bridge.

1.6 escribed how flood waters rose to within millimetres of flooding He was of the opinion that flooding in the village could be alleviated if the river was cleared between Baile Bhuirne Bridge and Baile Mhic Íre Bridge (Photo 1). This clearing would involve the removal of bank side vegetation and channel material.

1.7 The owner of a property along the main street (Photo 7), NGR 120701 76801, described how flood waters inundated her home to a depth of approximately 75mm. Flood waters entered her home through both the front and back doors. Neighbouring properties were not flooded with the exception of the property directly across the road (Photo 8), NGR 120747 76816). The owner of this property could not be contacted. Most residents were of the opinion that the owner of this property was the worst affected in the village.

1.8 Local residents are to have a meeting to discuss the problem of flooding in the village. provided his contact details for further information on the outcome of the local meeting.

1.9 The flood map attached to the report provides an indication of the flood extent envelope, water levels and the number of properties inundated for the flood event of the 9 December. The flood map extends between Baile Bhuirne Bridge and Baile Mhic Íre Bridge and is based on information provided by local residents and evidence available during the site visit, i.e. trash lines (examples of trash lines can be seen in Photos 2,3,4,5,6 and 9).. The flood envelope along the right bank of the River Sullane was not investigated as properties were not affected along this stretch of the river. Information on the level of the flood water was obtained from both trash lines (i.e. photos 2 and 4) and discussion with local residents. .Properties inundated during the flood event, as discussed in this technical note, are also marked on the map. The map does not show the definitive numbers of properties inundated as not all of the property owners could be contacted.

2 Site visit photos

Photo 1 Build up of material upstream of Baile Mhic Íre Bridge

Photo 2 Trash level on gate downstream of Baile Mhic Íre Bridge (NGR 121300 76313)

Photo 3 Trash level on vegetation upstream of Baile Mhic Íre Bridge

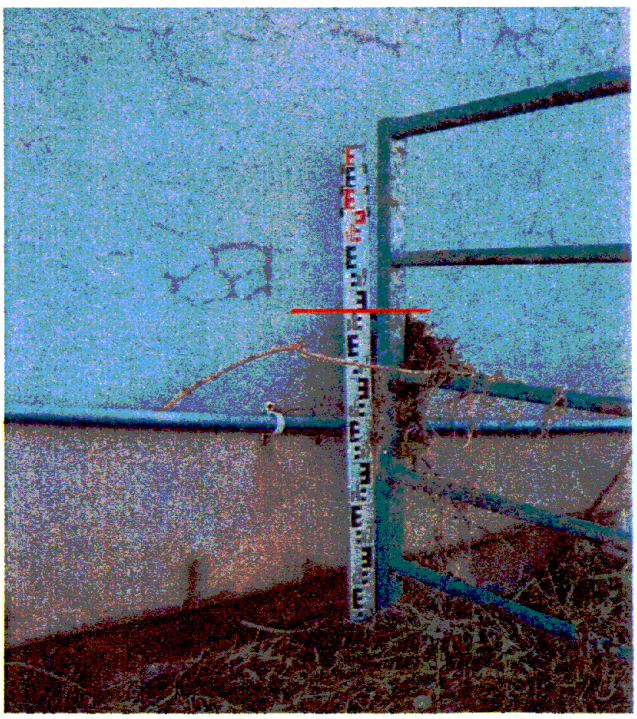


Photo 4 Trash level on gate at pump house beside Baile Mhic Íre Bridge

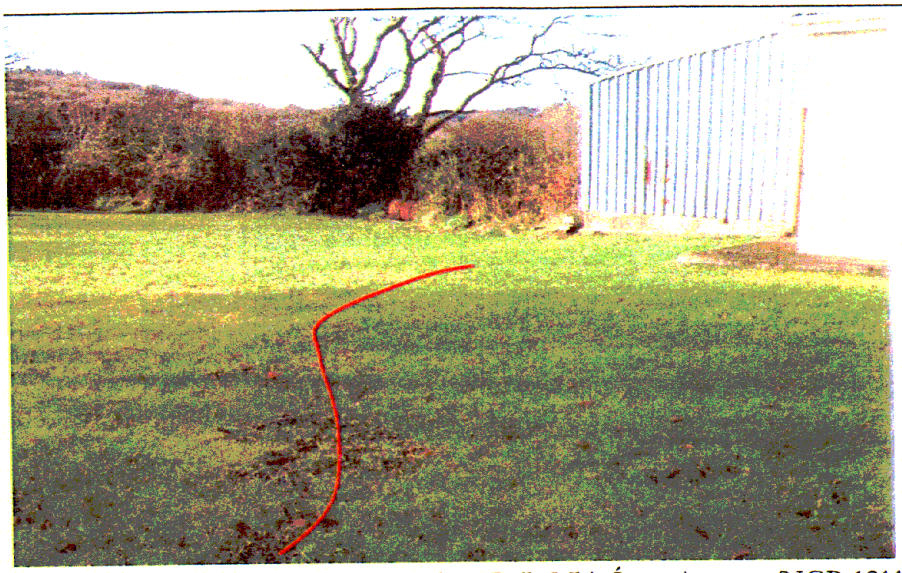


Photo 5 Trash line at property along Baile Mhic Íre main street (NGR 121127 76626)

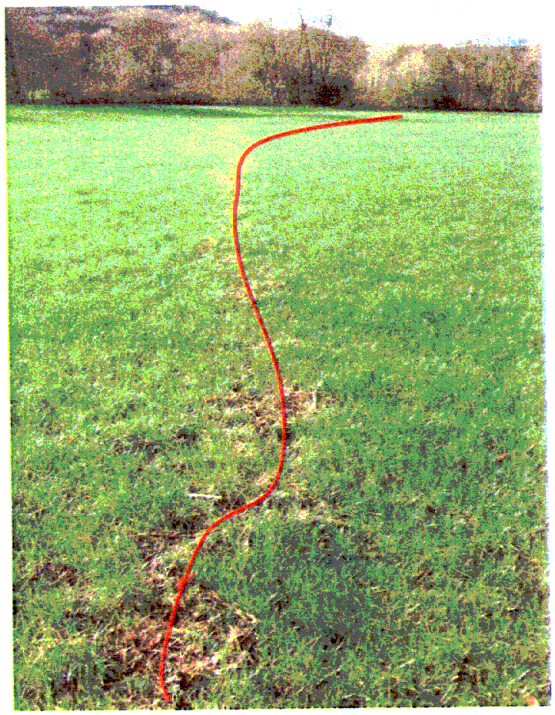


Photo 6 Trash line in a field to rear of properties along Baile Mhic Íre main street (121014 76609)

Photo 7 Water level at property along Baile Mhic Íre main street (NGR 120701 76801)

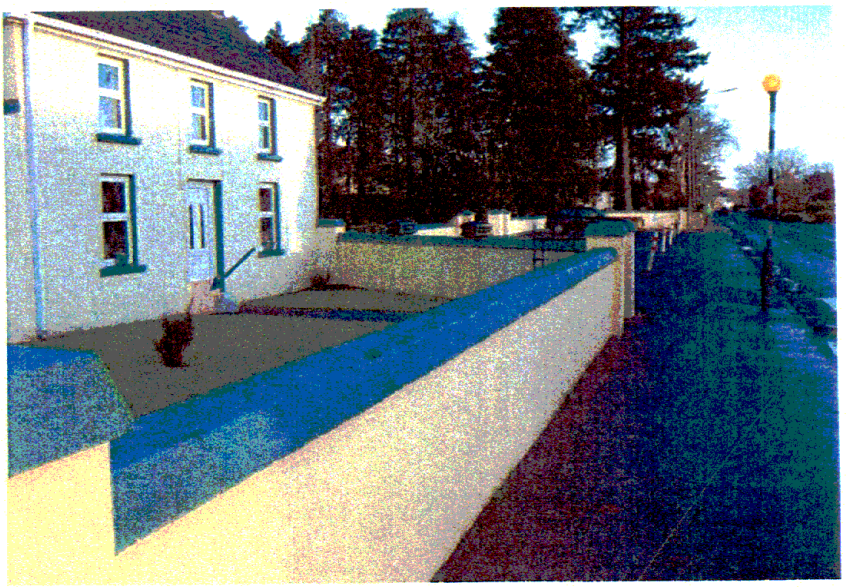
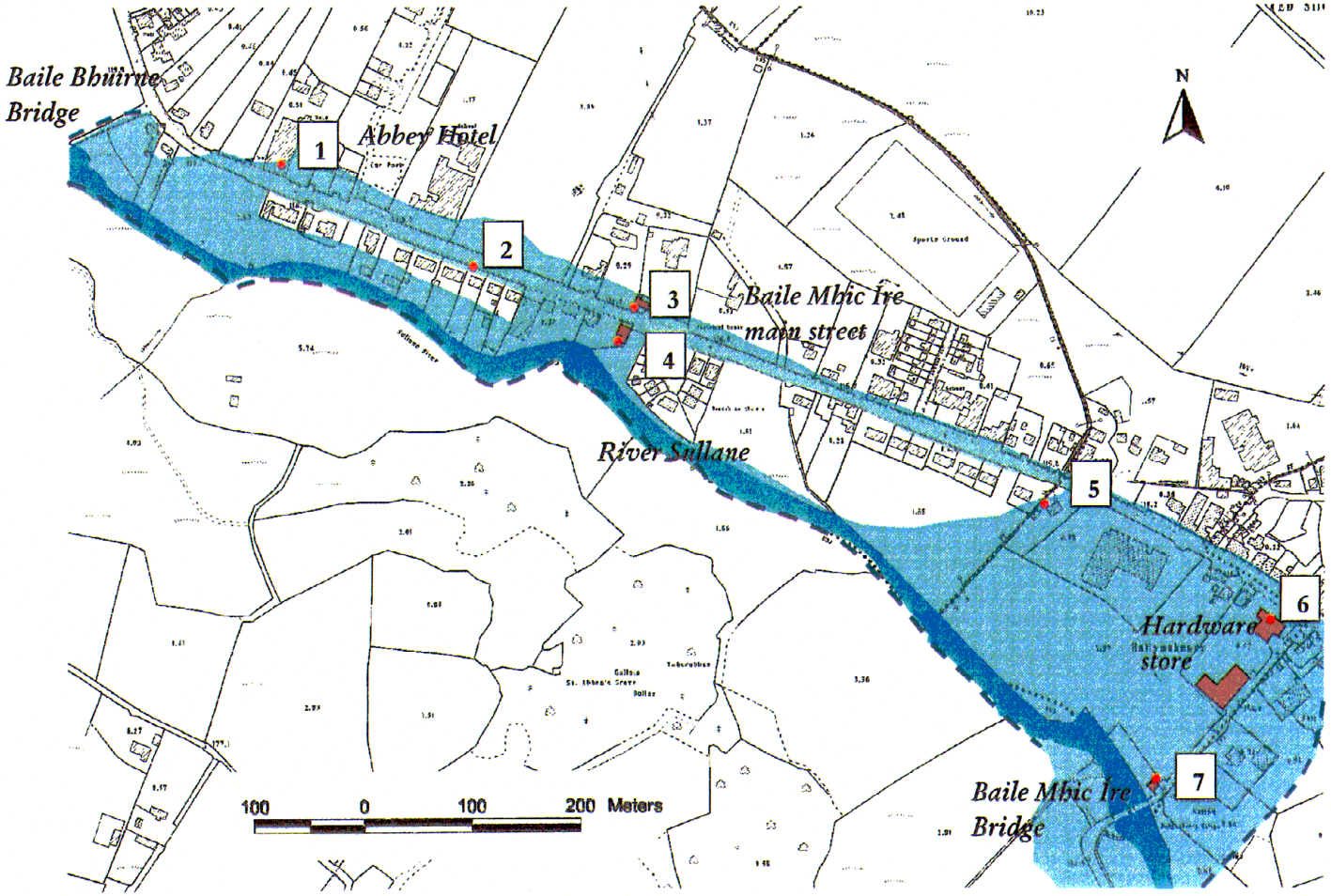


Photo 8 Flood barrier at property adjacent to the church (NGR 120747 76816)

Photo 9 Trash lines to the rear of property along Baile Mhic Íre main street (NGR 120701 76831)

3 Flood extent outline



Legend

- December 2006 flood envelope
- River Sullane
- Inundated property
- Flood extent not mapped
- Water level markers

Approximate water levels (m)	
1.	0.050
2.	0.350
3.	0.300
4.	0.075
5.	0.050
6.	0.050
7.	0.850

Flooding at Ballymakeera,Macroom,Co.Cork on 19th.November 2009

The information contained in this report has been extracted from a Flood Data Collection Form submitted to The Office Of Public Works (OPW) by Cork County Council.

- **Location and date of flood event:**

Location: Ballymakeera,Macroom, Co. Cork.
National Grid Reference:
NGR – W 213 765

This flooding event started on Thursday 19th.November 2009 and ended at 11.00pm.on Thursday 19th.November 2009. The peak flood occurred at approximately 5.30pm.

- **Source and cause:**

The source of the flood waters was a river (and the cause was channel overtopping). The flooding occurred in the Sullane Valley catchment, on the Sullane river-Northern tributary of the Lee.

Heavy rainfall Cork/Kerry border and upper sullane Catchment.

- **Flood data:**

The following flood information was provided:

Flood Parameter	Max Value	Typical Value	Comments
Flood Level (metres OD Malin)	114.39		
Flood Depth (metres)	0.46		
Flood Flow (m^3/s)			
Flood Velocity (m/s)			

Flooding has occurred at this location before – occasionally.

Extensive flooding of villages in Aug.1986

- **Impacts of flooding event:**

It was recorded that this flooding event had the following impacts.

Impacts to property:
Residential - 12 residential properties were affected by the flooding event.

Community – 1 community building was affected.

Commercial – 3 shops and 1 garage were affected.

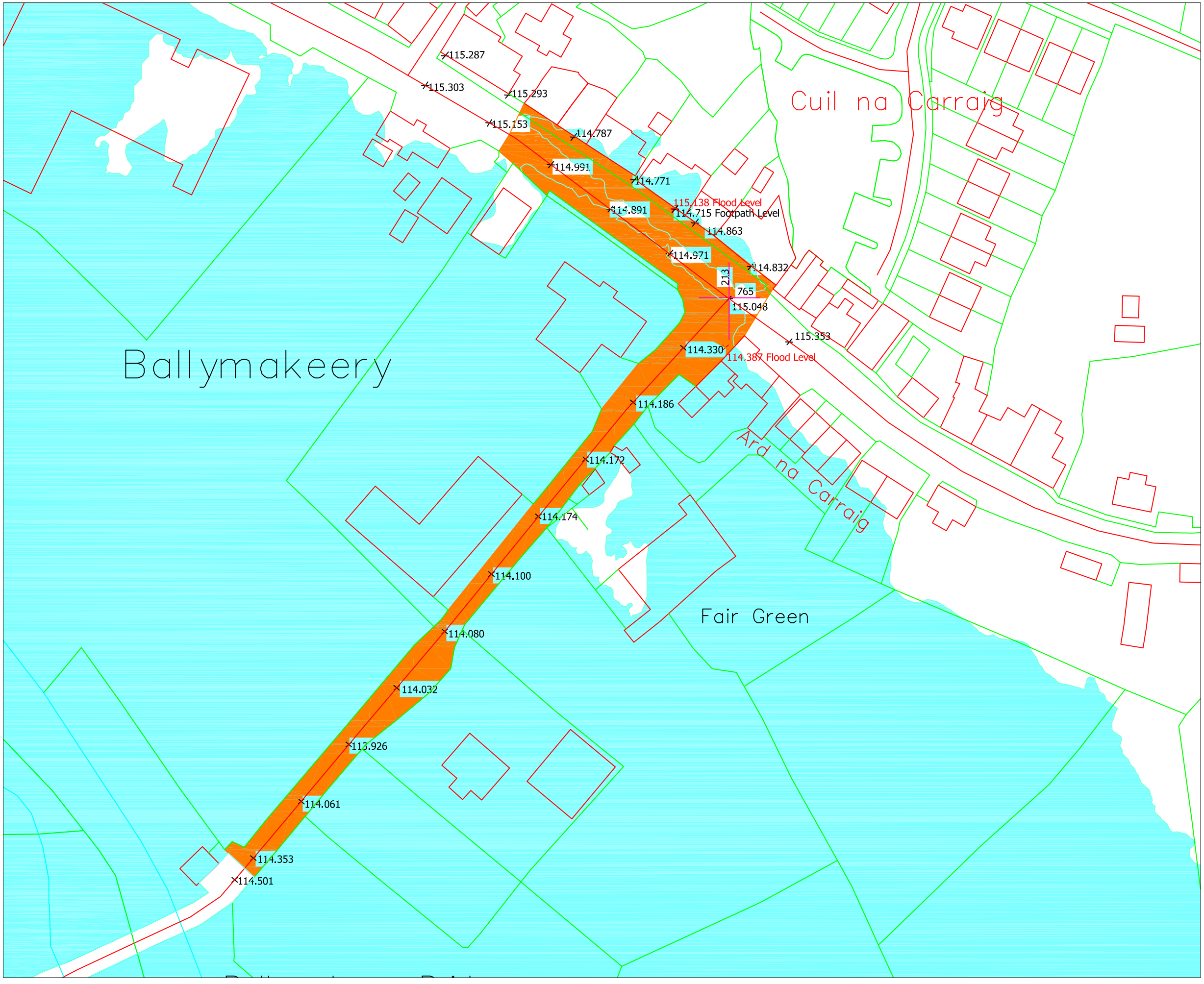
Impacts to transport infrastructure:
Road – 100m of the N22 was flooded, this is a National Primary road.

180M of the L3405 was flooded. This is a Local Road.

Impacts to water/wastewater infrastructure:
Water supply – A pumping station was affected for 4 days.

- **Additional information:**

Map showing flood levels and extent.



NOTES:

1. This drawing is the property of Cork County Council. It is a confidential document and must not be copied, used, or its content divulged without prior written consent.
2. Includes Ordnance Survey Ireland data reproduced under OSi Licence number: Cork County Council CCMA 2008/10. Unauthorised reproduction infringes Ordnance Survey Ireland and Government of Ireland copyright. © Ordnance Survey Ireland, 2008/10.
3. All levels refer to Ordnance Survey Datum, Malin Head.
4. DO NOT SCALE , use figured dimensions only, if in doubt ask.
5. Levels have been produced using best practice procedure.
6. Spot levels shown thus ×114.186
7. Flood levels shown thus ×115.138 Flood Level
8. Floor levels shown thus ×115.138 Floor Level
9. Extent of road flood shown in orange
10. Grid Ref shown thus W 213 765
11. Extent of land flood shown in blue
12. Buildings within the blue flooded area may have floor levels higher than the flood level

N

Rev.	Date	By	Description

CORK COUNTY COUNCIL
SOUTHERN DIVISION

Noel O Keeffe, B.E. C.Eng. Eur.Ing F.I.E.I.MICE
County Engineer
County Hall, Cork.

Patricia Power,
Director of Services,
Area Operations South

Project:
Flood Level at Ballymakeery

Title:
Survey Plan

Designed:	Checked:	Scales: 1/1000	Drawing No:
Drawn: J.P.H.	Approved:	Date: Jan '10	
File Path:		Status:	Rev:

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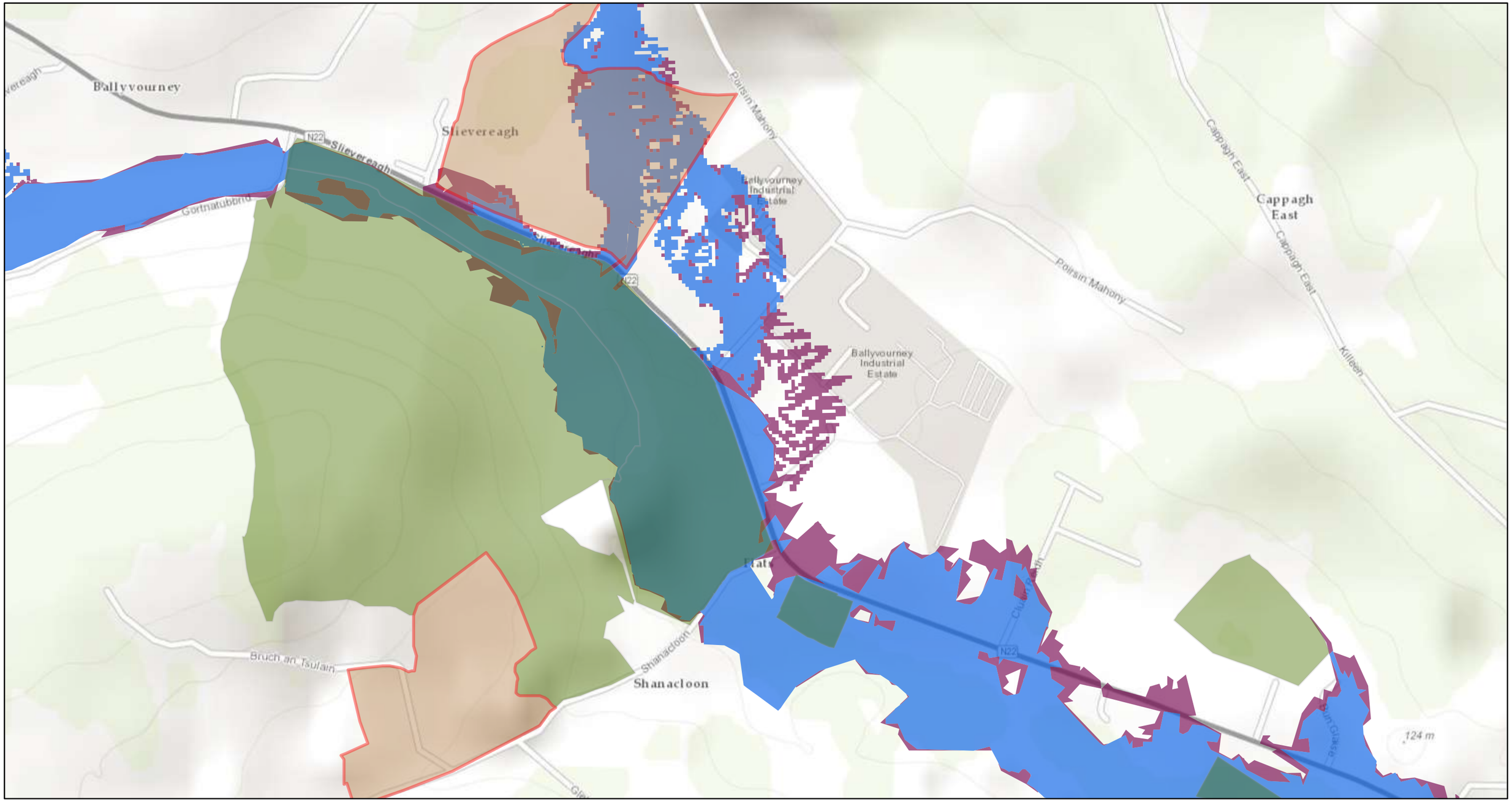
CIVIL | STRUCTURAL | PROJECT MANAGEMENT

APPENDIX 6

Zoning map and site layouts for nearby planning applications to the west

Municipal Districts Public Play Areas and Conveniences



9/10/2024, 9:13:12 AM

Land Use Zonings

- Green Infrastructure
- Special Policy Area
- Flood Zone A
- Flood Zone B
- County Boundary

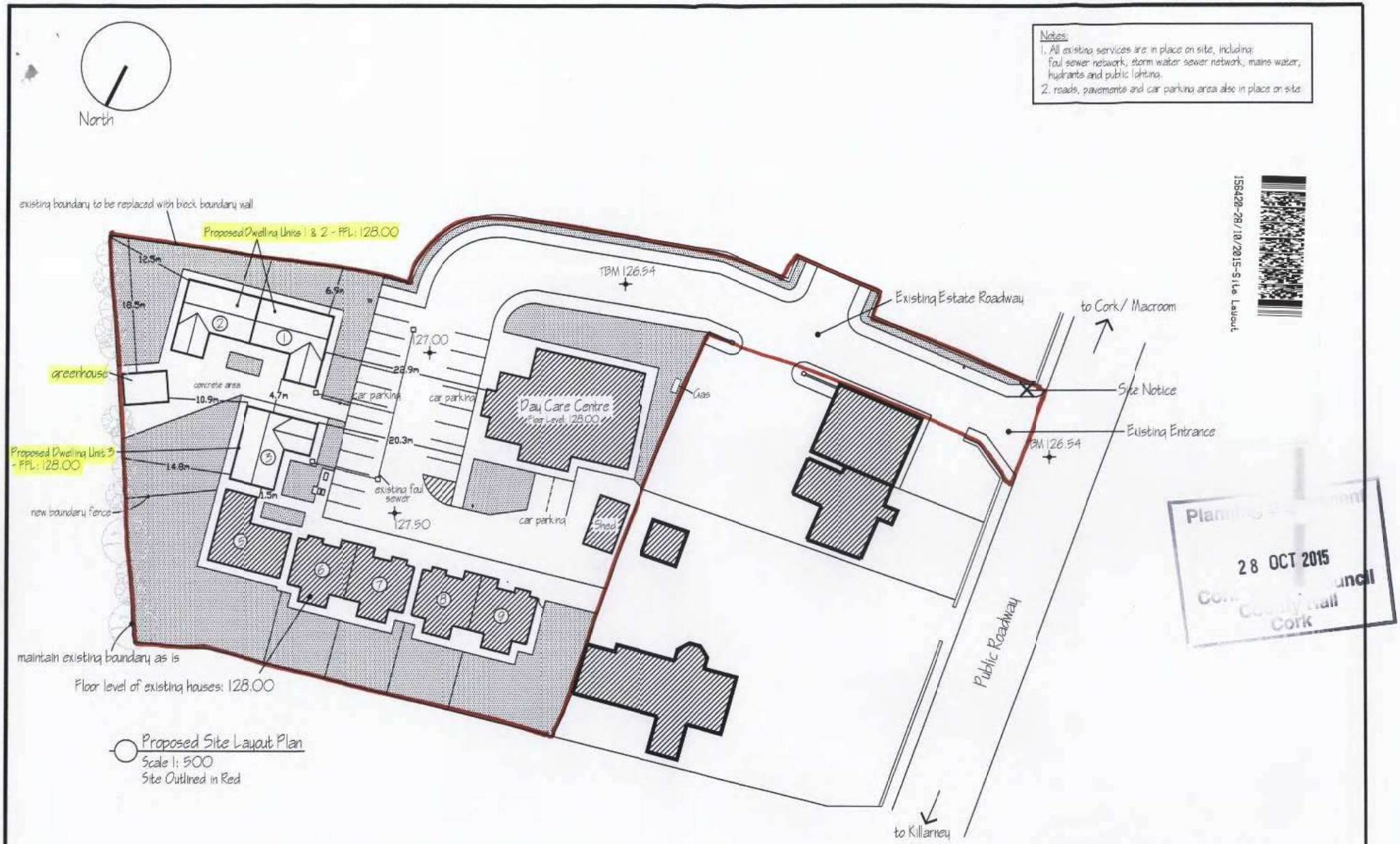
1:9,028

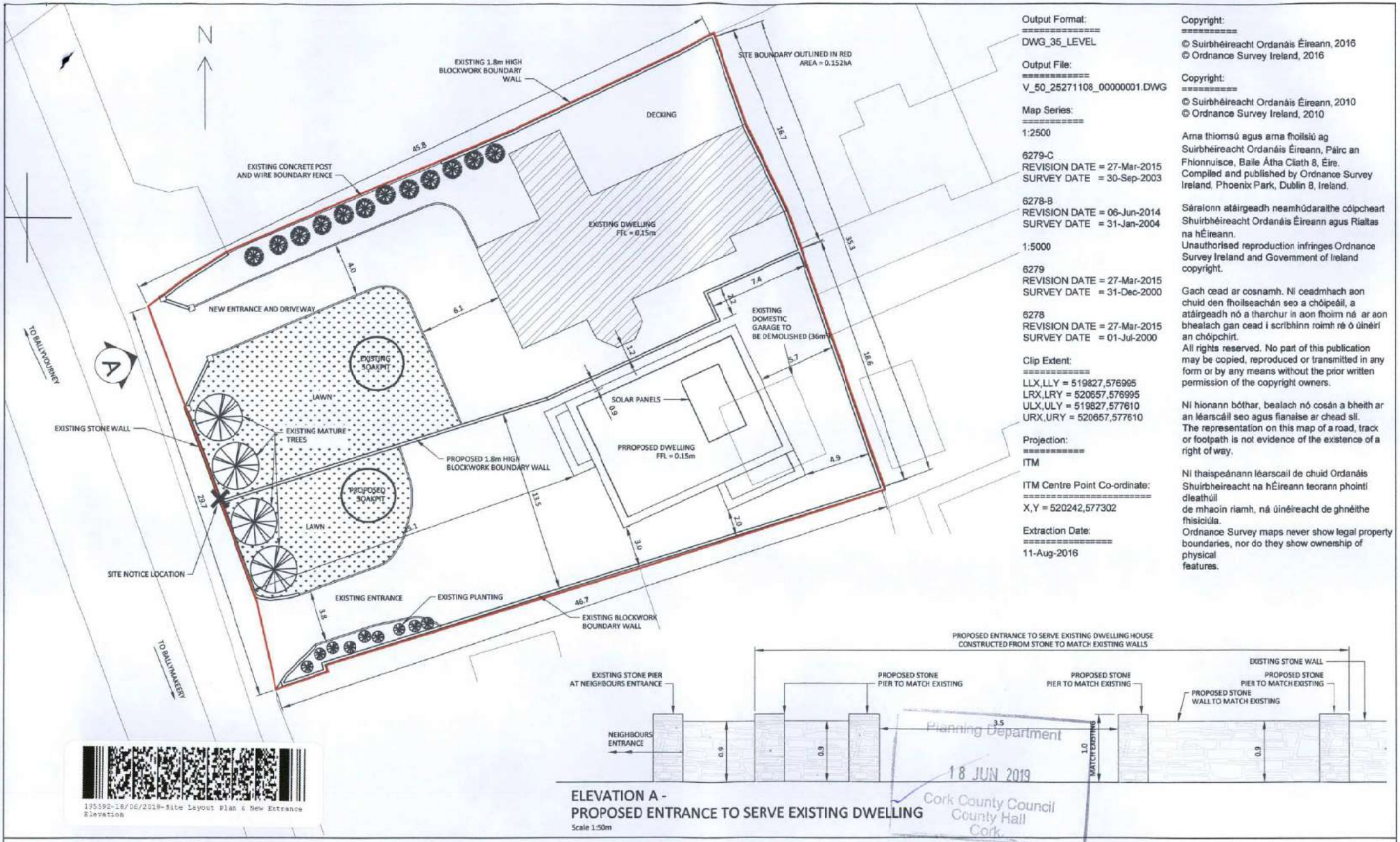
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA

Cork County Council
OSi and Cork County Council


North
Notes:
1. All existing services are in place on site, including: foul sewer network, storm water sewer network, mains water, hydrants and public lighting.
2. roads, pavements and car parking area also in place on site.
156428-28/10/2015-Site Layout
existing boundary to be replaced with block boundary wall
Proposed Dwelling Units 1 & 2 - FFL: 128.00
12.5m
18.5m
6.9m
TBM 126.54
Existing Estate Roadway
to Cork / Macroom
127.00
22.9m
greenhouse
concrete area
10.9m
4.7m
car parking
car parking
Day Care Centre
Floor Level 128.00
Gas
Site Notice
Existing Entrance
TBM 126.54
20.3m
Proposed Dwelling Unit 3 - FFL: 128.00
14.8m
1.5m
existing foul sewer
127.50
car parking
Shed
new boundary fence
Public Roadway
maintain existing boundary as is
Floor level of existing houses: 128.00
to Killarney
Proposed Site Layout Plan
Scale 1: 500
Site Outlined in Red
28 OCT 2015
Cork
PROPOSED DEVELOPMENT AT FLATS, BALLYVOURNEY, Co. CORK.
CLIENT: Comhlacht Tithe Sinsilta
DRG NO: 3
SCALE: 1:500
DRAWING: Site Layout Plan
DRAWN BY: Alan Crowley 'Broadlands', Old Blarney Road, Cloheen, Co. Cork. 087 6691956
DATE: October 2015



ELEVATION A -
PROPOSED ENTRANCE TO SERVE EXISTING DWELLING
Scale 1:50m

195592-18/06/2019-Site Layout Plan & New Entrance Elevation

Output Format:
==========
DWG_35_LEVEL

Output File:
==========
V_50_25271108_00000001.DWG

Map Series:
==========
1:2500

6279-C
REVISION DATE = 27-Mar-2015
SURVEY DATE = 30-Sep-2003

6278-B
REVISION DATE = 06-Jun-2014
SURVEY DATE = 31-Jan-2004

1:5000

6279
REVISION DATE = 27-Mar-2015
SURVEY DATE = 31-Dec-2000

6278
REVISION DATE = 27-Mar-2015
SURVEY DATE = 01-Jul-2000

Clip Extent:
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LLX,LLY = 519827,576995
LRX,LRY = 520657,576995
ULX,ULY = 519827,577610
URX,URY = 520657,577610

Projection:
==========
ITM

ITM Centre Point Co-ordinate:
==========
X,Y = 520242,577302

Extraction Date:
==========
11-Aug-2016

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In Design

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Coolea,
Macroom,
Co.Cork

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Email: info@engenuiti.design
Web: www.engenuiti.design

No.	Description	Date
1	Issued for Planning	29/3/19
2	New Entrance Elevation Added	06/6/19

Client:
Dan & Brenda O'Connor

Project Title:
2 Storey Dwelling House

Drawing Title: Site Layout Plan & New Entrance Elevation

Project number	20190001
Date	20/3/2019
Drawn by	RW
Checked by	RW
Scale	1 : 250 & 1:50

003