

Project

**Residential Development, Lissywollen, Athlone, Co.
Westmeath**

Report Title

Site Specific Flood Risk Assessment

Report Ref

180176-DBFL-XX-XX-RP-C-0001



January 2021



DBFL CONSULTING ENGINEERS

Site Specific Flood Risk Assessment

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Site Specific Flood Risk Assessment

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Site Specific Flood Risk Assessment

1. Introduction

1.1. Background

DBFL Consulting Engineers were commissioned by the Alanna Roadbridge Developments Ltd. (Applicant) to prepare a Site Specific Flood Risk Assessment (SSFRA) for the proposed Strategic Housing Development (SHD) development at Brawny Road, Lissywollen, Athlone, Co. Westmeath.

The proposed site is bordered to the north by the N6, to the south by the Old Rail Trail Greenway and to the west by Scoil na gCeithre Maistri primary school and the facilities of the Athlone Regional Sports Centre. The eastern boundary of the site is defined by an old breen road further east of which lies undeveloped greenfield lands.

The western portion of the development slopes in a south westerly direction at an approximate gradient of 1 in 230. The eastern portion of the development slopes in a north easterly direction at an approximate gradient of 1 in 165. There are existing surface water and foul networks that traverse the site.



Figure 1.1 – Site Location – Athlone, Co. Westmeath

The proposed site is a Greenfield site and the development seeks to construct 576 no. residential units, 2 no. childcare facilities, a community hub and all associated site and infrastructural works. It is located approximately 1km from Athlone town centre and has an area of 17.64ha.

Site Specific Flood Risk Assessment

This SSFRA was prepared to comply with current planning legislation, in particular, the recommendations of "The Planning System & Flood Risk Management – Guidelines for Planning Authorities" and forms part of a SHD planning application for planning permission to An Bord Pleanala.

1.2. Objectives

The objective of this report is to inform the An Bord Pleanala regarding flood risk for the development of residential units on the subject site. The report assesses the site and development proposals in accordance with the requirements of "The Planning System and Flood Risk Management Guidelines for Planning Authorities".

The report clarifies the site's flood zone category and presents information which would facilitate an informed decision of the planning application in the context of flood risk. The report also outlines appropriate flood risk mitigation and management measures for any residual flood risk.

2. Planning System & Flood Risk Management Guidelines

2.1. General

"The Planning System and Flood Risk Management Guidelines for Planning Authorities", November 2009 and its technical appendices outline the requirements for a site specific flood risk assessment.

This residential development is classified as "highly vulnerable development" according to Table 3.1 of the Guidelines. Table 3.2 of the Guidelines indicates that this type of development is appropriate and compatible with flood zone C i.e. outside the 1000 year (0.1% AEP) flood extents.

Highly vulnerable development may also be compatible with Flood Zone Category B depending on its performance in a site justification test. Therefore, as part of the sequential approach mechanism of the Guidelines, a justification test is only required if 'highly vulnerable development' is proposed in Flood Zone B.

2.2. Flood Risk Assessment Stages

This site specific flood risk assessment will initially use existing flood risk information to determine the flood zone category of the site to check if the Guidelines Sequential Approach has been applied or if a justification test is required - see Figure 2.1 below for details.

Site Specific Flood Risk Assessment

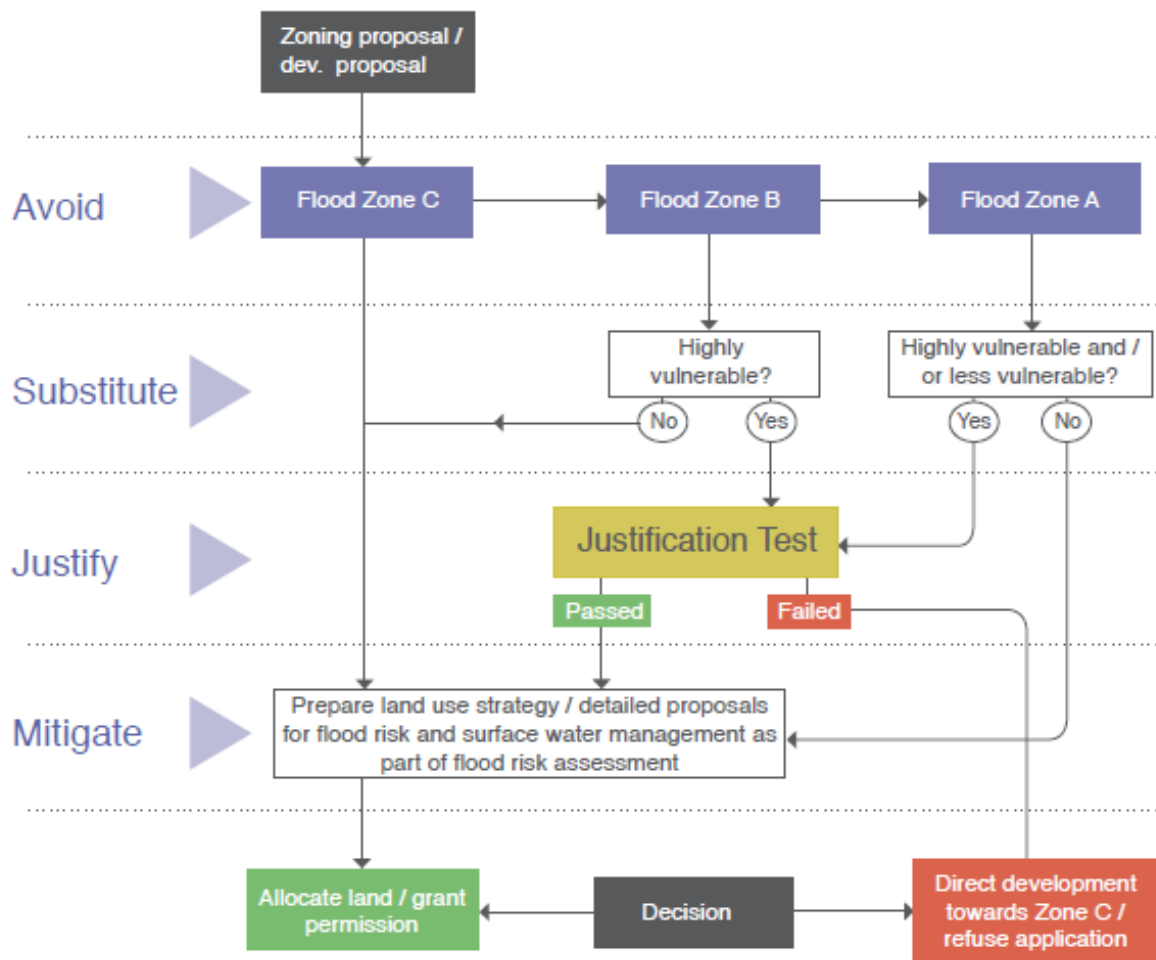


Figure 2.1 – Sequential Approach mechanism in the Planning Process

Flood risk is normally assessed by a flood risk identification stage followed by an initial flood risk assessment. The Greater Dublin Strategic Drainage Study (GSDS) states that if the risk of flooding is found to be low, there are no restrictions to development. However, if the risk is found to be medium or above, a more detailed flood impact assessment stage must be approved which includes an assessment of surface water management, flood risk and mitigation measures to be applied.

3. Flood Risk Identification Stage

3.1. General

The initial flood risk identification stage uses existing information to identify and confirm whether there may be flooding or surface water management issues for the lands in question that may warrant further investigation.

Site Specific Flood Risk Assessment

3.2. Information Sources Consulted

Information sources consulted for the identification exercise are outlined in Table 3.1 below.

Information	Source	Assessment
Predictive, fluvial, coastal, pluvial and groundwater flood maps available on www.floodinfo.ie	OPW flood maps www.floodinfo.ie , EPA website and ECFRAMS website consulted.	<p>OPW's Summary Local Area Report summarises all flood events within 2.5 km of the site. Thirteen previous flood events were highlighted within 2.5 km of the site however none of these flood events were identified as having caused flooding within or in the immediate vicinity of the site.</p> <p>There are three locations within a 600m radius of the site (Fig 3.1) identified by Westmeath County Council as being areas of recurring flooding. These locations were outlined in meetings between Westmeath County Council and ESBI on the 03/10/2005 and 22/03/2006 (see appendix A for meeting minutes). All three areas Retreat Road, Auburn Heights, Cartron Drive are low lying areas which flooded regularly after heavy rainfall due to inadequate Surface water drainage. Confirmation of improved surface water infrastructure in the areas was not found. The locations are deemed far enough from the site as to not have an affect the proposed development</p> <p>The proposed development is located outside the extents of the 1 in 1000 year (0.1% AEP) of The River Shannon, which is approximately 2km south-east of the site (See Appendix B).</p> <p>A second local watercourse, The AL River, is a tributary to the River Shannon and is located approximately 1km from the site. The proposed development is located outside the 1000 year (0.1% AEP) extents of the AL River (See appendix B).</p> <p>The site is located approximately 100km west of the eastern coast and outside tidal flooding extents.</p>
Management areas available on www.floodinfo.ie	OPW flood plans www.floodinfo.ie website consulted.	The site was within the area assessed as part of the Flood Risk Management Plan for the Shannon Upper and lower River basin (Fig 3.2).

Site Specific Flood Risk Assessment

Information	Source	Assessment
		No flood defence systems are proposed within the boundary of the site.
Topographical maps	OSI Maps consulted, site topographic survey analysed.	No evidence found of flooding within the proposed boundary of development. Historic map 25 inch (1888-1913) (Fig3.3) shows a drainage ditch traversing the site. However, it has partly been built over by residential development. Therefore, it is considered likely that much of this ditch has been made redundant by the existing 1350mm surface water sewer traversing the site.
Information on existing public sewerage condition and performance;	GSDSDS performance maps for existing sewerage in the vicinity of the subject site examined.	GSDSDS flood mapping does not extend to this area.
Alluvial deposit maps of the Geological Survey of Ireland. These maps, while not providing full coverage, can indicate areas that have flooded in the past.	GSI maps consulted.	No karst features are in this area. There are three different quaternary sediments present within the site (Fig3.4). The site consists primarily of gravels derived from limestones with a section to the east of the site consisting of Eskers comprised of gravels of basic reaction and the tip of the north west corner of the site by Brawny road consisting of Alluvium. Bedrock Geology 100k - Waulsortian Limestones. Groundwater vulnerability is high. Groundwater subsoil permeability is high. Locally important gravel aquifer overlaying locally important aquifer – Bedrock which is Generally Moderately Productive only in local zones. The soil overlaying the aquifer is well drained at the east and west of the site with poorly drained soil overlaying the aquifer at the centre of the site (Fig3.5).
National, regional & local spatial plans, such as the National Spatial Strategy, regional planning guidelines, development plans & local area plans provide key information on	Westmeath County Council – Lissywollen South Framework Plan 2018 - 2024	Pluvial flooding has not been identified in the area. A flood event in 2009 was the maximum recorded flood event on the River Shannon and was classified as representing "a return period significantly greater than 100 years"

Site Specific Flood Risk Assessment

Information	Source	Assessment
existing and potential future receptors.		

Table 3.1 - Information Sources Consulted

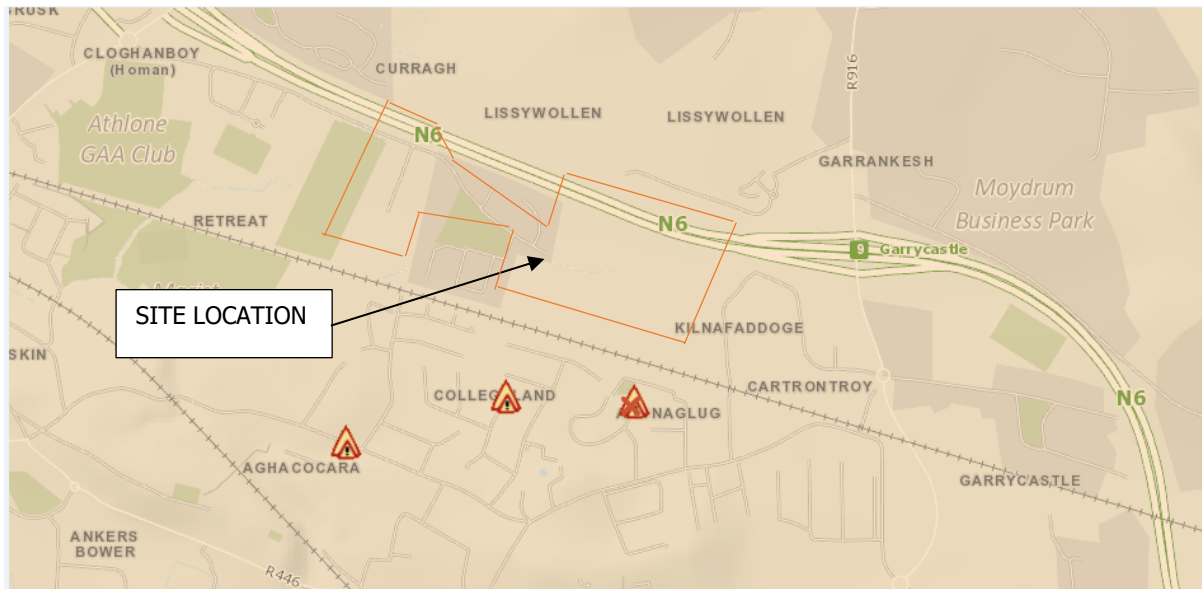


Figure 3.1 – Past flood events from www.floodinfo.ie

Site Specific Flood Risk Assessment

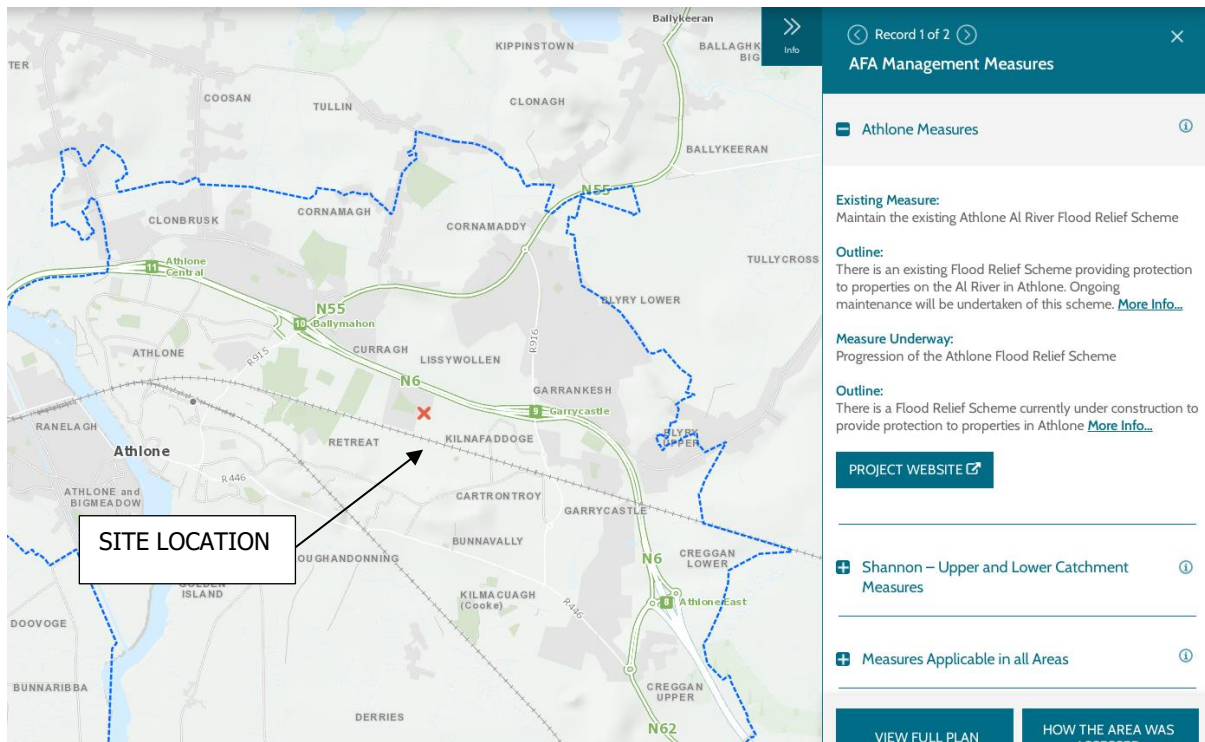


Figure 3.2 –Flood management assessment area from www.floodinfo.ie

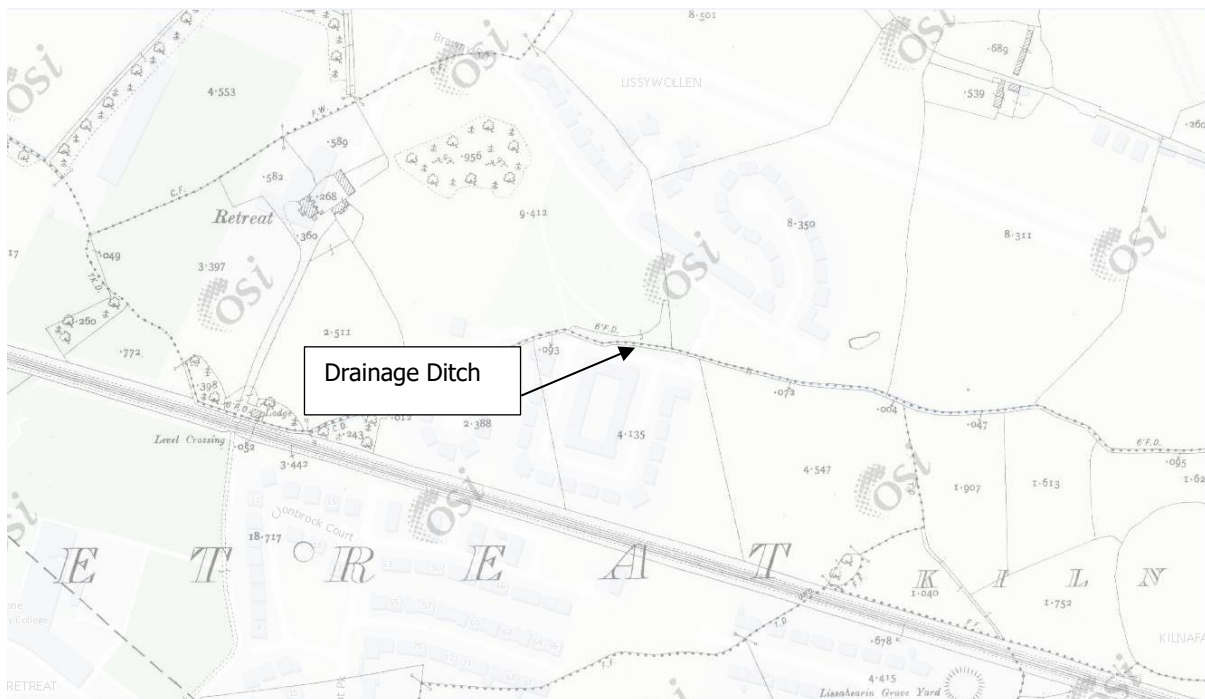


Figure 3.3 – Historic map 25 inch (1888-1913) Geohive

Site Specific Flood Risk Assessment



Figure 3.4 – Quaternary Sediments GSI



Figure 3.5 – Ground Water Recharge GSI

3.2.1. OPW Predictive, Historic & Benefiting Lands Maps & Flood Hazard Information

Current

The OPW website www.floodinfo.ie/ indicates that the site was within the area assessed as part of the Flood Risk Management Plan for the Shannon Upper and Lower River basin. The current measures of this plan for Athlone is the maintenance of the flood relief scheme, providing protection to properties on the AI River.

Proposed

The proposed flood relief measures for Athlone include:

Construction of 1.038km of new flood defence walls, 2.29km of embankments, and a 16m floodgate;

Installation of a simple flood-forecasting unit, which includes the addition of telemetry to an existing hydrometric gauge to send warning messages when water level reaches a specified trigger point.

Introduction of a storage area.

Targeted public awareness will be introduced for properties affected by the various floodgates throughout the town.

There will be no flood defence infrastructure from this scheme within the boundary of the site.

It is noted that there are no benefitting land zones nor are any flood defence systems proposed within the boundary of the site.

3.2.2. Predictive Flood Maps – Fluvial Flood Risk

As part of the EU Floods Directive, the OPW is undertaking a Catchment Flood Risk Assessment and Management (CFRAM) Study countrywide. Many of these maps have now been drafted and are available as "Draft flood hazard maps" on the CFRAM and OPW websites. See Appendix B for the ECFRAM mapping in the vicinity of the development site.

In reviewing the mapping, it can be noted that the proposed development site falls entirely outside the 0.1% AEP event (1 in 1000 year). It can be concluded that the proposed development is located within flood zone C.

Site Specific Flood Risk Assessment

3.2.3. Predictive Flood Maps – Tidal

The site is located approximately 150km east of the coast and therefore is not at risk of tidal flooding.

3.2.4. Previous Flood Risk Assessments

A flood risk assessment has been carried out by the OPW for the Draft Westmeath County Council 2014-2020 and the Athlone Development Plan 2014-2020. The objective was to provide an assessment of all types of flood risk within the County and assist Westmeath County Council to make informed strategic land-use planning decisions and formulate flood risk policies. A review of available flood risk information was undertaken to identify any flooding or surface water management issues related to the County that warranted further investigation. Based on available data, areas at risk of flooding and flood zones in the County were identified.

The assessment is based on datasets available in February 2011 which includes datasets generated as part of the Eastern CFRAM Study and the Preliminary Flood Risk Assessment (PFRA). These datasets are the most comprehensive flood zone mapping available for the County and are considered appropriate for use as a strategic overview of flood risk within the County.

From a review of the data available it was concluded that the main sources of flooding in the County are fluvial and pluvial. The proposed development site is located outside the boundary of the mapping and therefore assumed to be outside the pluvial flooding risk areas highlighted.

A draft pluvial flood risk assessment was undertaken by the OPW but not included in the Draft County or Athlone Development Plan as it does not take into account local drainage structures such as culverts through embankments or local drainage.

There is no flood pathway from the areas identified above to the proposed development site, therefore, any flooding that may occur will not impact on the proposed residential development.

3.2.5. Other Sources

Other information sources were consulted to determine if there was any additional flood risk to the development lands, these included;

- Topographical surveys of the area – There is no evidence of flooding based on topography.

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- Flood defence information – No flood defences have been constructed or proposed for this area.
- GSDS Sewerage Performance Maps – Lissywollen does not feature in the GSDS performance maps and therefore no information is available on potential sewer surcharging or flooding.
- Soil data from EPA and GSI – There are three different quaternary sediments present within the site. The site consists primarily of gravels derived from limestones with a section to the east of the site consisting of Eskers comprised of gravels of basic reaction (long winding ridge of stratified gravel) and the tip of the north west corner by Brawny road consisting of Alluvium (deposit of sand, mud, etc., formed by flowing water).
- Groundwater information from GSI – no karst features are located within the site.
- The site is located in an area of high aquifer vulnerability.
- The site is located on a regionally important aquifer
- Local Information - no evidence of flood risk to the site.
- Historic Maps – A drainage ditch indicated on historic mapping traverses the site. It is considered likely that this has been culverted by the existing 1350mm surface water sewer. There is no evidence of flooding from this ditch or any other watercourse within the site.

From a review of the 'other sources' outlined above there does not appear to be evidence of flood risk to the proposed development land.

3.3. Source-Pathway-Receptor Model

A Source-Pathway-Receptor model was produced to summarize the possible sources of floodwater, the people and assets (receptors) that could be affected by potential flooding (with specific reference to the proposals) and the pathways by which flood water for a 0.1%AEP (Annual Exceedance Probability) and 1% AEP storms could reach the receptors, see Table 3.2. It provides the probability and magnitude of the sources, the performance and response of pathways and the consequences to the receptors in the context of the post primary development proposal. These sources, pathways and receptors will be assessed further in the initial flood risk assessment stage.

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Source	Pathway	Receptor	Likelihood	Impact	Risk
Tidal	Tidal flooding from coast 100km away.	Residents (people) development, visitors and the buildings themselves and other property such as vehicles located in car park areas.	Remote	High	Very Low
Fluvial	Flooding from the nearest water course AL River 1km south east of the site	Residents (people) development, visitors, Road Bridge and the buildings themselves and other property such as vehicles located in car park areas.	Remote	High	Very Low
Surface Water Drainage (Pluvial)	Flooding from the surcharging of the development's drainage systems including detention basins.	Residents (people) development, visitors, Road Bridge and the buildings themselves and other property such as vehicles located in car park areas.	Possible	High	Moderate
	Flooding from existing drainage ditch running through the site.		Possible	High	Moderate
Surface Water - (Pluvial)	Flooding from internal sources – overland flows	Residents (people) development, visitors and the buildings themselves and other property such as vehicles located in car park areas.	Possible	High	Moderate

Site Specific Flood Risk Assessment

Source	Pathway	Receptor	Likelihood	Impact	Risk
Ground water flooding	Rising GWL on the site	Residents (people) development, drainage infrastructure, basements, visitors and the buildings themselves and other property such as vehicles located in car park areas.	Low	High	Low
Human or Mechanical Error (Pluvial)	Petrol interceptor and hydro brake	Areas of development draining to the surface water network; Residents (people) development, visitors and the buildings themselves and other property such as vehicles located in car park areas.	Possible	High	Moderate

Table 3.2 - Source-Pathway-Receptor Analysis**3.4. Source-Pathway-Receptor Model Results**

It is clear from the above flooding analysis that the proposed site is not at risk from tidal, fluvial or groundwater flooding due to its geographic location and topography. Due to proposed levels, if flooding of any road occurs, any water will be kept within the road reservation or directed to open spaces and will avoid all buildings.

However, there is a moderate risk of pluvial flooding of the drainage infrastructure and moderate risk of flooding of the site due to the potential surcharging and blockage of the new drainage network. There is an existing drainage ditch running through the site, which is thought to predominantly drain the site.

Consequently, an initial flood risk assessment will follow to provide further detail on the causes, effects and possible mitigation measures for the types of flooding identified above.

4. Initial Flood Risk Assessment Stage

The flood risks to the proposed residential development, identified from Stage 1 are a moderate risk of pluvial flooding of the site due to the potential surcharging and blockage of the new drainage network and a moderate flood risk due to a blockage or mechanical failure of the drainage network.

4.1. Initial Fluvial Flood Risk Assessment

The Source-Pathway-Receptor model identified that there could be potential for pluvial flood risk within the development site related to the future drainage networks serving the proposed development and due to overland flow from roads.

The drainage system has the potential to cause local flooding unless it is designed in accordance with the regulations e.g. Greater Dublin Strategic Drainage Study (GDSDS) and to take account of flood exceedance for storm return periods exceeding 1%AEP (Annual Exceedance Probability).

Proper operation and maintenance of the drainage system should also be implemented to reduce the risk of human or mechanical error causing pluvial flood risk from blockages etc.

In addition, the Source-Pathway-Receptor model identified that there could be potential for pluvial flood risk within the development site related to the existing drainage ditches within the site. This risk has been mitigated by the development itself as these ditches serve the area to be developed.

4.2. Flood Zone Category

Following the assessment of the flood risks to the site and the available information it is considered that the proposed site is located within Flood Zone Category C as defined by the Guidelines and as indicated by CFRAM Mapping. Therefore, the proposed residential development on the subject site is appropriate for this flood zone category, and **a justification test is not required.**

5. Detailed Flood Risk Assessment Stage

5.1. General

As a justification test is not required, a detailed flood risk assessment must be carried out which considers moderate pluvial flood risk in relation to the following;

- Proposed Surface Water Management measures.
- Flood Exceedance.
- Impact of proposals on flood risk to adjacent areas.
- Effects of climate change.
- Access and Egress during Flood Events.
- Residual risks.
- Effectiveness of any flood mitigation measures.

5.2. Proposed Surface Water Management Measures

The following approach and parameters have been used: -

- Drainage design consists of Sustainable Drainage system (SuDS) with roof downpipes, gullies, pipes, manholes, attenuation systems and discharge control at outlets;
- SuDS systems to be provided including swales, filter drains, permeable pavements, attenuation systems and petrol interceptors;
- Climate change factor of 10% has been applied;
- Site discharge rate is controlled to Greenfield Run-off Rates;
- Overland flow routes have been designed to direct surface flows away from buildings.

5.3. Assessment of Flood Risk

5.3.1. Flood Exceedance - Pluvial

Flooding from overland flows: -

Site levels will be designed such that overland flow caused by any flooding from the site drainage system, or from surface water that fails to enter the site drainage system in extreme events, will not flood buildings, driveways or footpaths. Surface water is designed to remain within the bounds of roadway reservations.

Pluvial Flood Risks: -

Flooding from surcharging of the development's drainage systems:-

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The surface water pipe system has been designed using MICRODRAINAGE Simulation modelling. MICRODRAINAGE Simulation uses the Wallingford Procedure, time/area full hydrograph methodology, including energy and momentum equations for dynamic analysis of surface water networks. The site drainage network is modelled as one system where all flows, capacities, water levels, surcharged manholes, attenuation storage etc are determined throughout the network for each critical storm duration.

As no flooding occurs throughout the site for the design return period of 1 in 100 years (plus 10% climate change), the pipe system is considered to exceed the requirements of the GSDS for a 1 in 30-year return period surcharge check.

The attenuation system has been sized for a 1 in 100 year return period and it is designed using the current rainfall depth values available from Met Eireann including 10% increase for the effects of climate change.

Mitigation measures at areas at risk of flooding in a 1 in 100 year event will consist of designing overland flows to direct any floodwater away from buildings, either keeping it within the carriageway or directing the surface water to designated green areas within the site. The finished floor levels for all buildings in the vicinity are designed to be above the surcharged level for any manhole in danger of flooding. Furthermore, finished floor levels for all buildings will be a minimum of 500mm above the maximum flood levels in nearby surface water attenuation systems.

5.3.2. Human or Mechanical Error - Pluvial

If petrol interceptors are not adequately cleaned and maintained, there is a risk that they would become a throttle and cause flooding upstream.

5.4. Access & Egress During Flooding Events

During flood events, access and egress would need to be maintained and overland flow routes and extents would need to be carefully planned. All habitable spaces are located more than 500mm above the top water levels for attenuation systems for the 1 in 100 year event and are at no perceivable risks of flooding.

5.5. Mitigation Measures

Proposed mitigation measures to address residual flood risks are summarized below;

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Mitigating Measure M1: The proposed drainage system including the detention basins to be maintained on a regular basis to reduce the risk of a blockage. A maintenance contract for the petrol interceptor should be entered into with a specialist maintenance company.

Mitigating Measure M2: The drainage network is designed in accordance with the recommendations of the GSDS and provides attenuated outlets and associated storage up to the 100 year event. The drainage network for the site has been designed to ensure that it can accommodate the 1 in 100 year rainfall event in surcharged conditions.

Mitigating Measure M3: Overland flow routes for pluvial events should not be built on or become blocked off. Overland flow routes should be designed to direct water to compatible development areas and to other open space areas away from dwellings.

Mitigating Measure M4: At detailed design stage, the location of all dropped kerbs and side inlet gullies to be fully reviewed to ensure all overland flow paths are not impeded.

Mitigating Measure M5: Sustainable Urban Infrastructure: the development will include SUDS features e.g. permeable paving, swales, filter drains etc. incorporating interception and storage.

6. Residual Risks

Remaining residual flood risks, following the detailed assessment and mitigation measures include the following;

1. Pluvial flooding from the drainage system related to a pipe/culvert blockage or from flood exceedance.
2. Pluvial flooding from the development's drainage system for storms in excess of the 100 year design capacity.

7. Conclusion

This Site Specific Flood Risk Assessment for the proposed residential development was undertaken in accordance with the requirements of the Planning System and Flood Risk Management Guidelines for Planning Authorities”, November 2009. Following the flood risk assessment stages, it was determined that the site is within Flood Zone C as defined by the Guidelines and based on the ECFRAMS mapping. Therefore, the development of housing on the subject site is appropriate for the site’s flood zone category and a justification test as outlined in the Guidelines is not required. The Guidelines sequential approach is met with the ‘Justify’ & ‘Mitigate’ principals being achieved.

The proposed flood mitigation measure(s) outlined above should be implemented. It is considered that the flood risk mitigation measures once fully implemented are sufficient to provide a suitable level of protection to the proposed development and will not cause an increased risk of flooding to external properties.

A regularly maintained drainage system would ensure that the network remains effective and in good working order should a large pluvial storm occur. In the event of extreme pluvial flooding then overland flood routes would direct water towards the open space areas.

Should extreme pluvial flooding occur in excess of the development’s drainage capacity i.e. exceeding 1%AEP, then overland flood routes towards the on-site open spaces would protect the development and houses with lowest proposed floor levels.

While the development constitutes ‘highly vulnerable’ development, it is appropriate for this flood zone and the scheme will be designed to ensure that the risk of flooding of the development is reduced as far as is reasonably practicable. The development does not increase the risk of flooding to adjacent area and roads once mitigation measures are implemented.

DBFL CONSULTING ENGINEERS

JANUARY 2021

APPENDIX A
OPW FLOODS.IE REPORT

**MINUTES OF
MEETING**

Reference: P4D403A – F310 – 035 – 004-3239 Page 1 of 2

Project No.: P4D403A

Project Title: OPW Flood Hazard Mapping – Phase 2

Purpose of Meeting: Westmeath County Council – Oral Report – Town Engineer –
Athlone

Participating: Town Engineer Westmeath County Council
Supervisor Westmeath County Council
Search Manager ESBI

Venue: Athlone

Date of Meeting: 22/03/06

Copies to:

Compiled by: Search Manager ESBI

Status Draft

Approved for ESBI:

**Approved for Westmeath
County Council**

Date:

Meeting with Town Engineer for Athlone 22/03/06

The Town Engineer and his supervisor outlined 13 areas that are or were prone to flooding. These are: -

- AT1. Willow Park, Athlone – The River AI overflows its banks after heavy rainfall every year. The flooding is worse when water levels are high in the Shannon.
Flood Id = 2628
- AT2. Golden Island, Athlone – The River AI overflowed its banks after heavy rainfall in November 2002
Flood Id = 5401
- AT3. McQuaids Bridge, Athlone – The River Shannon overflowed its banks after heavy rainfall in February 1995
Flood Id = 5042
- AT4. Clonown Road, Athlone – The River Shannon overflowed its banks after heavy rainfall in February 1995
Flood Id = 5043
- AT5. McQuaids Bridge, Athlone – The River Shannon overflowed its banks after heavy rainfall in February 2002
Flood Id = 5044
- AT6. Burgess Park, Athlone – The River Shannon overflowed its banks after heavy rainfall in February 2002
Flood Id = 5046
- AT7. DeerPark, Athlone – The River Shannon overflowed its banks after heavy rainfall in February 2002
Flood Id = 5047
- AT8. Railway Bridge, Galway Road, Athlone – Low lying floods every year after heavy rainfall. Surface water drainage is inadequate.
Flood Id = 5048
- AT9. Wolfe Tone Terrace, Athlone – The River Shannon overflow its banks after every year after heavy rainfall.
Flood Id = 5049
- AT10. Central Terrace, Athlone – Low lying floods every year after heavy rainfall. Surface water drainage is inadequate.
Flood Id = 5050
- AT11. Cartron Drive, Athlone – Low lying floods every year after heavy rainfall. Surface water drainage is inadequate.
Flood Id = 5051
- AT12. Auburn Heights, Athlone – Low lying floods every year after heavy rainfall. Surface water drainage is inadequate.
Flood Id = 5052
- AT13. Marine View, Athlone – Low lying floods every year after heavy rainfall. Surface water drainage is inadequate.
Flood Id = 5053

Summary

The council does install, unblock and replace culverts to alleviate flooding

**MINUTES OF
MEETING**

Reference: P4D403A – F310 – 035 – 004-002 Page 1 of 3

Project No.: P4D403A

Project Title: OPW Flood Hazard Mapping – Phase 1

Purpose of Meeting: Westmeath County Council – Oral Report – Area Engineer –
Athlone

Participating: Area Engineer Westmeath County Council
Supervisor Westmeath County Council
Search Manager ESBI

Venue: Athlone

Date of Meeting: 03/10/05

Copies to:

Compiled by: Search Manager ESBI

Status Draft

Approved for ESBI:

**Approved for Westmeath
County Council**

Date:

Meeting with Area Engineer for Athlone 03/10/05

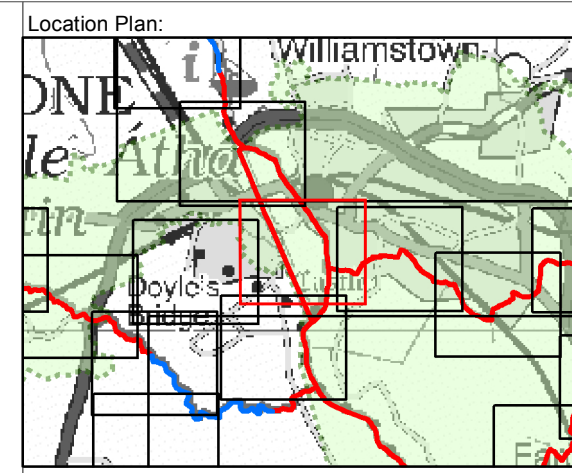
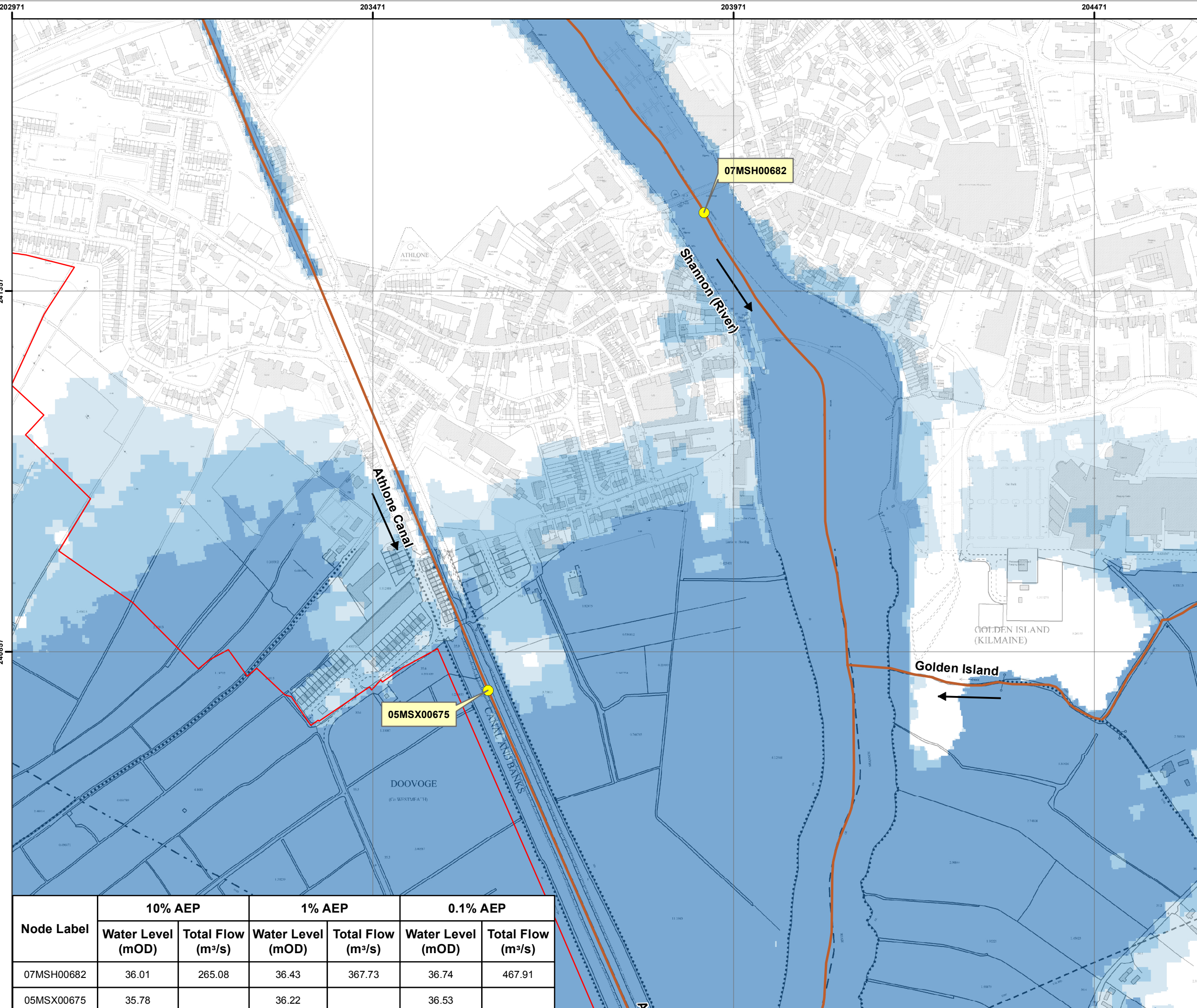
The Area Engineer and his supervisor outlined 23 areas that are or were prone to flooding. These are: -

- A1. Railway Bridge, Ballymahon Road, Athlone – Low lying land floods every year after heavy rainfall. The area affected is from the Railway Bridge to Roundabout
Flood Id = 2621
- A2. Retreat Road, Athlone – Low lying land floods after heavy rain every year
Flood Id = 2622
- A3. Railway Bridge, Athlone – Low lying area floods after heavy rain every year
Flood Id = 2623
- A4. Strand, Athlone – The River Shannon overflow its banks after every year after heavy rainfall.
Flood Id = 2624
- A5. Deerpark, Athlone – The River Shannon overflow its banks after every year after heavy rainfall.
Flood Id = 2625
- A6. Coosan, Athlone – Low lying area floods after heavy rain every year. The flooding is close to the River Shannon flood plain
Flood Id = 2626
- A7. Ballinlassy, Ballynahown – The River Boar overflows its banks after heavy rainfall every year. The flood is of long duration.
Flood Id = 2627
- A8. Kilmacuagh – The River AI overflows its banks after heavy rainfall every year. The flooding is worse when water levels are high in the Shannon.
Flood Id = 2628
- A9. Derries – The River AI overflows its banks after heavy rainfall every year. The flooding is worse when water levels are high in the Shannon.
Flood Id = 2629
- A10. Loughandonning – The River AI overflows its banks after heavy rainfall every year. The flooding is worse when water levels are high in the Shannon.
Flood Id = 2630
- A11. Creggan – The River AI overflows its banks after heavy rainfall every year. The flooding is worse when water levels are high in the Shannon.
Flood Id = 2631
- A12. Seeoge – Low lying area floods after heavy rain every year. The flood is of long duration
Flood Id = 2632
- A13. Priory Park, Athlone – The River Shannon overflow its banks after every year after heavy rainfall.
Flood Id = 2633
- A14. Gallows Hill, Athlone – The River Shannon overflow its banks after every year after heavy rainfall.
Flood Id = 2634
- A15. Iona Park, Athlone – The River Shannon overflow its banks after every year after heavy rainfall.
Flood Id = 2635
- A16. Knockdomny, Moate – Turlough floods after heavy rain every year. The flood is of long duration

- Flood Id = 2636
- A17. Creevenamanag – Lough Mareegan level rises every year after heavy rainfall. Significant land area is flooded
Flood Id = 2637
- A18. Kilkenny West – Ground water flows over the land after heavy rainfall every year.
Flood Id = 2638
- A19. Auburn – Lough Mareegan level rises every year after heavy rainfall. Significant land area is flooded
Flood Id = 2639
- A20. Ballynakill Upper – Low lying land floods after every year after heavy rainfall. The flood is of long duration.
Flood Id = 2640
- A21. Lackan – Low lying land floods after every year after heavy rainfall. The flood is of long duration.
Flood Id = 2641
- A22. Clonoun Road, Athlone. The River Shannon overflows its banks after every year after heavy rainfall.
Flood Id = 2642
- A23. Glebe, Ballynoahown – Low lying land floods after every year after heavy rainfall. The flood is of long duration.
Flood Id = 2643

Summary

The council does install, unblock and replace culverts to alleviate flooding



Legend:

- Nodes
- Model Reach
- AFA Boundary
- Flood Defence: Wall
- Flood Defence: Embankment
- Defended Area

10% AEP Fluvial Flood Extent
 (1 in 10 chance in any given year)

1% AEP Fluvial Flood Extent
 (1 in 100 chance in any given year)

0.1% AEP Fluvial Flood Extent
 (1 in 1000 chance in any given year)

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



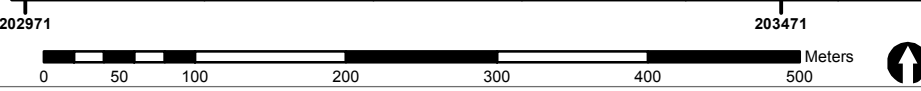
The Office of Public Works
 Jonathan Swift Street
 Trim
 Co. Meath
 C15 NX36



Merrion House
 Merrion Road
 Dublin 4
 D04 R2C5

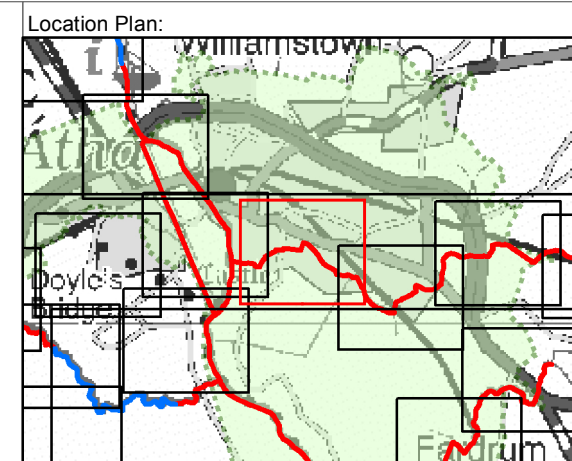
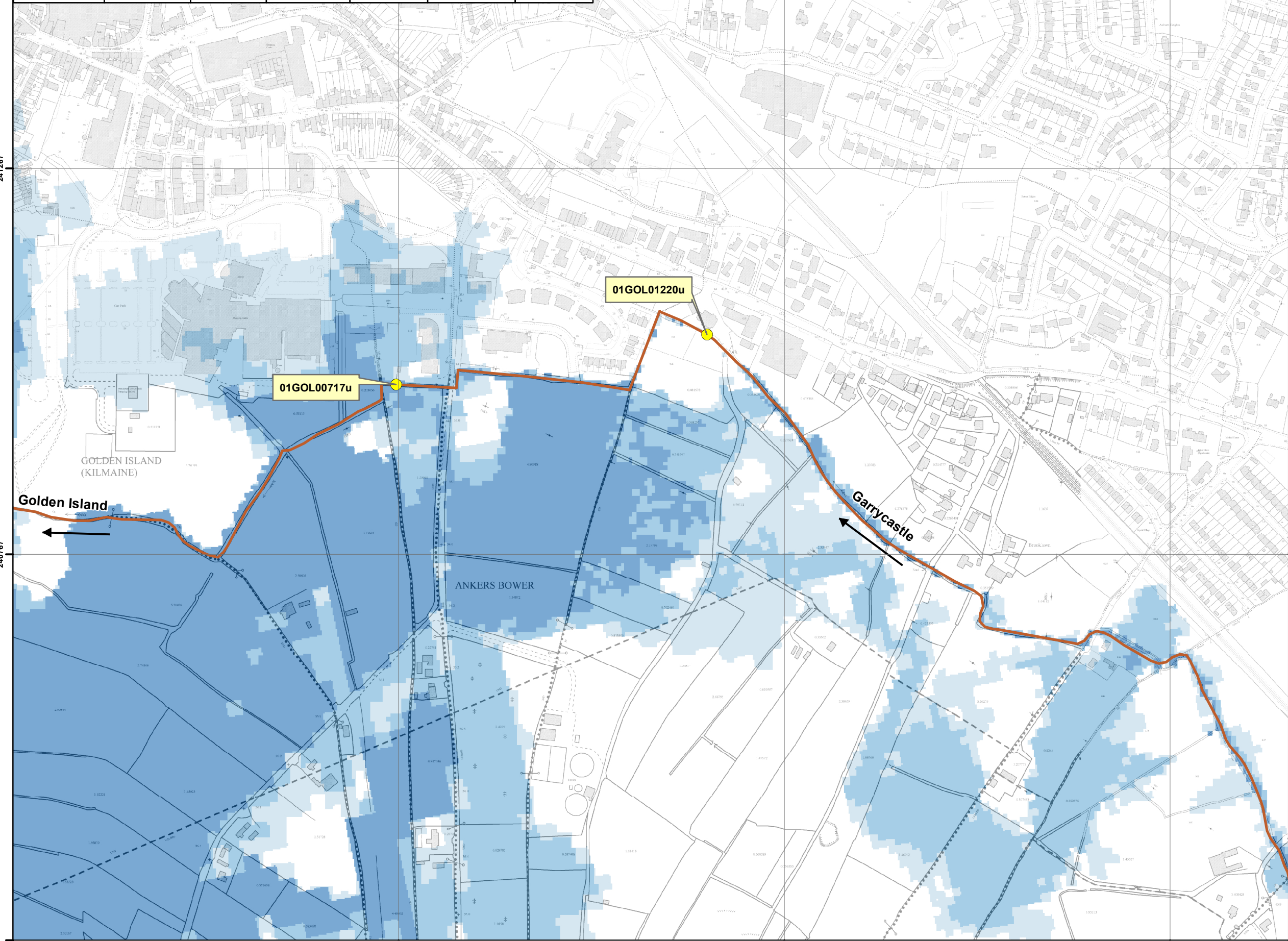
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Map Type:	EXTENT
Source:	FLUVIAL
Area:	ATHLONE
Scenario:	EXISTING
Drawn by:	EF Date: JUNE 2016
Checked by:	AC Date: JUNE 2016
Reviewed by:	MC Date: JUNE 2016
Approved by:	PS Date: JUNE 2016
Map Number:	S2526ATN_EXFCD_F1_05
Sheet:	5 of 25
Revision:	0

Node Label	10% AEP		1% AEP		0.1% AEP	
	Water Level (mOD)	Total Flow (m³/s)	Water Level (mOD)	Total Flow (m³/s)	Water Level (mOD)	Total Flow (m³/s)
07MSH00682	36.01	265.08	36.43	367.73	36.74	467.91
05MSX00675	35.78		36.22		36.53	



APPENDIX B
ECFRAMS MAPPING

Node Label	10% AEP		1% AEP		0.1% AEP	
	Water Level (mOD)	Total Flow (m³/s)	Water Level (mOD)	Total Flow (m³/s)	Water Level (mOD)	Total Flow (m³/s)
01GOL01220u	36.36		36.47		36.51	
01GOL00717u	35.51		35.71		35.81	



Legend:

- Nodes
- Model Reach
- AFA Boundary
- Flood Defence: Wall
- Flood Defence: Embankment
- Defended Area

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 (1 in 10 chance in any given year)

1% AEP Fluvial Flood Extent
 (1 in 100 chance in any given year)

0.1% AEP Fluvial Flood Extent
 (1 in 1000 chance in any given year)

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Project:	SHANNON CFRAM STUDY
Map Type:	EXTENT
Source:	FLUVIAL
Area:	ATHLONE
Scenario:	EXISTING
Drawn by:	EF
Checked by:	AC
Reviewed by:	MC
Approved by:	PS

Map Number:	S2526ATN_EXFCD_F1_15
Sheet:	15 of 25
Map Scale:	1: 5000
Plot Scale:	1:1 @ A3

