| Location: Borrisokane, Co. Tipperary | | Unique ID: 252854 (from PFRA database) | |
|---|---|---|---|
| **Initial OPW Designation** | **APSR** ☒ | **AFRR** ☐ | **IRR** ☐ |
| **Co-ordinates** | **Easting: 191,453** | **Northing: 193,834** | |
| **River / Catchment / Sub-catchment** | **Ballyfinboy River / River Shannon (Lough Derg)** | | |
| **Type of Flooding / Flood Risk** (identify all that apply) | **Fluvial non-tidal** ☒ **Fluvial tidal** ☐ **Coastal** ☐ | | |

## Stage 1: Desktop Review

### 1.1 Flood History (include review of Floodmaps.ie)

**River Flow Path**
The Ballyfinboy River flows through Borrisokane.

The Ballyfinboy River is crossed by the N52 (Main Street). The crossing itself is obscured by buildings and a petrol station. The river flows through an area of park land downstream of the town centre.

**Flood Event Records**
There are no records of flood events for Borrisokane on floodmaps.ie.

### 1.2 Relevant information on flooding issues from OPW and LA staff

**PFRA database comments *(in italics)*:**

***OPW comments***
*Designated APSR on the basis of predictive analysis. Approved – APSR*

***LA comments***
*Road at Ballyfinboy Would Garda Station flood?. Maybe more the land behind the main street. Agree*

**Meeting / discussion summary comments:**

**LA comments**

- Garda station is not at risk of flooding as its threshold is too high.
- Car park downstream of the N52 culvert on the left bank has flooded previously as a result of surface water drainage issues.
- Minor works completed to resolve this issue.
- Did not flood in 2009.

| 1.4 PFRA Data | | | |
|---|---|---|---|
| **1.4.1 PFRA hazard mapping** | **PFRA mapping available in GIS layer:** **Yes** ☒ No ☐<br>**PFRA mapping included on FRR map:** **Yes** ☒ No ☐ | | |
| **1.4.2 Summary of Principal Receptors** | **Type** | | **FRI score (if available)** |
| | Garda Station | | 25 |
| | UWWTP | | 25 |
| | Arch_Local | | 40 |
| | Arch_Regional | | 20 |
| | **TOTAL** | | **406** |
| **1.7 Stage 1 Evaluation** | **Aspect** | **Clearly APSR** | **Uncertain** |
| | **Flood History (1.1)** | | **X** |
| | **OPW / LA Information (1.2)** | | **X** |
| | **PFRA Evaluation (1.4)** | **X** | |
| | **Overall Desktop Evaluation** (if any above aspect is uncertain then overall designation is uncertain) | | **X** |
| **1.8 Proposed level of assessment for Stage 2 site visits** | **Level A Site Visit** | | **X** |
| | **Level B Site Visit** | | |

| Stage 2: Site Inspection | Level A Assessment |
|---|---|

| | |
|---|---|
| **Date and Time of Inspection** | **Date: 31/05/11**<br>**Time: 17:30** |
| **Names of inspection team (including OPW/LA staff if present)** | **Alan Dew**<br>**James Murray** |

**2.1 Ground-truthing of Hazard Mapping**

**Fluvial non-tidal** ☒ **Fluvial tidal** ☐ **Coastal** ☐ **Not available** ☐

PFRA hazard mapping is reasonable for Borrisokane, although it is likely to be over-estimated in places.

**2.2 Spot check ground-truthing of selected receptor vulnerability**

**(also note any key receptors noted during visit that are not identified by PFRA)**

| Receptor Type | Location description (if not obvious) | Exists? | Overall Vulnerability / Risk (L / M / H) |
|---|---|---|---|
| Pumping station | Park land, downstream of Main Street culvert | Yes | M |
| Residential properties | Adjacent to Main Street culvert | Yes | M |
| Commercial properties | Adjacent to and downstream of Main Street culvert | Yes | M |

**2.3 Local knowledge - on-site comments**

**(OPW, LA and any info volunteered by local residents during visit)**

Anecdotal evidence from staff at butcher's shop on Main St (right bank) indicated that the only flooding risk is sourced from stormwater drainage. Minor works have been completed recently to facilitate stormwater drainage.

**2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes**

Predominant hydraulic constraint is presented by the Main St culvert, which comprises 3 box culverts of ~ 0.50m height and 2.00m width. The soffit level of the culverts is beneath bank level. Bypass routes are available on both banks, particularly on the left bank, heading towards the lower point of the car park / residential properties immediately downstream (on left bank) of the culvert.

Mill race control structure upstream of the town centre not inspected due to access constraints.

## 2.5 SVRS Assessment Matrix

**Weightings:**
**A - x1 - reasonable expectation of flooding**
**B - x2 - high expectation of flooding**
**C - x5 - risk to life**

| Approx. Number | 1 to 4 | | | | 5 to 20 | | | | >20 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Weighting** | | **A** | **B** | **C** | | **A** | **B** | **C** | | **A** | **B** | **C** |
| **Property (domestic)** | 10 | | | | 100 | X | | | 200 | | | |
| **Property (small retail or business)** | 20 | | | | 200 | X | | | 400 | | | |
| **Property (large retail or business)** | 50 | | | | 500 | | | | 1000 | | | |
| **Road or Rail Infrastructure** | 30 | | | | 300 | | | | 600 | | | |
| **Critical Infrastructure (local)** [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)] | 50 | X | | | 500 | | | | 1000 | | | |
| **Critical Infrastructure (national importance)** | 250 | | | | 1000 | | | | 2000 | | | |
| **Cultural Heritage Site** | 20 | | | | 200 | | | | 400 | | | |
| **Environmental Designated Site** | 20 | | | | 200 | | | | 400 | | | |
| **Hazardous Substances Site** | 50 | | | | 500 | | | | 1000 | | | |
| **Total SVRS** | | | | | | | | **350** | | | | |

## 2.6 Defence Assets

**Formal and Informal Flood Defence Assets**
*(include effective and ineffective assets to inform asset survey and potential mitigation measures)*

**Open Channel Watercourses**
Man-made river channel ☐ Flood relief channel ☐ Canal ☐
Mill leat ☒ Drainage channels / back drains ☐

**Bridges and Culvert crossings**
Single Arch bridge ☐ Multi-Arch bridge ☐
Single Span bridge ☐ Multi-Span bridge ☐
Box culvert(s) ☒ Pipe culvert(s) ☐ Arch Culvert(s) ☐

**Culverted Watercourses** (culvert length is greater than just a crossing)
Box culvert(s) ☐ Pipe culvert(s) ☐ Arch Culvert(s) ☐ Irregular Culvert(s) ☐

**Walls and Embankments**
Embankment(s) ☐ Raised wall(s) ☐ Retaining wall(s) ☐

**Control Structures – weirs, gates, dams**
Fixed crest weir ☐ Adjustable weir ☐ Dam / Barrage ☐
Sluice gates ☐ Lock gates ☐ Radial gates ☐

**Storage**
On-line storage (natural) ☐ On-line storage (artificial) ☐ Off-line storage ☐

**Outfalls**
Flapped outfall(s) into watercourse ☐ Unflapped outfall(s) into watercourse ☐
*i.e. from smaller watercourses, drains etc. into river / estuary / sea*
Tidal flap(s) ☐ Tidal sluice(s) ☐
*i.e. from main watercourse into estuary / sea*

| | |
|---|---|
| | **Other**<br>Pumping Station ☒ Erosion Protection ☐ Sand Dunes ☐<br>**Additional notes (if required):** |
| **2.8 Initial Potential Mitigation Measures** | |
| **Non-structural measures** | Planning and Development control ☒<br>Sustainable Urban Drainage Systems ☐<br>Flood forecasting / warning ☒<br>Change in Operating Procedures for water level control: ☒<br>Public awareness campaign ☒<br>Individual property protection ☐<br>Land use management ☒ |
| **Structural measures** | **Strategic development management for floodplain development:** ☐<br>*(integration of measures into strategic development proposals)*<br>**Storage:** On-line ☒ Off-line ☐<br>**Flow diversion:** Flood relief channel ☐ Flood relief culvert ☐<br>**Increase conveyance:** Bridge works ☐ Channel works ☐ Floodplain ☐<br>**Flood defences:** Walls ☒ Embankments ☐<br>**Localised works:** Defence raising ☐ In-fill gaps ☐ Trash screen ☐<br>**Maintenance works:** Culvert / channel clearance ☐ Asset maintenance ☐<br>**Relocation of properties:** ☐<br>**Improve existing defences:** ☐ **(describe)**<br><br>**Other (describe):** |

| **Outcomes** | | | | |
|---|---|---|---|---|
| **PFRA Designation** | **APSR** ☒ **not an APSR** ☐ **IRR** ☐ | | **FRI Score:** 406 | |
| **Site Ground-truthing of PFRA Assessment *(hazard mapping and receptors)*** | **High Confidence (good)** | **Uncertain** | **Low Confidence (poor)** | **Not available** |
| | | **X** | | |
| **Site Visit Review Score** | **350** | | | |
| **Recommended Designation** | **APSR** ☒ **not an APSR** ☐ **IRR** ☐ | | | |
| **Summary Comments (if required)** | There are sufficient critical receptors at significant risk of flooding within Borrisokane to warrant its recommendation for designation as an APSR. | | | |

**Photo1:** N52 road bridge over the Ballyfinboy River viewed from the downstream right bank.

**Photo 2:** N52 road bridge over the Ballyfinboy River viewed from the upstream left bank

**Photo 3:** Ballyfinboy River downstream of the town centre within the parkland area.

**Photo 4:** Floodplain of the Ballyfinboy River upstream of the town centre viewed from the churchyard on the right bank.

189500 190000 190500 191000 191500 192000 192500 193000 193500

195500 195000 194500 194000 193500 193000 192500

**Borrisokane**

## Legend

- APSR Boundary for CARs only
- Historic Flooding Incidents
- Water bodies mapped from RADARSAT-2 *
- Hydrometric Gauging Stations
- EPA River Network
- Rail Stations
- Nursing Homes
- Residential Care for the Elderly
- Schools
- Ports and Harbours
- OPW Buildings
- Health Centres
- Garda Stations
- Hospitals
- Fire Stations
- Civil Defence Head Quarters
- Airports
- Rail Network
- Roads (National Roads Authority)
- Airport Land
- OPW Embankments
- Historic Flood Data
- Architectural Heritage
- UNESCO Sites
- Special Protection Area
- Special Area for Conservation
- Proposed National Heritage Area
- National Heritage Area
- Benefiting Lands

**Flood Extents (PFRA, 2010)**

- 10% AEP Flood Extent (1 in 10 chance in any given year)
- 1% AEP Flood Extent (1 in 100 chance in any given year)
- 0.1% AEP Flood Extent (1 in 1000 chance in any given year)

* Data Source - Service Régional de Traitement d'Image et de Télédétection (SERTIT) (acquired on the 5th of December 2009).

The PFRA Flood Extents shown are *indicative*. They have been developed using simple and cost-effective methods that are suitable for the PFRA. They should not be used for local decision-making or any other purpose without verification.

0 0.375 0.75 1.5 Km



JACOBS

| | |
|---|---|
| Client | OPW The Office of Public Works Oifig na nOibreacha Poiblí |
| Project | **Shannon CFRAM Study** Flood Risk Review Map |
| Title | **Borrisokane** |
| Drawing Status | FINAL |
| Job No. | 32102500 |
| Figure No. | **CAR 12** |
| Revision | |
| Scale | **1:12,500 @ A3** |
| | **Jun 28, 2011** |
| Drawn / Checked / Review / Approved | AD/SF / JC / KK/JM / IB/PS |