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| Location: Killaloe, Co. Clare / Ballina, Co. Tipperary | | Unique ID: 253055 (from PFRA database) | |
| Initial OPW Designation | APSR <input checked="" type="checkbox"/> | AFRR <input type="checkbox"/> | IRR <input type="checkbox"/> |
| Co-ordinates | Easting: 170180 | Northing: 172822 | |
| River / Catchment / Sub-catchment | River Shannon and tributaries / Shannon | | |
| Type of Flooding / Flood Risk (identify all that apply) | Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/> | | |

| Stage 1: Desktop Review | |
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| 1.1 Flood History (include review of Floodmaps.ie) | River Flow Path <p>The Shannon flows in a southerly direction through Killaloe (right bank) and Ballina (left bank).</p> Flood Event Records <p>Four flood records are listed in floodmaps.ie. The main flood event recorded was the 1954 event on the Shannon. Other events include the 1999 and 1994/1995 flooding. Flooding was predominantly from the Shannon, however flooding from tributaries has also been recorded.</p> |
| 1.2 Relevant information on flooding issues from OPW and LA staff | PFRA database comments (<i>in italics</i>): OPW comments <i>Designated APSR on the basis of predictive analysis and historical extents. Also affects Co. Clare side Approved – APSR</i> LA comments <i>Critical road infrastructure – Bridge over Shannon with regional road R463, Head difference of 1 metre between upstream and downstream faces during last winter's flooding. Most of town on high ground, some commercial properties (marina and Hotel) close. Bridge is a critical road infrastructure with high water difference during some flood events. (Ballina in Tipperary)</i> Meeting / discussion summary comments: LA comments <ul style="list-style-type: none"> • Ballina is situated in a basin. • There may also be some surface water issues here. • The WWTW just south of Ballina may be at risk. • Main Street Bridge linking Killaloe and Ballina is a critical crossing of the Shannon. There is no other crossing nearby. • There is a history of flooding at this location. |

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| 1.4 PFRA Data | | | |
| 1.4.1 PFRA hazard mapping | PFRA mapping available in GIS layer: | | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| | PFRA mapping included on FRR map: | | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 1.4.2 Summary of Principal Receptors | Type | | FRI score (if available) |
| | UWWTP | | 2.5 |
| | Arch_Local | | 10.1 |
| | Arch_Regional | | 20 |
| | Monument_LV | | 101 |
| | Total | | 2166.7 |
| 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 | |
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| 1.8 Proposed level of assessment for Stage 2 site visits | Level A Site Visit | | |
| | Level B Site Visit | | X |

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| Stage 2: Site Inspection | | Level B Assessment | |
| Date and Time of Inspection | | Date: 02/06/11 | |
| | | Time: 09:00 | |
| Names of inspection team (including OPW/LA staff if present) | | Mathieu Valois | |
| | | James Miurray | |
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| 2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit) | No on-site comments. | | |
| 2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes | The Main Street bridge crossing the river Shannon would be a constriction to flow during floods. | | |
| 2.6 Defence Assets | | | |
| Formal and Informal Flood Defence Assets <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i> | Open Channel Watercourses | | |
| | Man-made river channel <input type="checkbox"/> | Flood relief channel <input type="checkbox"/> | Canal <input type="checkbox"/> |
| | Mill leat <input type="checkbox"/> | Drainage channels / back drains <input type="checkbox"/> | |
| | Bridges and Culvert crossings | | |
| | Single Arch bridge <input type="checkbox"/> | Multi-Arch bridge <input checked="" type="checkbox"/> | |
| | Single Span bridge <input type="checkbox"/> | Multi-Span bridge <input type="checkbox"/> | |
| | Box culvert(s) <input checked="" type="checkbox"/> | Pipe culvert(s) <input type="checkbox"/> | Arch Culvert(s) <input type="checkbox"/> |
| | Culverted Watercourses (culvert length is greater than just a crossing) | | |
| | Box culvert(s) <input type="checkbox"/> | Pipe culvert(s) <input type="checkbox"/> | Arch Culvert(s) <input type="checkbox"/> |
| | | | Irregular Culvert(s) <input type="checkbox"/> |
| | Walls and Embankments | | |
| | Embankment(s) <input type="checkbox"/> | Raised wall(s) <input type="checkbox"/> | Retaining wall(s) <input checked="" type="checkbox"/> |
| | Control Structures – weirs, gates, dams | | |
| | Fixed crest weir <input type="checkbox"/> | Adjustable weir <input type="checkbox"/> | Dam / Barrage <input type="checkbox"/> |
| Sluice gates <input type="checkbox"/> | Lock gates <input type="checkbox"/> | Radial gates <input type="checkbox"/> | |
| Storage | | | |
| On-line storage (natural) <input checked="" type="checkbox"/> | On-line storage (artificial) <input type="checkbox"/> | Off-line storage <input type="checkbox"/> | |
| Outfalls | | | |
| Flapped outfall(s) into watercourse <input type="checkbox"/> | | Unflapped outfall(s) into watercourse <input type="checkbox"/> | |
| <i>i.e. from smaller watercourses, drains etc. into river / estuary / sea</i> | | | |
| Tidal flap(s) <input type="checkbox"/> | | Tidal sluice(s) <input type="checkbox"/> | |
| <i>i.e. from main watercourse into estuary / sea</i> | | | |
| Other | | | |
| Pumping Station <input type="checkbox"/> | Erosion Protection <input type="checkbox"/> | Sand Dunes <input type="checkbox"/> | |

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

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| Outcomes | |
| Recommended Designation | APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/> |
| Summary Comments (if required) | Killaloe and Ballina have a long history of flooding. The PFRA mapping predicts an ongoing significant flood risk with this conclusion supported by both Local Authorities and the OPW. Killaloe / Ballina was confirmed as an APSR following a desk based assessment, with no on-site verification required. |



Photo 1: River Shannon at Killaloe / Ballina.



Photo 2: Structure on upstream face of bridge at Killaloe / Ballina.



Photo 3: View of right bank (Killaloe), downstream of bridge.



Photo 4: Right bank upstream of Bridge.

