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| Location: Castlerea, Co. Roscommon | | Unique ID: 263422 (from PFRA database) | |
| Initial OPW Designation | APSR <input checked="" type="checkbox"/> | AFRR <input type="checkbox"/> | IRR <input type="checkbox"/> |
| Co-ordinates | Easting: 167399 | Northing: 280149 | |
| River / Catchment / Sub-catchment | Suck & Francis / Suck / 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) | <p>River Flow Path</p> <p>The Francis River flows in an easterly direction north of Castlerea before turning to flow in a westerly direction towards it's confluence with the River Suck. The River Suck flows in an easterly direction through Castlerea.</p> <p>Flood Event Records</p> <p>One undated flood event record is listed on floodmaps.ie. It indicates that the flooding occurs at the confluence of the Francis and the Suck. The flooding was restricted to fields; no properties or roads were reported as being affected.</p> |
| 1.2 Relevant information on flooding issues from OPW and LA staff | <p>PFRA database comments (<i>in italics</i>):</p> <p>OPW comments <i>Designated APSR on the basis of predictive analysis and LA comments. Approved – APSR</i></p> <p>LA comments <i>Does contain low lying land, but not necessarily developed. The old town should be okay. Heavily populated. Probably outside of top five, but could be included. Turloughs linked to the Termon river. Turlough(Milltown) Castleplunket(agri) Knockalgtha reg Risk could increase due to blockage. On River Suck – see previous comments</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <ul style="list-style-type: none"> Local Authority will have information on the flood risk via the Drainage Sub-Committee (Roscommon and Galway). <p>LA comments</p> <ul style="list-style-type: none"> Castlerea has a history of flooding but did not flood in 2009. It forms part of the River Suck drainage scheme; however the river is not maintained. The main risk is if the bridges in the town centre became blocked. The lack of maintenance would contribute to such a flood risk. Catchment area draining to Castlerea is affected by cross catchment ground water flows. |

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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) |
| | Arch_Regional | | 30.2 |
| | Total | | 550.5 |
| 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 | | |

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| Stage 2: Site Inspection | | Level A Assessment | | |
| Date and Time of Inspection | | Date: 12/05/11 | | |
| | | Time: 11:00 | | |
| Names of inspection team (including OPW/LA staff if present) | | Peter Smyth | | |
| | | James Murray | | |
| | | | | |
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| 2.1 Ground-truthing of Hazard Mapping | Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/> Not available <input type="checkbox"/> | | | |
| | PFRA hazard mapping seems to accurately represent flood risk in Castlerea | | | |
| 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) |
| | Swimming pool | Francis River – right bank | Yes | Medium |
| | Night club and Cash and Carry | River Suck / Francis confluence | Yes | Medium |
| | New developments (private and commercial) | River Suck, left bank near Bridge | Yes | Medium |
| 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 bridge in the centre of Castlerea has a good soffit but low springing level. There is a column constructed in the centre of one of the arches (three arch bridge) and it is likely to act as a constriction of flood flows. The Francis River flows under this bridge. The bridge west of town centre is a single span bridge and has reduced capacity due to debris at left bank (25% capacity loss). The River Suck flows under this bridge. | | | |

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 | X | | | 100 | | | | 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 | | | | 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 | | | | | | | | | 210 | | | |

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

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| | Other Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/> 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 type="checkbox"/> Change in Operating Procedures for water level control: <input type="checkbox"/> Public awareness campaign <input checked="" type="checkbox"/> Individual property protection <input checked="" type="checkbox"/> Land use management <input 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 type="checkbox"/> Flood defences: Walls <input checked="" type="checkbox"/> Embankments <input checked="" 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 checked="" type="checkbox"/> Asset maintenance <input type="checkbox"/> Relocation of properties: <input type="checkbox"/> Improve existing defences: <input type="checkbox"/> (describe) Other (describe): |

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| Outcomes | | | | |
| PFRA Designation | APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/> | | FRI Score: 550.5 | |
| Site Ground-truthing of PFRA Assessment (hazard mapping and receptors) | High Confidence (good) | Uncertain | Low Confidence (poor) | Not available |
| | X | | | |
| Site Visit Review Score | 210 | | | |
| Recommended Designation | APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/> | | | |
| Summary Comments (if required) | Both the Francis River and the River Suck are large fast flowing rivers at Castlerea. While the centre of Castlerea itself is on high ground, there are sufficient, critical receptors at significant risk of fluvial flooding to warrant Castlerea's recommended designation as an APSR. | | | |



Photo 1: Downstream of the Suck Francis confluence.



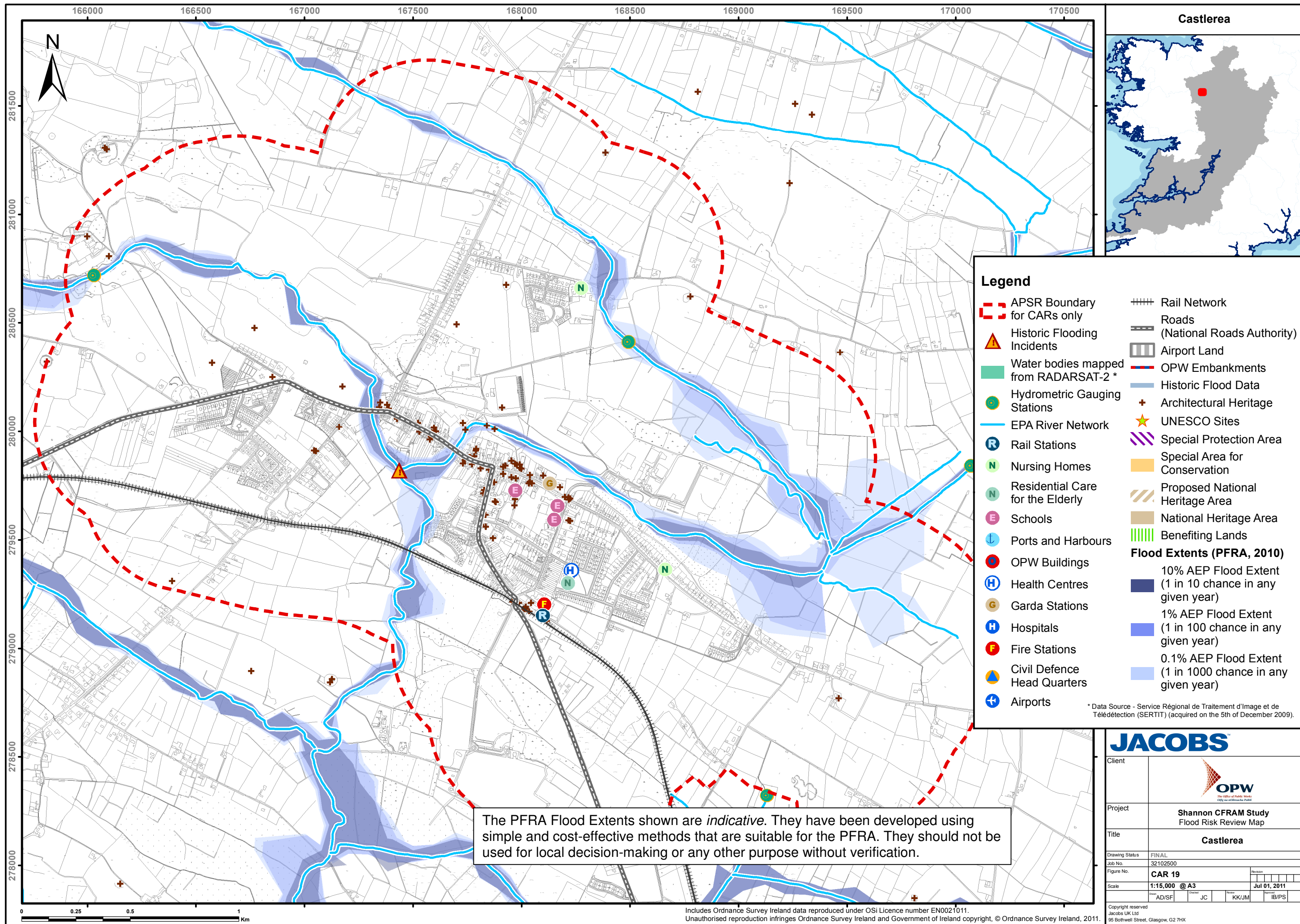
Photo 2: Bridge over Francis River.




Photo 3: River Suck in Castlerea.



Photo 4: River Suck in Castlerea.



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| JACOBS | |
| Client |  |
| Project | Shannon CFRAM Study Flood Risk Review Map |
| Title | Castlerea |
| Drawing Status | FINAL |
| Job No. | 32102500 |
| Figure No. | CAR 19 |
| Scale | 1:15,000 @ A3 |
| Drawn | AD/SF |
| Checked | JC |
| Reviewed | KK/JM |
| Approved | IB/PS |
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