Location: Cappamore, Co. Limerick		Unique ID: 250415 (from PFRA database)	
Initial OPW Designation	**APSR** ☒	**AFRR** ☐	**IRR** ☐
Co-ordinates	**Easting: 176851**	**Northing: 151402**	
River / Catchment / Sub-catchment	**Bilboa River / Mulkear / Shannon**		
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 Bilboa River and minor river tributaries flow through the village of Cappamore. The river meanders southward to its confluence with the Mulkear River approximately 3 kilometres away.

The Bilboa River is crossed by the R505 (Doon Road) at the eastern boundary of the village.

Flood Event Records

Twenty-three flood records are listed in floodmaps.ie. Flooding seems to have been predominantly restricted to greenfield land north and east of the town itself.

The area engineers meeting minutes state that a bypass channel has been constructed for the Bilboa River to flow around the village during flood conditions.

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 and historical extents. FRS

LA comments
(am) OPW Scheme has resolved the flooding(pm) Scheme in place but future development pressure may occur All agree it is an APSR

Meeting / discussion summary comments:

OPW comments

- Flood Relief Scheme in place: bypasses and flow restrictors. Drawings of this scheme available from the OPW.
- Schemes constructed north and east of the town.
- Properties that may still be at some risk of flooding are located on the local roads north of the town.
- Embankments are in place d/s of the town. Michael Collins (OPW) is aware of some one-off house being built behind these embankments by the new bridge.

LA comments

- No known flooding problems since the operation of the OPW flood relief scheme.

<table>
<tr><td colspan="4">1.4 PFRA Data</td></tr>
<tr><td>1.4.1 PFRA hazard mapping</td><td colspan="3">PFRA mapping available in GIS layer: Yes ☒ No ☐
PFRA mapping included on FRR map: Yes ☒ No ☐</td></tr>
<tr><td rowspan="5">1.4.2 Summary of Principal Receptors</td><td>Type</td><td>Number (approx.)</td><td>FRI score (if available)</td></tr>
<tr><td>Fire_Station</td><td>1</td><td>250</td></tr>
<tr><td>Health_Centre</td><td>1</td><td>25</td></tr>
<tr><td>Monument_LV</td><td>1</td><td>10</td></tr>
<tr><td>Total</td><td></td><td>769.1</td></tr>
<tr><td rowspan="5">1.7 Stage 1 Evaluation</td><td>Aspect</td><td>Clearly APSR</td><td>Uncertain</td></tr>
<tr><td>Flood History (1.1)</td><td>X</td><td></td></tr>
<tr><td>OPW / LA Information (1.2)</td><td>X</td><td></td></tr>
<tr><td>PFRA Evaluation (1.4)</td><td>X</td><td></td></tr>
<tr><td>Overall Desktop Evaluation
(if any above aspect is uncertain then overall designation is uncertain)</td><td>X</td><td></td></tr>
<tr><td rowspan="2">1.8 Proposed level of assessment for Stage 2 site visits</td><td colspan="2">Level A Site Visit</td><td></td></tr>
<tr><td colspan="2">Level B Site Visit</td><td>X</td></tr>
</table>

Stage 2: Site Inspection	Level B Assessment
Date and Time of Inspection	**Date: 08/06/11** **Time: 15:30**
Names of inspection team (including OPW/LA staff if present)	**James Murray** **Mathieu Valois**

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	There is a large bypass channel on the River Bilboa which is believed to convey extreme flows around Cappamore. No major constrictions identified on the Bilboa or the bypass channel. On the tributary to the west there are two culverts which are unlikely to act as constrictions to flow.

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

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

Outcomes	
Recommended Designation	**APSR** ☒ **not an APSR** ☐ **IRR** ☐
Summary Comments (if required)	Cappamore was confirmed as an APSR following a desk based assessment, on the grounds that the OPW have completed a major flood risk management scheme for Cappamore. No on-site verification of this conclusion was required.

Photo1: Bypass channel to the Bilboa River

Photo 2: Bilboa River

Photo 3: Westerly Tributary to the Bilboa River

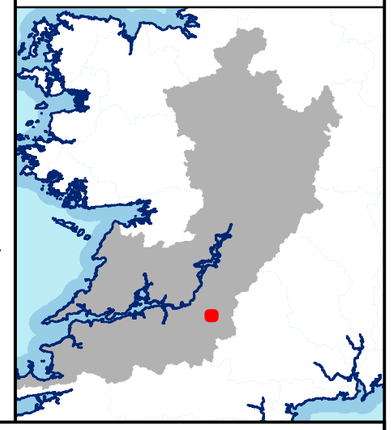
Photo 4: Easterly Tributary to the Bilboa River (Behind the Fire Station)

175500 176000 176500 177000 177500 178000 178500

152500 152000 151500 151000 150500

N

Cappamore



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 0.25 0.5 1 Km

JACOBS

Client	OPW The Office of Public Works Oifig na nOibreacha Poiblí
Project	**Shannon CFRAM Study** Flood Risk Review Map
Title	**Cappamore**
Drawing Status	FINAL
Job No.	32102500
Figure No.	**CAR 15**
Revision	
Scale	**1:10,000 @ A3**
	Jun 28, 2011
Drawn / Checked / Review / Approved	AD/SF / JC / KK/JM / IB/PS