

<b>Location: Boyle, Co. Roscommon</b>		<b>Unique ID: 260454</b> (from PFRA database)	
<b>Initial OPW Designation</b>	<b>APSR</b> <input checked="" type="checkbox"/>	<b>AFRR</b> <input type="checkbox"/>	<b>IRR</b> <input type="checkbox"/>
<b>Co-ordinates</b>	<b>Easting: 180226</b>	<b>Northing: 302423</b>	
<b>River / Catchment / Sub-catchment</b>	<b>Boyle / Shannon</b>		
<b>Type of Flooding / Flood Risk</b> (identify all that apply)	<b>Fluvial non-tidal</b> <input checked="" type="checkbox"/> <b>Fluvial tidal</b> <input type="checkbox"/> <b>Coastal</b> <input type="checkbox"/>		

<b>Stage 1: Desktop Review</b>	
<b>1.1 Flood History (include review of Floodmaps.ie)</b>	<p><b>River Flow Path</b></p> <p>The Boyle River flows through the town of Boyle and meanders south-westerly from Lough Key to Lough Gara.</p> <p>The Boyle River is crossed several times within the town boundary by both roads and a railway line. Roads include the N61 (Sligo Road), Bridge Street, Abbeytown and Mill Road. The railway crossing is located southwest of the town centre.</p> <p><b>Flood Event Records</b></p> <p>Ten flood records are listed in floodmaps.ie. The most significant events were recorded in 1996 and 1998.</p>
<b>1.2 Relevant information on flooding issues from OPW and LA staff</b>	<p><b>PFRA database comments (<i>in italics</i>):</b></p> <p><b>OPW comments</b>  <i>Designated APSR on the basis of predictive analysis and LA comments.        Approved – APSR</i></p> <p><b>LA comments</b>  <i>Drum Bridge Between canal and river Houses flooded Turloughs/swallow        holes</i></p> <p><b>Meeting / discussion summary comments:</b></p> <p><b>OPW comments</b></p> <ul style="list-style-type: none"> <li>Flooding nearly closed the access road to the town from the main road in 2009.</li> <li>Nov 2009, flooding reached the top of the road embankment but did not quite overtop. There were also properties at risk near Drum Bridge. Silt was deposited in the park area by high flows.</li> <li>The old bridge dates from the 12<sup>th</sup> century and is most likely archaeologically protected.</li> </ul> <p><b>LA comments</b></p> <ul style="list-style-type: none"> <li>The River Boyle starts in Lough Gara and has a history of flooding.</li> <li>Road to Drum (wooden bridge) floods in a regular basis.</li> <li>There is a scheme through the town that the OPW maintain.</li> <li>Stewarts Mill animal feed / mill is used it for electricity generation. The rights associated with this mill may be an issue when considering flood alleviation options.</li> </ul>

<b>1.4 PFRA Data</b>			
<b>1.4.1 PFRA hazard mapping</b>	<b>PFRA mapping available in GIS layer:</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<b>PFRA mapping included on FRR map:</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>1.4.2 Summary of Principal Receptors</b>	<b>Type</b>		<b>FRI score (if available)</b>
	OPW_LV		2
	UWWTP		2.5
	Arch_Local		1.1
	Arch_Regional		146.1
	Arch_National		25
	Monument_LV		193.2
	<b>Total</b>		<b>1017.9</b>
<b>1.7 Stage 1 Evaluation</b>	<b>Aspect</b>	<b>Clearly APSR</b>	<b>Uncertain</b>
	<b>Flood History (1.1)</b>	<b>X</b>	
	<b>OPW / LA Information (1.2)</b>	<b>X</b>	
	<b>PFRA Evaluation (1.4)</b>	<b>X</b>	
	<b>Overall Desktop Evaluation</b> (if any above aspect is uncertain then overall designation is uncertain)	<b>X</b>	
<b>1.8 Proposed level of assessment for Stage 2 site visits</b>	<b>Level A Site Visit</b>		
	<b>Level B Site Visit</b>		<b>X</b>

<b>Stage 2: Site Inspection</b>		<b>Level B Assessment</b>	
<b>Date and Time of Inspection</b>		<b>Date: 13/05/11</b>	
		<b>Time: 09:00</b>	
<b>Names of inspection team (including OPW/LA staff if present)</b>		<b>Peter Smyth</b>	
		<b>James Murray</b>	
<b>2.3 Local knowledge - on-site comments  (OPW, LA and any info volunteered by local residents during visit)</b>	No on-site comments.		
<b>2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes</b>	The downstream control at Lough Key is a restriction to flow. During the site visit the low flow conditions in the Lough were influencing levels at least as far upstream at the N61. Three bridges in the town cause some constriction and there is a mill upstream of the town which is active.		
<b>2.6 Defence Assets</b>			
<b>Formal and Informal Flood Defence Assets</b> <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i>	<div style="text-align: center;"><b>Open Channel Watercourses</b></div> <div style="display: flex; justify-content: space-between;"> <div>Man-made river channel <input type="checkbox"/></div> <div>Flood relief channel <input type="checkbox"/></div> <div>Canal <input type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Mill leat <input checked="" type="checkbox"/></div> <div>Drainage channels / back drains <input type="checkbox"/></div> </div> <div style="text-align: center;"><b>Bridges and Culvert crossings</b></div> <div style="display: flex; justify-content: space-between;"> <div>Single Arch bridge <input checked="" type="checkbox"/></div> <div>Multi-Arch bridge <input checked="" type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Single Span bridge <input checked="" type="checkbox"/></div> <div>Multi-Span bridge <input type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Box culvert(s) <input type="checkbox"/></div> <div>Pipe culvert(s) <input checked="" type="checkbox"/></div> <div>Arch Culvert(s) <input type="checkbox"/></div> </div> <div style="text-align: center;"><b>Culverted Watercourses</b> (culvert length is greater than just a crossing)</div> <div style="display: flex; justify-content: space-between;"> <div>Box culvert(s) <input type="checkbox"/></div> <div>Pipe culvert(s) <input type="checkbox"/></div> <div>Arch Culvert(s) <input type="checkbox"/></div> <div>Irregular Culvert(s) <input type="checkbox"/></div> </div> <div style="text-align: center;"><b>Walls and Embankments</b></div> <div style="display: flex; justify-content: space-between;"> <div>Embankment(s) <input type="checkbox"/></div> <div>Raised wall(s) <input checked="" type="checkbox"/></div> <div>Retaining wall(s) <input type="checkbox"/></div> </div> <div style="text-align: center;"><b>Control Structures – weirs, gates, dams</b></div> <div style="display: flex; justify-content: space-between;"> <div>Fixed crest weir <input type="checkbox"/></div> <div>Adjustable weir <input type="checkbox"/></div> <div>Dam / Barrage <input type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Sluice gates <input type="checkbox"/></div> <div>Lock gates <input type="checkbox"/></div> <div>Radial gates <input type="checkbox"/></div> </div> <div style="text-align: center;"><b>Storage</b></div> <div style="display: flex; justify-content: space-between;"> <div>On-line storage (natural) <input type="checkbox"/></div> <div>On-line storage (artificial) <input type="checkbox"/></div> <div>Off-line storage <input type="checkbox"/></div> </div> <div style="text-align: center;"><b>Outfalls</b></div> <div style="display: flex; justify-content: space-between;"> <div>Flapped outfall(s) into watercourse <input type="checkbox"/></div> <div>Unflapped outfall(s) into watercourse <input type="checkbox"/></div> </div> <div style="text-align: center;"><i>i.e. from smaller watercourses, drains etc. into river / estuary / sea</i></div> <div style="display: flex; justify-content: space-between;"> <div>Tidal flap(s) <input type="checkbox"/></div> <div>Tidal sluice(s) <input type="checkbox"/></div> </div> <div style="text-align: center;"><i>i.e. from main watercourse into estuary / sea</i></div> <div style="text-align: center;"><b>Other</b></div> <div style="display: flex; justify-content: space-between;"> <div>Pumping Station <input type="checkbox"/></div> <div>Erosion Protection <input type="checkbox"/></div> <div>Sand Dunes <input type="checkbox"/></div> </div>		

	<b>Additional notes (if required):</b>
<b>2.8 Initial Potential Mitigation Measures</b>	
<b>Non-structural measures</b>	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 type="checkbox"/> Individual property protection <input type="checkbox"/> Land use management <input type="checkbox"/>
<b>Structural measures</b>	<b>Strategic development management for floodplain development:</b> <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i> <b>Storage:</b> On-line <input type="checkbox"/> Off-line <input type="checkbox"/> <b>Flow diversion:</b> Flood relief channel <input type="checkbox"/> Flood relief culvert <input type="checkbox"/> <b>Increase conveyance:</b> Bridge works <input type="checkbox"/> Channel works <input type="checkbox"/> Floodplain <input type="checkbox"/> <b>Flood defences:</b> Walls <input checked="" type="checkbox"/> Embankments <input checked="" type="checkbox"/> <b>Localised works:</b> Defence raising <input type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/> <b>Maintenance works:</b> Culvert / channel clearance <input checked="" type="checkbox"/> Asset maintenance <input type="checkbox"/> <b>Relocation of properties:</b> <input type="checkbox"/> <b>Improve existing defences:</b> <input type="checkbox"/> (describe)  <b>Other (describe):</b>

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



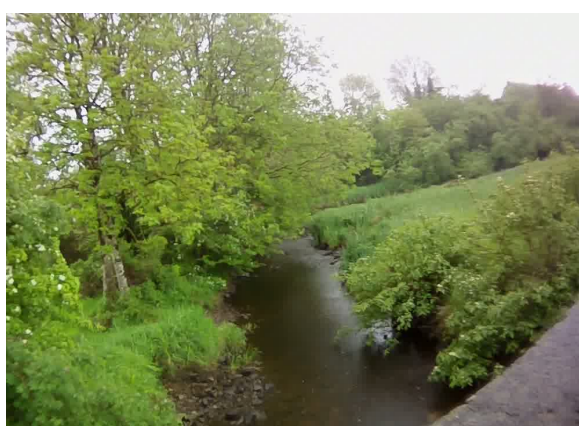
**Photo1:** Upstream face of bridge over the River Boyle in the town centre.



**Photo 2:** Downstream face of bridge over the River Boyle in the town centre.

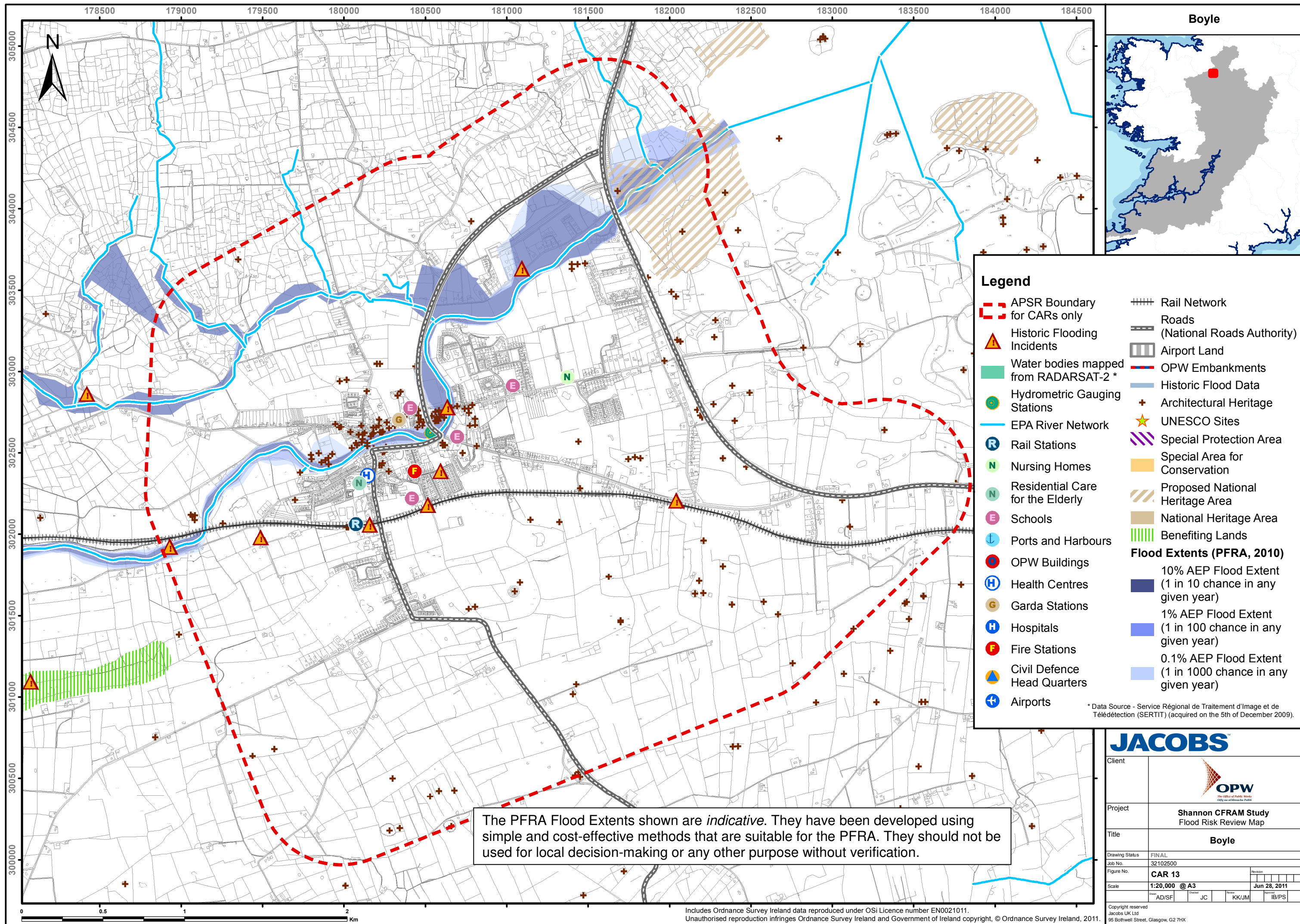


**Photo 3:** View of the River Boyle in Boyle town centre, looking downstream.




**Photo 4:** Tributary to the River Boyle in Boyle.





**JACOBS**

Client			
Project	Shannon CFRAM Study Flood Risk Review Map		
Title	Boyle		
Drawing Status	FINAL		
Job No.	32102500		
Figure No.	CAR 13		
Scale	1:20,000 @ A3		
Drawn	AD/SF	Checked	JC
Drawn	KK/JM	Checked	IB/PS
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