

Location: Rathkeale, Co. Limerick		Unique ID: 240394 (from PFRA database)	
Initial OPW Designation	APSR <input checked="" type="checkbox"/>	AFRR <input type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 136750	Northing: 140750	
River / Catchment / Sub-catchment	River Deel / Deel / Shannon Estuary Catchment		
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	
1.1 Flood History (include review of Floodmaps.ie)	<p>River Flow Path</p> <p>The River Deel lies south west of Rathkeale and eventually flows to the Shannon Estuary at Askeaton.</p> <p>Rathkeale town is situated on the N21 (Limerick to Tralee) and extends across the right and left banks of the River Deel. However, the majority of the settlement is located on the right bank. The river is by the N21 and Church St.</p> <p>The area between Church Street and New Line Road (on the right bank) has a small tributary of the Deel which runs north-east towards Beechmount Demesne.</p> <p>Flood event records</p> <p>Seven flood records are listed on floodmaps.ie – three of which are singular events and the other four are recurring flood events.</p> <ul style="list-style-type: none"> Two of the recurring flood events are located outside the main Rathkeale area: <ol style="list-style-type: none"> Graigue to the SE of Rathkeale Land is low lying and flooding caused by feeder streams feeding the Deel backing up; and Ballinlyny to the SW of Rathkeale. There were large floods reported in 2008 due to heavy rain; and Arup have undertaken a Section 50 application including hydrological analysis using the FSR and hydraulic modelling in ISIS.
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>Deel CDS</i></p> <p>LA comments <i>Houses at risk from Deel River. All agreed.</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <ul style="list-style-type: none"> Scheme constructed around 1968 and maintained by OPW. No flooding problems in Rathkeale since then. The scheme involved a major rock cut through the town around 1 m deep and 5 m wide.

	LA comments <ul style="list-style-type: none"> The area in the vicinity of Church St bridge was historically prone to frequent flooding, but this was alleviated by the OPW's scheme in 1960's. Unaware of the Deel spilling its banks u/s of the town's bridge until further south, and away from housing. Some lands near Coolanoran are prone to flooding, requiring farmers to move cattle, but no property damage. There is some localised flooding north of the town, towards Cloghatrida. This area is in a natural basin, flooding every 4-5 years (lands only). Doohyle Lough northeast of Rathkeale is known to flood lands. This is used as an amenity area. 		
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)	
	Post Primary	250	
	Gárda	0.25	
	UWWTP	25	
	Exchange	1	
	Monument(LV)	92.3	
	Total	2371.95	
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		
	Level B Site Visit		X

Stage 2: Site Inspection		Level B Assessment	
Date and Time of Inspection		Date: 14/04/11	
		Time: 09:00	
Names of inspection team (including OPW/LA staff if present)		Iain Blackwell	
		Kelly Kasperczyk	
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	<p>Six-arch bridge on Main Street (some arches are blocked).</p> <p>On the minor tributary flowing in from the left bank, there is a culvert under New Line Road (R518).</p> <p>There are two crossings at the downstream end of the town – the former railway crossing and the N21 crossing. Both of these could potentially present a hydraulic restriction, but these are wide spanning bridges and are less of a concern that the multi-arch bridge in the town centre.</p>		
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 checked="" type="checkbox"/>	Multi-Span bridge <input checked="" type="checkbox"/>	
	Box culvert(s) <input type="checkbox"/>	Pipe culvert(s) <input checked="" 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 checked="" 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 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 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"/> 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 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 checked="" 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):

Outcomes		
Recommended Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>	
Summary Comments (if required)		



Photo 1: Culvert under New Line Road – minor tributary flowing in from left bank



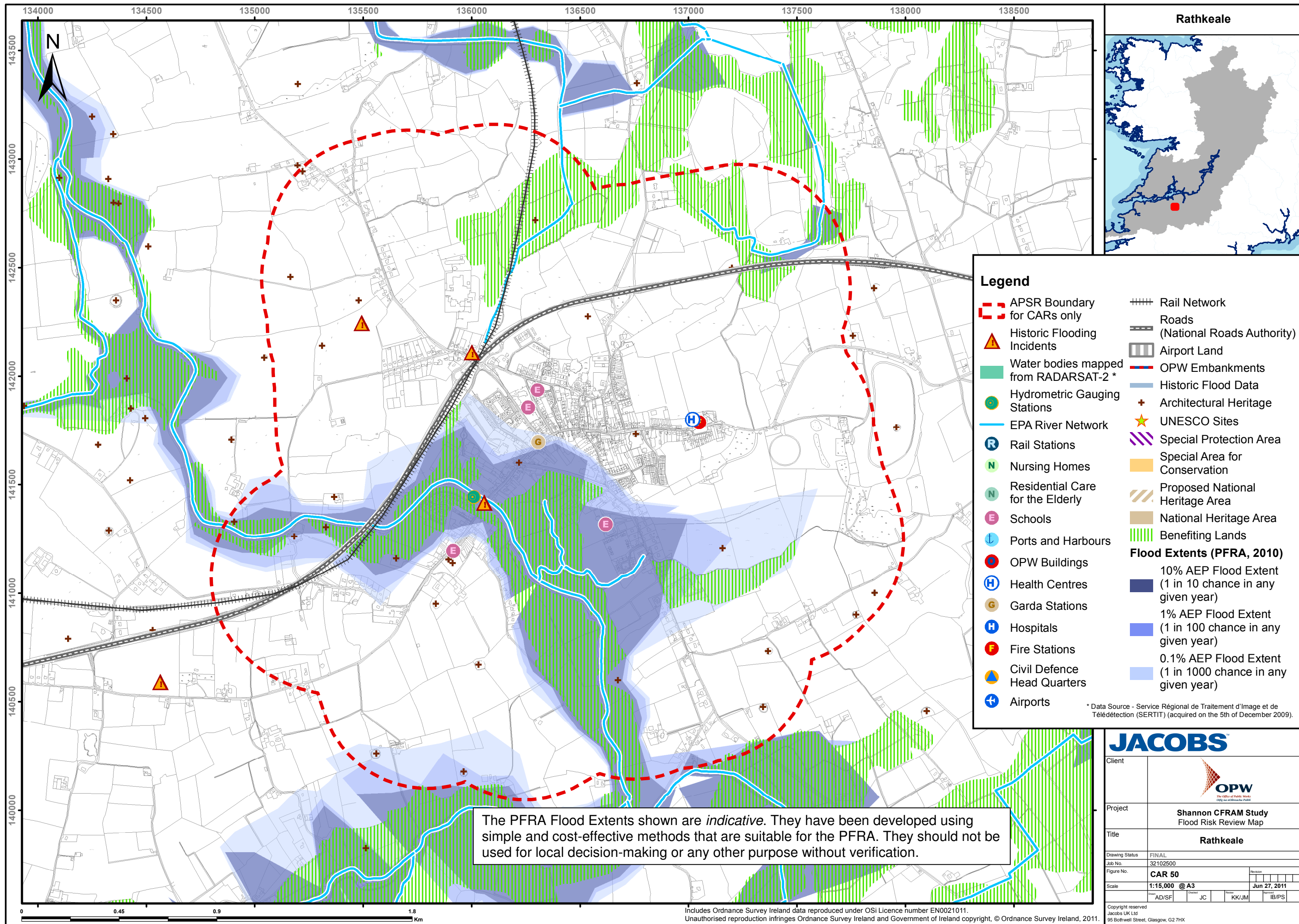
Photo 2: Gauging station and weir d/s of six arch bridge in Rathkeale centre




Photo 3: Looking u/s at the six arch bridge (One arch blocked)



Photo 4: Upstream of railway crossing looking d/s. Crossing d/s of Rathkeale centre



JACOBS

Client	 The Office of Public Works OPW ne réitíneann na Poblach		
Project	Shannon CFRAM Study Flood Risk Review Map		
Title	Rathkeale		
Drawing Status	FINAL		
Job No.	32102500	Revision	
Figure No.	CAR 50	Revision	
Scale	1:15,000 @ A3	Date	Jun 27, 2011
Drawn	AD/SF	Checked	JC
Drawn	KK/JM	Checked	IB/PS
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