

Location: Kilrush, Co. Clare		Unique ID: 270476 (from PFRA database)	
Initial OPW Designation	APSR <input checked="" type="checkbox"/>	AFRR <input type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 99458	Northing: 155376	
River / Catchment / Sub-catchment	Wood River / Shannon Estuary North		
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 Wood River, a tributary of the Shannon Estuary North flows in an east to west direction passing to the south of Kilrush. The river discharges to Kilrush harbour which was once tidal but is now controlled by lock gates which retain a high water tide level. There is a large woodland southeast of Kilrush, and the River Wood passes through the northern boundary of this woodland.</p> <p>The fluvial flood risk is considered to be non-tidal as the operation of the tidal lock now keeps a constant level in the marina.</p> <p>Flood event records</p> <p>There are 3 flood record listed 2 are recurring and 1 singular event.</p> <p>Flooding occurrences are as a result of tidal and pluvial influences, 24 areas noted from the OPW reports (contained in the Kilrush file) which include:</p> <ul style="list-style-type: none"> R 483 on Kilrush Road from Cooraclare - Road is flooded on average once per year but passable. No houses affected. Cause appears to be back up of Cooraclare River. This is outside the study area. Road is flooded on the Cappagh side of the Creek Lodge Hotel. Cause is tidal but may be exacerbated by the operation of Marina lock gates, which may have the effect of prolonging high water levels.
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>Approved - APSR</i></p> <p>LA comments <i>To be included as an APSR, APSR Score = 10392 IPC Licences Sites</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <p>LA comments</p> <ul style="list-style-type: none"> PM/TT) Barrage/Lough gate exists at wood river (potential source of flood risk) (TT) Based on the proposals for flood relief schemes in West Clare, this is not seen as an area which is flood prone. (PM) again suggest contacting the area engineer (Syril Feeny - 0872284038)

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)
	Fire_Stations_Weighted_F_S		25
	Arch_Regional_Weighted_F_E		21
	Monument_LV_Weighted_F_E		20
	Port_Harbour_Weighted_T_C		34.25
	Arch_Regional_Weighted_T_E		13.7
	Total		814.58
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		

Stage 2: Site Inspection		Level A Assessment		
Date and Time of Inspection		Date: 08/06/11		
		Time: 17:10		
Names of inspection team (including OPW/LA staff if present)		Iain Blackwell		
		Lewis Maani		
2.1 Ground-truthing of Hazard Mapping	Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input checked="" type="checkbox"/> Not available <input checked="" type="checkbox"/> Fluvial flooding extent appears reasonable, with flood extents following the topography along the valley. Coastal hazard mapping not available at the time of the visit.			
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)
	Pumping station	On left bank at Kilrush creek bridge	Yes	L
	Residential properties	Along northwestern side of harbour / Kilrush Creek	Yes	L
	Sheltered accommodation / assisted accommodation	Right bank of Wood River upstream of Steward Street	Yes	M
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	Tidal lock present at marina entrance maintains a constant level in the marina. The Wood River discharges into this water-level controlled creek. Single arch bridge on Cappa Road (where the Wood River flows into Kilrush Creek) may present a hydraulic restriction. Multi-arch bridge on Steward Street presents a restriction for the Wood River.			

2.5 SVRS Assessment Matrix												
Weightings: A - x1 - reasonable expectation of flooding B - x2 - high expectation of flooding or flooding is tidal (any risk) 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	X			200			
Property (small retail or business)	20				200				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	X			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									170			
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 checked="" 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 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 type="checkbox"/>											
	Control Structures – weirs, gates, dams Fixed crest weir <input checked="" 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):
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2.8 Initial Potential Mitigation Measures

Non-structural measures	Planning and Development control <input checked="" type="checkbox"/> Sustainable Urban Drainage Systems <input checked="" type="checkbox"/> Flood forecasting / warning <input 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"/>
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):

Outcomes				
PFRA Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>		FRI Score:	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
	X			
Site Visit Review Score	170			
Recommended Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	The main flood risk in Kilrush appears to be the new sheltered / assisted accommodation located on the right bank of the Wood River just upstream of Steward Street. These properties currently appear to be unoccupied.			



Photo 1: Entrance to Kilrush Creek. Tidal lock is located behind this property



Photo 2: Properties to the south of Kilrush Creek (now forming the Marina) located on high ground



Photo 3: Tidal lock at the entrance to Kilrush Marina



Photo 4: Bridge at the downstream end of the Wood River where it flows into Kilrush Creek



Photo 5: Multi-arch bridge crossing of the Wood River at Steward Street



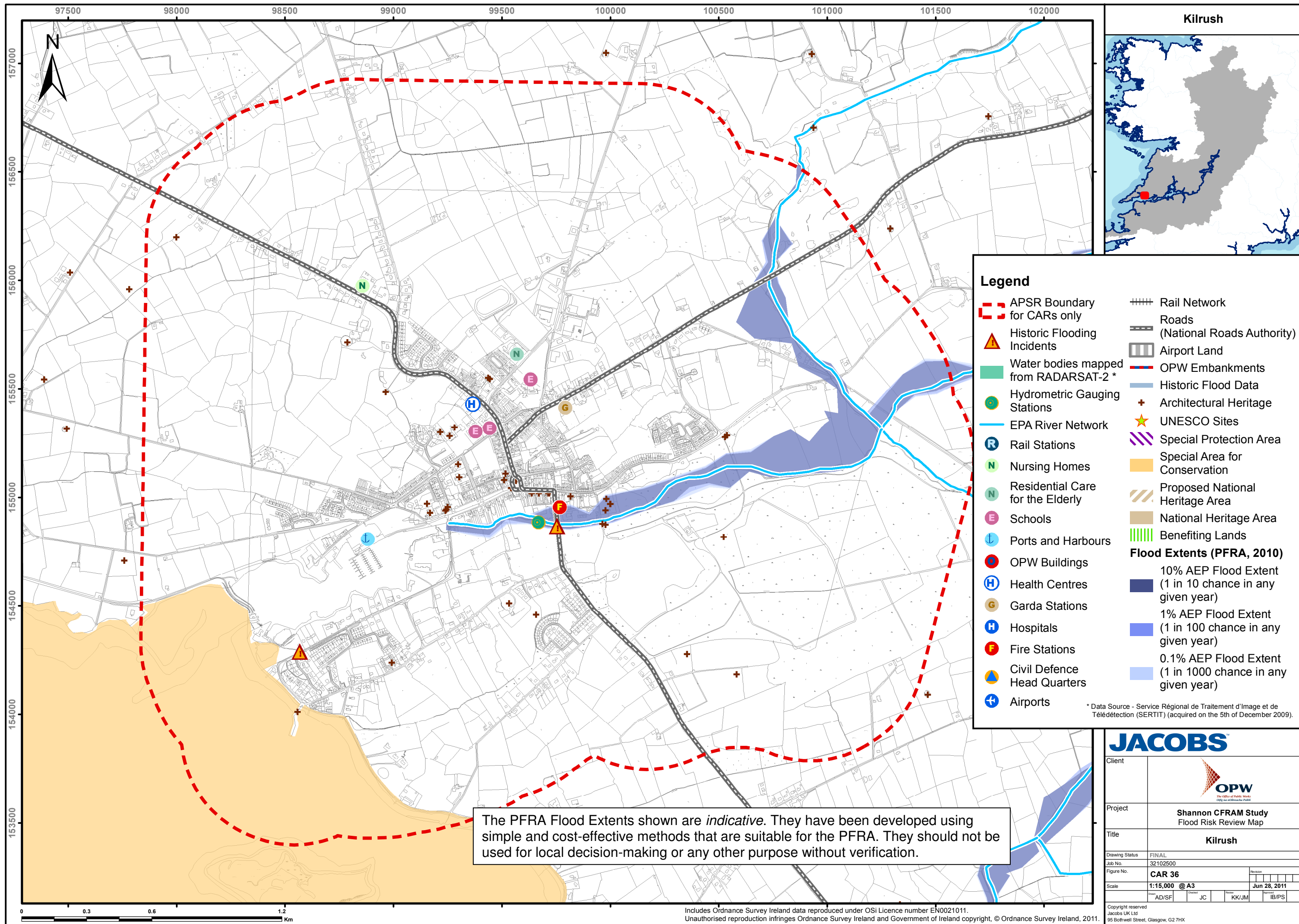
Photo 6: Kilrush Nursing Home on the right bank. Wood River is located to the right of the fence, looking upstream




Photo 7: Wood River adjacent to Kilrush Nursing Home



Photo 8: Floodplain on the right bank upstream of Kilrush



JACOBS

Client			
Project	Shannon CFRAM Study Flood Risk Review Map		
Title	Kiltrush		
Drawing Status	FINAL		
Job No.	32102500		
Figure No.	CAR 36		
Scale	1:15,000 @ A3		
Drawn	AD/SF	Checked	JC
Drawn	KK/JM	Checked	IB/PS
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