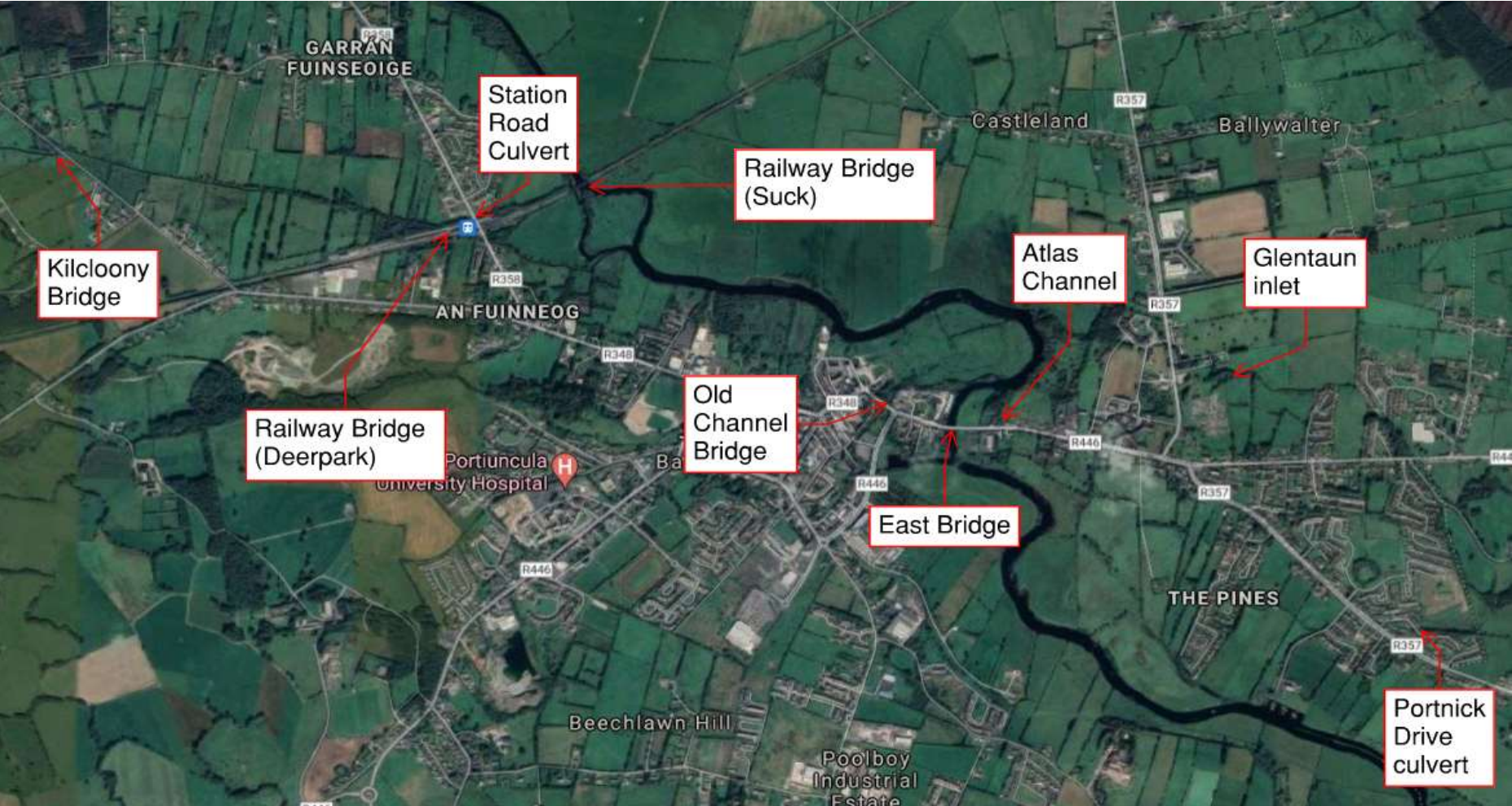


<div>ARUP</div>		Job No.		Sheet No.		Rev.					
		271741-00		1		V5					
		Member/Location		Member/Location							
		Drg. Ref.		Drawing reference							
		Made by		MM		Date		10/05/2023		Chd.	
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Structure ID	Desc	Historical evidence of blockage	Maintenance regime	Trash screen?	Cross sectional area	Culvert capacity	Catchment type	Preliminary Assessment
1	Atlas channels and culverts	The channel at Atlas Industries had a constriction which was subsequently removed. Arup noted on site visit that extensive sapling growth has established within the channel at Atlas, which would readily catch debris. Access bridge to domestic property at Dolans collapsed during 09 event. There is also a drainage pipe crossing in front of each opening under Church Road	Identified as a drainage district (DD) channel – maintained by GCC	No	(Multiple sections) each > 3 m2	Circa 25 m3/s	(Branch channel of main Suck)	100% blockage used for Calibration runs. Assume unblocked in design runs considering works undertaken after 2009 flood and ongoing maintenance. Sensitivity analysis has been undertaken as part of the design runs.
2	Glentaun stream culvert inlet adjacent to cemetery	GCC confirmed that this culvert inlet has blocked in the past. Water overtops the inlet and flows through the cemetary onto Creagh Road. Water collects here until it drains away through the road gullies	No known regime. Inlet screen does not appear to be regularly maintained	Yes	0.64 < 3 m2 - without trash screen	(capacity of 450mm pipe) - 0.3 m3/s	Rural - trees along the channel but mainly grassland	It is proposed to carry out an assessment of a fully blocked screen as part of the options assessment
3	Ballyhugh Stream culvert at Portnick Drive	Yes – confirmed by GCC at PCD#1	Unknown – not a DD channel. Inlet difficult to access/inspect	No	1.13 + 1.81 < 3 m2	600mm + 760mm pipes, that eventually converge into a single 600mm pipe - 2.16 + 4.86 m3/s	Rural - trees along the channel but mainly grassland	Model of this stream is uncalibrated. Blockage factor for design runs to be agreed with SG. Considering blockage history, a trash screen may be required – assessment to be completed as part of options development
4	Kilclooney Bridge	Unknown. GCC was not aware of any history of blockage here	Identified as a drainage district channel – maintained by GCC	No	Two arches, 9m2 each	Approx 11m3/s in baseline 1%AEP	Rural	It is proposed to carry out further assessment of blockage at this bridge as part of the options assessment. Bridge skew may promote some debris becoming trapped.
5	Derrymullan branch channel culvert under Station Road	Unknown. This culvert has been upsized in recent years	Not a DD channel but expected to be maintained as part of Derrymullen flood scheme.	No	currently 4.81 > 3 m2 - estimated	currently 7.23 m3/s	Rural - trees along the channel but mainly grassland	Blockage is unlikely to be a critical issue at this culvert in the context of the flood relief scheme. The risk of blockage is low given the size of the upgraded culvert and the hard angle at the upstream confluence with the Deerpark which will limit debris from getting into the watercourse.
6	East bridge	GCC confirmed that the bridge piers did catch large debris (trees) during the 2009 event which could not be cleared until after the event. The sluice gates also caused a major blockage, but this issue has since been resolved with the works in 2012. There is also a drainage pipe crossing on the downstream face which partially obscures the bridge eyes	Unknown	No	(Multiple sections) each > 3 m2	>285m3/s in baseline 1%AEP	Rural - wooded	It is proposed to carry out further assessment of blockage at this bridge as part of the options assessment, as the bridge acts as a hydraulic control on design flood levels upstream and given the potential consequences of a blockage.
7	Railway bridge (Deerpark)	Unknown. GCC was not aware of any history of blockage here	Unknown	No	25.3 -> 16 m2 of effective area (accounting for skew angle) > 3 m2	39 m3/s	Rural - trees along the channel but mainly grassland	It is proposed to assess blockage at this bridge given the proximity of vulnerable properties at Derrymullen.
8	Railway bridge (Suck)	Unknown	Identified as a drainage district (DD) channel – maintained by GCC	No	(Multiple sections) each > 3 m2	>330m3/s in baseline 1%AEP	Rural - trees along the channel but mainly grassland	Blockage is unlikely to be a critical issue at this bridge in the context of the flood relief scheme given the large area of the bridge openings, its position on a straight section of the Suck, and its lack of history of blockage
9	Old Channel Bridge	Unknown. GCC was not aware of any history of blockage here	Unknown	No	TBC	TBC	Rural - trees along the channel but mainly grassland	It is proposed to assess blockage at this bridge given the proximity of vulnerable properties at Derrymullen.