

KEERAUN SOCIAL HOUSING GALWAY

Stage 1 Flood Risk Assessment



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Stage 1 Flood Risk Assessment
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31 August 2021

KEERAUN SOCIAL HOUSING STAGE 1 FLOOD RISK ASSESSMENT

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31 August 2021

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Stage 1 Flood Risk Assessment for Keeraun Social Housing Development

Sources of Information	Descriptions / Comments / Impacts
Existing site condition and proposed development	
Site location & proposed development	The site of the proposed Social Housing Development is a greenfield site located in Keeraun, Ballymoneen Road (Grid Reference: E525600; N725890). Galway City Council (GCC) is the owner of the plot of residential zoned lands and intend to develop 71 housing units (mix of 1 – 4 bed housing units) and 8no. culturally appropriate traveller specific units on site. Refer to Figure 1 in Appendix A.
Existing site topography & surface water drainage systems	The site is largely a greenfield site with a temporary access road bounding the southern edge of the site. The site is relatively flat along the access road. The level of the site appears to have been lowered along the access road to suit cover and invert levels of Irish Water and Local Authority infrastructure (foul and stormwater manholes). There is a variation in the levels across the site with high and low points throughout. The site dips in the middle where an existing drain runs from south to the north through the site. From the topographical survey, the existing site varies from 56.0-60.5mOD while the adjacent Ballymoneen road has a level of approx. 59.3mOD at the junction with the temporary access road. The drain has a low point invert level of 54.89mOD at the inlet of the culvert downstream, with an invert level of 55.95mOD at the upstream culvert. The depth of the drain varies from 0.5m to 1.0m. Refer to Figure 2 for topography of site and location of existing culverts. According to the Irish Water online database, there is a 300mm diameter foul and a 300mm diameter storm water pipe running along the temporary access road to the south of the site. The two pipes are shown to be 225mm diameter according to the NCW topographical survey completed in October 2020. Refer to Figure 3 in Appendix A.
Sources of information consulted in terms of flooding as recommended in the OPW Guidelines on "The Planning System and Flood Risk Management Guidance and Planning (2009)"	
Historical Six Inch Mapping (osi.ie)	The historical 6" maps were consulted on the Ordnance Survey Ireland website. There was no indication of historic flooding at the proposed site. Refer to Figure 4 in Appendix A.
Historical Flood Maps (Floodmaps.ie and floodinfo.ie)	There are no instances of flooding at the proposed site. Refer to Figure 5 in Appendix A.

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Arterial Drainage Schemes / Drainage Districts & Benefitting Land Maps	According to www.floodinfo.ie , the proposed site is not designated/identified as benefitting lands under any Arterial Drainage Schemes / Drainage Districts.
Topographical Maps/DTM (Discovery maps and regional WFD Catchments)	There is a variation in the levels across the site with high and low points throughout. The site dips in the middle where an existing drain runs from south to the north through the site. From the topographical survey, the existing site varies from 56.0-60.5mOD while the adjacent Ballymoneen road has a level of approx. 59.3mOD at the junction with the temporary access road. The drain has a low point invert level of 54.89mOD at the inlet of the culvert downstream, with an invert level of 55.95mOD at the upstream culvert. The depth of the drain varies from 0.5m to 1.0m. Refer to Figure 2 for topography of site and location of existing culverts.
OPW Preliminary Flood Risk (PFRA) Assessment Indicative Fluvial Flood Maps	Fluvial PFRA maps were consulted and show no flooding at the proposed site. The drain doesn't appear to have been considered for modelling during the PFRA study. Refer to Figure 6 in Appendix A .
Predictive Flood Maps produced under the CFRAM Studies	Floodinfo.ie was consulted and no watercourse in the vicinity of the proposed site was modelled under the CFRAM programme.
River Basin Management Plans and Reports (CFRAM Studies)	As the proposed site has no history of flooding, there are no plans available on floodinfo.ie for the area around the proposed site.
National Coastal Protection Strategy Study and Coastal Erosion Risk Maps	Not applicable.
GSI Groundwater Flooding Maps	No evidence of groundwater flooding at the site.
Previous Flood Risk Assessments: At site or Strategic Flood Risk Assessments (SFRA)	An SFRA was carried out for the Galway City Development Plan 2017 – 2023. No watercourses near the proposed site were considered under this SFRA.
National/Regional/Local Spatial Plans	An SFRA was carried out for the Galway City Development Plan 2017 – 2023. No watercourses near the proposed site were considered under this SFRA.
Information of Flood Defence Condition and Performance	Not applicable.
Alluvial Deposit Maps	Not applicable.
Consultation with the OPW	Not consulted at this stage.
Consultation with the Local Authorities	On-going under the planning process.

Walkover Survey	Not applicable.
Stage 1: Flood Risk Assessment Summary	
There is no evidence to show that the proposed site is liable to flooding. The site is located outside the fluvial areas as modelled under the PFRA and CFRAM programmes. There is also no evidence of groundwater flooding at the site. Any proposed drainage and culverting of the drain as part of the development is expected to be adequately designed to prevent any increase in flood risk to the site.	
Flood/Drainage Impacts & Proposed Measures	
Surface water generated will likely be infiltrated on site in combination with the use of attenuation on site in order to ensure the risk of flooding in the vicinity of the development is not increased. Any proposed drainage and culverting of the drain as part of the development is expected to be adequately designed to prevent any increase in flood risk to the site.	

Appendix A

Figures

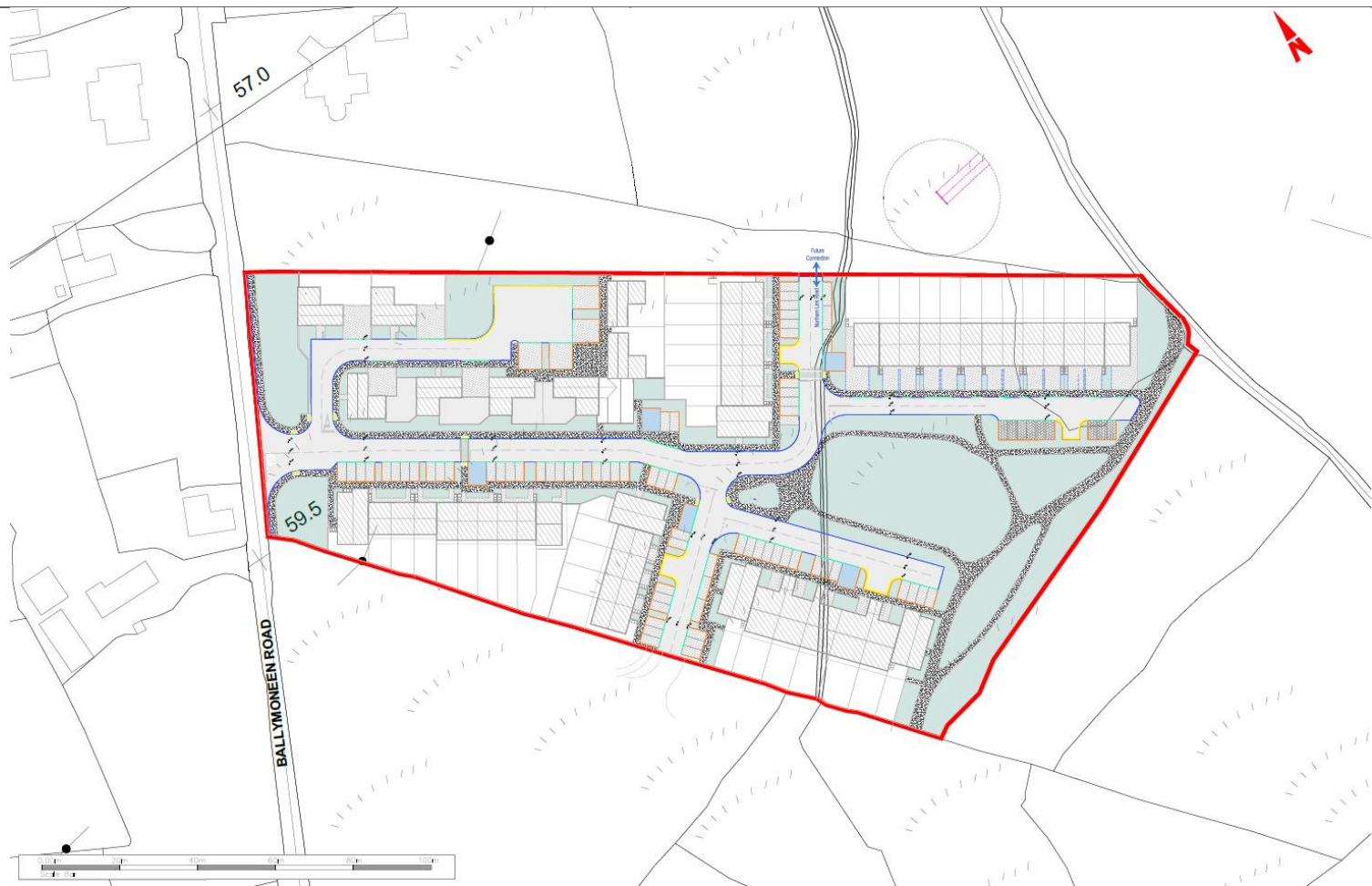


Figure 1 Site Location and Development Layout Plan

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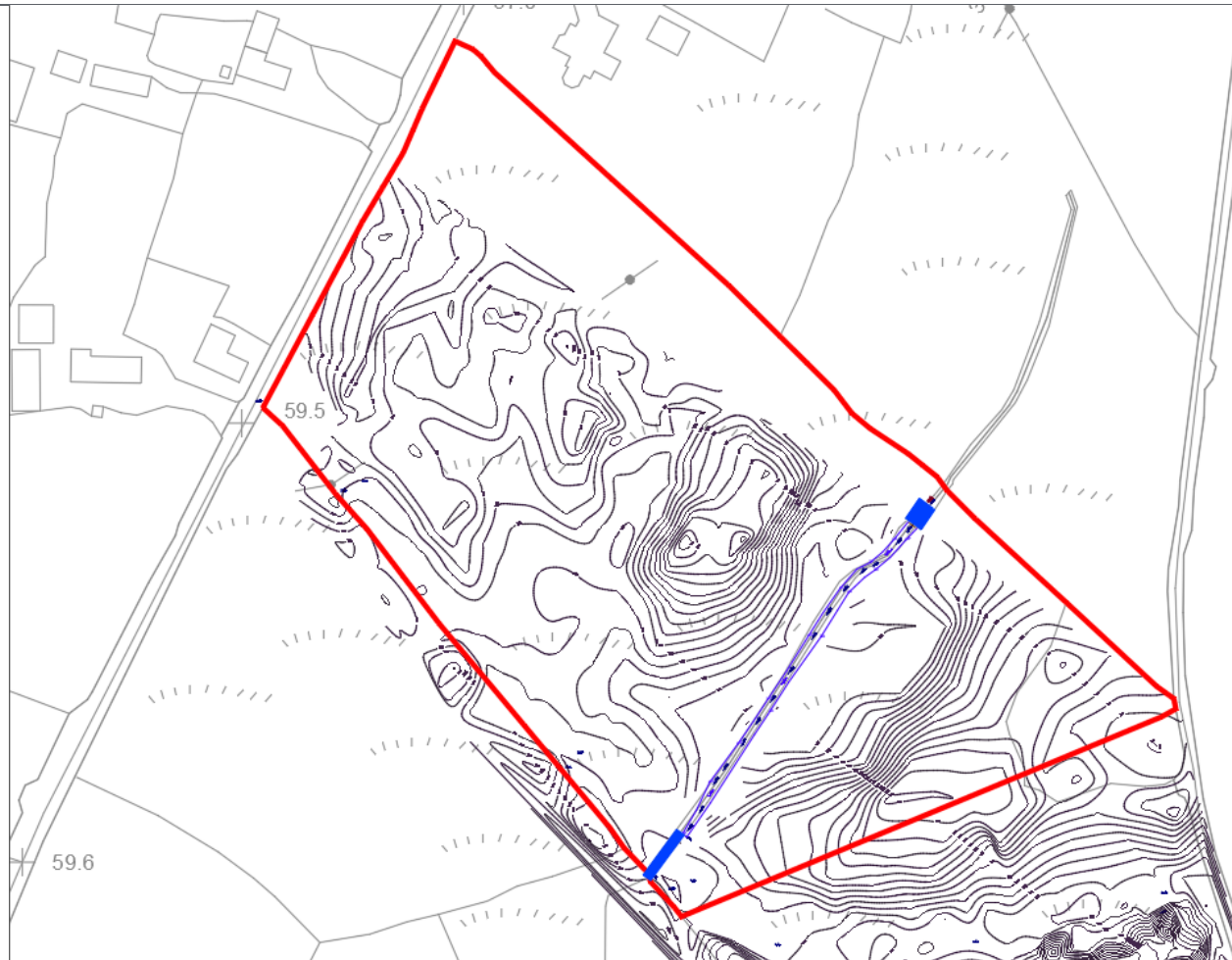


Figure 2 Site Location with topography and existing culvert locations



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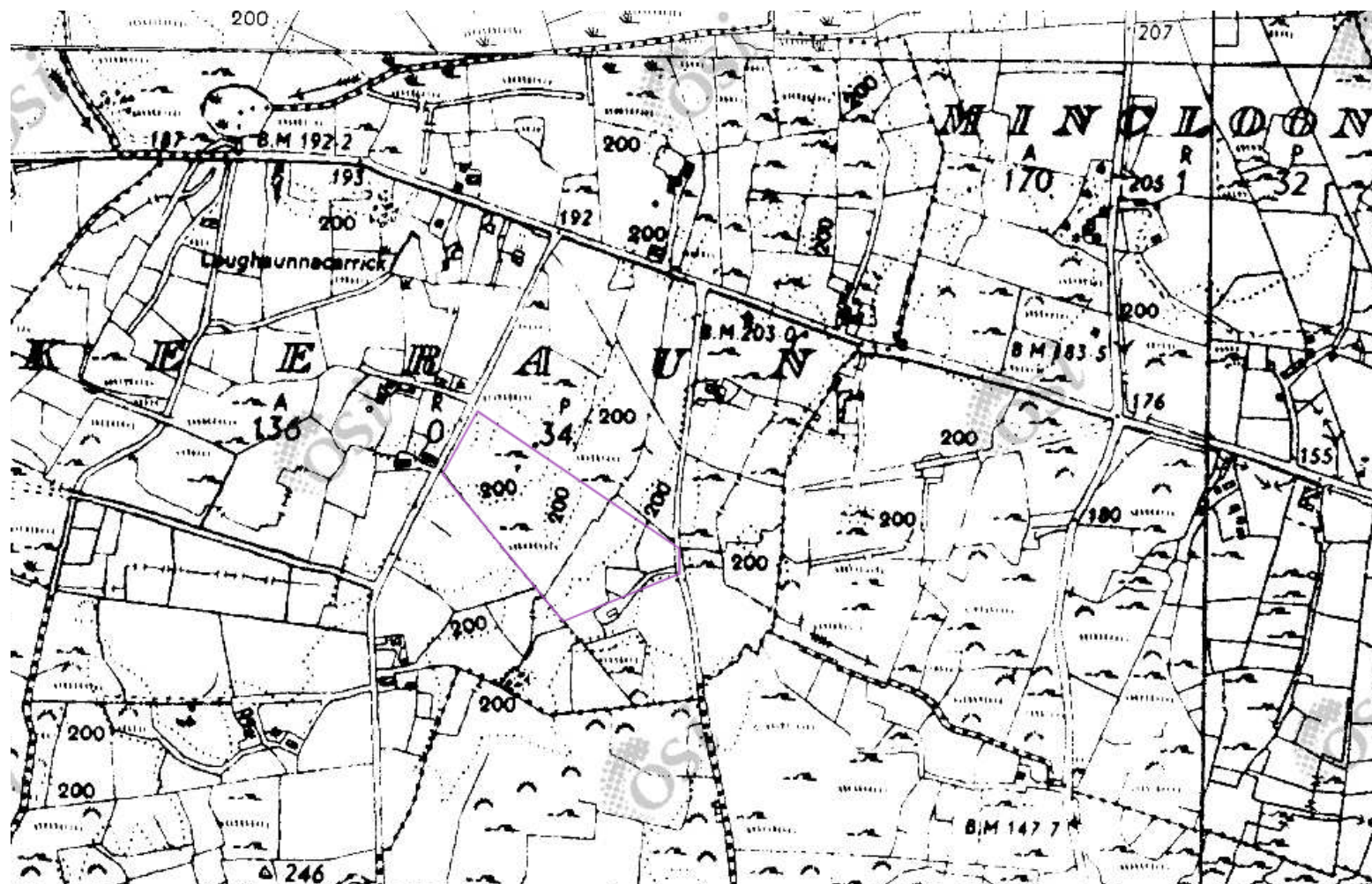


Figure 4 Historical 6" mapping with site boundary line overlay

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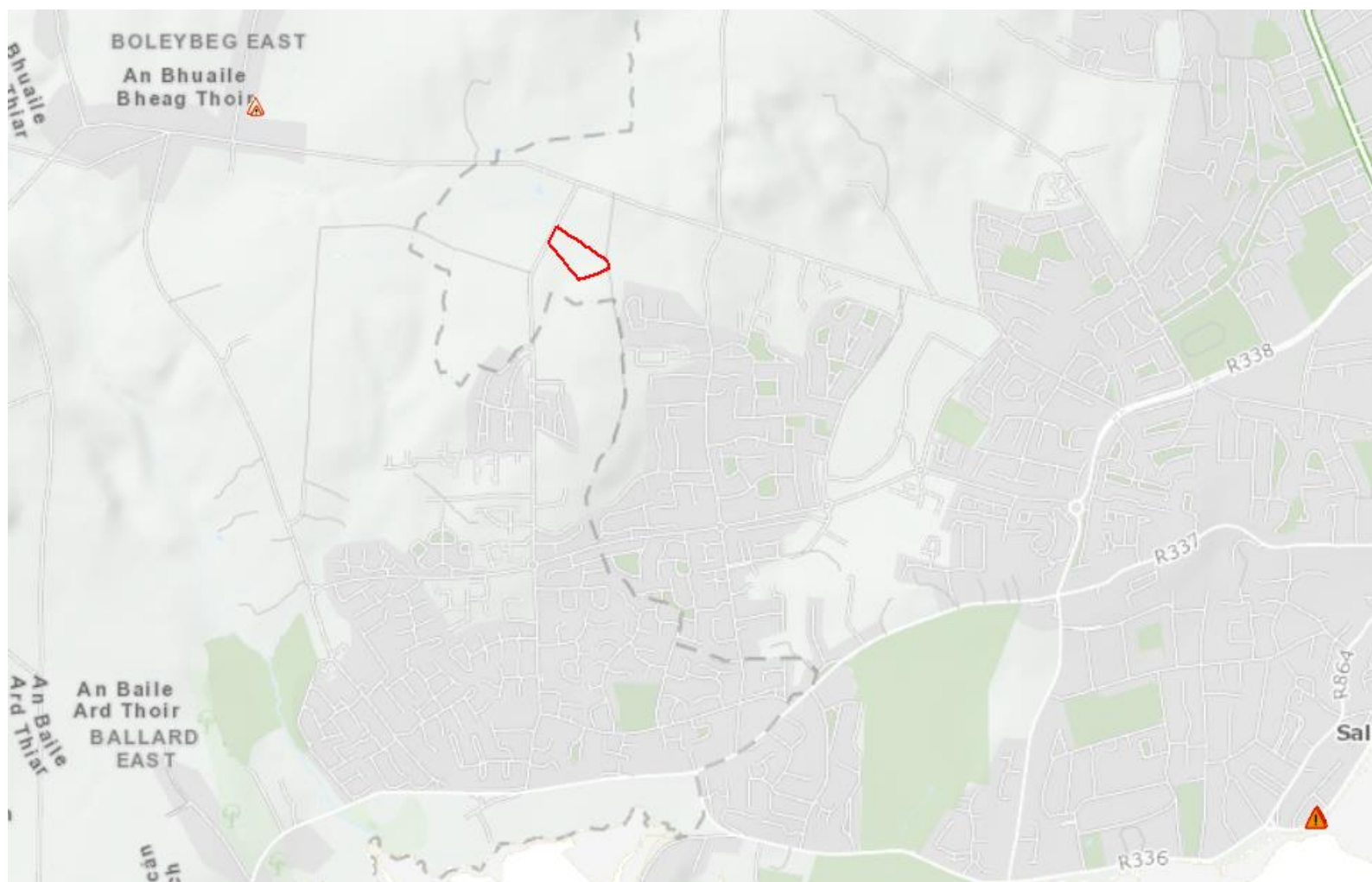


Figure 5 OPW Historical Flood Events

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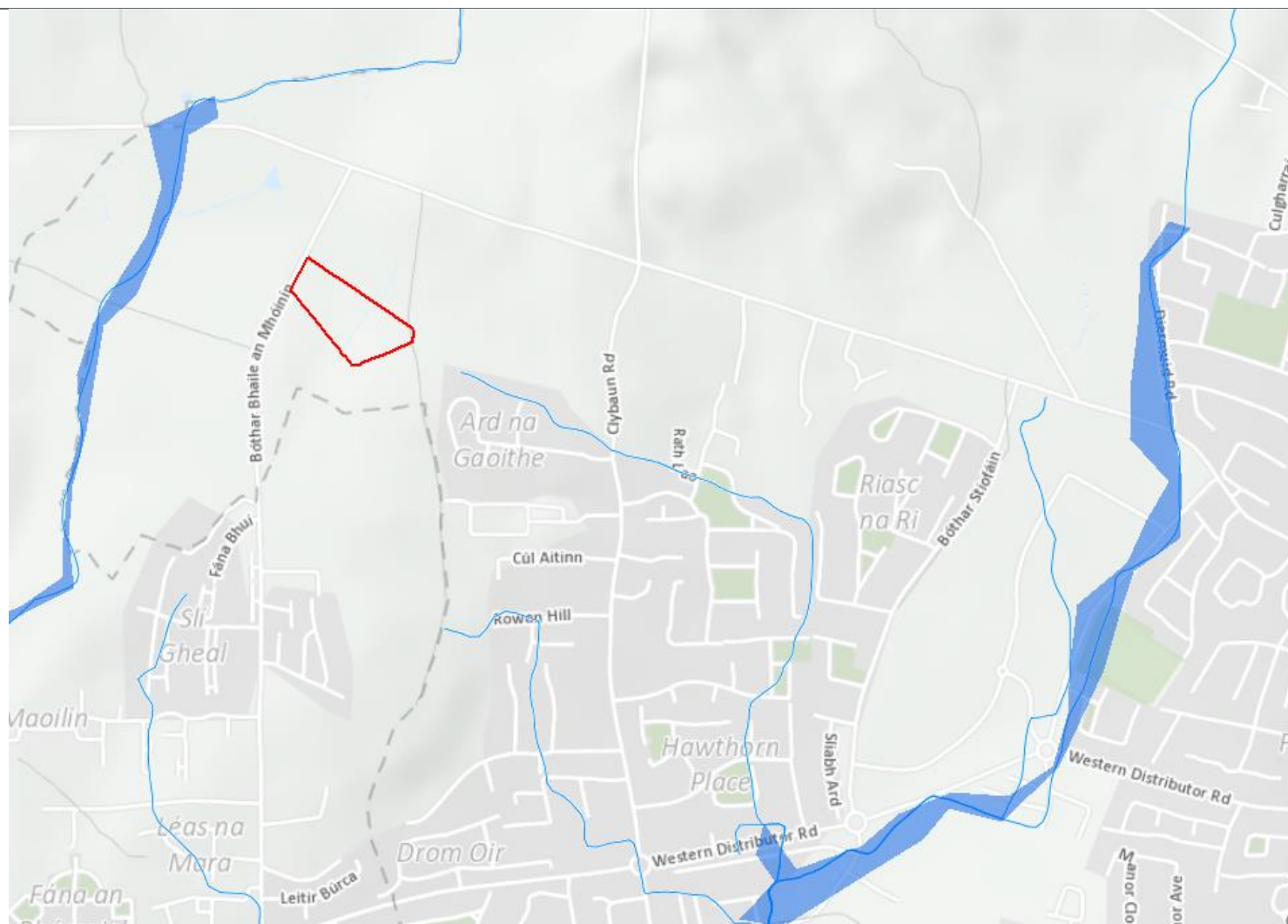


Figure 6 OPW PFRA 100-Year Flood Extents