

CASE STUDY

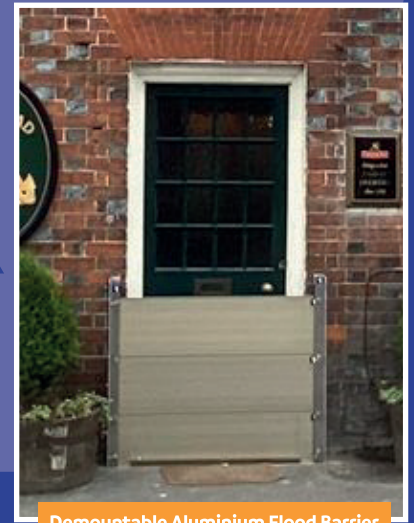
Buckinghamshire Council



Property Flood Resilience (PFR) Flood Grant Scheme



uPVC Flood Door - White Finish



Demountable Aluminium Flood Barrier

Project Team:

Managing Agent: AECOM



Principal Designer: RAB Consultants Ltd.



Principal Contractor: Lakeside Flood Solutions



No of Properties:

40

Location:

Pednormead End, Chesham

Services:

Product Selection Survey • Design & Manufacture • Installation • Demonstration • Maintenance

Dates:

September 2020 – October 2022



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LAKESIDE FLOOD SOLUTIONS

Background:

Pednormead End is an area of Chesham located in South-East Buckinghamshire.

The historic flooding record at Pednormead End extends to over 100 years with the most recent events occurring in 2001, 2006 and the winter of 2013/2014 when there was a sustained period of high groundwater flows across Buckinghamshire resulting in internal flooding of various properties at Pednormead and elsewhere in Chesham.

Flood Risk:

The hydraulic modelling of Pednormead End conducted by Atkins has shown that the Flood risk is the result of a combination of sources, including groundwater, surface water and fluvial flooding from the River Chess.

There are multiple surface water flow paths draining into Pednormead End representing both the minor water courses and surface flows from developed areas. Flood risk is exacerbated as many of the buildings are historic with listed building status and very low thresholds which rise to internal surface water flooding.

PFR as a Solution:

Property Flood Resilience (PFR) was deemed as one of the most optimal flood defence solutions as it provides benefits in the absence of a capital scheme to protect the whole Community.

Lakeside were selected as the Main Installation Contractor by the Council, installing flood defences to 40no. properties in total as part of the PFR Flood Grant. Working closely with AECOM as the Managing Agent and the Council as the end Client, the Project Team provided end-to-end support for Homeowners to provide guidance through the grant funding process, from survey to installation, training and maintenance.



Flood Barrier Side Post Cover Plates



Double Anti -flood Air Brick



Application of Water Sealant



42 mm Non-Return valve

Source: Atkins - Pednormead End Flood Alleviation Scheme Hydraulic Modelling Report, 25 February 2019



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LAKESIDE FLOOD SOLUTIONS

Products:

Flood defences covered all potential points of water ingress, including Door & Opening Defence, Brick Defence, Sewage Defence and Wall Defence.

A range of both manual measures, such as Flood Barriers, and passive measures, such as Flood Doors were installed, depending on Homeowner preferences and cost requirements within the grant funding budget per property.

The Pednormead End PFR Scheme was one of the first schemes under which the Flood Barriers installed had been tested to the new British Standard BS 851188.

Services:

A wealth of specialist services were required as part of the scheme:

- ✓ Structural Surveys & Reports
- ✓ Elevation Drawings (both existing and proposed elevations)
- ✓ Heritage Survey with Heritage
- ✓ Statement and Impact Assessment
- ✓ Listed Building Consent Applications
- ✓ Lime Mortar Specialist Surveys
- ✓ Gas Engineer
- ✓ Electrician

In addition to the above, the Project Team successfully delivered a Flood Exercise Day for the Community on project completion.

A Key Challenge – How to Preserve the Historic Status of Pednormead End

Challenge: Pednormead End is a historic area with conservation area status where there are many listed buildings dating back to the 15th century. The properties typically have doorways with very narrow openings reveals and are located on restricted footpaths.

Solution: Bespoke product innovations were developed for the scheme, specifically tailored to the listed properties in the Community, including:

- ✓ Slimline Flood Barrier Side Posts, to reduce the protrusion depth onto the footpaths
- ✓ Slimline, Rounded Flood Barrier Side Post Cover Plates, providing a dual function of being both:
 - a) aesthetically-pleasing, powder coated to a range of bespoke RAL colours to match the existing property façade
 - b) a Health & Safety measure to conceal the side post fixings
- ✓ Lime Mortar colour-matching service, a first for PFR

The Project Team worked closely with both the Heritage Team and Highways Team at the Council in order to obtain approval for the above innovation.



upVC Flood Door - Coloured Finish



Demountable Aluminium Flood Barriers

Testimonial:

"I'm very pleased with the products supplied and installed. The flood doors are of excellent quality and fit. It was a pleasure to deal with a company which had knowledgeable, friendly and efficient staff, who were willing to go the extra mile to help. The scheme was managed very efficiently by all the staff involved, both at Lakeside and the Council, and any queries were dealt with promptly and satisfactorily."
Ms. Aris



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