

2017

# HERBERT ROAD RESIDENTIAL DEVELOPMENT, NEWPORT

## TIDAL FLAP REPLACEMENT

Methodology and Risk Assessments covering the removal of an existing damaged ferrous tidal flap, and replacement with a new HDPE tidal flap on behalf of Keepmoat.



Title		Document No.				
Herbert Road Residential Development, Newport-Tidal Flap Replacement Method Statement & Risk Assessments		<b>KM/HRRD/TFR/080217</b>				
Originator		Client				
 Kaymac Marine & Civil Engineering Ltd Osprey Business Park Byng Street Landore Swansea SA1 2NR Tel: 01792 301818		 Keepmoat Oak Tree Court Cardiff Gate Business Park 7 Mulberry Dr, Pontprennau Cardiff CF23 8RS Tel: 029 2073 9750				
Authorisation						
Prepared by:	C. Hanson	Signature			Date: 08/02/17	
Checked By:	J. Dean (BSc Hons)	Signature			Date: 08/02/17	
Approved by:	J. Lippiett (BSc Hons)	Signature			Date: 08/02/17	
Distribution and Revision Status						
Issue Date	Document Description	Status/Revision				
February 2017	Herbert Road Residential Development, Newport-Tidal Flap Replacement Method Statement & Risk Assessments	Draft	Issue	1	2	3
Copy No.	Issued to:					
1	Dylan Hammett-Project Manager, Keepmoat	>	>			
2	Kaymac Marine Records	>	>			
3						
4						
5						

## 1.0 Introduction

### 1.1 Description and Purpose of the Works

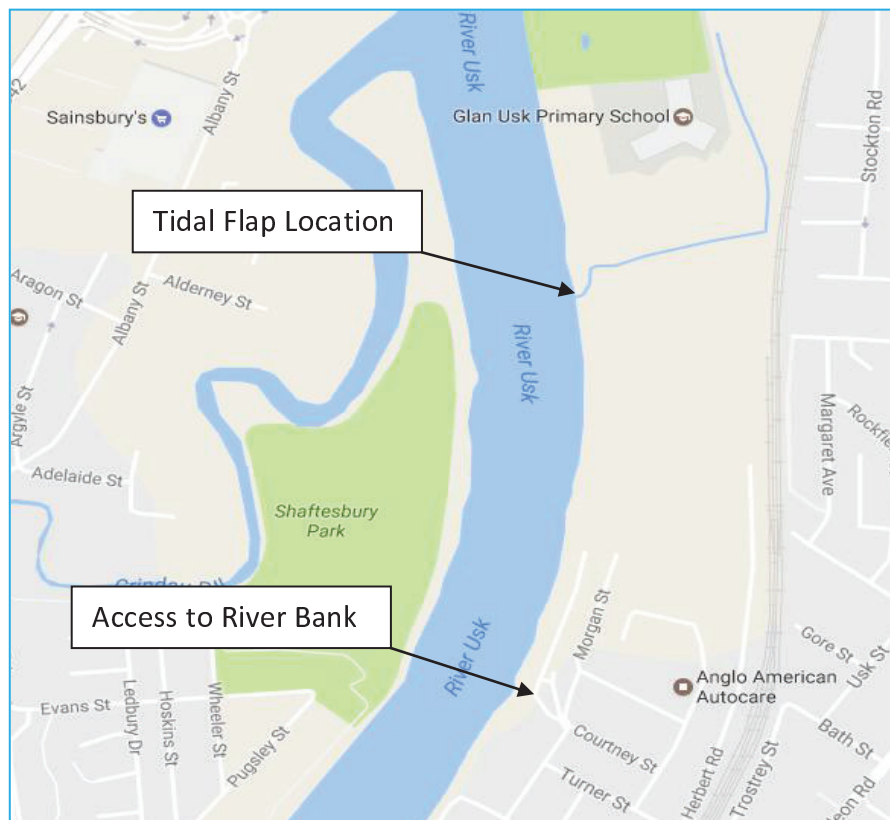
Kaymac Marine & Civil Engineering has been commissioned by Keepmoat to remove the damaged existing tidal flap from the outlet point of a small stream discharging into the River Usk in Newport, Gwent, and replacing it with a new HDPE 600mm diameter tidal flap. The purpose of the works is to prevent water from the River Usk back-flowing through a drainage pipe and inundating a residential development area at high tide.

In summary, this method statement covers the following elements of the works;

- Mobilisation and site set up;
- Removal and disposal of the existing damaged tidal flap;
- Preparation of headwall;
- Installation of the new HDPE tidal flap;
- Demobilisation.

### 1.2 Site Location

The site is located on the east bank of the River Usk to the north of the town of Newport, Gwent, at OS Grid reference ST 31633 89413. The existing tidal flap is fitted to a concrete headwall set in a gully on the river bank. A small stream is carried below a footpath on the crest of the riverbank through a 480mm diameter pipe, which discharges through the tidal flap, which has an internal bore of the 530mm. The frame and hinges of the existing cast iron tidal flap are still in situ, but the flap is missing.



Location Map (courtesy of Google Maps)

### 1.3 Access

Access to the site is via the end of Courtney Street in Newport (NP19 7AY) onto a tarmac access road which runs north and adjacent to the River Usk for approximately 900m to the site. There is a locked barrier at the southern end of the access road to which Keepmoat have a key; contact Dylan Hammett, Keepmoat Project Manager, on 07970724315 prior to mobilisation to site.

The River Usk is tidal at the site location, and the works should be programmed to be carried out on a falling tide to allow maximum working time. The banks of the river and the gully in which the headwall and tidal flap are located are covered in alluvial silt, and are therefore very slippery. The photographs below were taken during a site visit at low water on 06/02/2017.



Photo 1-upstream headwall of pipe which passes beneath footpath-outlet situated to the left of photograph



Photo 2-existing tidal flap in headwall

## 1.4 Legislation

This document has been prepared to comply with, as far as reasonably practical, the following current relevant legislation;

- The Health & Safety at Work Act 1974
- The Construction (Design and Management) Regulations 2015
- The Management of Health & Safety at Work Regulations 1999
- The Health & Safety (First Aid) Regulations 1981
- The Personal Protective Equipment at Work Regulations 1992
- The Provision and Use of Workplace Equipment Regulations 1998
- The Noise at Work Regulations 1989
- The Manual Handling Regulations 2002
- The Control of Substances Hazardous to Health Regulations 2002
- The Reporting of Injuries, Diseases & Dangerous Occurrences (RIDDOR) Regulations 2013
- The Environmental Protection Act 1990

## 1.5 Contract Commencement & Duration

The anticipated contract duration is one day; date to be agreed with client but must be before end of February 2017.

## 1.6 Resources required from Kaymac

### Personnel

- 1 x Site Supervisor
- 2 x CSCS Site Operatives

### Plant/equipment

- 110v generator C/W plant nappy & spill kit
- 110v extension lead
- 110v 4" grinder C/W cutting discs
- 110v drill C/W relevant masonry bits
- Small hand tools

### Materials

- 600mm HDPE tidal flap (to be supplied by client)
- Suitable fixings e.g. parabolts (to be supplied by client)
- Mastic sealant

## 1.7 Project Directory

### Client:

Contact: Dylan Hammett-Project Manager

Tel: 07970724315

Email: [Dylan.Hammett@keepmoat.com](mailto:Dylan.Hammett@keepmoat.com)

### Contractor:

Kaymac Marine & Civil Engineering Ltd

Site Contact: Chris Hanson-Site Manager

Tel: 07929 008393

Email: [chris.hanson@kaymacltd.co.uk](mailto:chris.hanson@kaymacltd.co.uk)

Office Contact: Jon Dean-Project Coordinator

Tel: 07976 122883

Email: [jon.dean@kaymacltd.co.uk](mailto:jon.dean@kaymacltd.co.uk)

## 2.0 Methodology

The site team consisting of a supervisor and three operatives will mobilise to site on the date agreed by the client (taking into account tide times) in a company vehicle with all plant, equipment and materials (apart from those supplied by the client) to carry out the works. Access will be gained via Courtney Street, Newport to the access road along the top of east side river bank. Prior arrangement will be made with the client for access through the barrier.

The company vehicle will be parked adjacent to the work site in such a way as to allow public access along the footpath. Barriers will be provided to exclude the public from the work site.

The supervisor will carry out a site briefing based on the content of these RAMS, covering the methodology, site hazards, evacuation procedure and location of nearest hospital. Personnel will then sign the Personnel Briefing Form at the rear of this document.

The plant and equipment will be set up in readiness. A secured ladder will be used to provide access from the footpath level down to the invert of the headwall where the tidal flap is located. The generator will be placed onto the plant nappy and the spill kit will be placed alongside.

One operator will climb down to the tidal flap using the ladder. The operative will be wearing a fully body harness and will be attached to a safety line, tended by a second operative at the top of the river bank. This will allow a more secure and controlled descent of the ladder, and to allow assisted recovery in the event of injury.

A working line will be attached to the frame of the tidal flap, which will be pulled tight and secured on the top of the bank; this will prevent the frame falling onto the operative once the fixings are cut.

The 4" 110v grinder will be set up and tested, then lowered down to the operator. Wearing the appropriate PPE, including gloves, eye and ear protection, the operator will use the grinder to cut off the heads of the existing fixings from the tidal flap frame.

Using a pry bar, the frame will be removed from the headwall. Any remaining stubs protruding from the headwall will be cut off using the grinder to give a flush surface.

The old tidal flap will be recovered up to footpath level using a rope for disposal off site.

The new HDPE tidal flap will be lowered down to the operative using a rope. The new tidal flap will be offered up to the headwall and aligned with the invert level of the discharge pipe. In this temporary position, the flap will be operated to ensure it does not foul on the invert.

A 110v drill will be lowered down to the operative. With the tidal flap in position, the operative will mark the position of the fixing holes by drilling into the headwall through the holes in the tidal flap frame.

The tidal flap will be removed, and the operative will drill the holes to the required depth and diameter to accommodate the fixings supplied by the client.

The drilled holes will be blown out to remove dust using compressed air.

A proprietary sealing compound will then be applied to the rear of the tidal flap frame using a frame gun. The tidal flap will be placed back into position on the headwall, and the fixing holes aligned.

The fixings will then be installed through the holes in the frame, and hammered into the holes in the headwall to the required depth. Once all fixings have been installed in this manner, they will be tightened using a spanner or socket and ratchet to compress the sealing compound between the rear of the frame and the headwall.

The operation of the tidal flap will be checked to ensure it will seal against the flow of the stream without leaks from the flap or the frame.

All materials and equipment will be recovered up to the footpath and placed into the company vehicle. The operative will return to the top of the river bank using the ladder, which will be recovered.

The site will then be demobilised, leaving in a clean and tidy condition, and the site team will demobilise via the access road and back onto Courtney Street.