Annex 1 Environment Agency

York Flood Alleviation Scheme

July 2019

Update for September's Executive Decision Session

This is an update of the progression made over the last three months on the flood alleviation work in York. In this update we have provided:

- 1. Summary of city wide flood alleviation activities
- 2. Update on each flood cell
- 3. Engagement plan for the next few months
- 4. Programme information table
- 5. Map of the York Five Year Plan Flood cell outlines
- 6. Annex A: York Portfolio Prioritisation Note April 2019

1. Summary of city wide flood alleviation activities

Construction is under way in two of our flood cells. The North St and Memorial Gardens flood defence was the first to start construction and will be finished before the Remembrance Sunday service and parade on the 10th of November. We have also started raising the flood embankment in the grounds of St Peters School on the Left Bank of the River Ouse. This is Phase 1 of construction in this flood cell and will continue until November of this year. To minimise disruption to residents phases 2 and 3 will run in conjunction and are expected to start in spring of 2020.

The two planning application submissions that were made earlier this year, B10 – Clifton and Rawcliffe and B8 – Clementhorpe, are both still awaiting confirmation of when they will be addressed at Planning Committee. Both these schemes have attracted a number of objections and concerns and requests for further information. Both schemes are facing a delayed start to construction if approved.

The York Property Flood Resilience Scheme (PFR) is progressing well and the first two flood cells, B16 – New Walk and B8 – South Bank, have received LPRG approval. We have conducted further engagement with residents along New Walk to increase uptake of the scheme. This will now be repeated in South Bank.

We are also working toward planning application submissions for the Foss Flood Storage Area, B11 – Almery Terrace steps and the Network Rail embankment, B12 – Marygate and Museum Gardens and C1 – Bishopthorpe. We anticipate submitting these requests this Autumn.

2. Update on progress of each flood cell

This section provides an update on each of the areas (flood cells) being taken forward as part of York Flood Alleviation Scheme.

Flood Cell B4 – Scarborough Bridge to Ouse Bridge (Right Bank)	 Construction work has now started fully on site. We are increasing the height of the Lendal Bridge flood gate (by 300mm) and existing flood walls and flood gates at North Street gardens (by 380mm). This work includes widening of the flood gate adjacent to the Hub. Planning permission has been granted for a new flood wall which will be constructed around Memorial Gardens with demountable defences and a small embankment to tie it into the existing line of defence. The road between Westgate Apartments and the Post Office building will continue to be sandbagged in a flood event. This scheme will better protect 39 properties. 	 Current/Next Activity The FBC was approved by LPRG in April. Where the defence is temporarily compromised due to the construction work, there are sufficient sand bags on site to reinstate the flood defence to its original height should the need arise. Night-time working has been confirmed for the summer holiday period to avoid having to close the road during the day. A newsletter is being written to inform the community.
B7 - Queen's Staith and Skeldergate	PFR has been identified as the most technically viable option from the appraisal for B7. There are a number of issues in the flood cell including seepage under and around existing buildings, Yorkshire Water assets running the length of the cell which could become a conduit for flood waters to bypass defences and structural suitability of buildings to form part of the defence line. A number of assumptions have been made regarding these issues particularly with regards to seepage, causing City of York Council to request that we investigate further.	 Ongoing modelling/investigation into flooding flow routes/seepage. Ongoing review of technical note to gather a second opinion on the options and construction feasibility of a scheme.

B8 - Clementhorpe and South Bank	 Clementhorpe – our proposal is as follows Raising of the 4 corners of the boundary wall at Postern Close and Postern House. 1.85m bi-fold flood gate on Clementhorpe. New 1.85m flood wall in front of Waterfront House with glass panel inserts and structural glass. An extra step will be added to the existing steps between Waterfront House and Dukes Wharf. Road raising and extension to existing wall at Dukes Wharf. Lower Ebor Street flood wall has been raised by Roomzzz and an extension will be completed by Roomzzz on our behalf to the north corner of the site Increase the height of existing flood wall at the Caravan Park by 0.3m and embankments by raising with piles and wall (by 0.4m) and build a new embankment to the rear of the site. The road access by Vine Street will be raised by 0.4m. Anne Street/Rowntree Park entrance: Curb raising to follow existing fence line around the top side of the park. Shallow embankment of 0.3m with a new pedestrian access ramp. This scheme will better protect 148 properties. 	 Planning application was submitted on Thursday 21th March. Expect to be called to Planning Committee TBC. Ongoing public engagement to inform of constraints and difficulties in this area and gather local knowledge and suggestions for alternative solutions.
	 PFR has been determined as the preferred option for the South Bank section of Flood Cell B8. The appraisal did not identify any economically viable options for the South Bank and as such PFR has been offered as mitigation to the small potential increase in risk caused by our works upstream on the River Ouse and improvement works at the Foss Barrier. 	South Bank is currently at stage 2 in the PFR process, Letters were sent to all properties in December 2018 requesting residents to confirm their inclusion in the York FAS. Only 32% of residents have responded so far. Next steps: • Improve public perception of PFR including examples of where this option has worked – potential to share experiences with other residents. • Improve sign up for the initial surveys – door knocking planned for Aug/Sep 2019.
B9 - Fulford	Flood defence work in this cell will be delivered by CYC in partnership with EA.	Support CYC to deliver flood defence in this cell
B10 - Clifton & Rawcliffe	We have submitted planning application to raise and extend the existing Clifton Ings Barrier Bank and install a permanent pumping station at Blue Beck. This will better protect 140 properties. Due to concerns and information requests this application is expected to go to planning committee in Aug. If CYC are to approve the application, it is expected that it will first need to undergo assessment by the Department of Homes and Communities and could be escalated to the Secretary of State.	We have responded to Natural England and CYC Ecologists and are awaiting further response. Expect planning application to go to the August planning committee.

B11 - Coppins Farm to Scarborough Bridge (Left Bank)	 Construction work has now started in St Peters School fields. Within this cell, we are proposing: Raise the existing embankment on the right bank of the River Ouse, in the grounds of St Peter's School, linking it to a new flood wall on the north eastern side of the school grounds. Raise the existing flood wall and gates using glass panels at Almery Terrace and, at the same time, carry out matching works to the flood wall at Earlsborough Terrace (B12). Offer Property Flood Resilience improvements to three properties on Government House Road. Raise the clay cover on the Network Rain embankment. This scheme will better protect 156 properties. 	•	FBC has been approved by LPRG. The wall raising on Almery Terrace has been postponed until Spring 2020 to align with the work on the Rail embankment. This will minimise disruption to residents and users of the riverside path. Planning application submission expected Sep 2019. A separate Burdyke modelling study by Aecom has started so that we can fully understand the cause of flooding from this tributary. There continues to be outstanding data from Yorkshire Water which is being chased and escalated.
B12 - Scarborough Bridge to Lendal Bridge (Left Bank)	 Within this cell, we are proposing to: Raise the flood wall along Earlsborough Terrace by 30 centimetres with glass panels and, at the same time, carry out matching works to the flood wall at Almery Terrace (B11). Increase the height of the floodgate on Marygate. Raise the embankment in Museum Gardens. Formalise the property flood resilient measures at Lendal Tower. This scheme will better protect 57 properties. 	•	FBC has been approved by LPRG. Planning application submission expected Sep 2019. We are planning to start mobilisation in Sep 2019, however the work on the embankment through Museum gardens is not due to start until June 2021.
B15 - King's Staith to Skeldergate Bridge	PFR has been determined as the preferred option for this flood cell, the appraisal determined PFR as the most technically and economically viable option.	•	Further investigations required to ascertain seepage and therefore effectiveness of PFR in this location No community engagement has taken place for this flood cell yet.

B16 - New Walk	PFR has been determined as the preferred option for this flood cell, the appraisal did not identify any economically viable options for B16, including PFR. However, PFR has been offered as mitigation to the small potential increase in risk caused by our works upstream on the River Ouse and improvement works at the Foss Barrier.	New Walk is currently at stage 3 in the PFR process, Resilience surveys have been completed for all properties. These were completed, in February 2018, by JBA Consulting prior to the publication of the new PFR Framework. All residents received their reports, in April 2018, and had an opportunity to provide feedback Residents have been well informed in this flood cell, with high levels of community and individual engagement/communication. We have requested residents to confirm their inclusion in the scheme and to date have received responses from 63% of residents. Next steps: Confirm final properties for inclusion in the scheme — door knocking tool place on 23 rd of July 2019. Measurement surveys to be carried out once supplier appointed
C1 - Bishopthorpe	 To reduce the risk of flooding to over 100 properties in this flood cell, we propose to: Raise and extend the existing wall on the border of the Dell and Chantry Lane which will include a 7 metre deep cut off. Install a new penstock on the Yorkshire water asset. Build a new flood gate and flood wall at the top of Chantry Lane. 	Once our detailed designs are firmed up, we intend to consult wider with the residents of the village, to explain and gain support for the proposals.
C2 - Acaster Malbis	PFR has been determined as the preferred option for this flood cell, the appraisal determined PFR as the most technically and economically viable option.	No community engagement has taken place for this flood cell yet.
C3 - Naburn	We are currently reviewing options to reduce the risk of flooding to properties in this flood cell. Designs are not complete and a preferred option has not been agreed.	Further economic appraisal required.
Foss barrier	In addition to the extensive upgrade to the pumping station we are upgrading the barrier gate and need to address raising the flood walls around St Georges Field Car Park. My Castle Gateway are proposing a new Multi Storey Car Park on this site and are submitting plans which includes a raised access road to maintain access during a flood event.	We are in continual engagement with the Castle Gateway design team to help ensure their proposals are compatible with construction within a functional flood plain.

F4/F5 - Tang Hall Beck and Osbaldwick Beck	 Within this cell, we propose to: Reinforce the walls and raise the existing access ramp to the James Street Traveller site. Increase the flood flow capacity through the St Nicks site by creating a new channel. Install low level flow routing methods to divert flows away from at risk properties. Install a new culvert under Melrosegate. This scheme will better protect 263 properties. 	CCTV and Topo Survey Contractor has been appointed with ground investigation currently underway.
F9 - South Beck	Flow routing options and low level walls have been discounted in this flood cell as they will not provide the required flood protection.	Ongoing review and appraisals, however it would appear at this stage that a scheme is unlikely to be viable and hence proceed in this cell.
F8 - Groves to Haley's Terrace F10 - Haley's Terrace to Link Road F11 - Link Road to Ring	To provide flood defence to 300 properties along the Foss we are proposing an online Flood Storage Area 2km north-east of Strensall, between Walbutts Farm and East Liling Grange Farm. Flood Storage Areas help to reduce flood levels downstream by temporarily holding back flood water.	We expect to submit a joint planning application to CYC and Ryedale in Sep 2019
Road F12 - Westfield Beck	Further appraisal work is ongoing to agree a way forward in this flood cell. We are in discussions with Yorkshire Water regarding their infrastructure and surface water models and City of York Council regarding surface water flooding.	Ongoing review and appraisals. Formal request submitted to Yorkshire Water to share their surface water modelling data. We are still waiting for this data from Yorkshire Water.

3. Engagement plan for the next few months

This is a dynamic engagement plan for the York Flood Alleviation Scheme. Please note that specified dates and time periods are subject to change as the scheme progresses. Alongside cell-specific engagement activities, we will also be engaging via a quarterly newsletter and by providing information at our Community Flood Hub which is situated on Wellington Row and open 10am to 4pm Mon, Wed and Thurs.

Hub displays

	Aug	Sep	Oct	Nov	Dec	Jan
Planning/construction	B12	C1 Planning	C1 Planning	PFR	PFR	F4/F5
information	Planning	FSA Planning	FSA			
			Planning			
Other display		Natural				
		Flood	Nature	Flood	Climate	Resilient
	Habitats	Management	Matters	defences	change	Gardens

Planned activities

		July 2019
Face Calls	From 1st	,
Foss Cells	July	Presentations to landowners to explain modelled land drainage
Lower Bootham	12 July	Public drop-in event for local residents and frequent users of the riverside path to
and Marygate	12 July	update on project timescales and plans.
Clementhorpe	15 July	Attendance at Counillor led public meeting to present current options and engage with local community.
CYC	23 July	Attendance at CYC CastleGateway Advisory Group meeting
RFCC	25 July	Attendance at the Quartely Yorkshire Regional Flood and Coastal Committee meeting
		August 2019
Foss Barrier	5th Aug	Testing of the Foss Barrier gate
Museum Gardens	all month	Display boards in the Hub and at Museum Gardens to inform of planned work
		September 2019
Quarterly	City Wide N	Newsletter sent out to mailing list, available at the Hub and on Citizen Space
CYC/Statutory	2 Sept	CYC Executive Decision Session
Bodies	TBC	CYC Scrutiny Committee
Dodles	25-Sep	Quarterly York FAS Advisory Group Meeting at Foss House
NYFRP	4 Sep	Quarterly North Yorkshire Flood Risk Partnership Meeting at CYC West Offices
Coppins Farm to Scarborough Bridge	9 Sep	mid-phase Newsletter sent out to mailing list, available at the Hub and on Citizen Space
Foss FSA	w/c 9 Sep	Engage with Cllrs and Parish councils
Foss FSA	w/c 9 Sep	Engage with residents who are eligible for PFR
PFR	w/c 17 Sep	Engage with residends in flood cells B7 and B15 who are eligible for PFR
Foss FSA	w/c 23 Sep	Public drop-in event for local community to inform of planned work
Clementhorpe	TBC	Public drop-in/workshop to engage with cyclist and walkers around access and diversions
		October 2019
Coppins Farm to Scarborough Bridge	TBC	Newsletter to announce Phase 1 completion/Phase 2 start for B11 scheme
Bishopthorpe	w/c 21 Oct	Community Engagement
	_	November 2019

City Wide	w/c 11 Nov	York Business Week					
December 2019							
Quarterly	City Wide N	lewsletter sent out to mailing list, available at the Hub and on Citizen Space					
CYC/Statutory	16 Dec	CYC Executive Decision Session					
Bodies	18-Dec	Quarterly York FAS Advisory Group Meeting at Foss House					
Foss Barrier	w/c 2 Dec	Planned replacement of new gate and bridge					
Foss FSA W/c 2 Dec		Public engagement to inform of construction plans					

We continue to engage across York.

The Hub provides residents with a central location where they can come to ask questions about our work, view plans, and provide feedback. The opening times are 10:00 to 16:00 on Monday, Wednesday and Thursday each week.

- Our quarterly newsletter, next due September 2019.
- Quarterly meetings of a stakeholder Advisory Group, with representatives of key CYC departments, statutory bodies and influential local groups.
- Letter drops and press releases notifying of potentially disruptive works e.g. GI, survey work.
- Regular updates to the dedicated York FAS facebook page and through the Environment Agency Yorkshire twitter feed.

Citizen Space – an online portal that allows residents to view all engagement material and provide feedback. (https://consult.environment-agency.gov.uk/yorkshire/yorkfas/)

4. Programme Information Table

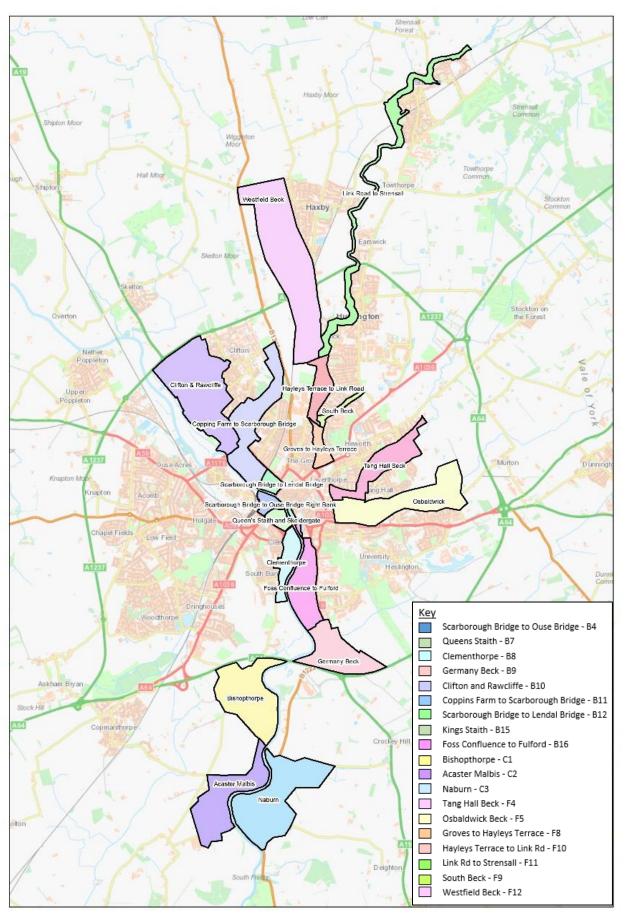
Flood Cell	Estimated total cost (£k)	Full Business Case	Planning Permission	Construction Start	Estimated Construction Period				
B4 - Scarborough to Ouse Bridge (Right Bank)	2,557	Approved by LPGR Apr 2019	Planning application was Approved 5 th March 2019	4 th June 2019	5 months				
B7 - Queen's Staith and Skeldergate	327	TBC	Not required	Property surveys planned early 2020 followed b installation					
B8 - Clementhorpe South Bank	8,079	Approved by LPGR Jun 2019	Planning application has been submitted. Determination Deadline was 17 th May 2019 Planning Committee TBC	Planned Aug 2019 – delayed due to planning process	18 months				
B9 - Fulford	CYC to lead on delivery and funding								
B10 - Clifton & Rawcliffe	12,428	Planned submission Oct 2019	Planning application has been submitted. Determination Deadline was 25 th Apr 2019 Planning Committee Date TBC	Planned Apr 2020	24 months				
B11 - Coppins Farm to Scarborough Bridge (Left Bank)	3,664	Approved by LPGR May 2019	Planned submission Sep 2019 (for Almery Terrace steps and Network Rail embankment only)	July 2019 – ST Peters School field	2 construction seasons				

					Annex 1
B12 - Scarborough Bridge to Lendal	1,672	Approved by LPGR May 2019	Planned submission Aug/Sep 2019	Planned mobilisation Sep 2019 Embankment Jun 2021	5 months
Bridge (Left Bank)					3 months

B15 - King's Staith to Skeldergate Bridge	475	Submitted 24 th May 2019 Awaiting LPRG approval	Not required	Property surveys planned early 2020 followed by installation		
B16 - New Walk	1,000	Submitted 24 th May 2019 Awaiting LPRG approval	Not required	Installation start plann	ned end of 2019	
C1 - Bishopthorpe	790	Planned submission Oct 2019	Planned submission Sep 2019	Planned Mar 2020	4 months	
C2 - Acaster Malbis	235	Submitted 24 th May 2019 Awaiting LPRG approval	Not required	Property surveys planned early 2020 followed by installation		
C3 - Naburn	Not yet approved	TBC	TBC	TBC	TBC	
F4 - Tang Hall Beck F5 - Osbaldwick Beck	8,000	Planned submission Aug 2020	TBC	Planned Oct 2020	TBC	
F8 - Groves to Haley's Terrace F10 - Haley's Terrace to Link Road F11 - Link Road to Ring Road	13,640	Planned submission Apr 2020	Planned submission Sep 2019	Planned May 2020	18 months	
F9 - South Beck	2,015	TBC	TBC	TBC	ТВС	
F12 - Westfield Beck	3,533	Planned submission Nov 2020	TBC	Planned Feb 2021	TBC	

Key Confirmed

Planned/expected



York FAS: Flood Cell Prioritisation

Date: April 2019

Introduction

This briefing note presents the results of ongoing analysis into the prioritisation of flood cells that are associated with the York Flood Portfolio. Specifically, it gives a background to our current position and what is achievable within our agreed budget. This is based on Defra guidance and data from the appraisals following the approval of the portfolio Outline Business Case (OBC) in January 2019. Prioritisation was carried out during OBC stage and now some of the cells have progressed to Full Business Case approval, prioritisation has been updated with the best current understanding.

In addition to the above this note is seeking to confirm our order of approach to the delivery of each flood cell to enable effective planning and prioritisation of our workload and ensure successful delivery for the Environment Agency and key partners.

Background

Following the significant flood event in York in December 2015, the UK Government committed £45.2m to improve the Standard of Protection (SoP) across the city by 2021. The £45.2m was then combined with £5.4m that already existed in the programme to create a total of £50.6m for the full portfolio. A further £18.4m has been bid for, however this is awaiting confirmation by UK Government for further flood defence work in York post 2021.

When the £45.2m funding announcement was made by Rory Stewart, Floods Minister, he said "The focus for schemes funded by the additional capital spending will be those that help communities at highest risk and secure economic growth, particularly in areas that were affected in December."

The York portfolio was initially made up of 29 flood cells, however as initial investigation was carried out, based on better understanding of the risks and issues in the city, 19 flood cells were taken forward at Strategic Outline Case stage into appraisal. Some of the 29 flood cells were also not taken forward due to protection being provided by the Foss Barrier scheme. The 19 flood cells were then progressed through to OBC, some of which have been merged to create 16 individual projects.

The York portfolio was prioritised in the OBC after which efforts were put to developing the first 9 cells based on available resources within the Environment Agency and with our suppliers. The 9 cells were chosen to progress based on this sustainable resourcing but also to maximise both early spend and achievement of the highest profile OM2's. The primary aim of the York portfolio is to deliver maximum value for the Environment Agency and protect the highest number of residents, thus helping the Environment Agency to achieve their national 300,000 target and their local target of 2,000 properties better protected by 2021.

Flood ell Prioritisation Methodology

The below methodology was used create a clear priority system to define which cells are developed, using the best available information for each flood cell. A second system is then used to select the actual preferred solution for each cell, however this work is carried out at project level. Prioritisation and ranking of the 16 flood cell projects in Section 4.0 is necessary to ensure maximum value can be achieved throughout York city by:

1. Maximising the number of households moved out of any flood probability category to a lower category (**OM2**);

Focusing on flood cells which are economically viable and provide sufficient benefits to residents, stakeholders and the Environment Agency (*Benefit Cost Ratio*);

Considering the opportunity for communities in York to invest in (and benefit from) local flood and coastal erosion risk management (FCERM) measures, that could not be afforded from central government funding alone (*Partnership Funding*);

Maximising the number of properties benefitting from a reduction to the frequency and/or severity of direct damages due to flooding (**Better Protected**); and

Delivering value for the Environment Agency through their partners by promoting efficiencies in design and construction (*Cost*).

The York portfolio has a number of critical factors beyond the list above and to effectively prioritise the flood cells to ensure all aspects should be included for cells to be progressed to the expectation of all key stakeholders. To include these additional factors a universal scoring system has been developed to allow all factors to be compared together.

Benefit Cost Ratio has been assessed with a score ranging from 1-3 with the following weighting; 1 for a BCR of less than 1; 2 for a BCR between 1 and 2; and 3 for a BCR above 2.

OM2 summary has been assessed with a score ranging from 1-3 with the following weighting; 1 for 0-25 OM2's; 2 for 25-75 OM2's; and 3 for over 75 OM2's.

Additional factors included have also been weighted 1-3 and are:

Political Influence- this includes cells that have previous expectations set by demanding timescales.

Transport Routes- based on the impact of flooding that has a large influence on key transport routes into and through the city.

Environmental Benefits- for cells which when delivered have a positive environmental benefit.

Frequency of Flooding- to include cells that although OM2's may not be high, the frequency and therefore repetitive impact of flooding is an important aspect.

Flood Cell Prioritisation

									BCR	OM2	Political	Transport	Env	Frequency	
									Score	Summary	Influence	Routes	Benefits	of Flooding	Pri
				Total cost	FDGiA	Booster		Better		1-3 had	ed on impo	rtance- 3 he	ing the high	est importan	٠.
No	Flood Cell	Cell Name	BCR	(£k)	(£k)	(£k)	OM2s	Protected		T-2 Da:	sca on impo	Trance- 3 De	ing the nigh	cat importan	LC
1	B10	Clifton and Rawcliffe	1.09	12,428	905	11,523	134	170	2	3	3	3	3	2	
2	B11	Copins Farm to Scarb Br	1.33	3,161		3,161	72	156	2	3	3	2	2	3	
3	F8,F10,F11	Upstream Storage	4.67	13,640	3,405	10,235	140	297	3	3	3	1	3	2	
4	B12	Scarborough Br to Lendal Br	3.86	1,672	126	1,546	0	57	3	1	3	2	2	3	
5	B4	Scarborough Br to Ouse Br	1.93	2,600		2,600	9	29	2	1	3	3	1	3	
6	B8	Clementhorpe	1.64	4,658	73	4,585	125	148	2	3	3	1	1	3	
7	F4, F5	Tang Hall Beck & Osbk Beck	2.65	8,000		8,000	148	263	3	3	2	1	1	2	
8	C1	Bishopthorpe	1.43	790	62	728	49	125	2	2	2	2	1	2	
9	B16	Foss Confluence to Fulford	0.32	1,000	23	977	9	25	1	1	3	1	1	3	
16	C3	Naburn	0.24	6,000		6,000	33	81	1	1	3	3	1	1	
10	F9	South Beck	3.05	2,015	443	1,572	43	45	3	2	1	1	1	1	
14	B9	Fulford and Germany Beck	1.63	124		124	0	2	2	1	3	1	1	1	
11	В7	Queens Staith and Skelderg	1.42	327	45	282	23	80	2	1	2	1	1	1	
12	C2	Acaster Malbis	3.68	235	52	183	8	41	3	1	1	1	1	1	
15	B15	Kings Staith	1.35	475	61	414	24	62	2	1	2	1	1	1	
13	F12	Westfield Beck	1.83	3,533		3,533	24	56	2	1	2	1	1	1	
			Total	£60,658	£5,195	£55,463	841	1637							

- Refer to the plan in Appendix A for location of each flood cell within York.
- B9 has been highlighted orange in the above table to denote delivery by City of York Council.

Conclusion

It is recommended that we continue to follow the prioritised list shown in Section 4.0, based on the above principles.

This approach will mean progress will be made as a priority for the first 9 flood cells with the rest of the portfolio being delivered once the priority cells are sufficiently developed.

Adopting this approach will help to ensure the delivery of:

- OM2s: 839;
- Properties Better Protected: 1637.
- Alongside the outcomes from the Foss Barrier scheme, the targets of 1,250 OM2's and 2,000 Better Protected properties will both be achieved by 2021.

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