

# ENVIRONMENT AND GREEN INVESTMENT



**Tuesday, 16 November 2021**

**Democratic and Members' Services**  
Fiona McMillan  
Monitoring Officer

**10:00**

New Shire Hall  
Alconbury Weald  
Huntingdon  
PE28 4YE

**Multi-Function room New Shire Hall PE28 4YE**  
**[Venue Address]**

## **AGENDA**

**Open to Public and Press by appointment only**

1. **Apologies for absence and declarations of interest**

*Guidance on declaring interests is available at*

<http://tinyurl.com/cc-conduct-code>

2. **Petitions and Public Questions**

3. **Minutes - 16th September 2021 and Action Log** **5 - 22**

### **OTHER DECISIONS**

4. **Cambridgeshire Flood Risk Management Strategy** **23 - 174**
5. **Business Planning Proposals for 2022-27 – opening update and overview** **175 - 192**
6. **Service Committee review of the draft 2022-23 Capital Programme** **193 - 210**

**7. Environment & Green Investment Committee Agenda Plan and Appointments to Outside Bodies and Internal Advisory Groups and Panels** **211 - 212**

**8. Exclusion of Press and Public**

*To resolve that the press and public be excluded from the meeting on the grounds that the agenda contains exempt information under Paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972, as amended, and that it would not be in the public interest for this information to be disclosed - information relating to the financial or business affairs of any particular person (including the authority holding that information)*

**KEY DECISION**

**9. Waste Management PFI Contract – Update on Variations to Waterbeach Facility Permits**

*to follow*

**Attending meetings and COVID-19**

Meetings of the Council take place physically and are open to the public. Public access to meetings is managed in accordance with current COVID-19 regulations and therefore if you wish to attend a meeting of the Council, please contact the Committee Clerk who will be able to advise you further. Meetings are streamed to the Council's website: [Council meetings Live Web Stream - Cambridgeshire County Council](#). If you wish to speak on an item, please contact the Committee Clerk to discuss as you may be able to contribute to the meeting remotely.

The Environment and Green Investment comprises the following members:

Councillor Lorna Dupre (Chair) Councillor Nick Gay (Vice-Chair) Councillor Anna Bradnam Councillor Steve Corney Councillor Piers Coutts Councillor Stephen Ferguson Councillor Ian Gardener Councillor Mark Goldsack Councillor John Gowing Councillor Ros Hathorn Councillor Jonas King Councillor Brian Milnes Councillor Catherine Rae Councillor Mandy Smith and Councillor Steve Tierney

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# Environment and Green Investment Committee

Date: 16 September 2021

Time: 10.00am – 1.25pm

Venue: New Shire Hall

Present: Councillors L Dupré (Chair), A Bradnam, S Corney, P Coutts, S Ferguson, M Goldsack, I Gardener, J Gowing, R Hathorn, R Howitt (substituting for Cllr N Gay), J King, B Milnes, C Rae, M Smith and S Tierney

## 11. Apologies for Absence and Declarations of Interest

Apologies for absence were received from Councillor Gay (Councillor Howitt substituting).

Councillors Gardener, Corney, Smith, Hathorn and Rae declared interests as Members of the County Council's Planning Committee in relation to the Anglian Water Cambridge Waste Water Treatment Plant Relocation project item. Councillor Bradnam also declared an interest in this item, as Local Member.

## 12. a) Minutes of the Environment & Green Investment Committee

The minutes of the meeting held on 1<sup>st</sup> July 2021 were agreed as a correct record.

### b) Environment & Green Investment Committee Action Log

The Action Log was noted.

## 13. Petitions and Public Questions

No petitions or public questions were received.

*Due to technical difficulties, it was agreed to take the following item out of sequence:*

## 14. North East Cambridge Area – Transport Approach

The Committee considered a report on the County Council's approach to the assessment and consideration of traffic and transport impacts associated with proposed development within the North East Cambridge (NEC) Area Action Plan (AAP), which would form part of the statutory development plan. The County Council Transport teams had been assisting the councils in the preparation of the AAP, aiding understanding of the potential transport impacts, including the commissioning of further transport evidence and conveying the findings and implications of this to interested parties. Following consultation on a preferred option draft of the AAP from 27 July to 5 October 2020, the pre-submission document would be reported to both authorities later in the year.

As the existing highway network was at capacity, one of the key transport principles was that future developments would only be supported if they were delivered in such a way that did not result in additional car trips to the network. This would require developments to have design principles and standards which included sustainable travel enhancements and

demand management measures, incorporating reduced parking allocation/ration for employment and housing. The Committee's endorsement of this position and approach was sought.

An amendment was proposed by Councillor Hathorn, which would be an addition to the Transport Position Statement: *"Applications in the area must provide generous, secure and easy to use storage for cycles, e-bikes, cargo bikes, trailers and other active travel modes. There should be capacity for community storage of shared cycling facilities such as trailers and e-cargo bikes, and the infrastructure to support significant levels of commercial deliveries by cargo bike"*. The amendment was seconded by Councillor Ferguson.

Discussing the amendment:

- A Member asked if there were any other examples of this type of car free communities? It was noted that CB1 and the Biomedical campus were the best examples of communities with a high degree of sustainable mode share;
- A Member asked if the suggested amendment included all non-motorised users? It was confirmed that "other active travel modes" were included in the amendment;
- A Member commented that residents would still need to have parking for cars for journeys further afield. It was acknowledged that cars were sometimes the best option for some longer journeys. The congestion issue related to cars being used rather than more sustainable modes of transport, especially for shorter journeys;
- A Member commented that he would have preferred to have seen a "no car" proposal, rather than "low car", so that developer/potential tenants' expectations were managed appropriately. Officers acknowledged these points but advised that the position statement was that the Council would not be supporting any premature application which would involve additional car trips;
- A Member noted that GCP was made up of South Cambridgeshire and Cambridge City Councils, and asked whether any contact had been made with Fenland and East Cambridgeshire District Councils regarding these proposals? Officers advised that Cambridge City and South Cambridgeshire District Councils were leading, but there would be wider consultation with neighbouring Districts. The Member commented that he could not see any reference in paperwork to neighbouring authorities, which was disappointing, as there would be a ripple effect impacting on neighbouring councils. The Chair commented that inevitably any transport measure would impact further afield;
- A Member observed that whilst the proposals may work well for the first generation of residents, how would they be enforced with subsequent generations, noting that physical methods of controlling trips, including signalling or highways works, may be considered by stakeholders. It was noted that there was an opportunity to manipulate signalling so that the advantage of driving was lost, but this option would require further investigation. Additionally, in other areas trip budgets have been used to restrict further development, where trip budgets were not being met;
- A Member asked if there was sufficient mitigation to ensure that surrounding communities did not suffer from displacement parking, as experienced in Milton from parking restrictions at Cambridge Science Park. Officers agreed that it was important to look at the issue of parking holistically so that parking was not just displaced. The Member responded that unless parking mitigations were supported

by Civil Parking Enforcement, it was unlikely to be enforced by the Police. Good quality parking needed to be provided off site to avoid displacement parking. She also queried whether good quality secure parking off site was being considered, and it was confirmed that this was the case, including further Park & Ride sites;

- Noting that the report had gone to the Greater Cambridge Joint Planning Committee, a Member asked if it would be considered through the County Council's Highways & Transport Committee. It was confirmed that it would not;
- A Member supported the amendment, commenting that there needed to be active support for cycling including accessible cycle parking. She added that this was an exemplar new development, which would result in no additional cars on surrounding roads such as the A10. However, she cautioned that there were examples of where this had not worked well, such as Orchard Park, where minimising parking provision had resulted in indiscriminate parking on pavements, and this needed to be avoided.

The amendment was put to the vote, and carried by a majority.

Discussing the report:

- A Member commented that the aspiration for the development should be at a no car level to manage expectations, and this could be achieved. A change in attitudes and perceptions was required to see how people could live without being tied to their personal cars, using options such as shared/pooled cars. There needed to be acceptance that people need to get out of their personal cars and walk, cycle or use public transport;
- A Member commented that there were always situations where there was a legitimate need for personal cars in communities, e.g. for carers. Those communities with minimal parking facilities/no driveways had often suffered from everyone parking on roads, resulting in problems for emergency vehicles and waste collections. A number of other Members supported these comments, saying that provision needed to be made for carers, Blue Badge holders, etc. Another Member commented that such communities needed to be futureproofed with provision for electric vehicles and provision for those with disabilities.

Summarising, the Chair commented that the intention was for this area of Cambridge to not be reliant on private motor car, and this intention was strengthened by amendment.

It was resolved, by a majority, to:

1. Approve the approach to the assessment and consideration of traffic and transport impacts, and the associated transport position as set out within the paper (at paragraph 2.4);
2. Approve an addition to the Transport Position Statement that "Applications in the area must provide generous, secure and easy to use storage for cycles, e-bikes, cargo bikes, trailers and other active travel modes. There should be capacity for community storage of shared cycling facilities such as trailers and e-cargo bikes, and the infrastructure to support significant levels of commercial deliveries by cargo bike."

## 15. Northstowe Phase 3A and Phase 3B – Section 106 Agreements Draft Head of Terms

The Committee considered a report relating to two outline applications submitted by Homes England to South Cambridgeshire District Council (SCDC) for up to 4,000 dwellings and up to 1,000 dwellings, Phases 3A and 3B respectively. Both developments would require works in kind and contributions to be paid to the County Council and District Council towards a range of infrastructure types to ensure that the impacts of the development are properly mitigated which would be secured through the Section 106 agreement. Officers had been working with SCDC to agree Heads of Terms, setting out the likely costs of contributions required.

A Member observed that the proposals would impact on neighbouring divisions such as Papworth & Swavesey. It was confirmed that there would be consultation with stakeholders in neighbouring divisions including Internal Drainage Boards (IDBs).

In response to Member questions, it was confirmed that:

- the typical build rate assumed about 250 units per year, and all were occupied. It was agreed that the exact figures would be circulated. **Action required;**
- all sums quoted would be index linked;
- the school sites were free, and that the schools were usually the first buildings to be developed, as they were a central feature for the community, along with any sports facility provision. The latter would be delivered by SCDC;
- In relation to the 25% trigger for pump priming for local bus services, Cambridgeshire & Peterborough Combined Authority (CPCA) was now the passenger service authority for the county, and they were happy with the flexibility of the 25% trigger;
- That in terms of schools expansion, Northstowe was currently 4FE (four forms of entry), and this would expand to 12FE, with the potential for a further increase to 14FE. Land was already secured on the existing campus.

The Committee noted comments from the Local Member, Councillor Firouz Thompson, who advised that the local Parish councils still had concerns about particular flood and draining issues and would be asking the local lead flood authority to correspond with the local planning authority, SCDC, to ensure that these matters could be adequately resolved prior of the granting of the planning permission.

It was resolved unanimously to:

- a) approve the draft head of terms set out in paragraphs 2.3 to 2.12 and Table 1 and Appendix A in respect to the Northstowe Phase 3A Section 106 agreement.
- b) approve the draft head of terms set out in paragraphs 2.3 to 2.10 and Table 2 and Appendix A in respect to the Northstowe Phase 3B Section 106 agreement.
- c) gave delegated authority to the Executive Director in consultation with the Chair and Vice Chair to agree the Section 106 agreements



## 16. Community Flood Action programme – Riparian Maintenance Fund

The Committee considered a report which sought agreement on the situations in which funding would be allocated to riparian owners to undertake one-off recovery/remedial works on privately owned watercourses, where they were unable to fund such works themselves. Members noted the scoring system that would be used to assess successful schemes, and that Local Member support would be required. The issue of absentee or unknown owners was highlighted, along with the benefits to residents and communities. In return for funding, successful applicants would be required to commit to keeping watercourses clear.

Arising from the report:

- One Member welcomed this pragmatic approach, but asked whether, in tandem, riparian responsibilities would be made clear to developers, and that this would also be flagged up in the subsequent sales of properties i.e. to new purchasers that they have a responsibility in this regard. She gave examples of recent developments where a responsible approach was not being taken by developers. Officers commented that this was a good point, which they would take away;
- In response to a Member question, it was confirmed that the identity of most riparian landowners could usually be confirmed through Land Searches, but some were difficult to establish. Where land was unregistered, this potentially presented an ongoing risk;
- Noted that the application form required a statement from the applicant that they were unable to undertake the work themselves;
- In response to a Member question, officers gave example of scenarios where ecology could be improved, e.g. through making good river banks destroyed by cattle and providing potential habitats for water voles, removing contamination such as flytipping, or just through clearing ditches and improving the flow;
- A Member stressed the importance of working with Parish and Town Councils and existing flood action groups, as such groups were often best placed to identify issues and solutions in their communities;
- Asked what happens if the agreement was not upheld, i.e. what avenues were open to the Council. Officers advised that the Council could reclaim the money from any applicants who did not undertake the work;
- Confirmed that the intention was that the scheme assisted those riparian owners unable to undertake the works themselves. Where the County Council was the riparian owner, it should be able to do the work itself. Members and residents should alert the Council if they were aware of issues on County owned land which were causing problems;
- Welcomed the proposals and highlighted that often homeowners were unaware of their riparian responsibilities. The Member commented that the twelve month review date for the programme was critical, given that this was a narrow window where work could be undertaken on watercourses in the county to address flooding issues;
- Noted how fraudulent applications would be avoided;
- Commented that the approach proposed was effectively means testing;

In response to a question on unspent highways budget, the Executive Director advised that he constantly monitored highways spend and that whilst some of the funding was not confirmed until late into financial year. He was unaware of any direct link between unspent highways budget and flooding.

Debating the report:

- A number of Members welcomed this scheme, but suggested that much more was needed to address the flooding issues experienced in the county. It was noted that this work was taking place alongside the work of the Cambridgeshire and Peterborough Flood and Water Partnership and individual Section 19 reports. One Member suggested that a bigger, bolder approach was required to tackle the county's flooding issues, and a serious look needed to be taken of infrastructure, which could not cope with surface water on occasions. Another Member suggested that as well as encouraging residents and landowners to take responsibility, the County Council needed to take greater responsibility for its own land;
- A Member commented that some developers were proactive in terms of their riparian responsibilities, and it would be helpful to have an update in 12 months' time to ascertain the success of the scheme;
- A Member commented that for some of fen edge/fenland communities, there was a responsibility to allow the land to flood, to prevent or alleviate flooding downstream – it needed to be accepted in some instances that some land needed to flood to protect property, and likewise some ditches need to be maintained at a high level during winter months;
- A Member welcomed the scheme and urged closer working with Internal Drainage Boards (IDBs) and Anglian Water, especially to tackle those developers who worsened these problems.

It was resolved, by a majority, to:

approve the recommended approach for riparian maintenance funding.

## 17. Anglian Water Cambridge Waste Water Treatment Plant Relocation Project

Members considered a report which presented the officer response to a recent Anglian Water consultation. The report also sought delegated powers for officers, where there was insufficient time to take the item to Committee, to ensure that the Nationally Significant Infrastructure Project (NSIP) timescales could be met, allowing the Council's submissions to be given full weight by the Planning Inspectorate (PINS) in the determination process.

The Anglian Water proposal related to the relocation of Cambridge Waste Water Treatment Plant, from its current site on Cowley Road in Cambridge, to north of A14 near Junction 34/south of Horningsea. This relocation would enable the North East Cambridge development to proceed, which includes 8000 homes and associated jobs. The Anglian Water proposals include new habitats, wildlife, and improved access to the countryside, and a new discovery centre. NSIP projects are examined by the Secretary of State, and local authorities were statutory consultees, with a key role in providing local knowledge and informing to the Inspectorate. Anglian Water have undertaken two consultations on this matter to date, including an informal consultation exploring three possible sites. Officers' response to the

second consultation is included in the report at Appendix 3, and Members' comments would be included in the final response.

A Member observed that NSIPs appeared to be growing in popularity, and could be seen as an attempt to avoid local scrutiny and planning rules. Officers reassured Members that there was a team in place within the Council to ensure that NSIPs were being responded to promptly and accurately.

Councillor Bradnam declared an interest as the Local Member for Waterbeach, and expressed concerns regarding the transport routes. Whilst she was pleased that Option 2 had been discounted, she had concerns, particularly relating to 1a and 1b which would require access on to the B1047. Option 3 involved direct access on to the A14, but the current policy restricts junctions unless there was no clear alternative. She advised that local residents would strongly prefer Option 3 to be considered, to remove both development and tanker traffic from the small local roads. She queried the statement in the report that *"From a local road perspective, a new junction is likely to create different travel patterns, for vehicles avoiding Newmarket Road, or providing a convenient route to the east of Cambridge."* Officers explained that when access off the A14 was explored, there were a number of options, including a full movements junction and a slip junction. However, there was a risk that this would create a rat-running route for traffic. Councillor Bradnam commented that the sentence was ambiguous and suggested that it was clarified e.g. *"if not in the position indicated on the Option 3 plan"*.

It was resolved unanimously to:

- a) The Committee endorse the proposed officer technical response to Anglian Water's statutory consultation for the Cambridge Waste Water Treatment Plant Relocation Project, set out in Appendix 3;
- b) The Executive Director: Place and Economy on behalf of Cambridgeshire County Council be delegated authority to submit NSIP related responses in regard to the Cambridge Waste Water Treatment Plant Relocation Project, to the Planning Inspectorate on behalf of Cambridgeshire County Council and its regulatory functions, in consultation with the Chair or Vice Chair of the Environment and Green Investment Committee, only on occasions where there is not enough time for a report to be delivered to the Environment and Green Investment Committee; and
- c) Where delegated powers are used, circulate the draft response to Local Members and members of the Environment and Green Investment Committee ahead of sign off and submission to the Planning Inspectorate.

## 18. Low Carbon Heating Project at Burwell House

Members considered a proposal to replace the fossil fuel heating at Burwell House with low carbon Air Source Heat Pumps (ASHPs), which would reduce emissions by 24 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) per annum as part of the Council's "scope 1" target to reduce carbon emissions by 50%. This project formed part of a programme of retrofits in progress across a number of sites. The project was one of 21 awarded grant funding, and had received a grant of approximately £280K, but this had to be spent by March 2022. If all of the contingency budget was used, the total cost of the project would be £511K, exceeding the £500K limit previously agreed by Committee. The balance would be financed through the Environment Fund. The project payback was detailed. It was noted that the project implementation timetable was extremely challenging.

## Discussing the report:

- It was noted that the windows at Burwell House had been replaced with double glazing last year;
- With regard to Grafham Water Residential Centre, a Member queried why that project had not been progressed. Officers advised that the buildings at Grafham were in need of additional works, so it would not be possible to complete the works within the timescale required for the grant, with the grant originally identified for that project being used for other projects where possible. The Member asked when Grafham Water Residential Centre was likely to come forward, specifically when grants would be applied for. Officers advised that further rounds of Public Sector Decarbonisation Scheme grants were expected and that they would be looking to apply for more funding but not in the next tranche of government funding in October due to resource constraints;
- A Member observed that there was a great deal of volatility in building materials costs. It was confirmed that the quote was fixed, and there was contingency in the budget for any unforeseen additional costs;
- A Member asked if the opportunity had been taken to ask Centre users to perform energy review as part of the technical energy review. Officers confirmed that they do monitor usage of buildings in terms of energy consumption,;
- A Member suggested that future reports show where the Council was on the carbon reduction journey i.e. progress towards the carbon reduction target. **Action required;**
- A Member welcomed the continuing commitment by the County Council to outdoor education.

## It was resolved unanimously:

- a) To approve the investment case set out in paragraph 2.10 and proceed with the project to install ASHPs and upgrades for the incoming electricity supply at Burwell House;
- b) To note the project risks set out in paragraphs 2.13-2.18;
- c) Delegate the decision to go into contract to the Executive Director of Place & Economy in consultation with the Chief Finance Officer and Chair and Vice-Chair of the Environment and Green Investment Committee.

## 19. Oxford-Cambridge Arc Spatial Framework, Sustainability Appraisal and Shared regional principles

The Committee considered the proposed response to a consultation about the “Ox Cam Arc”, an area identified as key economic priority by the government, covering Cambridgeshire, Northamptonshire, Bedfordshire, Buckinghamshire and Oxfordshire. The consultation was pitched at a very strategic level, and Councils invited to help shape the future vision for this large geographical area. MHCLG would be publishing a further

consultation in Spring 2022 on the options for the draft spatial framework, which would be published later in 2022.

The report included the associated sustainability appraisal, and acknowledged that officers were already engaged in the process, mindful of residents' concerns including cross boundary issues. The report detailed the need to involve wider stakeholders at an early stage, to consider Minerals and Waste issues, and how to progress at all tiers of decision making process, to create a combined approach with both the Cambridgeshire & Peterborough Combined Authority and City and District Council colleagues.

A Member commented that there was much in the draft response that should be strongly endorsed, including the comments on historic environment and barriers to housing. However, he suggested that the Ox Cam Arc should be strongly opposed, and referred to comments made under an earlier item about a weakening of the established planning system through NSIPs, as this was effectively transferring planning powers from local to national government. He queried how the Ox Cam Arc would add value for local people. There was reference to surveys and focus groups, but nothing about involving local Councils. If this was the way forward, local authorities should coordinate across the Arc, but the whole process needed to be in line with local planning processes.

It was also suggested that the draft wording on Carbon and Climate Change should be strengthened, because if it went ahead, there needed to be clear, measurable evidence that it would achieve its net zero objective. There should also be a stronger response on the development on brownfield sites, and lack of integration in proposals in terms of development and sustainability, with housing meeting carbon targets. The Member suggested that access to housing should be championed rather than "taken into account". Similarly, on Waste, circular economy principles should be adopted. Government would need to commit additional resources to achieve their aspirations.

Another Member supported the previous Member's comments, and observed that the main driver of the OxCam Arc was essentially the development of a million additional homes, with East West Rail and the A428 improvements being used as justification to unlock large areas of countryside, essentially changing the rural nature of eastern England. This was a particular issue in St Neots, where massive housing development was being planned in Bedfordshire, right on the county boundary.

Another Member agreed, commenting that his reservations about the proposals had been reinforced by the inconsistencies with government statements, as demonstrated by the proposal that East West Rail uses diesel locomotives. He also expressed concerns about Development Corporations driving new housing, with local authorities being detached from that process.

In response to a question about Neighbourhood Plans, officers confirmed that the danger was that the OxCam Arc proposals would include spatial vision and preferred options for housing growth that were not based on the usual evidence for the planning process, i.e. a "top down" rather than "bottom up" approach would be taken, rather than the Local Plan driving the development process. The principles needed to be strengthened so that planning must be led by the Local Plan, can strengthen that in the response. Is complex planning picture, summary is risk being done to by a top down approach to regional planning.

The Chair summarised the concerns raised regarding the top down principles of this government initiative. Whilst reassured by the general principles and the Growth response, insufficient detail had been provided in the consultation. Whilst the Council would be

responding, it was not endorsing this approach, and the position was that this must be led through local planning and democratic processes.

It was resolved unanimously to endorse the proposed response set out in Appendix A of the report, subject to any changes delegated to the Executive Director: Place and Economy, in consultation with the Chair and Vice Chair of the Environment and Green Investment Committee, to allow a response to be submitted before the consultation deadline of Tuesday 12 October.

## 20. Finance Monitoring Report

The Committee received the Finance Monitoring report for the Place and Economy directorate as at 31 July 2021. The Revenue position was a forecast underspend of £205K. It was noted that the waste service had been allocated £638K to reflect the estimated impact of Covid, but the majority of that funding may not be required for this specific purpose. However, that funding would instead be directed to help address other in-year pressure in the waste budget.

It was resolved unanimously to:

Review, note and comment on the Finance and Monitoring report.

## 21. Business Planning Proposals for 2022-27 – opening update and overview

The Executive Director: Place & Economy introduced a report on the business planning process and the context for that process in the coming months. The report set out the backdrop to that process including zero carbon, social value, underpinning the Business Planning process. Section 5.2 of the report listed those areas being explored for investment and savings, and those issues would be prepared and brought back to the next Committee meeting.

Arising from the report:

- A Member asked how the £64M deficit would be dealt with over the next four years. Officers advised that the focus would be to identify scope for savings to be made, based on the Joint Administration's priorities, and where scope to strengthen services for investment. Through preparation of business cases, there would be a similar process at each Policy & Service Committee, where savings against priorities for investment would be considered, and this which would inform the Business Planning process in January and February;
- A Member queried the scale up of the schools low carbon heating programme, and whether that would include Academy schools. Officers confirmed that there would be a consultancy offer to Academy schools, in line with the report presented to the July Committee meeting;
- A Member commented that his aspiration was to move to a triple bottom line accounting, i.e. consideration of Finance, Social Capital and Environment Capital. He felt that this was the right way forward and that officers were interested and wanted to move in that direction. He urged Members to consider this approach if they were committed to the Council's net zero aspirations.

It was resolved unanimously:

- a) Note the overview and context provided for the 2022-23 to 26-27 Business Plan
- b) Comment on the list of proposals (set out in section 5.2) and endorse their development

## 22. Waste Management PFI Contract – Variations to Waterbeach Facility Permits

Members considered a report which related to changes required at Waterbeach waste processing facilities, to ensure that they were compliant with the Industrial Emissions Directive, enabling the site to maintain its Environmental Permits and allow continued operation and treatment of waste collected at Household Recycling Centres and by city and district councils. The operator of the site, Amey, had proposed measures to reduce odours, and the Council's contract with the operator required Amey to not be worse off as a result. The long term benefit would be significant reduction in odour emission from both plants. If works were not implemented, waste processing would have to stop at these sites, and waste would need to be sent to landfill. The funding and contractual implications were outlined.

Councillor Bradnam spoke as Local Member. She was happy to support this proposal, and whilst understanding the costs were likely to be considerable, she advised that residents would be extremely pleased with any improvements to reduce odour from the plant, which was a very present concern for Waterbeach residents. Improvements would also benefit the lives of future residents of Waterbeach New Town too.

Arising from the report:

- A Member suggested that an amendment be added for the Committee to receive regular updates, and this was agreed unanimously;
- A Member commented that it would be preferable to opt for Public Works Loan Board borrowing;
- A Member queried timescales. It was also noted that this was detailed in paragraphs 2.2 and 2.3 of the report. The Environmental Permit required the works to be completed by August 2022. The operator was already looking at what could be done without planning permission, and would be presenting to a Liaison Meeting on 6 October.
- A Member noted that MBT preferred option 2 did not guarantee it would meet the required odour standard, and asked the level of risk. Officers advised that technical consultants had been engaged to review the options and quantify the residual risk, and colleagues from the Environment Agency had also been involved. There would always be an element of risk, but this would be reduced as far as possible. Additionally, lenders would also be looking for some security on what was being delivered.

It was resolved unanimously:

- a) Support the proposals outlined in this report and recommend to the Strategy and Resources Committee that it approves the capital and revenue spend outlined in Confidential Appendix 2 to this report.
- b) delegate responsibility to the Executive Director Place and Economy in consultation with the Committee Chair and Vice chair to:
- c) commission the relevant specialist advisors to review the proposed amendments, the associated costs and the Council's contractual liabilities.
- d) commit the necessary internal resources to support waste officers to manage the project, agree and deliver the required amendments to the infrastructure and the Waste Private Finance Initiative (PFI) Contract.
- e) evaluate options and select the technical solution that is most likely to meet the emissions limits without incurring excessive cost.
- f) submit a Variation Business Case to the Department for Food and Rural Affairs (Defra) to obtain agreement to vary the Waste PFI Contract where required.
- g) agree the amendments required to the Waste PFI Contract.
- h) provide regular updates to Committee Chair and Vice Chair on key issues as the project progresses
- i) That the Committee receive regular updates.

## 23. Environment & Green Investment Committee Agenda Plan and Training Plan and Appointments to Outside Bodies and Internal Advisory Groups and Panels

Members considered the Committee's Agenda Plan. It was confirmed that a Flood Risk workshop for all Members was being planned.

It was resolved unanimously to note the agenda plan



## Environment and Green Investment Committee Minutes - Action log (includes outstanding actions from the Environment and Sustainability Committee)

This is the updated action log as at 5th November 2021 and captures the actions arising from the most recent Environment and Green Investment Committee meetings and updates Members on the progress on compliance in delivering the necessary actions.

Environment and Sustainability Committee minutes of 14th January 2021					
50.	Swaffham Prior Community Heat Project- Investment Case	Sheryl French	It was confirmed that the insurances and guarantees were currently under development and once completed would be circulated	<p>Update at July 2021 E&amp;GI Committee: the project was progressing well and that two key contracts have been signed and further contracts would be signed shortly.</p> <p><i>Update 01.09.21: The JCT design and build contracts for the Energy Centre and Heat Network are signed as are the grant agreements, novation agreements for the Swaffham Prior Community Heat Network Ltd. The O+M contracts are ready for signature, two collateral warranties are in place and a further is being negotiated. These contracts are available for Councillors to view but will not be generally circulated as there are a lot of files and appendices.</i></p>	Complete
		Sheryl French	A suggestion was made by a Member, to instruct officers to engage in a discussion with the Secretary of State for Business,	Update to be provided at Committee meeting.	Ongoing

			Energy and Industrial Strategy in order to broaden the Agricultural Grant Schemes to include incentives for landowners of suitable land for future energy projects. By including these landowners in the scheme would reduce the risks to potential future developments		
Environment and Sustainability Committee minutes of 11 March 2021					
60	Civic Hub Solar Carports-Investment Decision. <b>The reference should change to Cambridge EV charge point project</b>	<b>Emily Bolton</b>	Members were notified that installation of electric charge points were underway in Cambridge City. It was requested that officers would update the Committee of the project.	In collaboration with Cambridge City Council, CCC is looking to install 19 7kW with an additional 4 rapid charge points across two areas of the city (Riverside & De Freville). The procurement process is nearing completion. An application to the Office for Zero Emission Vehicles On-street residential charge point scheme has been submitted. Subject to grant funding, installation is planned for the summer / early autumn. The Chair / Vice Chair of Highways and Transport were briefed on the project in March and the briefing note will now be circulated to the new Chairs / Vice Chairs of H&T and E+GI. Update:	Ongoing

				<p><i>Update 01.09.21: A briefing note was sent to Chair &amp; Vice Chair of both committees on 07.06.21.</i></p> <p><i>The Council was successful in its application to the on street residential chargepoint scheme and have been awarded £118,000.</i></p> <p><i>The procurement has been completed and BP chargemaster have been awarded the contract to supply, instal, operate and maintain all the chargepoints on a 7+3year basis. We are in the process of finalising contracts. These will be delivered via two mechanisms – i) CCC will own the 7kW chargepoints and have a 50/50 profit share with Chargemaster and ii) the rapids will be owned by Chargemaster and the Council will be “hosting” them,</i></p> <p><i>- Installation are targeting completion by the end of the year unless it due to grid connections- there is extensive reinforcement work the UKPN will be carrying out.</i></p> <p><i>Letters to local residents will be sent out shortly and will be jointly from ourselves and City Council.</i></p> <p><b>An update will go to committee on 16<sup>th</sup> December 2021.</b></p>	
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## Environment and Green Investment Committee minutes of 1st July 2021

8.	Climate Change and Environment Strategy and the Environment Fund	Andy Preston	There was a question on the environmental credentials of the new Alconbury Weald site, specifically the building specification, transport, etc. It was noted that there had been an excellent presentation to Member recently on this issue, and it was agreed to share this information.		Complete
7.	Low Carbon Lifecycle Heating Replacements at Maintained Schools	Chris Parkin	It was clarified that the £12.5M Environment Fund figures referred to in paragraph 2.6.4 was incorrect, it should read £13.5M, which was made up of £10M remaining Environment Fund, plus £3.5M Public Sector Decarbonisation Scheme. It was confirmed that there was a pipeline for some of the £10M and an estimate could be provided.	Update 01.07.21: Cllr Dupré has requested a briefing on the pipeline and what would be required to decarbonise all maintained schools by 2030. <b>This is awaiting a forward look of works from Education Capital's school Condition Surveys and will be provided for the Green Investment Advisory Group meeting in December. We expect to provide a briefing on the pipeline for Council Buildings for the same meeting.</b>	Ongoing

## Environment and Green Investment Committee minutes of 16<sup>th</sup> September 2021

15.	Northstowe Phase 3A and Phase 3B – Section 106 Agreements Draft Head of Terms	Tam Perry	Noting the typical build rate at Northstowe was about 250 units per year, and all were occupied, it was agreed that the exact figures would be circulated.	<b>As of September 2021 there were 908 occupations in Northstowe. This has risen from 630 at the same time in 2020. This is a current annual build out rate of 278 dwellings.</b>	Completed
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	Low Carbon Heating Project at Burwell House	Sheryl French/ all	A Member suggested that future reports show where the Council was on the carbon reduction journey i.e. progress towards the carbon reduction target	The Annual Carbon Report for 2020/21 will come forward to January 2022 committee for approval to publish. This provides the update. The two previous reports for 2018/19 and 2019/2020 can be found here: <a href="#">Carbon Footprinting: How Big is the problem? - Cambridgeshire County Council</a>	Complete
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## Cambridgeshire Flood Risk Management Strategy

To: Environment & Green Investment Committee

Meeting Date: 16 November 2021

From: Steve Cox

Electoral division(s): All

Key decision: No

Forward Plan ref: n/a

Outcome: To seek members approval to the update of Cambridgeshire's Flood Risk Management Strategy (2021-2027)

Recommendation: The Environment and Green Investment Committee is asked to:

- a) Endorse Cambridgeshire's updated Flood Risk Management Strategy for public consultation and;
- b) Following results of the consultation, the Committee request Full Council to consider Cambridgeshire's updated Flood Risk Management Strategy and action plan for approval

### Officer contact:

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Tel: 07500063286

### Member contacts:

Names: Councillors Lorna Dupre & Nick Gay

Post: Chair/Vice-Chair

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## 1. Background

- 1.1 Under the Flood and Water Management Act 2010, Cambridgeshire County Council is designated as a Lead Local Flood Authority and as such has the responsibility for developing, maintaining and applying a local flood risk management strategy (LFRMS) in Cambridgeshire.
- 1.2 The Council's existing LFRMS covers the period 2015-2020 and therefore requires updating. Due to Covid and the impact this had on available resource to update the strategy in 2020, the update was delayed until 2021. The updated strategy will cover the period 2021-2027. The reason behind covering a 6-year period rather than 5 is to ensure the next review period ties in with the update of the National Flood and Coastal Erosion Risk Management Strategy and Anglian Flood Risk Management Plans which are due for review in 2026/27.
- 1.3 An action plan which will accompany the strategy is being prepared with input from other flood risk management partners. The action plan itself does not form part of the LFRMS but instead accompanies it as a separate document.

## 2. Main Issues

- 2.1 The overall objectives of the LFRMS remain the same as the 2015-2020 strategy:
  1. Understanding flood risk in Cambridgeshire
  2. Managing the likelihood of flooding
  3. Helping Cambridgeshire's citizens to manage their own risk
  4. Ensuring appropriate development in Cambridgeshire
  5. Improving flood prediction, warning and post flood recovery
- 2.2 The format of the report has been adapted to make it easier to follow for the reader and aims to make a greater link between flood risk and the wider environment, including additional context in relation to policy and legislation.
- 2.3 As climate change is already happening and not something that is projected to happen in the future, it has been integrated consistently throughout the document rather than being identified in isolation.
- 2.4 Policy and legislative drivers have changed significantly since the 2015-2020 strategy was published and those relating to the wider water environment have been incorporated into the updated strategy. There is also increased importance of working across multiple disciplines to achieve our ambitions, so this has been incorporated. Examples of such working are new Council strategies (Climate Change and Environment Strategy for example), catchment partnerships and regional/strategic partnership projects such as Future Fens.
- 2.5 From the flooding that occurred in winter 2020/21, it became apparent that there needs to be much greater clarity on the roles of each flood risk management authority, so this has been incorporated into the strategy. There is also greater reference to riparian ownership and community involvement as this is important in managing flood risk on a local level.



- 2.6 With reference to funding options for flood risk management works, the 2015-2020 strategy focussed primarily on Flood Defence Grant in Aid and Local Levy, however the updated strategy references several other funding sources. A special note has been made of delivery challenges and the need to proactively gather evidence and build project scopes so we can be flexible and respond to funding opportunities.
- 2.7 An Equality Impact Assessment has been prepared with Equality, Diversity and Inclusion (EDI) colleagues. EDI topics have been built into the strategy and associated action plan to highlight some of the deprivation and isolation issues and considerations that need to be made.
- 2.8 The strategy will be subject to public consultation. It is planned that this consultation will run for a period of six weeks and will partly coincide with the Environment Agency's Flood Risk Management Plan consultation which runs from 22 October 2021 for three months. The consultation will be promoted online via the Council's webpages and information will also be shared with County Councillors, District Councillors, Parish Councils and in public buildings such as libraries and council offices.
- 2.9 Following receipt of all consultation responses, any required amendments will be made before bringing the strategy back to the E&GI committee. The strategy will then be presented to Full Council for consideration and approval.

### 3. Alignment with corporate priorities

- 3.1 Communities at the heart of everything we do  
The following bullet points set out details of implications identified by officers:
  - The strategy recognises the value of working with communities to manage flood risk sustainably.
  - Community groups and the volunteers within them have a wealth of local knowledge and the strategy sets out how Cambridgeshire County Council will work with these groups to raise awareness of flooding
- 3.2 A good quality of life for everyone  
The following bullet points set out details of implications identified by officers:
  - The strategy sets out how effective local solutions can be funded within communities across Cambridgeshire to adapt and become more resilient to flood risk
  - When communities understand and adapt to their risk, the adverse impacts of flooding can be minimised
- 3.3 Helping our children learn, develop and live life to the full  
There are no significant implications for this priority.
- 3.4 Cambridgeshire: a well-connected, safe, clean, green environment  
The following bullet points set out details of implications identified by officers:

- The strategy recognises the need for risk management authorities and communities (both new and existing) to safely manage flood risk and sets out the policy and strategies to achieve this
- The strategy references national policy requiring the use of sustainable drainage systems which provide multi-functional benefits to manage flood risk whilst providing green open spaces for use by communities

### 3.5 Protecting and caring for those who need us

The following bullet points set out details of implications identified by officers:

- The strategy acknowledges that some areas of Cambridgeshire are the most vulnerable in the country to the ever-mounting effects of climate change and sets out the multi-partner projects which aim to not only help save these areas from inundation but also seize the opportunity to improve the economic and social prosperity of the region.

## 4. Significant Implications

### 4.1 Resource Implications

There are no significant implications within this category.

### 4.2 Procurement/Contractual/Council Contract Procedure Rules Implications

There are no significant implications within this category.

### 4.3 Statutory, Legal and Risk Implications

The following bullet points set out details of significant implications identified by officers:

- We have a statutory duty under the Part 1, Section 2 (9) of the Flood and Water Management Act 2010 to produce a Local Flood Risk Management Strategy.
- The implication of failing to comply with this duty is that the county council will be in breach of a legal requirement. This could severely damage the reputation of the county council and jeopardize our position as a leading authority in flood and water management.

### 4.4 Equality and Diversity Implications

The following bullet points set out details of significant implications identified by officers:

- A full Equality Impact Assessment has been undertaken for the production of this strategy

### 4.5 Engagement and Communications Implications

The following bullet points set out details of significant implications identified by officers:

- The strategy will be taken through a full public consultation following approval by the E&GI committee

### 4.6 Localism and Local Member Involvement

The following bullet points set out details of significant implications identified by officers:

- The strategy recognises the need for communities to be empowered to take their own actions and make decisions in relation to flood risk

### 4.7 Public Health Implications

The following bullet points set out details of significant implications identified by officers:

- The consequences of flood risk impact on everyone, particularly the most vulnerable in society. Inappropriate or poorly designed surface water drainage infrastructure increases flood risk locally, and poorly prepared residents and communities can suffer disproportionately as a result. Therefore the county council's role as Lead local Flood Authority is critical to ensuring the preparedness and wellbeing of Cambridgeshire to meet and manage future flood threats.
- The Local Flood Risk Management Strategy sets out our role, how we liaise with other Risk Management Authorities and how we work with residents and communities, especially those at greatest threat or disadvantage, to meet to minimise the risk to public health and wellbeing

#### 4.8 Environment and Climate Change Implications on Priority Areas:

The following bullet points set out details of significant implications identified by officers:

##### 4.8.1 Implication 1: Energy efficient, low carbon buildings.

Neutral Status:

Explanation: The strategy does not have an impact on the energy efficiency or carbon of buildings

##### 4.8.2 Implication 2: Low carbon transport.

Neutral Status

Explanation: The strategy does not have an impact on transport

##### 4.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management.

Positive Status:

Explanation: The strategy recognises the need to increase and enhance green spaces for the purposes of both water management and climate change adaptation

##### 4.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.

Neutral Status:

Explanation: The strategy does not have an impact on waste management

##### 4.8.5 Implication 5: Water use, availability and management:

Positive Status:

Explanation: The strategy sets out the responsibilities of organisations in the management of water including flooding and sets actions for managing the impacts of climate change on water management

##### 4.8.6 Implication 6: Air Pollution.

Neutral Status:

Explanation: The strategy does not have an impact on air pollution

##### 4.8.7 Implication 7: Resilience of our services and infrastructure and supporting vulnerable people to cope with climate change.

Positive Status:

Explanation: The strategy includes information about the Community Flood Action Programme and the Future Fens projects which seek to assist vulnerable communities to adapt to climate change including flooding

Have the resource implications been cleared by Finance? Yes  
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes  
Name of Officer: Henry Swan

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes  
Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact? Yes  
Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications? Yes  
Name of Officer: Amanda Rose

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes  
Name of Officer: Emma Fitch

Have any Public Health implications been cleared by Public Health? Yes  
Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer?  
Yes or No  
Name of Officer: NA

## 5. Source documents guidance

### 5.1 Source documents

Anglian Water (2011). Towards Sustainable Water Stewardship – Sustainable Drainage Systems Adoption Manual.

Bray, B., (2011). Image: Dancing in the Swale

CIRIA (2013). C724 - Creating Water Sensitive Places.

Department for Environment, Food and Rural Affairs (2015). Non-Statutory Technical Standards for Sustainable Drainage Systems.

Department for Environment, Food and Rural Affairs (website accessed 2015). Planning Practise Guide – Flood Risk and Coastal Change.

Department for Transport. (2013). Action for Roads - A Network for the 21st Century.

Environment Agency (Unknown). Adapting to Climate Change - Advice for Flood and Coastal Erosion Risk Management.

Environment Agency (2013). Climate change allowances for planners - Guidance to support the NPPF.

Environment Agency (2013). Living on the Edge: A Guide to your Rights and Responsibilities of Riverside Ownership.

Forestry Commission (2012). Research Report: Economic Benefits of Greenspace: a critical assessment of evidence of net economic benefits.

Ministry of Housing Communities and Local Government. (2015) Sustainable drainage systems: non-statutory technical standards

Local Authority SuDS Officer Organisation. (2015). Non-Statutory Technical Standards for Sustainable Drainage Systems – Best Practise Guidance

Met Office (accessed 2014). Flooding – Summer 2007. Retrieved from:  
<http://www.metoffice.gov.uk/about-us/who/how/case-studies/summer-2007>

Natural England. (2014). Microeconomic Evidence for the Benefits of Investment in the Environment.

Saunders, Dr M.A. (1998). The UK Floods of Easter 1998 - Commissioned Report for the Benfield Greig Hazard Research Centre.

Eye Peterborough (website accessed 2021). The 1947 Flood. Retrieved from:  
<http://www.eyepeterborough.co.uk/heritage/the-big-flood-of-1947/>

Cambridgeshire insight (website accessed 2021). Cambridgeshire and Peterborough Population Overview Report. Retrieved from: <https://cambridgeshireinsight.org.uk/population/>

Ministry of Housing Communities and Local Government. (2019) The Oxford-Cambridge Arc; Government Ambition and joint declarations between Government and Local Partners

Great Fen Project (website accessed 2021). Holme Fen Posts. Retrieved from:  
<https://www.greatfen.org.uk/about-great-fen/heritage/holme-fen-posts>

Environment Agency. (2021) The state of the environment: the urban environment

Department for Environment, Food and Rural Affairs. (2018) Surface water management action plan – July 2018

Department for Environment, Food and Rural Affairs. (2018) A Green Future: Our 25-year plan to improve the environment

Ministry of Housing Communities and Local Government. (2014) Flood Risk and Coastal Change Planning Guidance

RSPB (website accessed 2021). Hanson-RSPB Wetland Project. Retrieved from:  
<https://www.greatfen.org.uk/about-great-fen/heritage/holme-fen-posts>

Climate Change Committee. (2021) 2021 Progress report to parliament

Environment Agency. (2019) Long-term investment scenarios (LTIS) 2019

Environment Agency. (2021) National Flood Risk Assessment 2 (NaFRA 2) evidence assessment

National Infrastructure Commission. (2021) Water and Floods data

Water Resources East (website accessed 2021). Future Fens – The South Lincolnshire and Fenland Reservoirs. Retrieved from: <https://wre.org.uk/project/future-fens-the-south-lincolnshire-and-fenland-reservoirs/>

Environment Agency. (2021) Flood Risk Assessments: Climate change allowances

Environment Agency. (2021) National Flood and Coastal Erosion Risk Management Strategy for England Action Plan 2021

Ministry of Housing Communities and Local Government. (2009) Permeable surfacing of front gardens: guidance

Cambridgeshire County Council (website accessed 2021). The rights and responsibilities of a riparian owner. Retrieved from: <https://www.cambridgeshire.gov.uk/asset-library/The-rights-and-responsibilities-of-a-riparian-owner-leaflet-February-2021.pdf>

Environment Agency. (2018) Owning a watercourse

Environment Agency. (2013) Reservoir safety – Long return period rainfall

Prickwillow Museum (website accessed 2021). 1947 floods. Retrieved from: <https://www.prickwillowmuseum.com/wind-steam-and-diesel.html>

Ouse Washes A Landscape Partnership Scheme (website accessed 2021). Flooding in the Fens: 1947 Floods. Retrieved from: <https://ousewasheslps.wordpress.com/2014/02/07/flooding-in-the-fens-1947-floods/>

BBC News (website accessed 2021). Addenbrooke's Hospital Flood prompts 'major incident'. Retrieved from: <https://www.bbc.co.uk/news/uk-england-cambridgeshire-33564355>

Met Office (website accessed 2021). UK Climate averages. Retrieved from: <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/u1214qgj0>

Department for Environment, Food and Rural Affairs (2017). Schemes across the country to receive £15 million of natural flood management funding

Department for Environment, Food and Rural Affairs (2019). £2.9 million extra funding to boost action on making homes more resilient to floods

Department for Environment, Food and Rural Affairs (2020). Flood and coastal resilience innovation programme

Department for Environment, Food and Rural Affairs (2020). Government extends £5,000 grant scheme for flood hit homes

Catchment Based Approach (website accessed 2021). CaBA Partnership Support Guidance. Retrieved from: <https://catchmentbasedapproach.org/learn/caba-partnership-support-guidance/>

Association of British Insurers (2021). Modelling the impact of spending on defence maintenance on flood losses – Summary Report

Flood tool kit (website accessed 2021). Ox-Cam Pathfinder Project. Retrieved from: <https://www.floodtoolkit.com/ox-cam/>

Ministry of Housing Communities and Local Government (2021). Planning for sustainable growth in the Oxford-Cambridge Arc: an introduction to the spatial framework

The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (2021). The Cambridge Nature Network – Final Report.

## 5.2 Location

For those documents without a web link in section 5.1, copies will be held at the team's office base at New Shire Hall.





# Cambridgeshire Flood Risk Management Strategy

2021-2027



## Flood Risk Management Strategy Production

The update of this strategy has been prepared by Cambridgeshire County Council (the Lead Local Flood Authority) with input from members of the Cambridgeshire and Peterborough Flood and Water Management Partnership.

This document is a revision of the existing Local Flood Risk Management Strategy created in 2015. As part of the development of the strategy the council are required to consider a range of assessments for environmental, social and socio-economic impacts as options are developed for improving and managing flood risk in Cambridgeshire. As such as a part of the review process an Equality Impact Assessment has been carried out and the Strategic Environmental Assessment outcomes have been considered. All of which can be found in the supporting documents.

## Associated Documents

- LFRMS Action Plan
- LFRMS Public Summary
- Equality Impact Assessment
- Strategic Environment Assessment of the Cambridgeshire Flood Risk Management Strategy, Cambridgeshire County Council

## Further Information

For all general queries about flood risk and water management visit the website at <https://www.cambridgeshire.gov.uk/business/planning-and-development/flood-and-water>

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## Foreword

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## Executive Summary

Flooding can occur at anytime and anywhere and increases in frequency are expected through climate change, the effects of which can already be seen. Cambridgeshire, as one of the lowest and flattest Counties of England, is very susceptible to flooding and long-term sea-level rise.

The strategy has been developed together with the members of Cambridgeshire and Peterborough Flood and Water Partnership alongside the Environment Agency's National Flood and Coastal Erosion Risk Management Strategy.

It encompasses the predicted and historical flooding issues in and around Cambridgeshire, focusing on how efficiencies and effectiveness of local solutions can be funded within communities to adapt and be more resilient to flood risk. Future adaptation will be key for the whole water environment as pressures are already being felt on water supply as well as flooding. Some work is already underway to provide greater support to communities as a part of the Community Flood Action Programme.

Cambridgeshire County has a rich environmental and historical character that must be protected for future generations. Our strategy recognises this heritage alongside other challenges and provides the necessary framework for fostering partnerships between flood risk management and environmental officers, particularly in delivering flood risk management schemes.

The strategy sets out the roles and responsibilities of Flood Risk Management Partners within the county, highlighting the position of the county council as the Lead Local Flood Authority under the Flood and Water Management Act 2010.

There are 5 key objectives within the strategy:

Objective 1:	Understanding flood risk in Cambridgeshire
Objective 2:	Managing the likelihood and impact of flooding
Objective 3:	Helping Cambridgeshire's citizens to understand and manage their own risk
Objective 4:	Ensuring appropriate development in Cambridgeshire
Objective 5:	Improving flood prediction, warning and post flood recovery

Though flooding cannot always be stopped, with these key objectives, the strategy aims to coordinate, minimise and manage its impacts within Cambridgeshire.

The strategy explains the funding avenues for flood risk management activities and emphasises the need for local partnership and contributions in delivering local flood schemes.

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# 1. Introduction

In England, 5.2 million properties are at risk of flooding. Of these, 1.4 million are at risk from rivers or the sea, 2.8 million are at risk from surface water and 1 million are at risk from both. This risk was realised in many parts of the country during the summer floods of 2007, and more locally in August 2014 when over 300 homes flooded and December 2020 when more than 200 homes flooded in the County.

The Cambridgeshire Climate Change and Environment Strategy describes the range of risks to the water environment that Cambridgeshire is already experiencing. Many of these risks, such as rising sea levels, intense summer storms, wetter winters and droughts have seemingly been commonplace in recent years and highlight the need for a review of management practices and introduction of new measures. Climate change implications will be discussed throughout this strategy and the action plans of the two strategies will be aligned.

## 1.1 Requirement

Under the Flood and Water Management Act 2010, Cambridgeshire County Council is designated as a 'Lead Local Flood Authority' and as such has the responsibility for developing, maintaining and applying a local flood risk management strategy (LFRMS) in Cambridgeshire.

It is intended that local authorities should reflect the content, guiding principles, aims and objectives of the National Flood and Coastal Erosion Risk Management Strategy in the development of their own LFRMS. The development of our LFRMS has required input from the designated 'Risk Management Authorities' (RMAs) who have a duty to act consistently with the strategy – in Cambridgeshire they are:

- District and City Councils;
- Internal Drainage Boards;
- Anglian Water Services Limited;
- Cambridge Water Company;
- Highway Authority; and
- The Environment Agency

Our LFRMS clarifies roles and responsibilities for local flood risk, and the duties and permissive powers that RMAs have and will build on the existing partnerships developed in Cambridgeshire. The LFRMS will also provide a framework for local communities to develop local partnerships and solutions to the flood risks they face and underpin a partnership approach to funding flood resilience projects.

## 1.2 Review Procedures

Whilst there is no statutory deadline for producing a local flood risk management strategy, nor is there a prescribed format or scope beyond the legislative requirements contained in the Act, it is intended that the next formal update of the LFRMS will be in 2027. This is to align with

updates to a related but separate document, produced by the Environment Agency (EA), called the Anglian Flood Risk Management Plan.

### 1.3 'Local' Flood Risk

In setting out the county council's statutory requirement for a LFRMS, the term 'local' is specifically defined in paragraph 9, section (2) of the FWMA 2010 as including the sources of flood risk listed below.:

- ordinary watercourses
- groundwater, and
- surface runoff

In addition to the above, this strategy also provides guidance on other areas of the water environment, such as main river flood risk (a responsibility of the Environment Agency).

Surface runoff, groundwater and ordinary watercourses may interact with other sources including sewers and Main Rivers to worsen the impacts of flooding. It is important to consider the interaction of flooding from all sources to correctly assess the actual flood risk to a location. For example, since many ordinary watercourses and surface water sewers in the county ultimately flow into a Main River, when river water levels are very high, water will not be able to discharge and will instead overflow from the ordinary watercourses and the sewers.

Responsibility for different sources of flood risk sits with different organisations (discussed in Section 4), however through working together with all the water management organisations operating in Cambridgeshire, the county council has produced a strategy that co-ordinates flood risk management, and which residents and businesses can use as a reference.

It is inevitable that there will be competing demands across the Cambridgeshire area as the differing landscapes and characteristics mean that the needs of each area will differ. The aim of the LFRMS is to bring all these flood risk management needs together and try to ascertain the overall priorities on which the county council and its partners will invest resources over the coming years.

The objectives within this strategy were developed in partnership with Cambridgeshire's Risk Management Authorities as a part of the creation of the original Local Flood Risk Management Strategy published in 2015.

### 1.4 Status in the Planning System

As with any document, the LFRMS can be used as a material consideration in planning. To ensure that flood risk development policies have the required weight in the planning system a separate Supplementary Planning Document (SPD) has been prepared that is part of the planning policy framework for each local planning authority within Cambridgeshire. The Cambridgeshire Flood and Water Management SPD and associated Surface Water Planning Guidance specifically covers elements of flood risk and drainage which are relevant to new

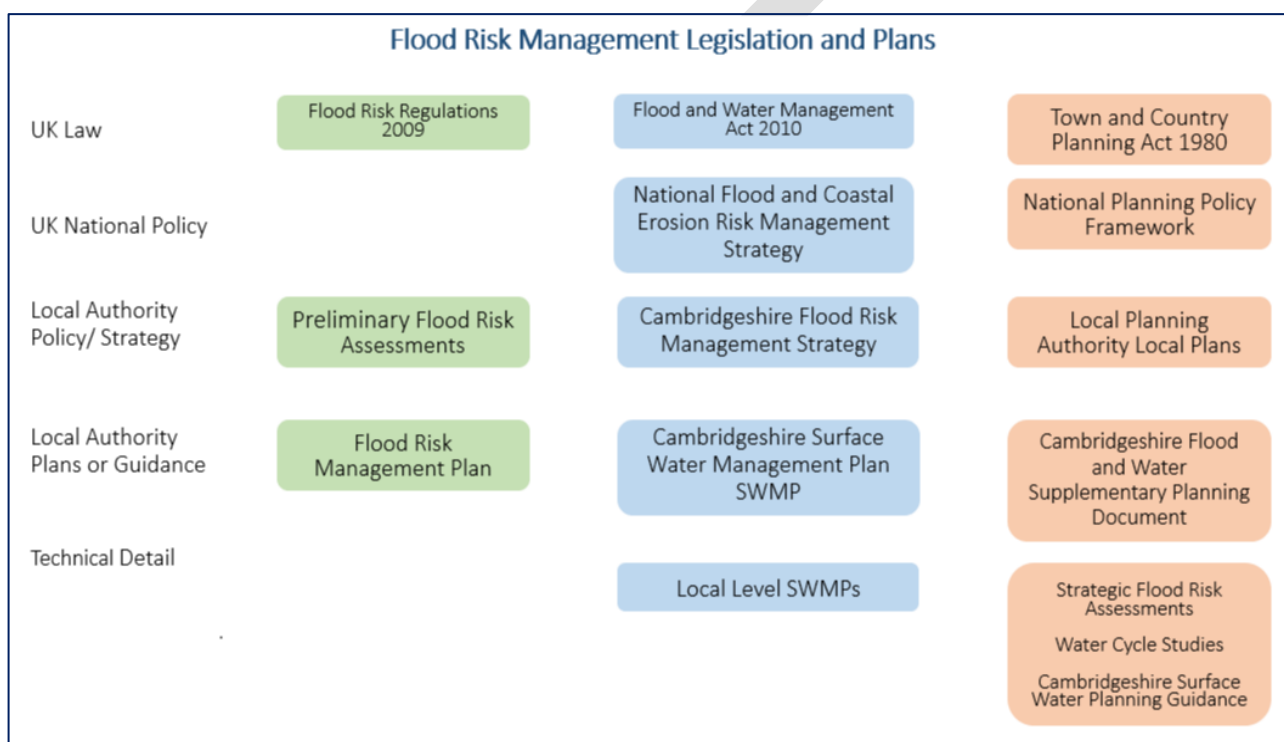


development and is discussed briefly in section 2.3.13 and highlighted as ongoing activities in section 7.

## 2 Policy, Legislation and Guidance

### 2.1 Links between legislation and guidance documents

Flood and water management in Cambridgeshire is influenced national and local policy and legislation as well as technical studies and local knowledge. **Figure 1** below attempts to summarise the main plans, strategies and legislation affecting flood risk management.



**Figure 1: Legislation, Strategies, Policies and Plans Affecting Flood Risk Management**

### 2.2 National Context

#### 2.2.1 National Flood and Coastal Erosion Risk Management Strategy

Local flood risk management strategies must be consistent with the National Flood and Coastal Erosion Risk Management Strategy for England (the National Strategy) which was published in July 2020. The National Strategy sets out three ambitions to manage long term risk:

**Climate resilient places** - working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change

**Today's growth and infrastructure resilient in tomorrow's climate** - making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as infrastructure resilient to flooding and coastal change

**A nation ready to respond and adapt to flooding and coastal change** - ensuring local people understand their risk to flooding and coastal change, and know their responsibilities and how to take action

A series of strategic objectives sit under those ambitions alongside a series of measures designed to help achieve each of those objectives. Appendix 6 demonstrates how our LFRMS is consistent with the National Strategy.

The 2020 National Strategy has incorporated a step change in language in relation for responding to flood risk. The emphasis has moved from protection to one of resilience and adaptation (**Figure 2**). This recognises that that protection measures are just one part of the solution to making our communities more resilient in future and that constraints may prevent us from delivering protection in certain locations, such as the need for more space to accommodate flood waters in a dense urban environment or difficulties in securing funding for projects. The way in which resilience to communities is measured is being developed through national groups at the time of writing this report.



**Figure 2: Components of Resilience Described in the national Strategy**

## 2.2.2 National legislation and plans

**Table 1** provides a summary of the other national context for the LFRMS.

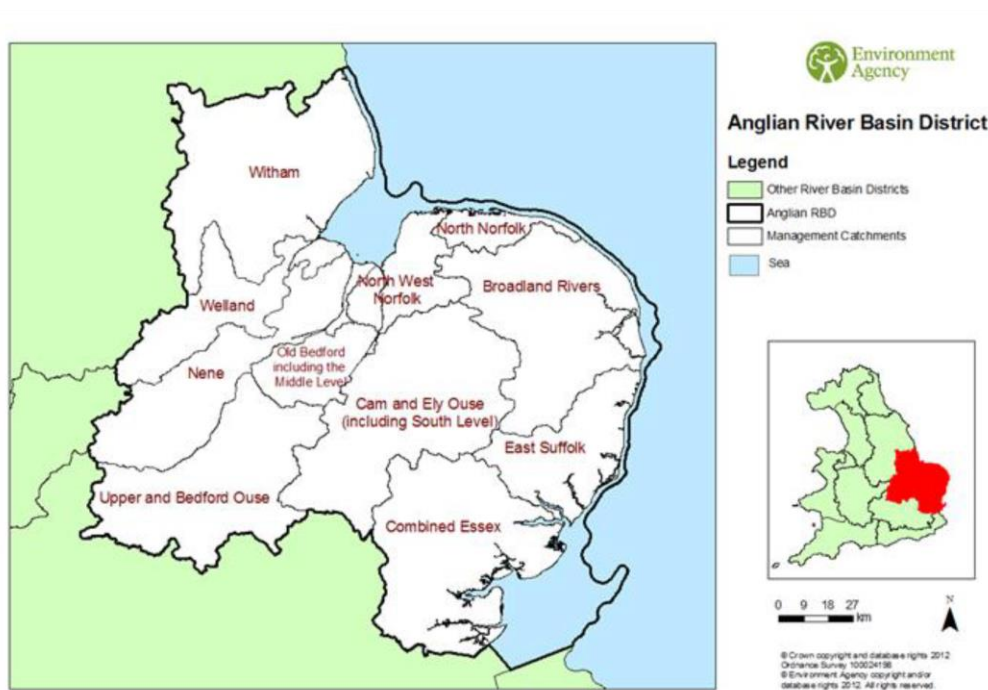
**Table 1: Summary of National Context for LFRMS**

<b>Flood Risk Regulations 2009</b>	Came into force in response to the EU Floods Directive 2007/60/EC, this sets out the requirement for Preliminary Flood Risk Assessments (PFRA) and Flood Risk Management Plans (FRMP) to be produced.
<b>The Water Environment (Water Framework Directive) Regulations 2017</b>	Came into force as a response to the Water Frame Directive – 2000/60/EC (WFD). The regulations aim to prevent deterioration of surface water and ground water bodies whilst supporting the achievement of the environmental objectives for those water bodies.
<b>Flood and Water Management Act 2010</b>	Came into force to make changes to the way that flood risk is managed in the United Kingdom. This created Lead Local Flood Authorities.
<b>National Surface Water Management Action Plan</b>	Published in 2018 to set out steps being taken by risk management authorities on the management of surface water flooding.
<b>25 Year Environment Plan</b>	Released by government in 2018 and set out ambitions to improve the environment for future generations and provide a commitment from government to explore the potential for Environmental Net Gain.
<b>National Planning Policy Framework</b>	Section 14 of the National Planning Policy Framework (NPPF) sets out the government's intention that planning should proactively help mitigation of, and adaption to, climate change including management of water and flood risk.
<b>Planning Practice Guidance – Flood Risk and Coastal Change</b>	National Planning Guidance - Paragraphs 051 and 079-086 specifically explain the requirement for use of sustainable drainage systems (SuDS) in new and re-developments.
<b>UK Climate Change Risk Assessment 2017</b>	The UK government is required to carry out five yearly assessments of the impacts of climate change. The highlighted

	risks were then assigned urgency scores to prioritise research and actions. The Adaptation Programme highlights, among others, the important role of Drainage and Wastewater Management Plans as a means of creating a more joined up approach to the management of surface water and helping to deliver against the 25 Year Environment Plan
<b>Climate Change Committee</b>	An independent, statutory committee formed from the Climate Change Act 2008, they advise on emissions targets and on progress against reducing emissions and preparing for and adapting to climate change. Committee's progress report of June 2021 highlights areas of concern for the water environment and the management of local flood risk including highlighting 'fundamental gaps in policy' for the management of surface water on new developments and 'a significant lack of data' to assess progress in surface water flood alleviation
<b>Flood and Coastal Risk Management: long term investment scenarios (LTIS)</b>	An economic assessment which acts as evidence for government in future policy and investment decisions. The last assessment highlighted the weakness in the consideration of surface water flood risk, primarily due to a lack of evidence for consideration.
<b>National Flood Risk Assessment (NaFRA)</b>	National surface water flood risk mapping used in flood risk planning cycle to provide high level mapping of surface water flood risk, informing the designation of Flood Risk Areas of National Significance, as described in the PFRA and FRMP. NaFRA 2 – an update of this assessment, is currently underway.
<b>National Infrastructure Commission (NIC)</b>	Provides impartial advice to government on infrastructure needs and solutions and highlights anticipated future challenges. Previously the NIC have been advocates for a catchment-based approach to managing water and a national standard of resilience against all forms of flood risk.

## 2.3 Local Context

Water doesn't flow according to political boundaries. Each river and its tributaries form a catchment area in which water is expected to ultimately flow into the named river. Understanding the management of flood risk across catchments is essential to ensure that flood risk is managed effectively without the creation of unintended downstream impacts. When larger catchments are grouped together this is known as a river basin. Cambridgeshire is part of the Anglian River Basin District.



**Figure 4: The Anglian River Basin District and its river catchments**

### 2.3.1 Great Ouse and Nene Catchment Flood Risk Management Plans

In 2009 the Environment Agency completed Catchment Flood Management Plans (CFMPs) for each of Cambridgeshire's main river catchments. The catchments were then divided into policy units where flooding mechanisms and risk were similar so as to be assigned a policy to guide management in those areas. The CFMPs remain available despite not having been updated since 2009. They are largely superseded by the Flood Risk Management Plans described in 2.3.2.

### 2.3.2 Anglian Flood Risk Management Plan

Flood Risk Management Plans (FRMP) are a requirement of the Flood Risk Regulations 2009, which set out a statutory process for flood risk planning over a 6-year cycle. The Environment Agency (EA) and Lead Local Flood Authorities (LLFA) are required to:

- Assess the risk of flooding to people, the economy, and the environment.
- Identify areas where the risk of flooding is considered to be significant. These are designated flood risk areas (FRAs), which were identified through Preliminary Flood Risk Assessments (PFRAs) in 2018.
- Prepare flood hazard maps which highlight the risk of flooding to receptors within FRAs.
- Prepare FRMPs that set objectives and identify measures to manage flood risk within the FRAs and the wider River Basin District (RBD).

The first cycle Anglian FRMP was published in 2015 and covers the period from 2015-2021. The second cycle plan is currently being developed and will cover the period from 2021-2027. The Final FRMP will have two main parts:

- A series of reports providing an overview of the Anglian RBD, a review of progress made during the first cycle, and an Environmental Report.
- A live online mapping tool which will display the measures across the RBD. The tool will be updated during the lifecycle of the plan to ensure that information is up to date.

**Table 2: Flood Risk Areas in the Cambridgeshire**

Source of flooding	
Main River and Sea	Surface Water
Alconbury & Alconbury Weston	Cambridge
Oakington	Huntingdon
Wisbech	March

The Flood Risk Management Plan also highlights Strategic Areas. Strategic Areas are areas with a similar geography or strategic ambition where it is important to consider flood risk management across administrative boundaries and river catchments.

There are 2 Strategic Areas within the Anglian RBD which relate to the Cambridgeshire:

- Fens and Lowlands
- Oxford to Cambridge Growth Arc

### 2.3.3 Anglian River Basin Management Plan

The Environment Agency produces plans for each river basin district to cover other elements of water management, such as water resources and protection of the water environment. The Anglian River Basin Management Plan was released in 2015 and is reviewed every 6 years.

The Anglian RBMP sets out the current situation and pressures affecting the water environment with a range hierarchy of objectives, measures and actions to protect and improve those environments.

### 2.3.4 Future Fens: Integrated Adaptation

The Fens, as one of the lowest-lying areas of the UK, which suffers acutely from economic deprivation, is one of the most vulnerable parts of the country to the ever-mounting effects of climate change and associated sea-level rise. Current projections show the Fens could be underwater by 2100 if defence of the area is not sustained, leading to major displacement of communities and also significant damage to the economy and food security. Anglian Water are leading this partnership work with Water Resources East, the Environment Agency, County Council and others to contribute to planning for the future.

Future Fens: Integrated Adaption is a cross-sector, holistic and ambitious approach that aims to not only plan for adaptation, but also seize the opportunity to improve the economic,



environmental and social prosperity of the region, all at a lower cost than by working independently of one another. The work of this project could influence the wider catchment as multi-functional solutions will need to take links to Chalk Streams and upstream land management into consideration.

#### 2.3.5 Future Fens: Flood Risk Management

The Fens is in a unique position of having the only location specific measure within the National Flood and Coastal Erosion Risk Management Strategy. Much of the infrastructure in the Fens is nearing the end of its design life and will require significant investment soon. This work aims to develop a long-term approach to delivering drainage and flood risk infrastructure for future generations, these options will need to consider many external pressures such as funding constraints, housing needs, climate change, water resources, environmental, navigation and amenity services.

A baseline report for the Great Ouse Fens setting out the current situation and future challenges has been developed as a part of Phase one of the programme and was published in May 2021. Phase two is anticipated to take 5 years and will a long-term adaptive plan for the infrastructure in the fens. Phase three then looks at planning the delivery of the management options. Investment in infrastructure during the development of this Programme will need to carefully consider the long-term plans to avoid abortive costs.

The Fens are highlighted as a key piece of work within the National Strategy and have a measure assigned to them with the aim of developing a long-term plan for managing flood risk.

#### 2.3.6 Drainage and Wastewater Management Plan

The Drainage and Wastewater Management Plan (DWMP), covering 2025-2050, is led by Anglian Water and aims to work with other strategic plans to ensure we collectively plan for the impact of growth and climate change. This collaborative long-term view will highlight the known and expected future risks of flooding, environmental quality and wellbeing from wastewater, drainage and treatment, and work with stakeholders to identify the solution strategies to mitigate.

Being a new strategic plan, the DWMP follows “A framework for the production of the Drainage and Wastewater Management Plan” which was created through discussions with a number of regulatory bodies and published in 2018. Led by water companies the DWMP will be produced by working together with other risk management authorities and all interested parties, to produce a first draft for consultation in June 2022. The final DWMP will be published in spring 2023 and the outputs will be fed into Anglian Waters business plan submission to Ofwat later that year.

The DWMP will help to ensure alignment with other strategies. Working together in identifying risks and solutions we can create a best value plan to collectively gain a range of benefits whilst producing a robust resilient plan to address the future challenges we all face.

### 2.3.7 Integrated catchment management plans

Integrated catchment management plans have been developed to provide more detail on how the actions from the Anglian RBMP and Water Framework Directive can be delivered. These actions are joined by equally important actions to improve the watercourse and our enjoyment of it in a wider sense. For example, this could be by improving amenity value for visitors, facilities for boaters and fisherman and bringing communities together to encourage them to help protect and maintain their local water environment.

### 2.3.8 Cambridgeshire Preliminary Flood Risk Assessment (2017)

The Cambridgeshire Preliminary Flood Risk Assessment (PFRA) is a statutory document completed under the Flood Risk Regulations. The PFRA process is aimed at providing a high-level overview of flood risk from local flood sources, including surface runoff, groundwater, ordinary watercourses and public sewers. It is not concerned with flooding from Main Rivers or the sea. The Cambridgeshire PFRA report, updated in 2017, identifies that there are three 'Flood Risk Areas' of national significance within Cambridgeshire's administrative area, March, Cambridge and Huntingdon.

These Flood Risk Areas are determined through the level of risk to homes and infrastructure as shown by National Flood Risk Assessment mapping. The county council are required to further investigate the risk in these areas. Due to historic flood events this understanding is already being developed in both March and Cambridge. In Huntingdon there has been comparatively less historic flooding to cause this area to be investigated in as much detail, as such further work will be required to confirm why national mapping identifies this as a Flood Risk Area of national significance although it is understood that this level of risk reflects the critical infrastructure within the Town. Any projects highlighted by this work will need to be prioritised against locations where communities have experienced flooding to ensure interventions for modelled risks are targeted and proportional.

Both the Surface Water Management Plan (section 5.8.3) and Preliminary Flood Risk Assessment estimate the significance of flood risk based on the risk to people and property. This strategy also considers the significance of flooding to agricultural land and considers measures to ensure that food production, which is of regional and national significance, is resilient to flooding.



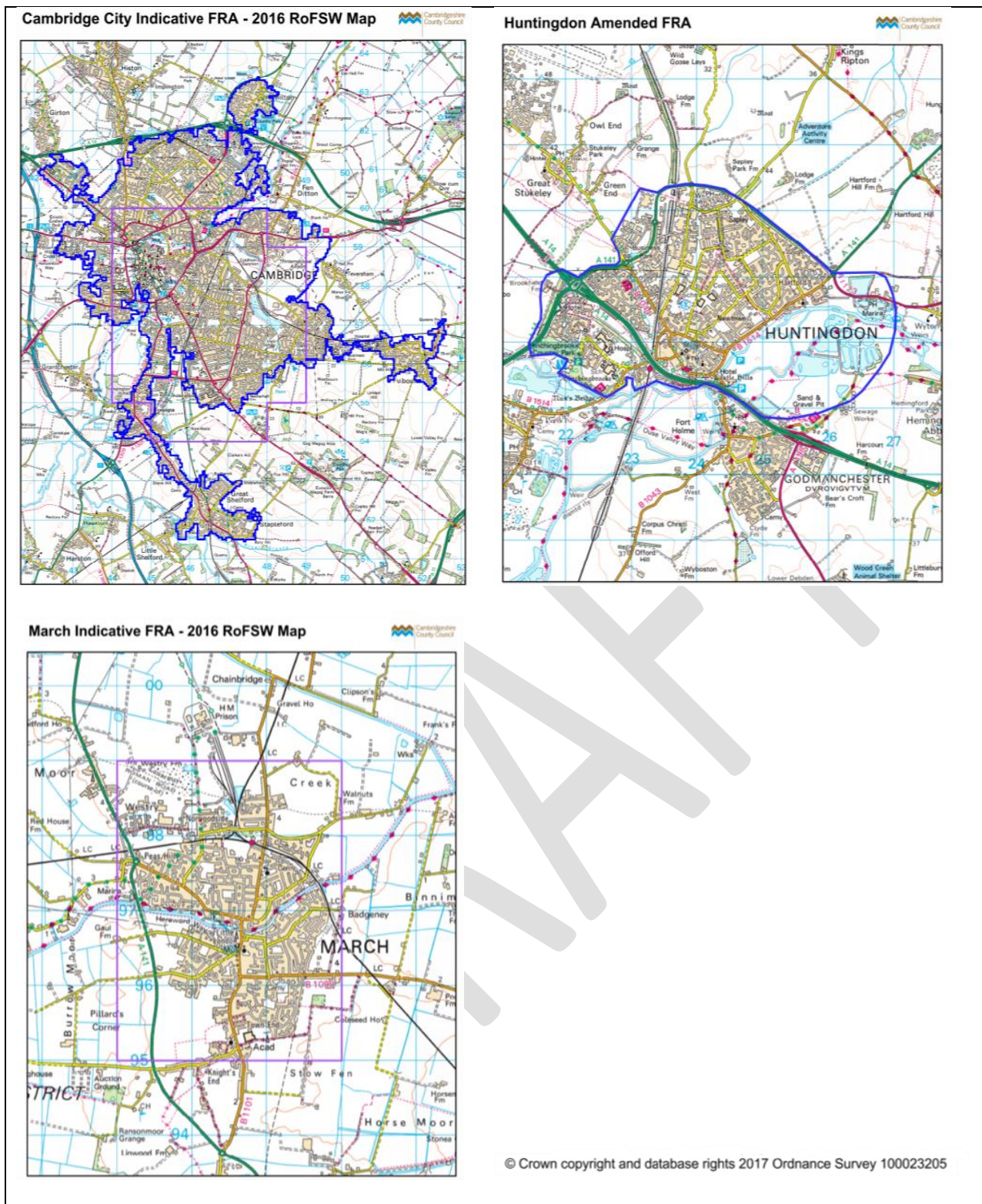


Figure 5: Maps of Flood Risk Areas for Surface Water Risk

2.3.9 Cambridgeshire Climate Change and Environment Strategy

In May 2019 the county council declared a climate and environment emergency. In response to that declaration the county council approved a Climate Change and Environment Strategy, an action plan, carbon footprint for 2018/19 and Carbon Management Plan 2021-2026. The Strategy sets out 15 priority areas and 100 separate actions to help achieve the ambitions in the Strategy. Those priorities are separated into three themes;

- **Mitigation** – Efforts to reduce or prevent emissions
- **Adaptation** – Actions that help cope with the effects of climate change
- **Natural Capital** – Elements of the Natural Environment that provide us with benefits

There are several actions directly related to flood risk and water management but there are also other actions related to the functions of all risk management authorities which will be reflected in this strategy and future partnership working, such as minimizing waste and reducing energy use.

2.3.10 Partnerships

Table 1 provides a summary of the local partnerships in Cambridgeshire.

Table 3: Local Partnerships

CamEO	Operates around central forum, with input from four established sub-catchment partnerships for the Rivers Cam, Lark, Wissey & Little Ouse and Thet. These sub-catchment partnerships reflect the WFD Operational Catchment waterbodies within CamEO, however exact partnership boundaries differ from those of the official WFD Operational Catchments as demonstrated in the maps below. As yet no sub-catchment partnership has been successfully developed for the South Level & Cut Off Channel catchment. Annually each sub-catchment partnership identifies local priorities and develops local action plans identifying projects for delivery. These action plans are reviewed annually and must ultimately deliver against the CamEO catchment partnership five-year strategy. Within this strategy, the six areas of priority for the Cam & Ely Ouse are identified as: Community Action, Water Resources, Farming and Land Use, Healthy Rivers & Groundwaters, Invasive Non-Native Species and Maximising Resources.
Water Care	Catchment Partners work together to develop a shared understanding of the problems in their catchment and create an Action Plan to effectively target actions and funds where they will have multiple benefits for people and

	wildlife. The Water Care Action Plan lists projects currently underway and aspirational projects.
<b>Upper and Bedford Ouse Partnership</b>	Has a vision for the rivers and their catchments to be healthier, richer in wildlife and valued by all. The partnership is currently reviewing and prioritising projects using the framework set out by the Catchment Based Approach to develop a catchment plan. In the interim examples of projects can be found online.
<b>River Nene Partnership</b>	Co-ordinated the development of an integrated catchment management plan for the Nene which contains Cambridgeshire-based projects. Not all of these will be discussed in the LFRMS due to some being more about green infrastructure and less about flood risk. Projects identified in the River Nene plan aim to bring about as many different benefits as possible across the full scope of water management work. The Nene Catchment Partnership, hosted by the RNRP, will now look to co-ordinate delivery of the opportunities identified in the Nene Integrated Catchment Management Plan.

#### 2.3.11 Other Cambridgeshire Strategies

Table 4 below lists other strategies which will influence the way in which flood risk management functions are delivered in future.

**Table 4: Cambridgeshire strategies**

Strategy	Subject Matter
Plastic Strategy	Approved in 2019 this Strategy sets out how Cambridgeshire County Council will look to reduce its consumption of plastic and lead suppliers and communities to explore alternatives.
Corporate Energy Strategy	The Strategy outlines our vision to secure renewable and resilient energy supplies and infrastructure that can support local needs.
Waste Management Strategy	The joint Cambridgeshire and Peterborough Strategy 2008-2022 outlines how a more sustainable waste management process with recycling and composting targets will be achieved.
Tree and Woodland Strategy	This Strategy is currently being developed to establish how existing trees will be sustainably managed whilst looking to expand the tree cover and canopy cover across the county.
Minerals and Waste Development Plan	This Strategy runs to 2026 and sets out policies for how minerals are available to supply growth in the area and ensure that waste in modern waste management facilities is managed in a more sustainable way. This includes objectives which are specifically related to the management of water.
Cambridgeshire Green Infrastructure Strategy	Approved in 2011, the county council worked with its partners to develop a strategy for the development of green spaces throughout the county. This includes consideration of flood and water management.
The Cambridge Nature Network	A study to produce a spatial plan for nature, published in 2021 it provides a source of information for identifying wider considerations for new schemes.
Doubling Nature Ambitions	Ambitions were launched in 2019 by Natural Cambridgeshire to double the area of land managed for nature in the county from 8% to 16%. Due to the nature of the landscape in Cambridgeshire the priority areas have close connections with the water environment.
Cambridgeshire Peatland	The Cambridgeshire Fens accounts for 27% of England's total peatland stock. Peatland provides diverse wildlife habitat but has been damaged by long term drainage practises. Peat is also an important store for carbon when held in a saturated state.



The Forestry Commission and Natural England have both carried out studies to calculate the quantitative benefits of green space<sup>78</sup>. An example from Natural England's 2014 report is provided below:

*A single large tree can transpire 450 litres of water per day, making urban trees an effective way of reducing temperatures. Street trees and green roofs can reduce runoff by 50% in the immediate area.*

### 2.3.12 Strategic Flood Risk Assessments and Water Cycle Studies

Strategic Flood Risk Assessments (SFRAs) look at flood risk at a strategic level on a local planning authority scale. In Cambridgeshire, several have been produced and are detailed in Table 5: Evidence base for Local Plans Table 5 below.

SFRAs are used as part of the evidence base for each Local Authority's Local Plan. They help determine where growth should be allocated and steered away from the highest flood risk areas. They are used to inform the planning process by identifying where development will be at the lowest flood risk throughout the lifetime of the proposed development. By preparing Strategic Flood Risk Assessments, local planning authorities will be able to undertake the sequential test, identify the need for Site Specific Flood Risk Assessments (FRAs) and assist in emergency planning.

The Strategic Flood Risk Assessment level 1 provides a summary of the catchments, relevant policies, the current flood risks, the potential impacts of climate change, flood risk management practices and policy recommendations. It identifies and analyses current and future broad scale flooding issues for proposed development allocation sites/areas. The Strategic Flood Risk Assessment level 2 focuses on residual risks, such as the rate and depth of flooding if flood defences fail. It is necessary to examine these aspects so that any planned development will be safe. Guidance for the inclusion of climate change including predicted percentage changes to river flow and rainfall intensities is created by the Environment Agency and made available on Gov.uk.

A Water Cycle Study is an opportunity for key stakeholders to work together to identify the water services infrastructure that is needed to support and enable sustainable development. The studies will assist in identifying what infrastructure is needed, when it is required, how much it will cost, and who is responsible for delivery. The common elements that are considered in a Water Cycle Study include the location and capacity of Water Recycling Centres, sewage networks, water supply, water quality, the impact on biodiversity, and water neutrality as part of growth.

The varying nature of geology and topography across Cambridgeshire means a range of solutions will be required to meet the variety of pressures on the water environment.

Challenges include providing sufficient infrastructure to convey and treat wastewater but also, and more notably, the challenge of ensuring the supply of water for nature, residents, businesses, farming and new growth is sustainable in one of the driest parts of the country.

**Table 5: Evidence base for Local Plans**

Authority	Evidence base for Local Plan
Huntingdonshire District Council	<p>A Level 1 SFRA is in place for Huntingdon with a Level 2 SFRA Detailed Site Assessments.</p> <p>A separate Water Cycle Study exists as a part of the evidence base for the Local Plan.</p>
East Cambridgeshire District Council	<p>A combined Level 1 and Level 2 SFRA is available, this is currently being updated with a view to continue with the hybrid report approach.</p> <p>A Water Cycle is also in place to support the Local Plan</p>
Fenland District Council	<p>Fenland District Council have a district wide Level 1 SFRA and a Level 2 SFRA for Wisbech.</p> <p>Local development is also informed by a Detailed Stage 2a Water Cycle Study.</p>
Cambridge City Council	<p>These two authorities combine to create the Greater Cambridge Shared Planning Service (GCSPS)</p> <p>Currently there is a joint Level 1 SFRA is in place as a living document to be updated with new data as it becomes available.</p>
South Cambridgeshire District Council	<p>In November 2020 the GCSPS commissioned an Integrated Water Management Study with an intention to produce a new Level 1 SFRA, Outline Water Cycle Study and Detailed Water Cycle Study.</p>

### 2.3.13 Cambridgeshire Flood and Water Supplementary Planning Document

The Local Planning Authorities across Cambridgeshire worked together to create this guidance for how developers should manage flood risk and the water environment as a part of new development proposals. This guidance includes details of the site selection and the incorporation of Sustainable Drainage Systems as well as highlighting specific local flood risk planning policies in each Local Planning Authority.

#### 2.3.14 Cambridgeshire Surface Water Planning Guidance

This guidance was produced to support the Cambridgeshire Flood and Water Supplementary Planning Document by providing greater detail on the requirements for surface water drainage strategies and how this detail varies depending on types of applications. The Lead Local Flood Authority also provide pre-application advice to developers which can be used to provide greater confidence that proposals are acceptable prior to formal submission of new planning applications.

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**In preparation for the anticipated development associated with the Oxford to Cambridge Growth Arc there are a number of initiatives led at a national or regional level working to ensure environmental standards and enhancements are delivered. The need for sustainable development and the opportunities for the OxCam Arc are recognised in the National Flood and Coastal Erosion Risk Management Strategy;**

### ***Oxford to Cambridge Arc***

*3.3 million people live in the Oxford to Cambridge (OxCam) Arc. It hosts some of the most productive and fastest-growing cities in the UK. Too much and too little water, alongside ageing infrastructure, are key considerations in the proposals for up to one million new homes by 2050. This will be double the previously proposed growth and is estimated to increase gross value added from £90 billion to £250 billion a year (HM Treasury, 2018).*

*Government and local partners recognise the value of the natural environment and have committed to deliver the government's 25 Year Environment Plan goals and environmental outcomes, including embedding a local natural capital planning approach, with the aim to meet their economic and housing ambitions while improving overall, rather than degrading, the environment in the Arc.*

*In the government's 2018 Budget, it confirmed funding for a pan Arc Local Natural Capital Plan to coordinate investment in housing, infrastructure and the environment to support transformational growth across the Arc. The aim is to make sure new development maximises its economic potential, increases resilience to flooding and integrates environmental infrastructure with other development to provide high quality and productive places for people to live and work.*

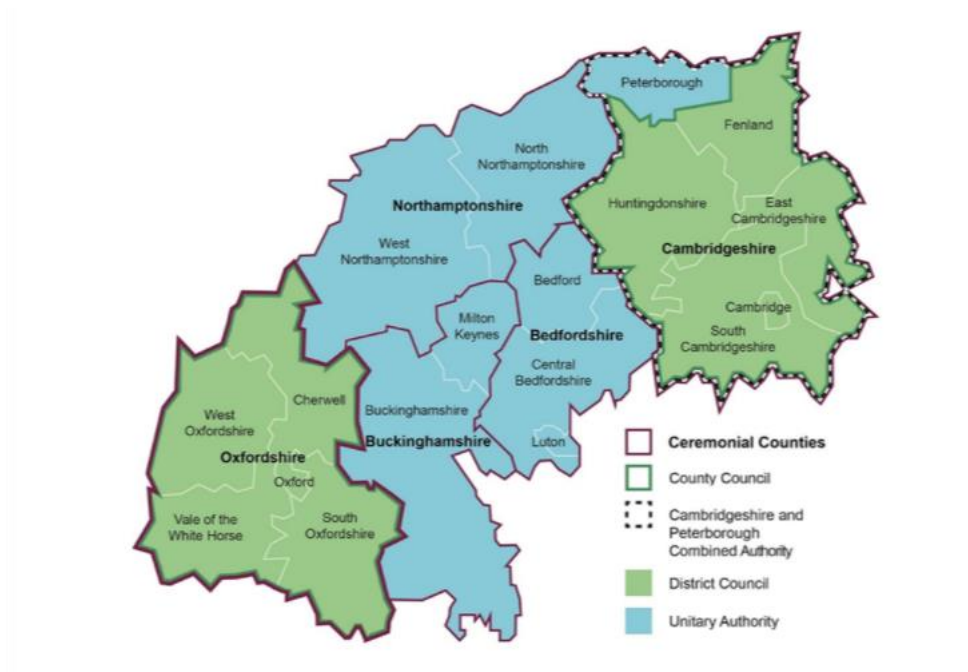
*The principle of environmental net gain could provide a lever, not only for improvements in biodiversity, but also for improvements in sustainable flood and water infrastructure to support OxCam ambitions to be a model for climate-resilient growth.*

*The government's 2020 Budget committed to developing a new spatial framework and up to 4 new development corporations for the Arc, to give certainty about the location and timing of green growth, housing and infrastructure, as well as a potential new town at Cambridge.*



**Figure 6: New development in the OxCam Arc.**





**Figure 7: Area of Oxford to Cambridge Arc as defined by National Policy paper**

### 2.3.15 Neighbourhood planning

Neighbourhood planning is a right for communities introduced through the Localism Act 2011. Local people have a major statutory say in helping to shape development in the areas in which they live. Neighbourhood development plans are a part of the local statutory development plan and will form the basis for determining planning applications in that area. A neighbourhood development order enables the community to grant planning permission for the development it wishes to see. The local parish or town council will lead the work with the support of the Local Planning Authority.

### 3 Cambridgeshire Background

Cambridgeshire is approximately 304,400 hectares in size and is comprised of one upper tier authority - Cambridgeshire County Council and five second tier local authorities: Cambridge City Council; East Cambridgeshire District Council; Fenland District Council; Huntingdonshire District Council; and South Cambridgeshire District Council.

Cambridgeshire spans two Environment Agency catchments: the 'East Anglia' and 'Lincolnshire and Northamptonshire' areas. Cambridgeshire encompasses 62 Internal Drainage Board (IDB) catchments. The water and sewerage undertaker for the County is Anglian Water Services Limited and Cambridge Water Company also provides water services.

The population of the county is approximately 859,830 (2020) and this is expected to increase significantly as part of the OxCam Arc growth corridor which expects to see 1 million new homes across the Arc by 2050 in existing and new settlements. The environmental impacts of this growth are already being assessed to ensure it considers the significant constraints around flood risk, water resources and the wider water environment. These developmental demands will be competing against existing ones, especially for water resources in one of the driest parts of the country which has a nationally significant agricultural industry.

Many of the large settlements we see today have been built around major river systems, with many properties built on low lying land close to the river, often on the natural floodplain. These settlements are typical of urban settlements across the UK, and they are often at risk from surface water flooding due to the historic design of the underground drainage system with more deprived dense urban environments typically at a higher risk. Although this is now recognised as a problem and higher design standards are in place, developments in previous decades have not taken more extreme rainfall events into consideration and the necessary resource to deliver widespread improvements to those systems is not readily available.

Much of the northern rural area in Cambridgeshire is known as 'The Fens' which is an area that is artificially drained. The Fens include the lowest lying land in Cambridgeshire, with Holme Fen being not only the lowest point in the County, but also the lowest point in the UK, approximately 2.75m below sea level. Peat soils that are common across the Fens shrink as they are drained. Prior to the draining of the Fens, Holme Fen was not below sea level. The management of water levels in the Fens is also incredibly important for the preservation of a number of heritage and historic environmental assets which are dependent on water to prevent their deterioration, such as bronze age boats preserved in saturated soils.

Over 50% of the land in Cambridgeshire is below mean sea level and is therefore reliant on pumped drainage. Management of such areas is by IDBs who manage water levels within their networks. IDBs produce policy statements (available via each IDB) that set out the level of protection provided within internal drainage districts and each board's approach to dealing with flood risk management. IDBs are locally based, democratically accountable bodies. They make local decisions about flood risk management activities and represent a good example of 'localism at work' in Cambridgeshire.

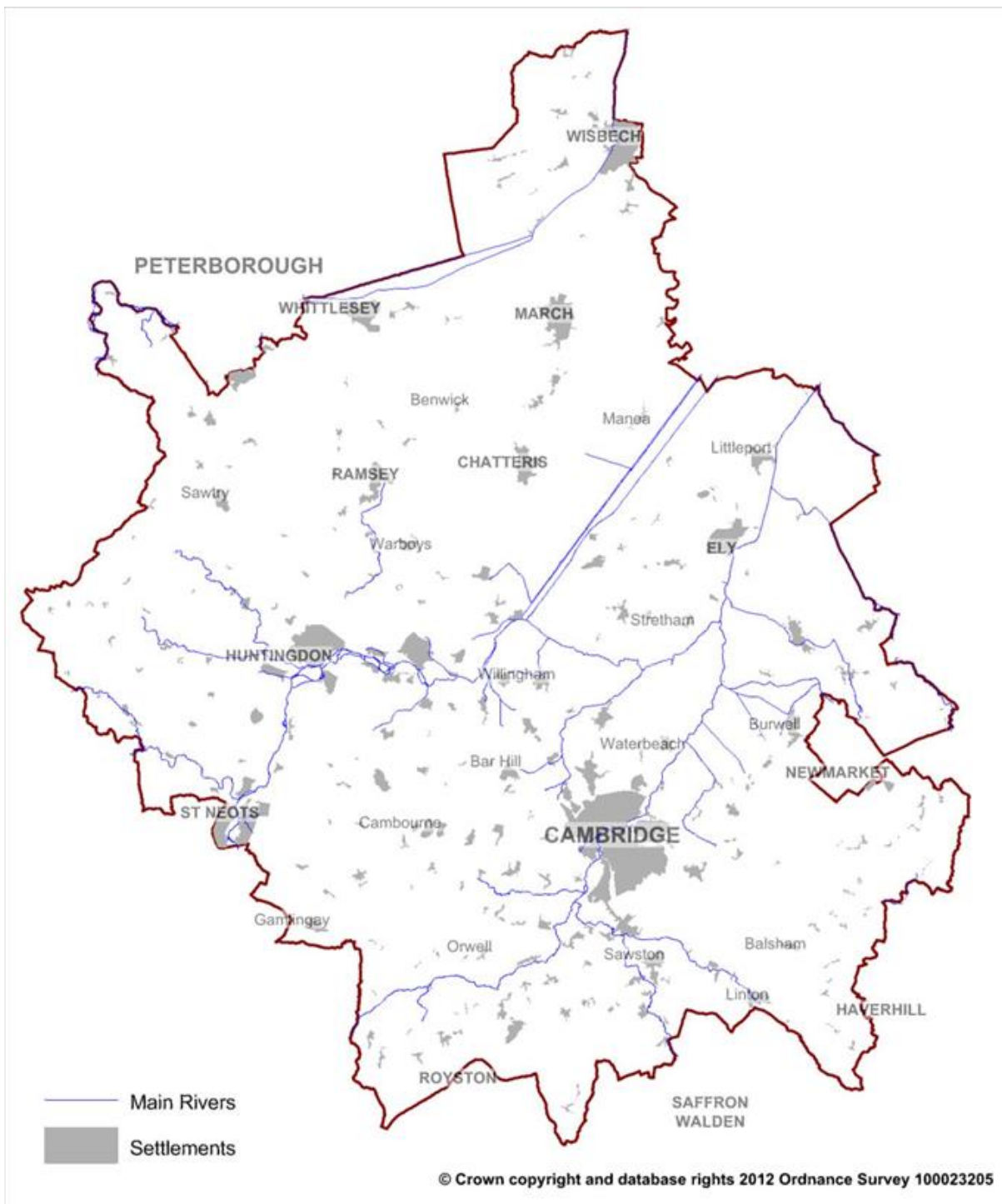


Figure 8: Main Settlements and Rivers in Cambridgeshire

## 4 Roles and Responsibilities

### 4.1 Organisations involved in flood risk management

There are a number of different organisations, authorities and individuals involved in flood risk management in Cambridgeshire. At the end of the Section figure 9 provides a quick reference guide for some of the main flood related issues that may be experienced. The principal management organisations are also discussed in this section, setting out what their roles and responsibilities are. A brief paragraph is also included on where the organisation's funding comes from. Funding for flood risk management schemes in Cambridgeshire is dealt with in more detail in Section 6.

The organisations discussed in this section are defined by the FWMA 2010 as 'risk management authorities' (RMAs) with responsibilities relating to the LFRMS. These are set out in table 6. All RMAs must also act in a manner which is consistent with the National Strategy and guidance. The other organisations discussed in this section have no formal duty in these respects.

**Table 6: Risk management authorities as defined by the FWMA 2010 and the legislation under which they carry out their flood risk management functions**

Organisation	Defined as an RMA (FWMA 2010 section 6)	Legislation under which flood risk management functions may be exercised (FWMA 2010, section 4)	Duty relating to the LFRMS (FMW Act 2010 sections 9,11)
<b>Cambridgeshire County Council</b> (as LLFA and a highways authority)	Yes	FWMA 2010 Flood Risk Regulations 2009 Land Drainage Act 1991 Highways Act 1980	Develop, maintain, apply and monitor Consult the other RMAs Act in a manner consistent with the LFRMS and related guidance
<b>District and City Councils</b> (as Drainage Authorities, Planning authorities and Risk Management Authorities)	Yes	Land Drainage Act 1991 FWMA 2010 Town and Country Planning Act 1990	Act in a manner consistent with the LFRMS and related guidance
<b>The Environment Agency</b>	Yes	FWMA 2010 Flood Risk Regulations 2009 Water Resources Act 1991 Land Drainage Act 1991	
<b>Internal Drainage Boards</b>	Yes	FWMA 2010 Land Drainage Act 1991 Water Industry Act 1991 Highways Act 1980	
<b>National Highways</b> (as a highway authority)	Yes	FWMA 2010 Highways Act 1980	
<b>Anglian Water</b> (as water company)	Yes	FWMA 2010 Water Resources Act 1991 Water Industry Act 1991	Have regard to the LFRMS and guidance

## 4.2 Cambridgeshire County Council

### 4.2.1 As a Drainage Authority

Cambridgeshire County Council became a drainage authority following enactment of schedule 2 of the Flood and Water Management Act and the associated updates to Section 14 of the Land Drainage Act 1991. This gives the county council powers to carry out flood risk management work if certain conditions are met. The Lead Local Flood Authority at Cambridgeshire County Council do not hold any maintenance or capital budgets relating to the management of drainage or flood risk assets or the risks associated with them.

### 4.2.2 As a Lead Local Flood Authority

Under the FWMA 2010 Cambridgeshire County Council, along with other unitary and county councils, became a LLFA with the lead in managing local flood risks including flood risk from surface runoff, ordinary watercourses and groundwater. Under this Act the county council also has the following responsibilities, as set out in table 8.

In April 2015 an amendment was made to the Town and Country Planning Act 1990 to bring in a planning related duty for LLFAs. This was done through issuing the Town and Country Planning (Development Management Procedure) (England) Order 2015.

**Table 7: The duty given to LLFAs under changes to the Town and Country Planning Act**

Change	Notes	Power or duty?	Paragraph of Act (as amended)
<b>Statutory consultee for major development applications</b>	LLFAs are to be consulted, by planning authorities, on the management of surface water on major development sites (those of 10 dwellings or more; or equivalent non-residential or mixed development)	Duty	18 and Schedule 4

### 4.2.3 As an Emergency Responder

Under the Civil Contingencies Act 2004 Cambridgeshire County Council is a Category One Emergency Responder. The county council have a responsibility to ensure the county is prepared to respond to an emergency and works with other members of the Local Resilience Forum to produce plans in preparation for different situations.

### 4.2.4 As a Highways Authority

Under the Highways Act 1980 Cambridgeshire County Council is classed as a Highway Authority and is responsible for the management of highways including its drainage. The county council adopts and manages the majority of Cambridgeshire's highways and footpaths although it is

not technically the landowner for them. Some highways are privately owned and managed, with the Strategic Road Network managed by National Highways.

Highway drainage systems are for the primary purpose of accepting surface water runoff from roads and carriageways and the authority's duties include the need to minimise flooding to roads that could in turn lead to a breakdown of the network. Ensuring that the network can function is the priority; small scale flooding in specific locations may be less of an issue if there are alternative routes that traffic can take. Methods used to manage the closure of flooded roads is under constant review. The Local Highways Authority have a responsibility to contribute towards sustainable development.

Roadside ditches tend not to be the responsibility of the Highways Authority unless specifically put in place to manage the flows from the road. The Highways Authorities have the powers to ensure there is adequate drainage to maintain the safety of the road, however, there is a common law responsibility of the adjoining landowners to maintain those ditches.

Cambridgeshire County Council as the local Highways Authority also undertakes work on a risk-based approach to regularly inspect and maintain highways structures such as ditches and gullies, to help ensure that they are fit for purpose.

#### 4.2.5 Funding

Cambridgeshire County Council's funding comes from a variety of places. Government provides the most significant input in terms of grants. Unlike in the past these funds are often now not ring-fenced for any specific purpose and have to be allocated according to need. The county council also collects a percentage of its income from Council Tax. Aside from these the county council can borrow funds, generate income from selling assets or submit project specific bids to Government agencies or other funding bodies.



**Table 8: The powers and duties given to LLFAs by the FWMA 2010**

Power/Duty	Notes	Power or duty?	Paragraph of Act
<b>Local Flood Risk Management Strategy</b>	LLFAs are required to develop, maintain, apply and monitor a strategy for local flood risk management in its area.	Duty	9
<b>Duty to co-operate</b>	All relevant authorities must co-operate with other relevant authorities in the exercise of their flood and coastal risk erosion management functions.	Duty	13 and 14 (4)
<b>Power to delegate</b>	An RMA may arrange for another flood risk management function, except for delivery of the local flood risk management strategy, to be exercised on its behalf by another RMA or a navigation authority.	Power	13 (4)
<b>Power to request information</b>	An LLFA and the EA may request information in connection with their flood risk management functions	Power	14
<b>Investigating flood incidents</b>	LLFAs have a duty to investigate flooding incidents within their area, to the extent that the LLFA considers it necessary or appropriate	Duty	19
<b>Asset Register</b>	LLFAs have a duty to maintain a register of structures or features which are considered to have a significant effect on flood risk and records of details about those structures, including ownership and condition as a minimum. The register must be available for inspection.	Duty	21
<b>Contribution towards sustainable development</b>	In exercising a flood risk management function LLFAs, IDBs and National Highways must aim to contribute towards the achievement of sustainable development.	Duty	27
<b>Designation powers</b>	LLFAs, as well as the Environment Agency and Internal Drainage Boards, have powers to designate structures and features that affect flooding or coastal	Power	30 and Schedule 1



	erosion to safeguard assets that are relied upon for flood or coastal erosion risk management.		
<b>Works powers</b>	LLFAs have powers to undertake works to manage flood risk from surface runoff, groundwater or ordinary watercourse.	Power	31 and Schedule 2, section 29. Amends Land Drainage Act 1991 section 14.
<b>Consents for works to ordinary watercourses</b>	Consent is required from the LLFA before works can be carried out on a watercourse that is outside of an Internal Drainage Board District and not a Main River.	Duty	31 and Schedule 2, section 32 Amends Land Drainage Act 1991 section 23.
<b>Overview and Scrutiny</b>	Include arrangements to review and scrutinise the exercise by risk management authorities of flood risk management functions which affect the LLFAs area.	Duty	31 and Schedule 2, section 54. Amends section 21 of the Local Government Act 2000
<b>Incidental flooding</b>	LLFAs, District Councils and IDBs can carry out works that cause incidental flooding or increases in the amount of water below the ground if the works satisfy four conditions. Condition 1 – work in interest of nature conservation, cultural heritage or people’s enjoyment of the environment. 2 – Benefits outweigh harmful consequences. 3 – The EA have been consulted and if applicable agreed. 4 - Other local authorities affected and owners and occupiers of land have been consulted.	Power	39
<b>SuDS Approving Body (SAB)</b>	This section of the Act, specifying that LLFAs would approve, adopt and maintain any new drainage systems, was not brought into force.	N/A	32 and Schedule 3

## 4.3 District and City Councils

Second tier authorities are often landowners and as such have responsibilities for watercourse maintenance, in addition the Enclosure Act passed responsibility of maintaining awarded watercourses to these authorities in many locations across Cambridgeshire.

### 4.3.1 As a Drainage Authority

Second tier authorities are drainage authorities as prescribed by the Land Drainage Act 1991. This gives the councils powers to carry out flood prevention works, maintaining flows in watercourses and the making of byelaws. In many cases the powers and duties given to the councils have now been superseded by the FWMA 2010. South Cambridgeshire District Council have such byelaws in place. These authorities also have the powers to designate structures and features that affect flooding.

### 4.3.2 As a Planning Authority

Under the Town and Country Planning Act 1990 the local planning authority (LPA) has a responsibility to ensure new developments are designed in a way that protects them from flooding and to ensure that the developments do not increase flooding downstream.

For the management of surface water, the LPA is specifically expected to ensure that sustainable drainage systems are put in place in major developments, be satisfied that proposed minimum standards are met and ensure that there are clear arrangements in place for ongoing maintenance over the lifetime of the development. This should be carried out using local planning policies and decisions on planning applications.

Local Planning Authorities are responsible for ensuring sustainable drainage is incorporated into new development to deliver multiple benefits.

Since the District and City Councils are also Drainage Authorities so may have expertise in house to assist on drainage related matters which can complement the advice provided by the LLFAs.

### 4.3.3 As an Emergency Responder

Under the Civil Contingencies Act 2004 the District and City Councils are Category One Emergency Responders. The role is principally about recovery after an event, but the following actions are undertaken:

- Informing and warning activities
- Co-operating with other emergency responders
- Providing rest centres
- Helping to rehabilitate people after an incident

## 4.4 National Highways

### 4.4.1 Management of Strategic Road Network

Formerly an executive agency of the Department of Transport, known as the Highways Agency, then in turn Highways England, and more recently National Highways became a government-owned company on 1<sup>st</sup> April 2015. National Highways are responsible for operating, maintaining and improving the Strategic Road Network in England on behalf of the Secretary of State. The network itself is owned by central government, is some 4,300 miles long and is made up of motorways and trunk roads (the most significant 'A' roads). In Cambridgeshire National Highways manages the M11, A1, A1M, A11, A14, A47 and short sections of the A141 and A1307 including some but not all slip roads

Part of National Highway role in managing the roads is a responsibility for managing the quality and quantity of road runoff that is collected within their network. Flood risk must not be increased by new road projects and discharges of water from the highway must not cause pollution to receiving water bodies. In line with this aim a Memorandum of Understanding with the Environment Agency has been developed to support the two organisations working together. More information about Highway England's approach is available on their website.

### 4.4.2 Funding

National Highways funding continues to come from the Department for Transport based on a 5-year business plan known as a Road Investment Strategy. In response to the Government's Road Investment Strategy for 2020-2025 National Highways have a Strategic Business Plan and Delivery Plan which look to balance the needs of the Strategic Road Network and detail specific activities and projects over this period.

## 4.5 Environment Agency

### 4.5.1 Strategic Overview

The Environment Agency is a non-departmental public body and has responsibilities for protecting and enhancing the environment as a whole (air, land and water), and contributing to the government's aim of achieving sustainable development in England and Wales.

Following the FMWA, the Environment Agency was given the strategic overview role for all types of flooding. This involves advising Government, supporting LLFAs with data and guidance and managing the allocation process for capital funding. In addition to this the Agency retains its existing responsibility for the management of flood risk from Main Rivers, the sea and reservoirs. This includes providing advice to planning authorities on development in areas of high flood risk from those same sources. The Environment Agency currently provide nationally consistent flood maps for local flood risks.

For designated Main Rivers and any associated designated assets, the Environment Agency has permissive powers to carry out maintenance, improvement and flood defence works. User of the powers is determined on a risk based approach. This includes being responsible, through the flood risk activity permitting, for controlling works by others which could affect Main Rivers or flood defences. The Environment Agency do not, however, generally own Main Rivers and the overall responsibility for maintenance of Main Rivers (as with any other watercourse) does lie with the landowner (see section 4.16 on riparian owners).

The Environment Agency is the lead organisation responsible for coastal flood risk management and erosion, including tidal flooding and the enforcement authority for reservoirs in England and Wales that are designated high risk and hold more than 25,000 cubic metres of water. While the safety of reservoirs is the responsibility of the owner, the Environment Agency has responsibility for enforcing safety, maintaining a register of reservoirs and ensuring that flood plans are put in place.

Alongside Local Authorities and the Emergency Services the Environment Agency is a Category One Emergency Responder under the Civil Contingencies Act 2004. Their role includes providing coastal and river flood warnings and supporting other emergency responders in the event of flooding.

#### 4.5.2 Funding

The Environment Agency is a national organisation with an annual budget of over £1 billion. Its funding is split across many different areas of environmental work, but more than half is spent on flood risk management. This includes the construction of new flood defences, the maintenance of the river system and existing flood defences together with the operation of a flood warnings system and the management of the risk of coastal erosion. Most of the funding for flood defence comes directly from the Department for the Environment, Food and Rural Affairs (Defra).

### 4.6 Internal Drainage Boards (IDBs)

IDBs are public bodies which have an important role in reducing flood risk through management of water levels and drainage in their districts. Much of their work involves the maintenance of rivers, drainage channels, ordinary watercourses, pumping stations and other critical infrastructure within their districts. Some IDBs date back to 1252; however, most today's IDBs were established by the national government following the passing of the Land

Drainage Act 1930, and today predominantly operate under the Land Drainage Act 1991 under which an IDB is required to exercise a general supervision over all matters relating to water level management of land within its district. Each of the IDBs operating within Cambridgeshire have their own byelaws established to support the management of those water bodies.

Historically, there were 63 IDBs within Cambridgeshire prior to the amalgamation of a number of IDBs within the county. They have permissive powers to undertake water level management within drainage districts. The area of an Internal Drainage Board is not determined by county boundaries, but by water catchment areas within a given region. The role of Internal Drainage Board in the management of flood risk within Cambridgeshire is vital. Figure 8 shows the areas in which Drainage Boards within Cambridgeshire operate. Appendix 1 lists the Internal Drainage Boards within Cambridgeshire. A more detailed background on The Fens can be found in Appendix 2.

#### 4.6.1 North Level District Internal Drainage Board (NLD IDB)

NLD IDB is a land drainage authority responsible for the drainage and evacuation of surplus water from 33,000 hectares of land. The NLD IDB Board is responsible for the improvement and maintenance of some 613 kilometres of drains within the area and for the operation of 12 pumping stations.

#### 4.6.2 Bedford Group of Drainage Boards

The Bedford Group of IDBs comprises of 3 IDBs within the upper reaches of the Great Ouse catchment. The Group manages a total of 1147 km of watercourses within its Drainage District, serving an agricultural area of 37736 ha and an urban area of 7176 ha.

#### 4.6.3 Middle Level Commissioners (MLC)

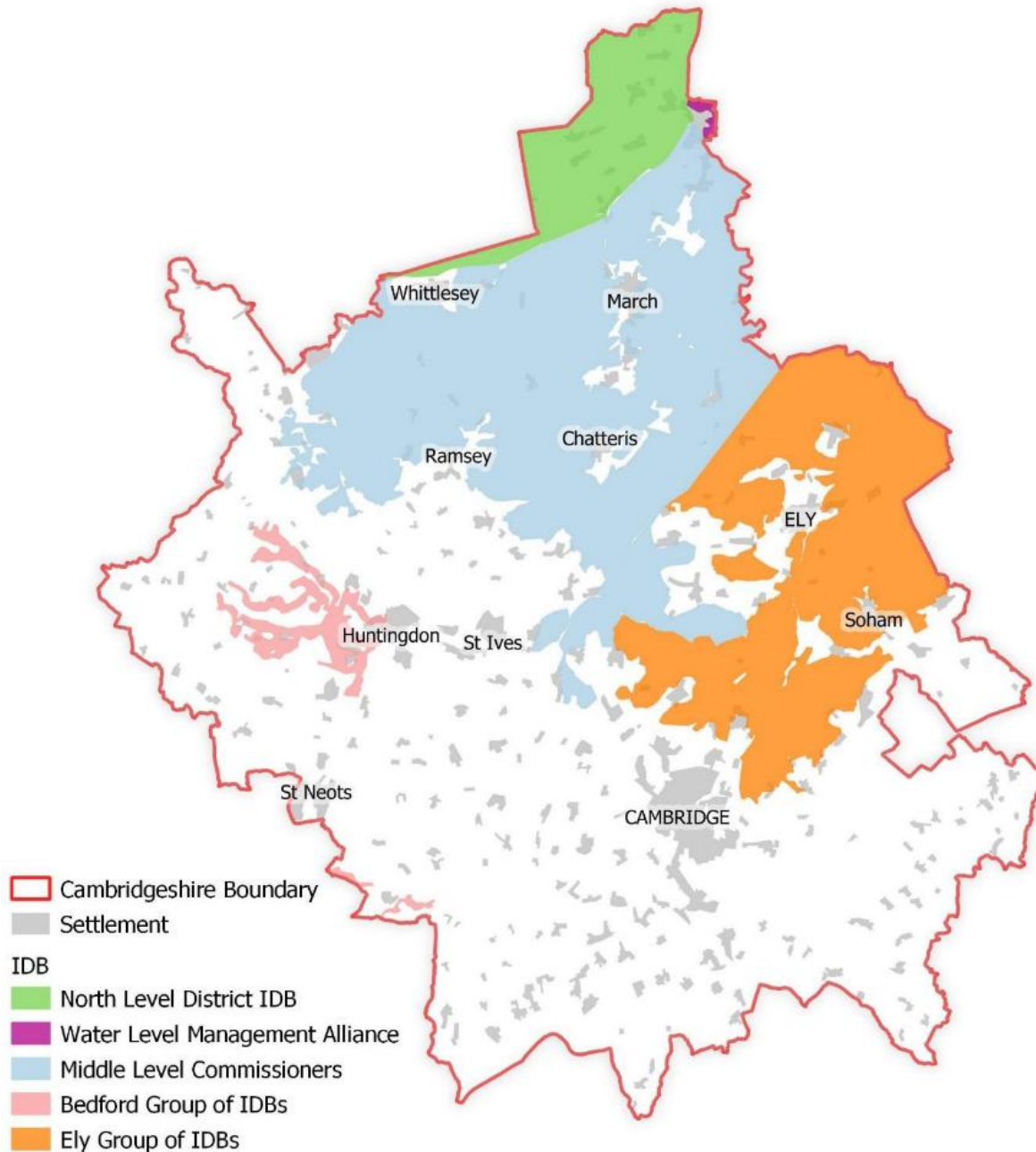
The Middle Level Commissioners are a statutory body with powers and duties under general and local legislation relating to flood risk management and navigation. The Commissioners maintain an arterial system of 120 miles of watercourses and associated apparatus. The Commissioners also act as consultants for the Whittlesey and District IDB, East of Ouse, Plover and Nar IDBs. The Commissioners also administer 27 IDBs, within Cambridgeshire, acting as consultants to both these and Ramsey IDB and the Whittlesey Consortium of IDBs.

#### 4.6.4 Ely Group of Internal Drainage Boards

The Ely Group consists of ten Internal Drainage Boards (IDBs) and crosses over three different counties. Eight of the Boards are in Cambridgeshire and cover an area of approximately 39,990ha served by 26 pumping stations. The Ely Group was formed to take advantage of cost savings and efficiency improvements that are made by sharing staff, labour and plant.

#### 4.6.5 Water Management Alliance/ King's Lynn IDB

The Water Management Alliance is a group of six IDBs, one of which, is the King's Lynn IDB. King's Lynn IDB are responsible for managing the water level across 35,771ha with a population of approximately 100,000 people.



**Figure 9: Drainage Board Districts**

#### 4.6.6 Funding

Each of these drainage authorities is funded by rates paid by the landowners in their area. This can be broken down into Drainage Rates and Special Levies. Drainage rates are paid by agricultural landowners direct to the IDB based on the area of their property. Where land in the IDB's district is not in agricultural use, the owner instead pays their levy to Cambridgeshire

County Council as part of their Council Tax. The relevant amount is then separated out from the Council Tax and paid to each IDB. This is known as a Special Levy.

## 4.7 Anglian Water Services Ltd

### 4.7.1 Water and Sewerage Undertaker

Anglian Water (AW) has a statutory obligation to supply water and wastewater services to its customers. AW currently has the responsibility to effectually drain their area and maintain their foul, surface and combined public sewers. Anglian Water also own significant reservoirs in the area which are assessed for flood risk they may pose.

### 4.7.2 Funding

Funding for water companies comes principally from water bills that residents and businesses pay. Larger investment can also come from shareholders and investors. Ofwat (the Water Services Regulation Authority) agrees the cost of water bills for each water company as part of a regular five year review process called the Periodic Review process. This process sets the management plan for water companies for the next Asset Management Period, Asset Management Period 7 is underway between 2020-2025. The next Periodic Review will be in 2024.

## 4.8 Local Resilience Forum

The Cambridgeshire and Peterborough Local Resilience Forum (CPLRF) is responsible for developing multi-agency emergency management arrangements in accordance with the Civil Contingency Act, 2004 within the County of Cambridgeshire. The CPLRF covers an area of over 2000 square miles and serves a combined population of approximately 866,000 people. This is a multi-agency partnership made up of representatives from local public services, including the Emergency Services, Local Authorities, NHS England and the Environment Agency, which are all Category 1 responders under the Civil Contingencies Act 2004. The LRF is also supported by Category 2 responders, such as National Highways and utility companies.

There are several sub-groups in the Cambridgeshire and Peterborough Local Resilience Forum that cover the specific emergency subjects. The work for flooding emergency and response is covered by the severe weather sub-group.

The CPLRF have identified several risks with Cambridgeshire which they publish within the CPLRF Risk Register. The top risks for the county include severe weather, flooding events and pandemic influenza.

## 4.9 Cambridgeshire and Peterborough Flood and Water Management Partnership

Anticipating the requirements of the Flood and Water Management Act 2010 and noting the Government's response to the Pitt Review recommendations, Cambridgeshire County Council formed Cambridgeshire's Flood Risk Management Partnership in June 2009. This later became the Cambridgeshire and Peterborough Flood and Water Management Partnership (the CPFlow



Partnership) as partnerships serving both Cambridgeshire and Peterborough which were merged to provide efficiencies to partners and reflect the closer working relationship between Peterborough City Council and Cambridgeshire County Council.

The partnership is made up of representatives from Cambridgeshire County Council (including the elected member that sits on the Regional Flood and Coastal Committees), district councils, Environment Agency, Anglian Water Services Ltd, Cambridgeshire's Internal Drainage Boards, Cambridgeshire Fire and Rescue Service and Cambridgeshire Constabulary.

The partnership is responsible for ensuring that the objectives and actions agreed in this strategy are delivered where possible; thus, enabling Cambridgeshire County Council to fulfil its leadership role in flood risk management.

The partnership has data sharing agreements in place to ensure that data is handled professionally and confidentially between partners. For example, Cambridgeshire County Council and Anglian Water Services have a licence agreement in place that stipulates how data can be shared and used.

Following on from major flood events Local Flood Forums have been established to share information relating to those events. Currently there are no local flood forums established to meet on a regular basis, although there are strong community groups who can share local knowledge and inform investigations.

#### 4.10 Regional Flood and Coastal Committees

The Regional Flood and Coastal Committees play an important local role in guiding the Environment Agency's flood and coastal activities, approving programmes of work for their areas and continuing to raise local levies under existing arrangements to fund local priorities.

Regional Flood and Coastal Committees help to provide governance for the Environment Agency flood and coastal erosion risk management functions and cover all flood risks that are not the responsibility of the water companies. Membership consists of elected members from the relevant Lead Local Flood Authorities and independent members with relevant experience appointed by the Environment Agency. They have three key purposes:

To ensure there are coherent plans for identifying, communicating and managing flood and coastal erosion risks across catchments and shorelines.

To promote efficient, targeted and risk-based investment in flood and coastal erosion risk management that optimises value for money and benefits for local communities. This includes managing the spending of both Government Flood Defence Grant in Aid and Local Levy paid by Lead Local Flood Authorities; and



To provide a link between the Environment Agency, Lead Local Flood Authorities, other flood risk management authorities and other relevant bodies to engender mutual understanding of flood and coastal erosion risks in its area.

Cambridgeshire is split between two different Regional Flood and Coastal Committees, Anglian Northern and Anglian Great Ouse. Regional Flood and Coastal Committees are the key decision making bodies for allocating funding from both Flood Defence Grant in Aid, local levies which are raised from Lead Local Flood Authorities, precepts which are collected from Internal Drainage Boards and general drainage charges which are raised from landowners. These are the key streams of funding for flood alleviation schemes from fluvial, coastal and local flooding. They also contribute towards individual property flood resilience schemes and the river maintenance programme. These committees, therefore, have a hugely important role in deciding which areas receive support for flood risk management activities. More detail on funding is discussed section 6 of this document.

#### 4.11 Cam and Ely Ouse Partnership

The Cam & Ely Ouse (CamEO) catchment partnership works to restore and improve the quality and resilience of the water environment in the catchment and, in doing so, protect and enhance the benefits it provides to nature, communities, and businesses locally. The principal role of catchment hosts, Anglian Water and The Rivers Trust, is to enable the development of inclusive cross-sector partnerships between stakeholders and community action groups to deliver improvements to river and riparian environment health.

#### 4.12 Water Care Partnership

The Water Care Partnership is a Catchment Partnership – these Partnerships are active across England and consist of groups of partners (led by a host organisation) who collaborate to improve the water environment in a catchment area. The Water Care Partnership is concerned with the Old Bedford including Middle Level catchment and the host organisation is Cambridgeshire ACRE. Partners include: Middle Level Commissioners, Angling Trust, RSPB, Inland Waterways Association, Middle Level Watermen's Club, WWT Welney, Cambridgeshire County Council, NFU, Anglian Water, Environment Agency (EA), Wildfowlers Association, Hundred Foot Washes IDB and Histon and Impington Angling Club. Catchment Partnerships are funded by the EA and supported by the Rivers Trust via the Catchment Based Approach.

#### 4.13 Upper and Bedford Ouse Partnership

The Upper and Bedford Ouse Partnership is a catchment partnership hosted by Bedfordshire Rural Communities Charity which aims to bring together around 20 partners from across the catchment to plan and deliver projects across the catchment. The projects focus on delivering improved water quality, channel structure, habitat and biodiversity.

## 4.14 River Nene Regional Partnership

The River Nene Regional Partnership (RNRP) was originally established in 2004 to co-ordinate green infrastructure activities (planning, economic development, regeneration and leisure) in Northamptonshire and along the Nene. It is now an independent Community Interest Company which develops, enables and implement green infrastructure projects at a sub-regional level. The RNRP has produced the Nene Catchment Plan, an integrated management plan for the River Nene from its source to its tidal limit. This was also one of the Government's original ten catchment pilots.

## 4.15 Local Groups

### 4.15.1 Town and Parish Councils

Flood events can affect whole communities within a parish or town with households which do not suffer from internal flooding still potentially being trapped as roads are blocked. Coordinated assistance is also critical in helping to support and provide shelter to neighbours who have suffered from flooding. Communities know better than anyone the level of flood risk that they face, town and parish councils can make important contributions to helping manage the levels of flood risk in their communities.

Some parish councils and residents' associations engage actively in flood risk management, appointing a local flood warden to be a main point of contact between the residents of their area, the Local Authorities and the Environment Agency. The extent of their role is decided by the groups/individuals but often includes staying up to date with local flood risk management news; helping to gather a picture of flood risk in their area; raising awareness among their neighbours of risk and of what to do during an emergency and being the principal emergency contact during flood events

### 4.15.2 Flood Action Groups and Volunteers

There are several flood action and voluntary groups across Cambridgeshire that engage actively in flood risk management. In some communities Flood Wardens act as a main point of contact between the residents of the area and Risk Management Authorities. The extent of their role is decided by the groups/ individuals but often includes staying up to date with local flood risk management news; helping to gather a picture of flood risk in their area; raising awareness among their neighbours of risk and of what to do during an emergency and being the principal emergency contact during flood events

These local volunteers provide a wealth of knowledge and a vital link to communities. As a part of the Community Flood Action Programme, Cambridgeshire County Council are looking to improve support with those communities and other Risk Management Authorities by;

- Developing guidance on riparian watercourse management

- Establishing a flood group network
- Delivering flood risk management training for communities
- Developing a new one-stop shop flood risk information website
- Improving the flood reporting system
- Improving the mapping of watercourses across the County

#### 4.15.3 Property owners and residents

It is the responsibility of householders and businesses to look after their property, including protecting it from flooding. While in some circumstances other organisations or property owners may be liable due to neglect, there will be many occasions when flooding occurs despite all parties meeting their responsibilities. Consequently, it is important that house holders, whose homes are at risk of flooding, take steps to ensure that their home is protected, and this may include reporting the flooding to the emergency services. Promotion of measures householders can take to protect themselves and their properties will be an ongoing action for local partners.

From 1 October 2008 the permitted development rights that allow householders to pave their front garden with hard standing without planning permission have changed in order to reduce the impact of this type of development on flooding and on pollution of watercourses. Householders will not, however, need planning permission if a new or replacement driveway of any size uses permeable (or porous) surfacing, such as gravel, permeable concrete block paving or porous asphalt, or if the rainwater is directed to a lawn or border to drain naturally. If the surface to be covered is more than five square metres planning permission will be needed for laying traditional, impermeable driveways that do not provide for the water to run to a permeable area. Communities and Local Government has produced a leaflet called 'Guidance on the permeable surfacing of front gardens' and more information can be found online.

For more information on 'Who manages what?' please see Figure 9.

#### 4.16 Living next to a watercourse

Riparian rights and responsibilities exist for those who own or tenant land on or next to a watercourse, with riparian rights being to receive the flow of water from upstream and riparian responsibilities being to maintain the free flow of water for those downstream. In the absence of anything in conveyancing documents to state otherwise, where a watercourse is the boundary to the land then riparian responsibilities are assumed by common law to lie with those responsible for that land, and therefore the maintenance responsibilities, up to the centre line of the watercourse.

Riparian rights are modified by other duties to the community and to the environment, but in general riparian rights include:

- protect their property from flooding
- protect their banks from erosion

- In many cases consent is required from a relevant drainage authority (see activity 2.5M) for any works other than routine maintenance and cleansing (section 23 of the Land Drainage Act 1991) and from the Environment Agency for abstraction.
- a duty to accept water from an upstream neighbour and allowing it to transfer to a downstream neighbour
- not causing or perpetuating a nuisance, such as causing obstruction to the flow of water. It is important that access is preserved to the banks for maintenance and safety purposes through controlling vegetation and considering appropriate locations for fencing and access tracks
- ultimate responsibility in perpetuity for the water body.

The Environment Agency, Internal Drainage Boards and the Lead Local Flood Authority share certain powers under the Land Drainage Act 1991, for enforcing riparian responsibilities.

Risk Management Authorities can also have riparian maintenance responsibilities. Just like any other organisation, if they own or tenant land that contains or is next to a watercourse or water body. However, for the majority of watercourses and water bodies in Cambridgeshire this is not the case, and so flood risk management authorities are mainly responsible for water management not maintenance.

A full explanation of Cambridgeshire County Council's flood risk management roles and responsibilities as the lead local flood authority is available in section 4.2 of this document.

A range of guidance, listed below, on riparian rights and responsibilities has been prepared by Cambridgeshire County Council and can be found on the Cambridgeshire County Council website. Landowners with queries are encouraged to contact the Environment Agency, their local Internal Drainage Board or the county council. Guidance on owning a watercourse can also be found on Gov.UK, setting out responsibilities and rules.

#### **Riparian guidance documents**

- Non-technical summary
- Riparian Guidance Survey Analysis
- Riparian Rights and Responsibilities for Maintenance
- Roles and Responsibilities for Flood Risk Management Authorities
- The Riparian Maintenance Guide
- The Riparian Guide for Reinstating a Watercourse
- Resources

**<https://www.cambridgeshire.gov.uk/business/planning-and-development/flood-and-water/flood-risk-management>**

## Who to Contact Quick Reference Guide

### Investigating and Regulating Flooding: Who manages what?

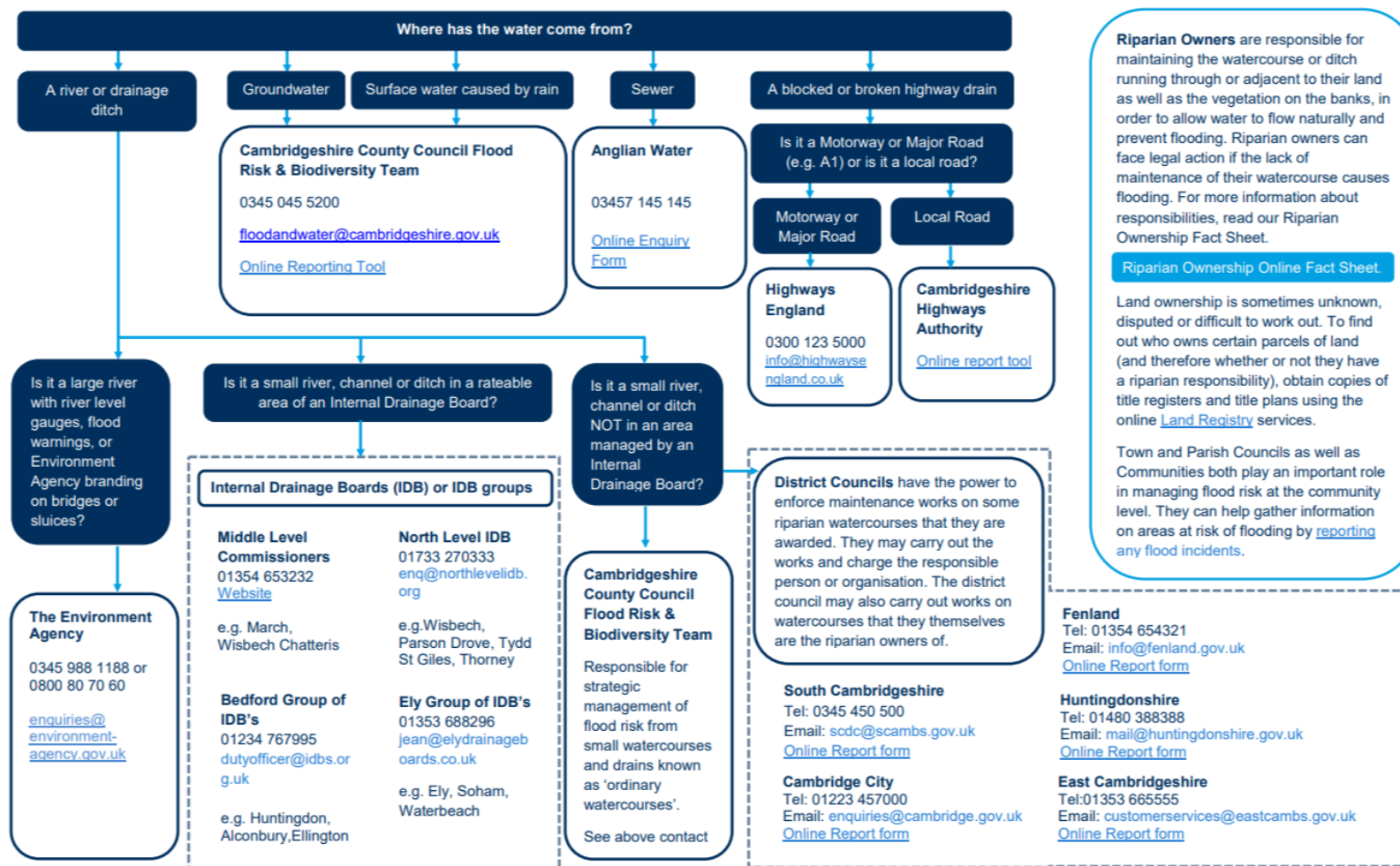


Figure 10: Contact reference guide for queries

## 5 The Risk to Cambridgeshire

### 5.1 Introduction

This section looks at each type of flood risk that Cambridgeshire is susceptible to and explains how the types of flooding differ, the broad distribution and level of risk in Cambridgeshire and how to find out more. This section is predominantly concerned with flooding caused when the received rainfall or river flows exceeds the design capacity of the drainage and flood risk management systems.

As well as natural flood risk from weather systems flooding can happen anywhere due to operational issues such as blockages, bursting of pipes or failures of defences. It is harder to predict the likelihood, location and impacts of flooding caused by operational issues and these can only be prevented by appropriate maintenance of assets. It is important to note that flooding resulting from breaches or bursting of pipes can have a more significant impact than the gradual overtopping of watercourses or surcharging of sewers because the impacts can occur very suddenly, creating a flow of water at speed.

The level of resilience to flooding in Cambridgeshire is not static and will vary over time, there are many factors explored in this strategy that can affect this change such as the climate, levels of maintenance or changes to the characteristics of the catchments. Whilst this section looks to highlight the differing sources of flood risk, it also highlights historic events where flooding occurred or was exacerbated by a combination of different factors.

### 5.2 What is risk?

To understand flood risk the meaning of 'risk' needs to be clear. Risk is the likelihood of a hazard occurring multiplied by the impact of the hazard when it occurs.

$$\text{Risk} = \text{Likelihood} \times \text{Impact}$$

With flooding it is normally the likelihood of it occurring which is discussed. This likelihood is stated in terms of annual exceedance probability (AEP). The most commonly discussed probabilities are shown in table 9 below:

**Table 9: Common flood related probabilities**

Annual Exceedance Probability	AEP as a fraction	Example
3.3%	1 / 30	The largest rainfall event for which surface water sewers are designed not to flood
1.3%	1 / 75	A common risk threshold used by the insurance industry
1%	1 / 100	A common design standard for Main Rivers defences
0.5%	1 / 200	The largest flood event for which defences on the tidal Nene are designed to defend against
0.1 0.01%	1 / 1000 1 / 10,000	The Flood Storage Reservoirs are designed to provide differing levels of protection according to the receptors at risk, this includes the washlands around Cambridgeshire

In the past the likelihood of flooding has been described using the term 'return period'. This is, however, no longer standard practise as it caused confusion by implying that a '1 in 100' flood event would only happen once every 100 years. The probability is really a 1% chance of the event happening every year, as such the term Annual Exceedance Probability is now widely used. The smaller the % the lower the risk of the event occurring but once an event has been experienced it does not make it less likely to reoccur again in future.

#### 5.2.1 Standards of protection for defences

In this section you will also find mention of standards of protection of various flood defences. The standard of protection (SoP) of a drainage system or flood defence is the level up to which it is expected to provide protection against a particular type of flood event. For example, a flood defence could be designed and built to have a SoP of 1% (1 in 100) from river flooding. This means that it would provide protection against flood events that have an annual occurrence of up to 1% (1 in 100). If larger and less probable flood events occur, these could overtop these defences. It cannot be assumed that a SoP against one type of flooding will protect against all risks.

#### 5.2.2 Resilience against flooding

The National Strategy calls for the nation to adopt a resilience and adaptation approach in the face of a changing climate. This includes providing protection but also encompasses improving the capacity for communities to plan for, respond to and recover from events such as flooding. Measures have been identified within the National Strategy to establish how these improvements will be quantified, resourced, and delivered. Increased resilience and adaptation will vary between communities depending on several factors such as the types of risks those communities face. It is widely accepted that the level of resilience will decrease over time as ageing infrastructure faces increased intensity of rainfall from a changing climate.



### 5.2.3 Differing probabilities for river flood events and heavy rainfall events

A rainfall event of annual exceedance probability 1% (1 in 100) will not necessarily cause a river flood event of annual exceedance probability 1% (1 in 100). The complexity of different river catchments and landscapes means that the probabilities of rainfall events and river flooding are not comparable. For example, there will be spatial variations in rainfall across a catchment and rainfall could be landing on ground which is either already saturated or dry, this would impact on the volume of runoff. Due to the influence characteristics of the landscape and weather events leading up to a flood event can have on the response of the catchment, the probability attached to a rainfall event rarely manifests in the same way.

### 5.2.4 Building in climate change

Climate change is expected to lead to greater extremes in weather, in many locations this changing level of risk is already being felt. Simplistically, at a local level this change is expected to manifest as hotter drier summers combining droughts and intense rainfall events and warmer wetter winters with prolonged rainfall events and saturated ground.

To represent this long term risk and ensure decisions such as those around infrastructure and new developments are robust for the future, assessments of risk and design standards for new drainage and flood risk assets incorporate additional allowances to reflect the anticipated impacts of climate change. National and Local Planning policy set out how this is to be considered, with the Cambridgeshire Flood and Water Supplementary Planning document and associated guidance providing assistance on how this is considered in the county.

### 5.2.5 Risks to physical and mental health

Flooding is devastating, many people experiencing such traumatic events will experience immediate shock and distress and often increased levels of anxiety in future. This can be exacerbated by extended periods out of the home during the recovery process. The risks that communities and emergency responders are faced with are wide ranging, with more visual risks associated with deep, fast moving or contaminated water to the longer term hidden mental health implications. Public Health England have studied many of these risks and provide advice for both the public and responding professionals.

Future flood risk schemes can look to minimise the risk of flooding to reduce this impact and also identify opportunities for partners and communities to be able to plan, respond and recover more effectively. There will also be opportunities for partners to promote wider benefits for communities as a part of flood risk schemes such as improved access to public open space or using sustainable drainage systems to mitigate against urban heat islands.



### 5.3 Coastal and Tidal Main River flooding

This occurs when either or both sea and river defences are overtopped or breached. Flooding from the sea and tidal rivers is often sudden and the extreme forces driving it present a significant danger to life. Although Cambridgeshire is predominantly land locked, it is affected by tidal influences in the River Nene, in areas such as Whittlesey and Wisbech. There are also tidal influences in Cambridgeshire from the Great Ouse Tidal River along the Ouse Washes and just upstream of Earith. In the Anglian Region coastal flooding occurs particularly when storms in the North Sea coincide with spring tides, causing the overtopping of coastal sea defences. This occurred in 1953 in East Anglia and more recently in 2013 along the east coast. Much of Cambridgeshire is low lying close to or even below sea level, most recent Environment Agency predictions can be found on Gov.uk and highlight estimated sea level rises, sea level rises would result in less draining by gravity of the lowland rivers in turn, increasing the periods of time that Cambridgeshire's rivers are tide locked and increasing the chances of combined events illustrated in Section 5.5.5.

### 5.4 Reservoir flooding

The likelihood of Cambridgeshire flooding from large, raised reservoirs (ones that hold over 25,000 cubic metres of water – equivalent to approximately ten Olympic sized swimming pools) is very low. Flooding would need to happen either from the reservoirs either being overtopped (gradual) or failing (catastrophic). The former is unlikely because the water level of large reservoirs is carefully managed, and water can be transferred in and out through pipe and Main Rivers systems. The latter is unlikely because the Reservoirs Act requires that, regardless of the level at which a large reservoir might overtop, there must be no risk of catastrophic breach from in an event with an annual exceedance probability of occurrence of less than 0.01% (1 in 10,000) where there is risk to life. All large reservoirs must be inspected and supervised by reservoir panel engineers. There has been no loss of life in the UK from reservoir flooding since 1925 at Dolgarrog in North Wales.

While flooding is very unlikely, if a reservoir dam did fail, a large volume of water would escape at once with little or no warning. Therefore, to ensure that this can be planned for by emergency responders and those living near reservoirs, the Environment Agency produces a map show the extent of flooding that could occur if a reservoir failed. This map can be found on their website.

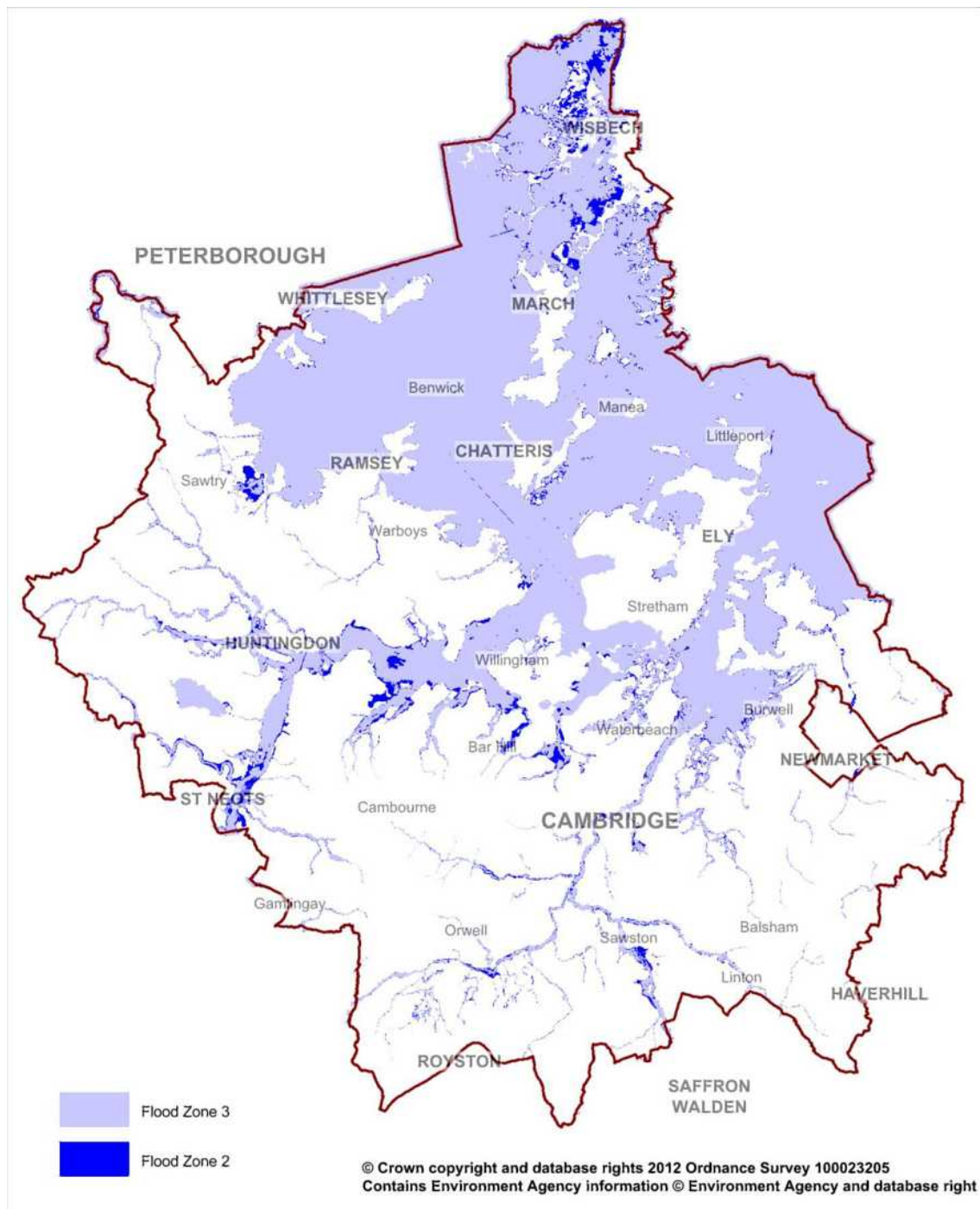
There are other smaller reservoirs in Cambridgeshire that are privately owned e.g. by farmers and landowners to provide water supply for irrigation. These are not subject to as stringent legislation.

## 5.5 Main River flooding (non-tidal)

Certain watercourses in England have been historically designated by the Secretary of State for Environment, Food and Rural Affairs as 'Main Rivers'. This enmainment process is now carried out by the Environment Agency. A Main River is defined as a watercourse marked on a statutory Main River map held by the Department of Environment, Food and Rural Affairs and the Environment Agency. This can include any structure or appliance for controlling or regulating the flow of water into or out of the channel. Enmainment is carried out based on the flood risk importance of a river. The larger arterial watercourses are therefore normally designated, but some smaller watercourses have also been included due to the important function they carry out.

The Environment Agency does not own Main Rivers but has permissive powers to maintain and improve these rivers to manage flood risk. It is important to note that the ultimate responsibility for maintenance of any river sits with the landowner.

Areas at risk of flooding from Main Rivers are usually those low-lying areas adjacent to the river. The area immediately next to a river where the river is expected to flood, or where it would flood if there were not defences, is called floodplain. The size of the floodplain depends on the size and flow of the river and the surrounding landscape.



**Figure 11: Flood Zones in Cambridgeshire**

Whittlesey Washes (River Nene) and the Ouse Washes (River Ouse) in Cambridgeshire are designed to flood when river levels are high and flow rates exceed the discharge capacity of their respective downstream sluices, in that instance the Washes will begin to fill up. This is possible even in low tide conditions (i.e. when the sluice gate is open). The Washes therefore provide flood protection from Main River flooding. Illustrations of Further information about the role of the Washes during high tides and diagrams to illustrate how they function is available in section 5.5.5.

#### 5.5.1 Find out about the risk of flooding in your area from Main Rivers

The Environment Agency produces two different maps that can be used when looking at flood risk from rivers and the sea. These maps include the risk of flooding from tidal events, Main Rivers and other watercourses with a catchment greater than 3km<sup>2</sup>.

### 5.5.2 Risk of Flooding from Rivers and the Sea map

This map shows the actual risk of flooding on a scale of very low, low, medium and high as well as the flood extents. The map takes flood defences and management actions into account. However please note that flood defences can be overtopped or fail (e.g. conditions greater than the risk that the defence was designed for or if the defences are in poor condition). Therefore, some areas behind defences are still shown as having a level of risk. The map uses the following risk bands:

**Flood Maps**

To view the maps described below and the risk for your area please visit:

<https://www.gov.uk/check-flood-risk>

**Flood Warning Service**

To sign up for flood warnings please visit:

<https://www.gov.uk/sign-up-for-flood-warnings>

- High – each year there is a chance of flooding of greater than 3.3% (1 in 30)
- Medium – each year there is a chance of flooding of between 3.3% (1 in 30) and 1% (1 in 100)
- Low – each year there is a chance of flooding of between 1% (1 in 100) and 0.1% (1 in 1000)
- Very low – each year there is a chance of flooding less than 0.1% (1 in 1000)

### 5.5.3 Flood Map for Planning (Rivers and the Sea)

This map is designed for use in the planning system when allocating development to appropriate sites and when assessing submitted applications. The map does not show the presence of defences because of the risk that these can fail or be overtopped and the need for development to consider lower risk areas where minimal flood risk management works are needed before considering higher risk development sites. The Flood Map for Planning shows the flood extents possible from a flood event of annual exceedance probability:

- of up to a 1% (1 in 100). This is often referred to as Flood Zone 3.
- of up to 0.1% (1 in 1000). This is often referred to as Flood Zone 2.
- less than 0.1% (1 in 1000). This is often referred to as Flood Zone 1 and is considered to be the area of lowest and minimal risk.

#### 5.5.4 Impacts of Main Rivers water levels on other sources of flooding

Water levels in receiving systems such as Main Rivers can easily impact upon flooding from other sources. Most ordinary watercourses, smaller Main Rivers and sewers flow or outfall into another water body. If the downstream system has high water levels, excessive siltation or blockages from debris such as trees and fly tipping, then the smaller watercourse or sewer will not be able to discharge freely and may back up. This is often called flood locking and can cause flooding higher up the network potentially quite far from a Main River. This risk can sometimes be unclear as there is often no visual link between the different assets forming the network.

#### 5.5.5 Combined high tides and river flows

As described at the start of this section, when high tides occur sluices are closed to prevent tidal waters flooding homes, businesses and land. When a high tide occurs at the same time as a high river flow on the Rivers Nene or Ouse the closure of the sluice gates means that water cannot flow out to sea. For this reason, excess water from the Nene and Ouse are channelled into their respective washes flood storage reservoirs. When the tide begins to go out and river levels have reduced the stored water is released back into the main river downstream. This is demonstrated for both washes in figures 11 and 12 below.

Due to the classification of these washes as reservoirs the standard of protection from their failure is greater than the main river upstream and downstream. Breaches can take place when defences are weakened e.g. by continued severe weather or by the actions of humans (insufficient maintenance) or animals (burrowing). The Environment Agency carry out work as required to ensure that the probability and impact of such a breach is minimised.

The worst case situation for communities in nearby flood zones is one where very intense local rainfall or snow melt, coincides with maximum flow in the main river for several days and a North Sea spring tidal surge occurs meaning that the sluice has to be closed often. This is because the chances of the Washes reaching its design capacity is increased and once this happens there is an increased risk that water will start to overtop the main river in various places. Wetter winters, more intense summer storms and sea level rises associated with climate change will increasingly add to this combined risk.

Significant local rainfall amounts would also mean that ordinary watercourses and sewers are likely to be unable to discharge into Main Rivers and hence surface water flooding will occur around low points, manholes, and where ordinary watercourses overtop.

### **1947 Case Study**

The winter of 1947 was extremely cold and noted by the Met Office as being the snowiest winter of the twentieth century. A flurry of snow at the beginning of March was followed by a raise in temperature and rainfall landing on frozen ground, this led to localised surface water flooding, riverbanks overtopping and a gradual inundation of the lowland areas. This flow downstream into the Fens coincided with a high tide and strong winds which prevented the drainage of the Fens as there was nowhere to pump water to. Breaches along riverbanks occurred in locations such as Bluntisham and the local community responded alongside rivers authorities, the military and even prisoners of war to temporarily repair those breaches. Further material is available on the Prickwillow Museum website.

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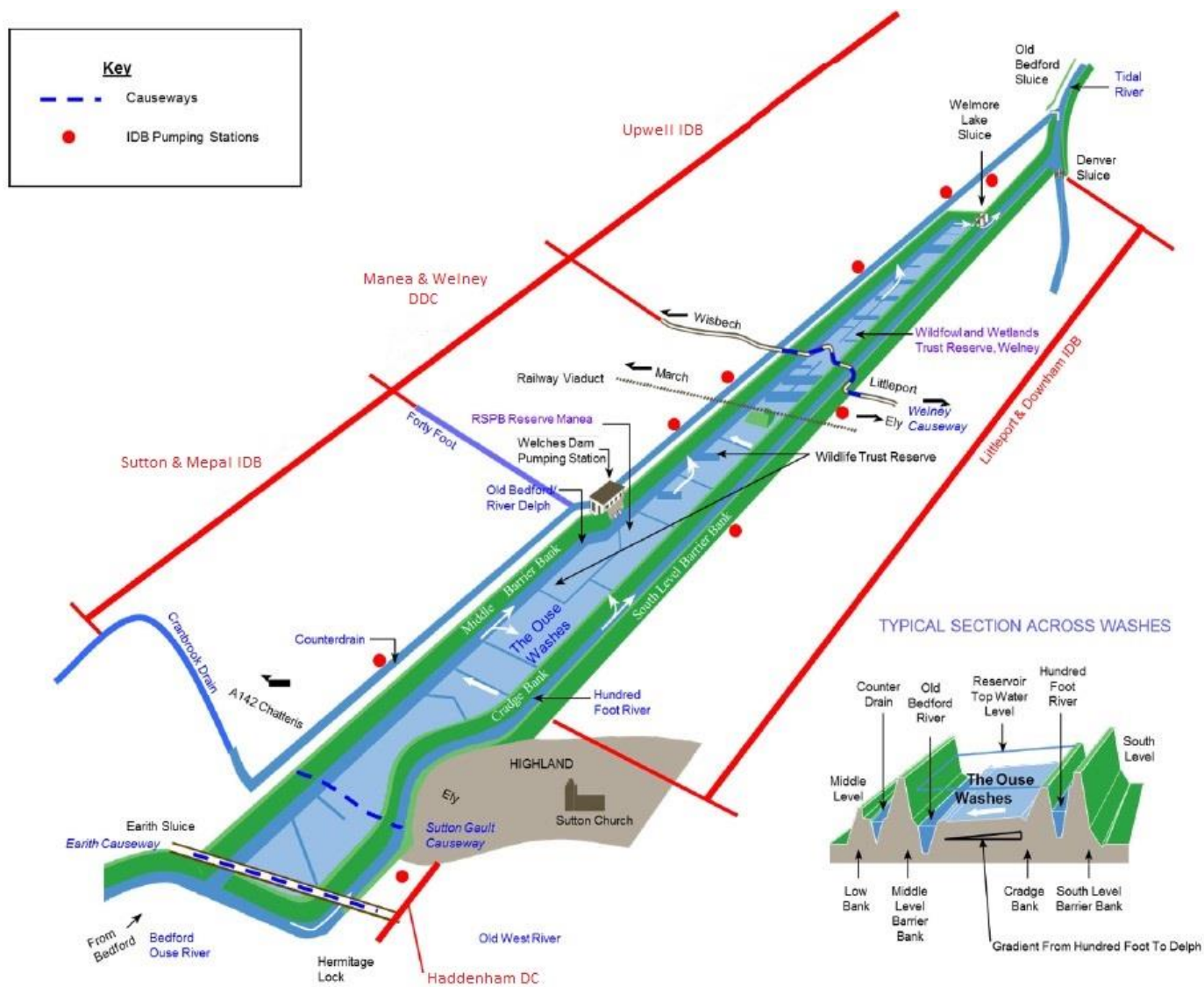


Figure 12: Diagram of the Operation of the Ouse Washes

## Whittlesey (Nene) Washes

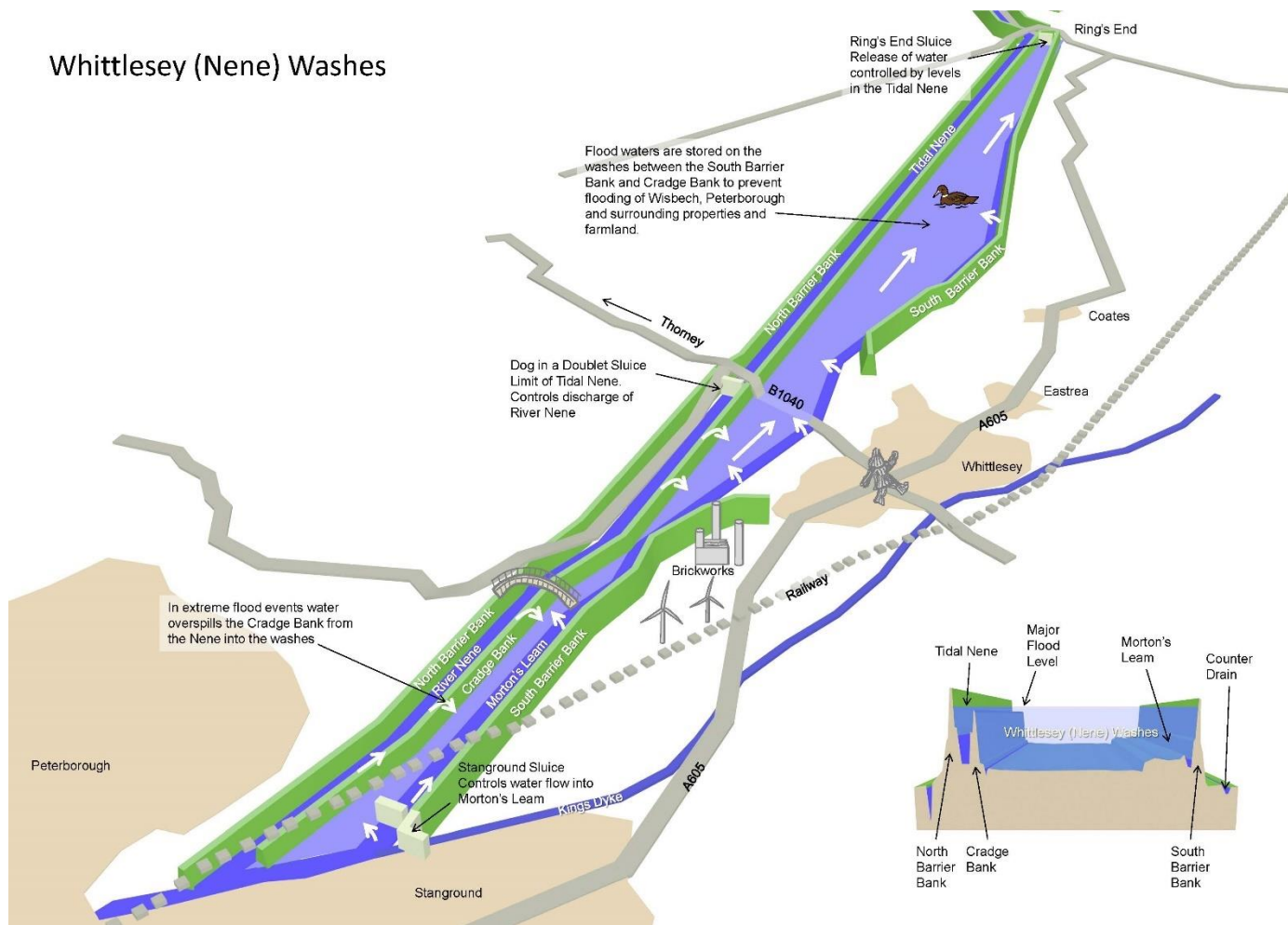


Figure 13: Diagram of the operation of the Whittlesey Washes



### 5.5.6 Worst case impact on IDB systems

IDB systems are a secondary defence. While the section below discusses the local risks of flooding from IDB systems, the large-scale failure of an IDB system depends on the overtopping or failure of its primary defences, the Main Rivers defences of the Ouse or Nene. Intense local rainfall puts pressure on IDB systems and combined with overtopping from Main Rivers this could weaken an otherwise robust system. IDBs have several pumps they can use depending on demand and in such an event all pumps would be in use trying to remove water from the land as quickly as possible. In effect a circular motion could be created where water spills onto their land as quickly as they can pump it off.

It is this kind of event, potentially combined with the power outages that can occur during flooding, that would cause the large-scale failure of the IDB systems and result in the widespread flood extents that are shown on the Environment Agency's Flood Map for Planning. This map shows the extent of flooding without considering defences and hence returns the Fens to an area of periodic flooding as would have been the case prior to the formal drainage of them in the 17<sup>th</sup> Century. The catastrophic events of 1947 demonstrate the type of mechanisms that may lead to this failure.

## 5.6 The Fens and Internal Drainage Board watercourses

The Fens is a wide expanse of flat prime agricultural land, much of which is below sea level. To drain the land, water from Cambridgeshire's fens is generally pumped via a large grid-like network of open watercourses (classed as ordinary watercourses) into the downstream tidal sections of the Ouse and Nene, and from there out to sea. The area managed by Bedford Group of IDBs is drained through gravity upstream of the tidal range. In most areas the gradient across the land to the watercourses is very low and hence water must be pumped by large diesel and electric pumps within the network. These pumps are housed in pumping stations as shown within figure 10.

### **Future Fens: Flood Risk Management**

Section 2.3.5 describes the Future Fens – Flood Risk Management work already underway in the Fens of the Great Ouse catchment.

As a part of this work all partners have signed up to a Tactical Plan that covers capital and revenue spending over the next 15 years across the area. Further information on this and ongoing progress can be found online: [www.ada.org.uk/future-fens](http://www.ada.org.uk/future-fens)

This partnership work is being delivered in three phases over a period of 15+ years

1. Base lining for a shared understanding of existing infrastructure and risk
2. Develop an adaptive plan for the next generation of flood infrastructure
3. Delivery of options

In drier months the role of an IDB can be more about managing water levels in the channels for water resources or navigation, than about draining the land.



**Figure 14: Cross Guns Pumping Station inside (left) and outside (right).**

**Source: North Level District IDB**

More detailed information about the wider area of the Fens covering Lincolnshire, Cambridgeshire, Peterborough, Norfolk and Suffolk is included in Appendix 2.

Protection for the Fens is effectively provided on three to four different levels; primary coastal defences (remembering that IDB districts extend much further towards the Wash than the boundary of Cambridgeshire County Council); Main River defences and flood risk management assets e.g. on the Ouse and Nene; the network of IDB watercourses, pumping stations and other associated water level management structures. Therefore, Cambridgeshire's Fens effectively have three different levels of risk. In order of approximate likelihood of occurrence these are:

- the risk of individual ordinary watercourses overtopping. *Probability < 2% (1 in 50) - event is not severe.*
- the risk of Main River defences being locally overtopped. *Probability < 1% (1 in 100);*
- the risk of complete system failure due to an 'combined high tide and river flow event', where a spring tide in the North Sea coincides with intense rainfall in the wider catchment and high river levels from upstream. *Probability < 0.5% (1 in 200) - event is more severe.*

The standard of protection of the IDB systems, including the ordinary watercourses and related infrastructure is known to be at least 2% (1 in 50) i.e. the watercourses are not expected to overtop in an event of lower probability than this. However, given investment in the network in previous years it is believed that these systems have a higher standard of protection of approximately 1.33% (1 in 75). In places modelling has been developed to support this.

The intensity of rainfall is more of a problem for IDB watercourses than the length of the rainfall period. For example, in January 2014 four times the average expected monthly rainfall was experienced in some locations, this total was distributed over the whole month and the IDB pumps could continue to pump the water away. This increases the cost of the water level management (more pumps need to be used for longer) but is well within the capacity of the

system. During a very heavy rainfall event all the IDB pumps would need to be operating and if the intensity was greater than that of a 1% (1 in 100) probability rain event the watercourses could be overtopped in some locations. This would cause localised flooding in some parts of the district but is unlikely to cause a complete failure of the system as intense rainfall tends to be localised.

It should be noted that risk to power supplies is an important factor in protecting our fen areas as IDB systems depend on this. To increase their resilience, some have both electric and diesel pumps, and these are serviced regularly.

## 5.7 Ordinary watercourse flooding

Ordinary watercourses include every river, stream, ditch, drain, cut, dike/dyke, sluice, sewer (other than a public sewer) and passage through which water flows and which does not form part of a Main River.

Ordinary watercourse flooding can be caused when intense or long duration rainfall drains to the channel and results in water levels overtopping of the banks of the channel on to surrounding land. Flooding from ordinary watercourses can also take place when blockages occur, from a lack of maintenance or fly tipping. If left unmaintained the ability for the watercourse to store and convey water is inhibited and can increase the risk of flooding. In addition to this flooding may be experienced when these watercourses are unable to discharge into down stream systems, this could be because of pump failures or main rivers which may already be running at a high level. This will be felt more significantly in flatter landscapes as water will have nowhere to go.

No extensive detailed modelling of the risk level from ordinary watercourses has been undertaken. At present there are no flood warning services available for ordinary watercourses.

### 2015 Case Study

Following a period of hot weather at the start of July 2015 there were localised thundery downpours in Cambridgeshire in the early hours of 17<sup>th</sup> July, as much as 70mm in 3 hours estimated in Barrington. The average rainfall for the month of July in Cambridge is 47.5mm.

Cambridgeshire Fire and Rescue Service recorded over 50 calls that night with Cambridge being the area worst affected area. Flooding was caused because of the intensity of the rainfall exceeding the capacity of sewers and watercourses in the drainage system. Flooding was experienced in homes, educational establishment, shops and most notably the Hospital.

## 5.8 Surface runoff / surface water

Flooding from surface runoff tends to be localised because the most intense rainfall within a storm is often itself localised. The existence on the ground of structures or land heights that may channel water into certain locations also adds to this. Whatever the source, surface runoff will tend to flow towards low spots where it collects. Flooding can occur both to land or property which lies in the flow path of the water or to property situated in the low spot where the water finally collects. While flooding tends to be localised the actual risk is well spread across Cambridgeshire indicating that surface water flooding can happen almost anywhere.

The term **surface water** is normally used in relation to surface runoff, particularly with regards to the naming of **surface water sewers** that take rainwater from roofs and highways.

These sewers (also sometimes called storm water sewers) do not take water to be treated, but to local watercourses. It is therefore important that contaminants that need treating are not put down drains in the highway or drains at the bottom of household or commercial downpipes.

In practise if heavy rainfall is particularly intense or occurs for long periods of time it can be difficult to differentiate it from other sources of flooding. Heavy rainfall can quite quickly cause flooding from surface water sewers, from ordinary watercourse flooding or from groundwater if the groundwater in the catchment is quick to respond. Ultimately full surface water sewers and ordinary watercourses can lead to increased levels in the Main Rivers and flooding from this source. The levels of those receiving rivers and watercourses can also cause the tributaries and sewers discharging into them to back up.

Date	Location (number of homes internally flooded)	Short Description
Dec 2020/ Jan 2021	Cambridgeshire wide (200+)	Prolonged rainfall on saturated catchment affecting multiple locations
Aug 2020	Cambridgeshire (28) including Chatteris, March, St Ives, and St Neots	Intense summer storm
Dec 2017	Elsworth, Elm, March, Soham	Widespread heavy rainfall affecting a number of locations across the county
July 2015	Barrington, Soham, Waterbeach, Longstanton, Lode, Cambridge	Localised intense rainfall overnight
Aug 2014	Cambridgeshire wide	Intense summer storm
Summer 2012	Cambridgeshire wide	Intense summer storms on an already saturated catchment
October 2001	Cambridge and wider Cam catchment	Heavy rainfall over 24 hour period
Easter 1998	Ouse and Nene catchments	Slow moving heavy rainfall followed by more localised heavy rainfall two days later
May 1978	River Nene from coast to upstream of Wisbech	Tidal surge and defence breach
March 1947	Ouse and Nene lowlands	Heavy rain and snow melt

**Table 10: A summary of events where singular events of 20 or more homes were reported to Cambridgeshire County Council with internal flooding. This list is not exhaustive.**

It is quite common for parts of Cambridgeshire to experience small scale flooding of highways, footpaths and private gardens from surface runoff, as surface water sewers (sometimes called storm water sewers) are only designed with a standard of protection of 3.3% (1 in 30), although many may provide a lower level of protection in older developments. There have been a significant number of homes flooded from surface runoff in the past so both new development and existing maintenance practises need to take this risk into consideration.

### **Different impacts for different homes**

During a flood event many homeowners will be able to move their belongings upstairs to keep it safe and dry, they may have other places they can stay and be able to make it too safety without assistance. Not all residents have the same capability or wider family support and may struggle to get themselves or their belongings to safety.

It is important that any vulnerable members of the community are made known to the necessary authorities so that they can be identified as of special need during an emergency.

Anglian Water maintain a Priority Services Register which records customers who need additional support. Available either online or by phone: 03457 919155

Historically the level of protection provided against the risk of surface water flooding has always been lower than that of other sources and the flow paths of any flood water that is unable to enter drainage systems has not been widely considered as a part of urban expansions. This coupled with a diffuse range of responsibilities, asset ownership, comparatively high costs of potential solutions and no one partner with statutory responsibility to deliver catchment wide improvements can make the delivery of schemes complex and fall short of funding rules. These considerations for new developments became more widespread in the 1990s as National Planning Policy for this risk developed.

There are a range of factors which can influence the level of risk for surface water flooding, these include but are not limited to;

- The amount of permeable surface in a catchment and the type of vegetation or tree canopy cover -
- Frozen, saturated or even hard dry ground can speed up the runoff of surface water and reduce infiltration into soils
- Rainfall depths exceeding the capacity of the local drainage network leading to overland flows
- Absence of a local drainage network, either not built or has been removed
- Receiving drainage network, such as watercourses and rivers are already full
- Raising of ground or building of bunds which displaces flood waters
- Faults, failures or blockages in the drainage network which constrain flow downstream, this could include fly tipping, a lack of maintenance or inappropriate culvert sizing
- Snow melting due to rainfall
- High ground water levels reducing the effectiveness of soakaways and seeping into drainage networks resulting in a reduced capacity
- Local geology aiding the conveyance of water which can emerge in unexpected locations

The frequency of prolonged wet winters and intense summer storms is expected to increase in future with recent events highlighting the potential risk we may face more frequently in future.

Highway gullies owned by Cambridgeshire County Council can drain to a variety of sources, highways sewers, surface water sewers owned by Anglian Water, watercourses or even soakaways. As the increased future impacts of heavier rainfall and severe weather are better understood, the use of sustainable drainage systems needs to become more common to make Cambridgeshire more resilient. As with all drainage systems the importance of maintenance in all parts of the network by all partners is critical to ensure they function effectively.

The localised nature of thunderstorms with intense downpours makes it very difficult to accurately forecast and provide warnings for surface water flooding. Rain totals experienced even in neighbouring wards can vary significantly. Since water follows flow routes based on land heights and runs towards low spots, properties in one part of a street may well be affected while those further along the street may be fine. The county council recommends that communities and businesses check their risk level online and keep abreast of weather forecasts and weather warnings issued by the Met Office to give them as much notice as possible. To find out about the surface water risk in your area see box below.

#### 5.8.1 Risk of Flooding from Surface Water map

**Flood Maps**

To view the maps described below and the risk for your area please visit:

<https://www.gov.uk/check-flood-risk>

Flood Warning Service

To sign up for flood warnings please visit:

<https://www.gov.uk/sign-up-for-flood-warnings>

This map shows the risk of surface water flooding, put simply this uses topographical data, rainfall depths and an allowance for rainfall to infiltrate to ground or into drainage systems. The map does not take thresholds heights of individual properties into account and therefore cannot be used to identify properties that will flood from surface water. It can only give an indication of the broad areas at risk and not accurately reflect all areas of risk due to the nature of the data being used. This modelling is used to inform a high level national assessment of Flood Risk Areas which should be considered for the Preliminary Flood Risk Assessment. The data and assessment process are not managed locally.

### 5.8.2 The map uses the following risk bands:

- High – each year there is a chance of flooding of greater than 3.3% (1 in 30)
- Medium – each year there is a chance of flooding of between 3.3% and 1% (1 in 30 and 1 in 100)
- Low – each year there is a chance of flooding of between 1% and 0.1% (1 in 100 and 1 in 1000)
- Very low – each year there is a chance of flooding less than 0.1% (1 in 1000)

#### Urban creep

Over time the following noticeable development-related trends have an impact on flood risk. Where site runoff has not been controlled these can cause an increase in surface water flooding:

- an increase of hard paving being laid over more permeable areas such as grass
- in-fill developments and extensions being added to existing buildings
- Significant development in a catchment also reduces the ability for ground water recharge to occur, meaning that whilst runoff rates can be controlled the overall volume of water leaving a developed area can potentially be greater than before and impact flood risk downstream
- These developments have an automatic right to connect to sewers, this right often adds pressure onto the receiving system
- In some instances across Cambridgeshire developments with incomplete drainage infrastructure has led to complex legacy flooding issues which are not easily resolved

### 5.8.3 Surface Water Management Plans

Surface Water Management Plans are a tool to understand and manage surface water flood risk on a local basis. The output of a Surface Water Management Plan is an action plan that defines measures to reduce the risk, maintenance needs and links into development framework and emergency plans.

The Cambridgeshire Surface Water Management Plan was undertaken in 2010 and revised in 2014 by the Cambridgeshire Flood Risk Management Partnership to help the partnership understand the level of flood risk in Cambridgeshire.

The initial broad-brush assessment in this plan identified numerous areas, called 'wet spots', at risk of varying levels of surface water flooding. The assessment then prioritised the 'wet spots' by considering how a community would be affected in the event of a flood. For example, the effect on housing; critical infrastructure, water recycling centres; traffic infrastructure; and



vulnerable sites such as a residential care home and schools. Following the strategic assessment, the 'Top 10' wet spots were identified based on how badly they would be affected in the event of a flood (shown in Table 11 and Figure 13).

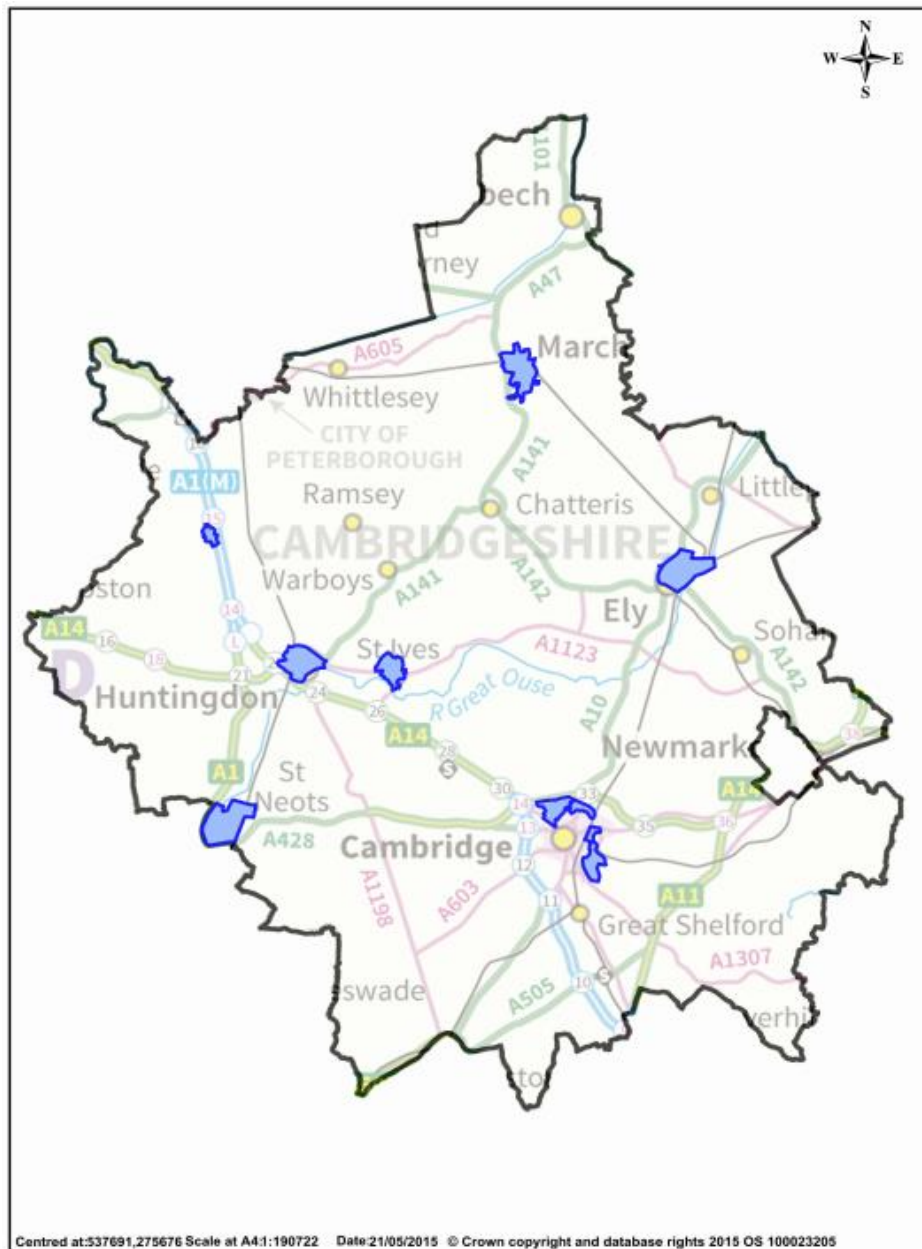
Since the development of the Cambridgeshire SWMP other localised SWMPs have been developed for a number of settlements in Cambridgeshire including;

- Cambridges and Milton
- Histon and Impington
- Ely
- Girton
- March
- St Neots

Historical flooding information was provided by stakeholders and members of the public as part of the Flooding Memories project, the Environment Agency's National Receptor Database and Flood Maps for Surface Water, Information from city and district councils, town and parish councils, Internal Drainage Boards, the council's Highways Team, Emergency Management Team and the Flood Risk and Biodiversity Team Section 19 flood investigations. The data used to inform the original assessment of wet spots is constantly changing as is the understanding of local flood risk which is informed by flooding events.

**Table 11: Cambridgeshire Wet Spots**

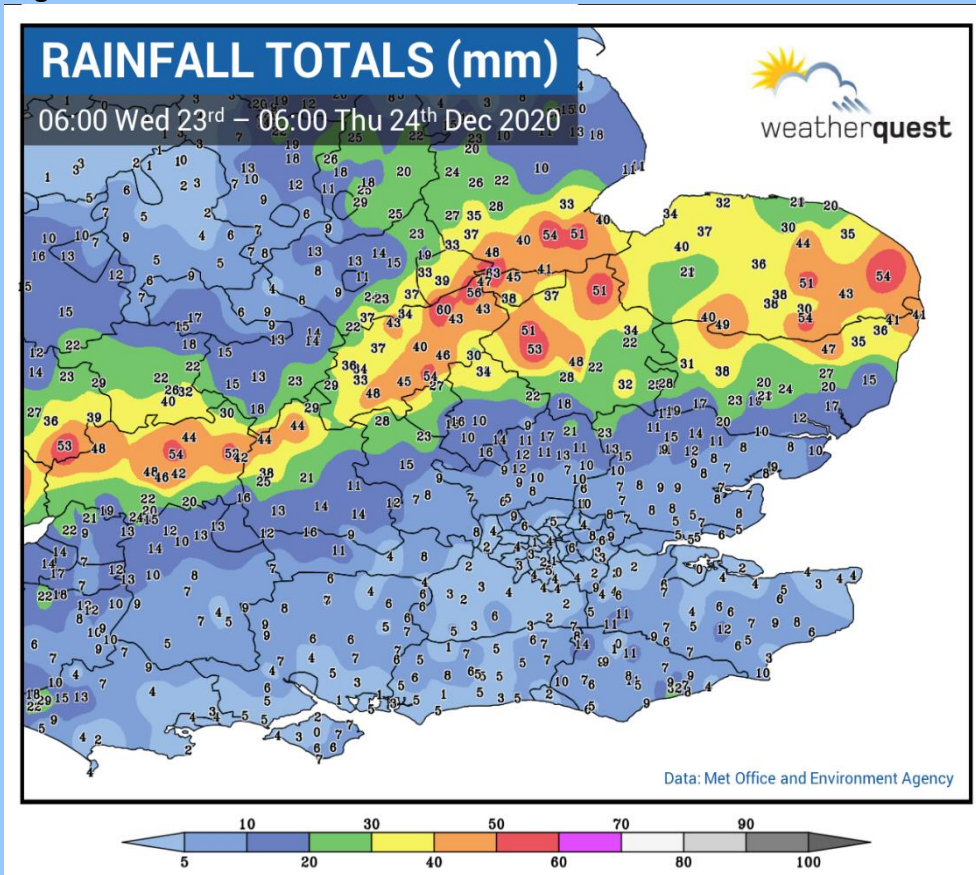
Wet Spot	Council
Cherry Hinton	Cambridge City
Kings Hedges and Arbury	Cambridge City
March	Fenland
St Ives	Huntingdonshire
North Chesterton	Cambridge City
St Neots	Huntingdonshire
Sawtry	Huntingdonshire
Coldhams Common	Cambridge City
Huntingdon	Huntingdonshire
Ely	East Cambridgeshire



**Figure 15: Map showing the top 10 wet spots in Cambridgeshire**

### December 2020 case study

Throughout the autumn of 2020 rainfall was well above the long term average, with the second wettest December recorded since 1981 creating a catchment of saturated soils with limited capacity to absorb further rain. Then, over the 23<sup>rd</sup> and 24<sup>th</sup> December 55mm of rainfall fell in a 24 hour period leading to over half the river gauges in the Great Ouse catchment to record their highest ever levels.



**Figure 16 Rainfall recorded preceding flood events. Credit: Weather Quest**

A major incident was declared on 23<sup>rd</sup> December but all partners, including the emergency services became overwhelmed. Over 700 reports of flooding were received with at least 200 incidences of internal flooding, it is believed the true extent of flooding was unreported.

Flooding from ground water, sewers, surface runoff, watercourses and rivers were all experienced in different locations with causes ranging from ground water ingress into sewer networks, rivers out of bank and downstream systems being full or blocked and preventing drainage networks from discharging.

The county council are publishing a series of reports to detail investigations and any immediate or potential future works within these catchments. The outcomes of these reports will be monitored actions within this strategy.

## 5.9 Groundwater flooding

Groundwater flooding tends to occur after long periods of sustained rainfall where infiltration into the ground raises the level of the water table and/or cause springs to have greater flow. Low-lying areas, where the water table is more likely to be at shallow depth, can be most at risk. Groundwater flooding is particularly associated with sands, gravels, limestone and chalk because groundwater levels tend to fluctuate more, but it can occur from any water bearing ground.

Flooding from groundwater can also result from rivers being in flood over land that is very permeable as groundwater levels have a natural tendency to balance out other water levels across the area. Many of the County's floodplains contain permeable alluvial deposits of sand and gravels and hence this can be a risk. In some locations these permeable deposits lay on top of a less permeable underlying rock, this creates the conditions for perched aquifers and can often be realised as higher ground becomes saturated or springs activate.

Groundwater flooding relates to the movement of water through the soils and bedrock and is different to land being waterlogged. Clay, for example, can become easily waterlogged after long periods of rain. The water is held in the soil which becomes boggy and new rainfall is unable to drain away and instead becomes surface water runoff. Large areas of Cambridgeshire have clay-based soil. However, in chalk, sands and gravels water moves through the soils due to the gaps between soil particles. This means that water can flow under the surface of the ground and hence springs and/or flooding can occur in areas not directly next to a river, or some distance from where the heaviest rainfall has fallen.

British Geological Survey (BGS) mapping identifies approximately 26% of Cambridgeshire as being at a very high or high risk of groundwater flooding based on their areas Susceptible to Groundwater Flooding dataset. However, the BGS note that the susceptibility data is suitable to establish relative, but not absolute, risk of groundwater flooding at a resolution of greater than a few hundred metres. In all cases it is strongly recommended that the data is used in conjunction with other groundwater flooding data.

On occasion previous changes to the landscapes or the installation of underground infrastructure can act to block or convey ground water flow. These flood mechanisms are hidden from view, difficult to predict and often exacerbate existing risks in sewers.

In future, wetter winters, like those experienced in December 2020, may become more common, resulting in increased groundwater flow to feed rivers, and also ensure that groundwater levels are kept high, this has the potential to impact on the performance of sewers and soakaways.

## 5.10 Sewer Flooding

Cambridgeshire has three different types of sewers: surface water sewers, foul sewers and combined sewers. Surface water runoff caused by surface water sewers reaching their capacity is covered under surface water risk. This section discusses the risk from foul sewers which carry foul water from homes and businesses (e.g. from washing machines and toilets) and the risk from combined sewers which carry both foul water and rainwater.

### 5.10.1 Combined sewer flooding

Combined sewers are generally associated with having the greatest risk of flooding within the wastewater network; during intense rainfall events large quantities of rainwater can take up the capacity in the sewers. This can cause foul water to back up from manholes or inside homes e.g. from toilets. The older parts of many established settlements in Cambridgeshire contain combined sewers and this risk should be borne in mind when opportunities arise to make these areas more resilient for the future. The interconnectivity of many of these drainage systems make the separation or future isolation of foul water flows from rainfall an incredibly complex and costly process. Many foul sewers are unknowingly behaving as combined sewers as incremental minor developments connect their downpipes to the foul where there is no alternative drainage strategy.

#### Right to Connect

Under Section 106 of the Water Industry Act there is an absolute right for landowners or developers to connect to a public sewer and contribute additional flows to those assets. The water companies are unable to refuse this connection which can add additional pressure on the existing infrastructure and potentially increase the risk of flooding, especially in periods of intense rainfall.

The right to connect was intended to be removed by Schedule 3 of the Flood and Water Management Act 2010 but this is yet to be enacted. More recently the EFRA Select Committee highlighted the need for this in their Flooding Report of February 2021.

The County Council and its partners will continue to work together with developers to ensure development delivered in the county is sustainable and not increasing flood risk elsewhere.

### 5.10.2 Foul sewer flooding

There are not many locations in Cambridgeshire which are classified as being at risk from foul flooding due to a lack of capacity in the network. This is because resolving foul flooding is a key priority for water and sewerage companies. Anglian Water is obliged to report to Ofwat where there are properties at risk of internal flooding due to hydraulic incapacity in the system. This is known as the DG5 register. The location of properties in Cambridgeshire on the DG5 register is not discussed within the LFRMS due to very localised nature of this flooding; the implications

for the property itself and because the register changes regularly as issues are resolved or in some cases as new problem areas are discovered.

Cambridgeshire has also experienced foul flooding due to operational issues. Since these events can happen anywhere no specific levels of risk are formally associated with different parts of Cambridgeshire. There are two main operational issues that the area suffers from:

Blockages or power outages in the network which prevent pumping stations from working and hence can create significant risk to properties on the same network as the blockage. Blockages are often caused by wet wipes, nappies, fats, oils and greases which are put down the drains at home and at work. The sewer system is not designed to be able to cope with these materials which act to clog up the pipes and removal is generally expensive.

Surface water and ground water infiltrating into the foul system (for which it is not designed) and caused capacity issues and surcharging. Most foul systems are not vacuum sealed, and water can get into them through structures like manholes. However, it is when very large volumes appear in the network that this causes flood risk and investigation is needed into how the water is getting there.

#### **Foul network Facts**

Foul water sewers carry used water from sinks, baths, showers, toilets, dishwashers and washing machines.

These sewers take water to be treated at sewage treatment works. Discharge containing chemicals should go into the foul network and not into surface water sewers. Detergents from car washes or oil leaks from cars are two examples of contaminants that often end up going into road gullies, in turn, surface water sewers (and therefore untreated into rivers) when they would ideally go into the foul network.

The 'waste' from sewage treatment works is very often recycled into products for use in industrial and agricultural processes. For this reason, sewage treatment works are now referred to as water recycling plants.



## 5.11 Flooding related to operational issues

Although flooding is usually caused by heavy or long duration rainfall, it can be easily made much worse by the presence of operational issues. The following are counted as operational issues:

- Flytipping – large waste items e.g. tyres, sofas etc.
- Littering – smaller items.
- Plant and tree roots growing into piped systems and reducing the capacity.
- Damaged pipes from wear and tear, vandalism, or movement of the ground.
- Collapse of banks of a watercourse e.g. gradually over time (lack of maintenance) or suddenly due to ground instability or movement.

Since it can never be known exactly when such issues may occur, flooding from a watercourse could be caused after less rainfall than would be expected for a more natural flood event. The LFRMS cannot provide details of the risk of operational issues occurring, but it does give details of the approach which is taken to minimise this type of event in Cambridgeshire e.g. regular maintenance.

Effective operations and maintenance of drainage and flood risk assets by all is a key function of providing communities with resilience to flood risk.

## 5.12 Summary

Cambridgeshire is at risk from many different types of flooding: main river, the larger combined tidal and river events and flooding from surface water or combined sewers. However, groundwater and sewer flooding can still have devastating effects within localised areas. Further efforts to promote an understanding of surface water flood risk are included with the action plan along with plans to better understand and trial projects with ground water interaction such as with Chalk Streams.

The most recent flooding highlights again how events are rarely related to a single risk or cause, they are often complex with a wide range of assets in diffuse ownership, interacting together to cause flooding due to low spots, pinch points or weaknesses in the catchment, often requiring a range of interventions to increase resilience rather than a single solution. It should be noted that flooding does not always occur at the point of failure but is often felt elsewhere in the catchment, hence the need for a catchment approach in managing risk. The ability to deliver this range of interventions is discussed in the Section 7 with potential funding mechanisms described in the next section.

Flooding from operational issues in any part of Cambridgeshire's watercourse or sewer network is almost impossible to fully model and map but remains a significant risk and is identified as an area of work for Cambridgeshire's risk management authorities. Maintenance

of the existing infrastructure is critical to flood resilience, however, future deterioration of these assets and increased flows experienced through a changing climate will mean investment is still required across Cambridgeshire's catchments to be able to maintain our current level of resilience, in many instances these projects struggle to score highly against current funding mechanisms.

New development of any size can contribute to changing levels of resilience, from the cumulative impact of property extensions and driveways being hard paved to large scale development. New development can have a positive as well as a negative influence if properly considered, although many of the factors controlling the impact of development, such as the right to connect to sewers, are outside the control of local Risk Management Authorities.

Large scale failure of the drainage board systems is of considerably lower probability and would have to coincide with significant flooding elsewhere in Cambridgeshire and the region. Whilst Cambridgeshire's fenland areas are carefully managed, there is a growing recognition of the increasing pressure from rising sea levels and the resultant impact on the ability for main rivers to discharge to the sea, this pressure partnered with others is driving the future fens projects.

The likelihood of flooding from reservoirs is so low that even with widespread consequences the overall risk remains small.



## 6 Partnership Funding

### 6.1 Introduction

It is important that the local strategy sets out how the proposed actions and measures identified in this strategy will be funded and resourced in Cambridgeshire. Cambridgeshire County Council, along with other key stakeholders in the county has a limited budget to deliver flood risk measures. So it is important to identify how and from where resources will be available to fund flood risk management activities.

This section provides background on the different types of funding which may contribute towards a flood management action or a water environment action proposed in Cambridgeshire. National funding is explained in the most detail as this system often attracts questions.

Expenditure for all flood risk and water management schemes is split down into capital works (that create, purchase, significantly improve or replace assets) and revenue works (operational maintenance). Maintenance is often funded by the owner of, or the organisation responsible for, a certain type of watercourse or asset. Capital funding tends to require more levels of approval and often comes from external sources.

Whilst this section focuses on financial contributions, there are other contributions partners can provide for in a project of multiple partners such as expertise, tools, land or asset adoption, these are valued as a part of the projects. It should also be noted that many of these funding mechanisms do not provide for staff time to manage projects which is a considerably constraint in delivery of those schemes.

### 6.2 National funding

There are two primary national funding mechanisms for the water environment, Flood Defence Grant in Aid and the Water Environment Investment Fund, these are described below along with a short summary of other national funding mechanisms.

#### 6.2.1 Flood Defence Grant in Aid

The way that flood risk management projects are managed and funded changed in 2012 with further amendments to the calculation process coming periodically, most recently in 2020. Since April 2012 the new government policy Flood and Coastal Resilience Partnership Funding has controlled how money is allocated to capital projects. The amount of national funding, known as Grant in Aid (GiA) available to any capital project will directly relate to the outcomes the project delivers. GiA for flood risk management projects is called Flood Defence Grant in

Aid (FDGiA). The outcomes measures (OM) for capital flood risk management schemes have been set by Defra and are as below:

- OM1a – Economic benefits
- OM1b – People related FCERM benefits
- OM2a – Households at risk today being better protected against flood risk
- OM2b – Households at risk by 2040 being better protected against flood risk
- OM3 – Households at risk from coastal erosion
- OM4 – Environmental Improvements

Each outcomes measure has a payment rate associated with it. These payment rates change depending on factors such as the deprivation categories which are set out in the English Indices of Deprivation (2019). However even in this instance there will likely be need for additional non-Government funding to enable any scheme to be delivered.

Defra have produced a spreadsheet calculator which allows flood risk management authorities to calculate what percentage of costs might be covered by central government through GiA funding and what other contributions they will need to raise locally. It is intended that beneficiaries to the scheme will contribute in some way, whether they be LLFAs, IDBs, parish councils, communities, or private companies. As well as direct financial contributions, agreements to carry out maintenance or other in-kind contributions that a cost could be put against may also be considered. Any contribution put towards the scheme improves the overall Partnership Funding score of the scheme. Every scheme must score a minimum of 100% to be eligible for GiA.

Schemes requesting FDGiA need to be submitted to the Environment Agency's / RFCC's six year programme. The six year programme of works sets out what the RFCC would like to deliver subject to funding, further development of business cases and final scheme approvals. This is similar to the idea of the Cambridgeshire LFRMS action plan, but for the Anglian region. Projects to be delivered in Cambridgeshire that require FDGiA need to be in both the LFRMS and the six year programme. Risk Management Authorities would need to approach the RFCC that covers the area of any project, for Cambridgeshire County Council this could either be the Anglian Northern RFCC which covers the Nene catchment or the Anglian Great Ouse RFCC which covers the Upper and Bedford Ouse, Old Bedford and Cam and Ely Ouse.

There is a limited pot of central government funding so FDGiA payments to approved projects will be subject to availability of funds. Each year competing projects will be prioritised by RFCCs to ensure projects provide good value for money and to achieve national and regional targets.

It is expected that through the need to work in partnership all schemes proposed will consider management of flood risk in an area from all sources, proposing joint solutions that reduce the overall flood risk to a community or area. Those schemes which are not designed to address all risks will attract less GiA and require greater local contributions.

The inclusion of amenity benefits for local communities is one way of attracting wider support for schemes from local communities and helps to draw in local contributions.

All schemes are also encouraged financially to include the delivery of multiple benefits related to other themes of water management other than flood risk.

All schemes seeking GiA funding within the Fens will need to adhere to the Tactical Plan which looks to provide efficiencies in the distribution of funding in preparation of the long-term options for the Future Fens Flood Risk Management.

### 6.2.2 Water Environment Investment Fund

For schemes where the main driver is environmental improvement, the source of Government funding is instead Water Environment Investment Fund (WEIF). These schemes may include work to improve habitats, increase biodiversity, remove obstacles to fish and eel migration, and improve water quality. Ultimately the schemes should bring about an improvement to, or help to prevent, a deterioration in the status of a watercourse under the Water Framework Directive.

The investment plan in which all such schemes need to be entered is called the Water Environment Investment Fund Programme. This is the equivalent of the flood risk management six-year programme. The process for submitting projects is largely like that for flood risk management and schemes will need to demonstrate how they meet the programmes outcome measures to attract funding.

If schemes deliver significant benefits to flood risk and to the water environment, they can be entered into the six-year programme and the WEIF and apply to use both funding streams

### 6.2.3 Other national funding opportunities

Funding opportunities arise periodically through government, these tend to be focused on specific elements of the water environment or flood risk in response to policy or strategy such as the Surface Water Management Action Plan. To make the most of these opportunities the county council and its partners need to be prepared to respond, this can be best achieved by increasing awareness of risk and sharing ambitions to improve our readiness and the prospect of securing new funding. Examples of previous opportunities include;

- Partnership Approach to Catchment Management (PACM) – A pilot with the objective to create a catchment approach in the management of systems, aligning objectives of each partner to develop a sustainable long-term vision for the catchment with supporting maintenance. One such pilot took place on Morton's Leam which runs along the southern boundary of Whittlesey Washes.
- Boosting Action on Surface Water – A fund to help deliver against actions on the government's surface water management action plan. In Cambridgeshire a

successful bid helped to target limited local improvements to the surface water flood risk mapping.

- Natural Flood Management Pilots – In 2017 the government announced £15m towards pilot schemes using natural techniques to manage flood waters, one such pilot is being developed upstream of Alconbury.
- Property Flood Resilience Initiatives – In 2019 funding was available to three programmes of work to improve research and try to improve uptake in property level flood resilience. Cambridgeshire are a member of the Oxford-Cambridge Pathfinder led by Northamptonshire County Council.
- Resilience Innovation Programme – The government set aside £150m for 25 projects across the country to demonstrate innovation in building resilience against flooding. Locally this bid was unsuccessful but has been used to inform future workstreams such as the community flood action programme
- Property level resilience grants – these are grants available to households to make their homes more resilient to future flood events, unfortunately at the time of writing the funds are constrained to certain storm events and communities who can identify against certain criteria meaning it is not available to all. Some property level interventions have previously been installed in Cambridgeshire and the county council will continue to work with partners to understand how we may support residents in protecting their homes.

## 6.3 Public contributions

### 6.3.1 Environment Agency funding

The majority of the Environment Agency's funding for flood and coastal risk management comes directly from the Department for the Environment, Food and Rural Affairs (Defra). This is the same for water environment works to meet the Water Framework Directive. For new capital schemes, the Environment Agency need to put their projects on the six year programme and IEP and submit project bids to Defra for GiA in the same way that LLFAs and IDBs can. Therefore, there is no additional source of Environment Agency funding that could be added to a bid, e.g. as a local contribution, in order to raise the partnership funding score.

### 6.3.2 Regional Flood and Coastal Committee

Section 4 explains the role of the Regional Flood and Coastal Committees. Part of this role is to oversee the six year programme

of flood risk management schemes in the region. Within each region of the Regional Flood and Coastal Committees the gross expenditure of the Environment Agency includes money collected from Local Levy, General Drainage Charges and IDB Precepts - Regional Flood and Coastal Committees raise local levies under existing arrangements to fund local flood risk management priorities. The members of Regional Flood and Coastal Committees have a role

to approve the spending for managing flood and coastal erosion risk within their committee boundaries. This spending is set out in the revenue programme (promoted by the Environment Agency), and the capital programme (promoted by all Risk Management Authorities). The committees have a role to consent both programmes. The funding sources for these programmes include: Central Government funding which is called Flood and Coastal Risk Management Grant in Aid; local levies which are raised from Lead Local Flood Authorities; precepts which are collected from Internal Drainage Boards; and general drainage charges which are raised from landowners. These are the key streams of funding for which the committees take an oversight.

The RFCC collects and allocates IDB Precepts, General Drainage Charge and Local Levy funding which can be used as match funding for capital schemes requiring FDGiA or to support delivery of the revenue maintenance programme. For very small schemes that are deemed locally significant, it is sometimes possible for these to be funded directly from these sources. Therefore any schemes hoping for regional contributions need to be submitted to the six year programme - Cambridgeshire falls within two Regional Flood and Coastal Committee catchments - 'Anglian Central', which is in the Environment Agency's Cambridgeshire and Bedfordshire area, and 'Anglian Northern' which is in the Lincolnshire and Northamptonshire area. The committees take a direct interest in how local levy funding is allocated, as this funding is raised through the Lead Local Flood Authorities represented on the committees by elected members. Decisions on how and where local levy funds are spent are made by the members of each committee for the area rather than on a county or unitary boundary basis. Therefore, funds may be allocated to schemes inside or outside of Cambridgeshire's County boundary. Examples of schemes within Cambridgeshire which have received Local Levy funding include: Cherry Hinton surface water management scheme; Kings Hedges surface water management scheme; and the Godmanchester flood alleviation scheme.

Under the FWMA 2010 and the Environment Agency (Levies) (England and Wales) Regulations 2011, local levy is collected annually from all Lead Local Floods Authorities in the area of the RFCC. The levy is agreed annually in January and are often based on an average increase of between 0% and 5%. The total levy payment is shared between all contributing bodies in the committee area on the basis of the number of Council Tax Band D equivalents that each has.

### 6.3.3 General drainage charges

General Drainage Charges are charged directly to agricultural landowners who are not in an IDB area. The charge is deemed to be a contribution towards the management of water and flood risk for those landowners. It is calculated on a rate per hectare basis using the Council Tax Base of Band D equivalent properties.

### 6.3.4 IDB precepts

Precepts are paid by IDBs to the Environment Agency for works done by the Environment Agency on channels or defences that affect or are in an IDBs area. The works are normally

maintenance based. The formula for calculating the precept is complex but is approximately based on the number of hectares of land protected.

### 6.3.5 Lead Local Flood Authority funding

Money spent by the county council on flood and water related actions comes from un-ringfenced Government flood risk grants, from allocating a share of the corporate budget to this area. LLFA expenditure goes on:

- relevant staff salaries and on-costs for delivery of statutory services;
- delivery of required flood risk reports or policies
- training and software; and
- flood awareness community events
- preparation for and contributions to flood and water management projects

The budget described excludes the drainage and flood risk sums collected through Council Tax each year which are then:

- paid as a Local Levy contribution to the Environment Agency for management by the RFCC; or
- transferred to the IDBs as a Special Levy.

The Lead Local Flood Authority do not hold the statutory responsibilities or budgets for delivering capital schemes to improve resilience to flooding or maintenance work. Despite this the county council will work towards their ambitions to improve flood resilience for local communities.

### 6.3.6 District and City Councils in Cambridgeshire

The city and district councils are responsible for managing several hundred kilometres of watercourses in the county. Some such as South Cambridgeshire District Council, Fenland District Council, Cambridge City Council and East Cambridgeshire District Council hold a modest budget to enable them to undertake essential maintenance work.

### 6.3.7 Community Infrastructure Levy (CIL)

There is now an increased emphasis on CIL as a funding mechanism for flood risk management schemes. It is absolutely necessary that the flood risk impacts of all new developments are assessed and planned for within the communities. There needs to be an integrated approach between various organisations within the local communities to ensure that new developments take existing risks into consideration. Local planning authorities will have to undertake infrastructure assessments, which should include a review of the flood risk assessments. The

setting and approval of pricing schedules for Community Infrastructure Levy should also be decided by the appropriate local planning authorities.

The ultimate use of Community Infrastructure Levy will be determined by the appropriate approval body within each local authority. Due to a lack of development viability CIL had not been introduced in Fenland at the time of writing the LFRMS.

#### 6.3.8 Town and Parish Councils

Under a new Government order town and parish councils have been given the General Power of Competence (under the Localism Act) and can now spend money on flood alleviation schemes in excess of limits that were set at £7.36/head in 2015/16 under the Section 137. This means that parish councils have a part to play in partnership funding contributions for flood alleviation schemes in the future. Parish Councils are also able to apply for Public Works loans, at preferential rates, to enable them to contribute to more comprehensive flood risk management schemes.

#### 6.3.9 Section 106 funding – developer contributions

Under Section 106 of the Town and Country Planning Act 1990 local planning authorities can enter into an agreement with a developer or landowner as part of the planning application process to gain funds to support the provision of services or infrastructure. This would include funding to reduce flood risk which is caused by or increased by a new development. With the introduction of the CIL Regulations on the 6 April 2010, Section 106 Planning Obligations are predominantly directed towards on-site mitigation, including site-specific flood mitigation measures.

#### 6.3.10 National Highways - Environmental Designated Funds

National Highways have allocated £936m across four funding streams running alongside their investment period between 2020-2025. This funding is open to both public and private bodies. One of the four funding streams is Environmental and Wellbeing and this includes nine themes against which applications can be made, those applications need to highlight a clear link with the Strategic Road Network operated by National Highways.

#### 6.3.11 Public Works Loan

Government offers low-cost loans for housing infrastructure and public services through the Public Works Loan Board. A new framework is being developed and is expected to accompany a reduction in the interest rates associated with these loans.

## 6.4 Internal Drainage Board funding

As discussed in section 4.6.6 drainage boards are funded by rates paid by the landowners in their area. This can be broken down into Drainage Rates and Special Levies. Drainage rates are paid by agricultural landowners direct to the IDB based on the area of their property. Where land in the IDB's district is not in agricultural use, the owner instead pays their levy as part of their Council Tax. The relevant amount is then separated out from the Council Tax and paid to each IDB. This is known as a Special Levy.

## 6.5 Use of public sector co-operation agreements

The use of public sector co-operation agreements can enable organisations such as councils, the IDBs and the Environment Agency to work in partnership to deliver services in a very efficient and more cost effective way. The agreements can be used for example, to cover maintenance and emergency response work, where the following criteria is met by the agreement:

- it must be a genuine co-operation between the participating contracting authorities, aimed at jointly carrying out their public service tasks (different in character to a contract for services);
- involves co-operation only between public entities;
- is non-commercial in character (no profit is generated and only reimbursement of actual costs), and
- is governed solely by considerations and requirements in the public interest and is of little interest to a private sector supplier.

The Environment Agency have historically had such agreements in place with some IDBs in Cambridgeshire, and it is hoped that in future the county council may also have agreements in place with some of its flood risk partners.

## 6.6 Private contributions (community and commercial)

Partnership funding guidance intends that those benefitting from the proposed flood management scheme contribute towards its costs. This could be local residents, a parish council or a local business, for example. Securing contributions from private sources is not easy, especially as it is a relatively new system, and therefore Cambridgeshire County Council will endeavour to engage with all beneficiaries as early as possible in the process of developing new schemes. If there is an expectation that others will contribute, then it is important that they are involved in designing the scheme.

### 6.6.1 Anglian Water



Contributions from water companies count as private contributions. To secure funding from Anglian Water, projects need to be part of the company's five yearly Asset Management Plan (AMP) which is agreed by Ofwat, the water company regulator. The current AMP period is called AMP 7 and covers 2020 to 2025. Prices are set by Ofwat at the beginning of each AMP period as a part of a Price Review, following submissions from the water company about what it will cost to deliver their business plan.

#### 6.6.2 Cambridge Water

Cambridge Water operate a fund for biodiversity, habitat and community improvements called PEBBLE, which can provide contributions of up to £10,000 to projects.

##### Case study of River Mel Improvements

A partnership project involving local community members, River Mel conservation group and Wild Trout Trust, partly funded by Cambridge Water's PEBBLE fund.

The River Mel is a Chalk Stream in South Cambridgeshire



**Figure 17: Measures installed on the River Mel Credit: Wild Trout Trust**

The project started by providing daylight to the channel, by removing vegetation which would allow new margin plants to become established. Later the sinuosity was increased by using faggot bundles which were installed with volunteers. This change to the flow regime helps the river to naturally manage fine sediment and encourages fish to travel upstream.

## 7 Management and Action Plan

### 7.1 Introduction

This section provides the context to the different management activities and actions of Cambridgeshire's flood and water management organisations. The section is intended to be read alongside the proposed action plan in Appendix 6.

Since the introduction of the FWMA 2010 the organisations managing flood risk in Cambridgeshire have come a long way in terms of working together to understand and manage risk. The Cambridgeshire and Peterborough Flood and Water Management Partnership, as described in section 4, has been established and many actions have been delivered in partnership. There has been a significant increase in the consideration of surface runoff and groundwater flooding.

A major role of the LFRMS is to set out measures or actions for the future that are proposed to meet the objectives set out below. These measures can be found in the action plan. The tasks and projects are split in two;

**Management Activities:** these are statutory functions or those highlighted as National Once Measures, they are described to help the reader understand work that is delivered to achieve each of those activities on a day to day basis. These are included in this section divided up according to the objective they work towards.

**Actions;** these have been identified based on input from a wide range of stakeholders and an understanding of the need and are typically not classified as National Once Measures. These are listed in Appendix 6.

For the proposed measures to become deliverable actions, each item on the action plan will need to be worked up in more detail and tested for deliverability and viability through a business case process. The key dependencies and risks affecting the actions are discussed in the box overleaf.

#### 7.1.1 National Once Measures

The Environment Agency have created a set of Measures (called National Once Measures) which look to capture core risk management functions and avoid repetition of measures within the Flood Risk Management Plans and Local Flood Risk Management Strategies of actions which may be considered business as usual. It should be noted that some of the National Once Measures that have been identified are not statutory or business as usual functions for a Lead Local Flood Authority, for the purposes of this strategy those measures are noted against the actions but if the county deem these to be actions beyond business as usual then those items are listed as Actions and not as Management Activities. A copy of these measures is included in Appendix 4.

The action plan includes the following information about individual projects: Title, Reference, District, Description of the action, Lead partner, Other partners, Time scale, Cost, Progress, Driver.

The meeting of LFRMS objectives allows the achievement of the objectives in the National Flood and Coastal Risk Erosion Management Strategy, illustrated in table 12. Below is a reminder of the LFRMS objectives:

1. Understanding flood risk in Cambridgeshire
2. Managing the Likelihood of flooding
3. Helping Cambridgeshire's citizens to manage their own risk
4. Ensuring appropriate development in Cambridgeshire
5. Improving flood prediction, warning and post flood recovery

When flood management schemes are being proposed by the county council, consideration will be given to a number of factors including but not limited to;

- Delivery constraints such as funding and resource
- The potential for multiple benefits of a scheme including increased access to open space for residents, potential for wider environmental improvements or delivering against partners ambitions such as doubling nature
- Climate change assessment and carbon foot printing of projects delivered by the county council
- Environmental impacts for schemes should be considered and where possible habitat and biodiversity improvements made
- The health, level of vulnerability and any protected characteristics of those affected by the flooding or the scheme proposals
- Taking a catchment based approach to consider a range of interventions

Guidance on the delivery of partnership projects and resources to help assess wider benefits can be found on the Catchment Based Approach website.

### 7.1.2 Consistency of Cambridgeshire's objectives

The objectives of Cambridgeshire's LFRMS are set out in the table below. The objectives were developed at a local level in partnership with Cambridgeshire's Risk Management Authorities as a part of the original LFRMS. These objectives are still appropriate and shape the content and intentions of the LFRMS.

The LFRMS is required to be consistent with the National Strategy. The alignment between the LFRMS objectives and the National Strategy objectives is therefore shown in the table. A list of the national objectives is listed in Appendix 3.

**Table 12: Objectives and their consistency with the National Strategy**

Cambridgeshire LFRMS Objectives	Consistent with national objectives
1. Understanding flood risk in Cambridgeshire	A, 1.1, 1.2, 3.1 and 3.4
2. Managing the Likelihood of flooding	B, 1.1, 1.2, 1.4, 1.5, 2.3, 2.4, 2.5 and 2.6
3. Helping Cambridgeshire's citizens to manage their own risk	1.1, 1.2, 1.5, 2.4, 2.5, 3.1, 3.2 and 3.3
4. Ensuring appropriate development in Cambridgeshire	1.1, 1.2, 2.1, 2.3, 2.2 and 2.8
5. Improving flood prediction, warning and post flood recovery	1.1, 1.2, 3.2 and 3.3

The Actions and Management Activities are related back to the LFRMS objectives to show how these will be met. It should be noted that in addition to the guiding National Objectives there are also measures from the Anglian Flood Risk Management Plan and local priorities that inform the selection of Actions in the Strategy.

The Action Plan for this strategy will not look to duplicate the contents of the Regional Flood and Coastal Committee 6 year programme, details of which can be sought directly from the committee.

### **Dependencies and risks**

All the schemes proposed in the strategy will require individual business cases to be developed by the lead partner. They will not be able to progress beyond the proposal stage unless approval is obtained. The benefits and impacts of the actions will be assessed and include climate change, environmental and equality impacts. The following dependencies and risk affect the actions listed in the action plan:

#### **Funding**

Appropriate funding needs to be secured from a range of different sources to meet the requirements of that funding. This may result in some schemes being delayed until these requirements are met.

#### **Timescale and priority changes**

Priorities may need to change, for example, as a result of updated information about the flood risk in an area (i.e. from investigations), the specific risks associated with delivering the project, and /or the availability of resources to deliver the schemes.

#### **Land ownership and maintenance agreements**

If third party land is required for a scheme, the landowner's approval will need to be sought. It is also essential that an agreement is put in place about the long-term maintenance of any structure or feature being constructed.

#### **Flood defence or ordinary watercourse land drainage consent**

Changes to watercourses require consent under the Land Drainage Act 1991. Consent requires the project to demonstrate that there will be no negative impacts on flood risk elsewhere, on the watercourse or on elements of the habitat and water quality that are governed by the Water Framework Directive.

#### **Planning related consents and assessments**

Some projects may require planning permission, environmental impact assessment, scheduled monument or listed building consents or be affected by other constraints such as Tree Preservation Orders.

#### **Traffic regulation orders**

Works taking place near roads or on highway drainage may require a traffic regulation order to be put in place.

## 7.2 Objective 1 - Understanding flood risk in Cambridgeshire

**Table 13: Management activities for objective 1**

1.1M Flood Risk Management Plan Update
1.2M Preliminary Flood Risk Assessment Update
1.3M Flood investigations and Section 19 reports
1.4M Local Flood Risk Management Strategy updates

### 1.1M Flood Risk Management Plan Update

<b>Lead RMA</b>	Environment Agency
<b>Other partners</b>	All risk management authorities
<b>Timescale</b>	2027

As described in section 2.3.2 the Environment Agency have a duty to prepare and periodically update Regional Flood Risk Management Plans. All partners will work with the Environment Agency to update this Plan as a part of their respective duties. The update of this plan includes a number of measures specific to the Cambridgeshire area which will be reflected in the Action Plan. Cambridgeshire County Council, as a Lead Local Flood Authority have a legal responsibility to contribute to the production of this plan.

### 1.2M Preliminary Flood Risk Assessment Update

<b>Lead RMA</b>	Cambridgeshire County Council
<b>Other partners</b>	Environment Agency
<b>Timescale</b>	2023

As described in section 2.3.8 the county council have a duty to prepare and periodically update the Cambridgeshire Preliminary Flood Risk Assessment (PFRA). This is informed by national surface water mapping which highlights nationally significant Flood Risk Areas (FRAs) relating to local flood risk. Local experience can form part of this process, but detailed modelling and understanding would be required to change any of the FRAs put forward by the national screening of surface water flood risk mapping. Any updates to Flood Risk Areas which the PFRA has to put forward will be reflected in the Anglian Flood Risk Management Plan, measures to investigate or manage those areas are then created in partnership with the Environment Agency and will act to inform actions in future iterations of this strategy.



### 1.3M Flood incident investigations and Section 19 reports

<b>Lead RMA</b>	Cambridgeshire County Council
<b>Other partners</b>	All partner Risk Management Authorities
<b>Timescale</b>	Continual

Section 19 of the FWMA 2010 sets out that LLFAs have a duty to investigate flooding incidents within their area, to the extent that the LLFA considers necessary or appropriate.

The aims of flood investigations are to provide an understanding of the possible causes of flooding and potential cost effective long-term solutions. The council will carry out investigations to provide a clear and thorough understanding of flooding situations and circumstances. However, the process of undergoing an investigation, does not guarantee that problems will be resolved and the LLFA are unable to enforce the investigations conclusions into action. Decisions about the next steps must be made in partnership by the parties involved.



**Figure 18: Examples of flow restrictions found through Section 19 investigations (2021)**

Where there is more significant or widespread flooding a Section 19 report may be produced for any investigations as required and will identify the authorities that have an involvement in a particular flood incident and clearly outline their responsibilities or actions as necessary. Section 19 reports will involve consultation with the relevant risk management authorities, landowners and private organisations involved, all of whom are expected to cooperate and provide comments.

The decision on whether to investigate a flood or not and in turn whether a Section 19 report is required, relies on there being sufficient confusion or ambiguity over the cause of flooding or who is responsible. The LLFA have the overriding decision on whether an investigation or Section 19 report is required to take place. Cambridgeshire County Council has defined the following eligibility criteria for Section 19 reports:

#### **Thresholds**

Where there is internal flooding\* of one property on more than one occasion in the last five years;

Where there is internal flooding of five or more properties in close proximity\*\* in a single flooding event;

Where flooding on public roads significantly disrupts the flow of traffic.

\*Definition of internal flooding: only properties where internal flooding is above threshold level. This does not include the flooding of gardens and garages. \*\*Definition of close proximity: where it is reasonable to assume that the affected properties were flooded from the same source or interaction of sources

After a flooding incident, the Investigating Officer will follow the eligibility criteria for flood investigations to determine whether an investigation should be carried out. Whilst the council understand that any flooding is significant for those experiencing it, there may be times where a number of incidents meet the eligibility criteria and officers are required to prioritise flood investigations.

Prioritisation will take into consideration factors such as the extent, depth and duration of flooding, history of flooding at that location, the number of properties affected and the impact on infrastructure including roads, utilities or service providers such as emergency services.

Where a Section 19 has been completed, a report will be published in due course.

#### **1.4M Local Flood Risk Management Strategy updates**

<b>Lead RMA</b>	Cambridgeshire County Council
<b>Other partners</b>	All partner Risk Management Authorities
<b>Timescale</b>	2027

Cambridgeshire County Council will be required to monitor progress against this strategy and carry out periodic reviews. The Cambridgeshire and Peterborough Flood and Water Partnership will lead annual reviews of progress against the Action Plan, considering new developments and arising priorities.

A more thorough review of this Strategy will then take place in conjunction with the National Strategy and regional Flood Risk Management Plan.



## 7.3 Objective 2 - Managing the Likelihood of flooding

**Table 14: Management Activities for objective 2**

2.1M Asset Register
2.2M Designation of Assets
2.3M Watercourse and structures maintenance
2.4M Cambridgeshire and Peterborough Flood and Water Partnership
2.5M Ordinary Watercourse Consents
2.6M Enforcement roles

### Management Activities

#### 2.1M Asset register

<b>Lead RMA</b>	Cambridgeshire County Council
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

Section 21 of the Flood and Water Management Act 2010 gives the county council a duty to maintain a register of structures or features which, in the opinion of the authority, are likely to have a significant effect on flood risk in its area such as a culvert in a housing estate. It also has a duty to develop a record of information about each of those structures or features, including information about ownership and the state of repair. Any local knowledge gained through other activities will be incorporated into this register.

The register of flood risk assets is published on the county council's website.

#### 2.2M Designation of assets

<b>Lead RMA</b>	Cambridgeshire County Council
<b>Other partners</b>	Partner Risk Management Authorities
<b>Timescale</b>	Continual

Under Section 30 and Schedule 1 of the FWMA 2010 a designating authority (the Environment Agency, an LLFA or an IDB) can designate a "*structure or natural or man-made feature of the environment*" whose existence or location influences flood risk.

Designation is a form of legal protection reserved for key structures or features that are privately owned and maintained and that contribute to the management of flood and coastal erosion risks.

Designation aims to ensure that owners do not in advertently alter structures and features and potentially increase flood or erosion risk to themselves, their neighbours and the wider community.

A designation is a legally binding notice served by the designating authority to the owner of the structure or features and the notice is also a local land charge.

Designating authorities are:

- Cambridgeshire County Council;
- Environment Agency;
- District and City councils; and
- Internal Drainage Boards.

They may 'designate' features or structures where the following four conditions are satisfied:

- The designating authority thinks that the existence or location of the structure or feature affects flood risk;
- The designating authority manages the risk affected;
- The structure or feature is not already designated by another authority;
- The owner of the structure or feature is not a designating authority.

If an asset becomes 'designated' its owner cannot alter, remove it or replace it, without prior consent from the designating risk management authority.

In order to ensure that there is consistency in designating across all the designating authorities, the list of proposed designations will be circulated to Cambridgeshire Flood Risk Management Partnership members prior to each quarterly meeting, and any contested designations would be discussed and agreed in the meeting.

Internal Drainage Boards and second tier authorities also may use their bylaws to protect the integrity of flood risk assets where such bylaws are in place.

### 2.3M Watercourse and structures maintenance

<b>Lead RMA</b>	All partner Risk Management Authorities
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<b>Other partners</b>	Cambridgeshire County Council LLFA
<b>Timescale</b>	Continual

The water management organisations in Cambridgeshire undertake a variety of maintenance activities to look after their infrastructure and ensure that it continues to function. Each organisation also undertakes upgrade schemes in specific locations depending on the areas of greatest need and the funding available.

Within Cambridgeshire's Drainage Board areas this includes extensive maintenance of pumped catchments, Bedford Group IDBs systems are gravity drained and include attenuation features, the watercourses are then ranked by risk with maintenance being carried out based on that risk and condition of those assets. In delivering their maintenance functions the IDBs will have consideration for the impact this maintenance on the wider environment, this is demonstrated, for example, by Bedford Group IDBs Conservation Best Practice Manual and Middle Level Commissioners Biodiversity Action Plan.

In addition to existing conservation and biodiversity best practice the maintaining authorities are increasingly looking to review the carbon implications of their activities and any asset upgrades. Due to the rural location of pumping stations and their power requirements, it will be a considerable challenge to find an alternative energy source to the existing diesel.

Maintenance is critical to sustaining the ongoing level of resilience. A Joint report between FloodRE and the Association of British Insurers in May 2021 suggested that for every £1 spent on maintenance almost £7 is saved in capital spending. This report focuses primarily on main river assets but sets the context for the importance of looking after assets that are already in place as a part of keeping communities resilient to flooding.

Cambridgeshire LLFA do not operate or maintain any flood defence or drainage assets.

#### 2.4M Cambridgeshire and Peterborough Flood and Water Partnership

<b>Lead RMA</b>	Cambridgeshire County Council and Peterborough City Council
<b>Other partners</b>	All partner Risk Management Authorities
<b>Timescale</b>	Continual

The CPFloW Partnership will continue to act as a group to oversee flood risk management activities in Cambridgeshire, including sharing best practise, updates on new policies and legislation as well as provide the opportunity to discuss risk and flood events.

The Partnership will oversee the annual review of this strategy and consider any new priorities arising.

## 2.5M Ordinary watercourse consents

<b>Lead RMA</b>	Cambridgeshire County Council, Internal Drainage Boards
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

Under the Flood and Water Management Act 2010 the county council has a duty to be responsible for consenting of ordinary water courses outside of Internal Drainage Boards under the Land Drainage Act 1991. The duty transferred from the Environment Agency to the county council in April 2012. In IDB districts these duties are held by the IDB. This responsibility is supported by the presence of Local Byelaws in most IDB areas and in South Cambridgeshire.

The county council, IDBs and districts are responsible for ensuring that works to an ordinary watercourse such as a mill, dam, weir, or culvert that may affect the flow of water through the ordinary water course gains the proper consents prior to any work taking place. This enables the county council to ensure that any work will not cause a flood risk. Therefore, if riparian owners wish to culvert an ordinary watercourse or insert any obstruction, consent will be required.

An application for consent can be made through a form that is available on either the Cambridgeshire County Council, or Internal Drainage Board website (as appropriate). There will be a charge and conditions may be applied to any consent granted. The county council offers a changeable pre-application service for consenting.

An Internal Drainage Board or county council must liaise with the Environment Agency before carrying out any such work to ordinary watercourses and they must have regard to any guidance issued by the Environment Agency

## 2.6M Enforcement

<b>Lead RMA</b>	Cambridgeshire County Council, Local Planning Authorities, Drainage Boards, Environment Agency
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

On occasion there are instances where investigations identify a lack of maintenance or inappropriate structures or barriers to flow within watercourses that contravene the Land Drainage Act or local byelaws. Several bodies within Cambridgeshire have enforcement powers to require those responsible to maintain the flow of water in watercourses and to modify/remove inappropriate structures within or around the watercourses (including main rivers, ordinary watercourses and awarded watercourses).

The County Council and its partners will always look to engage with those responsible in a constructive manner, only using enforcement powers where it is necessary to do so.

## 7.4 Objective 3 - Helping Cambridgeshire's citizens to manage their own risk

**Table 15: Management Activities for objective 3**

3.1M Dissemination of investigation results; open and transparent
3.2M Promotion of Flood Warning services
3.3M Offer support and advice on responsibility for flooding and potential solutions

### Management Activities

#### 3.1M Dissemination of investigation results; open and transparent

<b>Lead RMA</b>	Cambridgeshire County Council
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

The County Council will continue to publish Section 19 reports online and make findings available to others. The results of investigations will be shared with partners to review and communicate through members of the Cambridgeshire and Peterborough Flood and Water Partnership.

#### 3.2M Promotion of Flood Warning Services

<b>Lead RMA</b>	Environment Agency
<b>Other partners</b>	All partner Risk Management Authorities
<b>Timescale</b>	Continual

All risk management partners will continue to ensure that messages related to flood warning service or annual awareness raising events are communicated as widely as possible. Where necessary improvements will be investigated to ensure that all communities or varying abilities can receive and understand communications and be aware of how to respond. The promotion of this will take place alongside any community engagement work that is planned.

### 3.3M Offer support and advice on responsibility for flooding and potential solutions

<b>Lead RMA</b>	All partner Risk Management Authorities
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

The principal areas of communication which are required are:

- Making people aware of flood risk in their area (outside of flood events) and ensuring they know where to look and who to contact for further information.
- Ensuring property owners are aware of their responsibility to protect themselves from identified flood risks.
- Warning people of imminent flooding.
- Highlighting the issues associated with increased hard standing and the impact this has on local risk.
- Encouraging people to prepare themselves mentally and physically for flooding and make their homes more resilient.
- Encouraging and supporting communities and parish councils to prepare their own emergency plans.
- Helping people to understand what organisations and processes are currently in place to manage flood risk in their area and who to contact.
- Making homeowners aware of the need for pipes to be connected to the right drainage systems and the flood risk and environmental issues that can occur if pipes are misconnected.
- Being clear about things that residents, businesses, developers can do to make sure that they do not increase flood risk such as not paving over gardens with impermeable materials or putting fats, oils, greases and other 'unflushables' such as baby wipes down the sink, drains or toilets.
- An awareness raising campaign about the responsibilities of riparian owners (those owning land, which is alongside, or which contains a watercourse) and the flood risks that are caused when appropriate maintenance is not carried out. Many residents and organisations in Cambridgeshire, including the county council, the Environment Agency and Anglian Water, are riparian owners. If we can ensure that watercourses do not get forgotten about and receive an appropriate level of co-ordinated maintenance this will reducing the changes of flood risk being caused by blockages or a lack of care. In Cambridgeshire, tree clippings, rubble and flytipping have all been dumped in

watercourses from time to time. Each time this happens these will significantly increase the risk of flooding for those living alongside that watercourse or within the catchment it serves.

- The communication messages will be delivered through a range of mediums such as website updates, flood warden training sessions and larger scale public events.

The Community Flood Action Programme is anticipated to generate new materials for this purpose and new connections with communities to make residents more aware. After the CFAP is completed the ongoing communication with communities will continue as business as usual to build on awareness of risk and responsibilities.

### Sandbags

Sandbags are a typical but controversial response to flood events. It is understood that the presence and actions of council and emergency services officers on site helping local people is important. However, there is no requirement on councils to provide protective equipment such as sandbags during an emergency and many do not. This is because while they can slow and divert floodwater if used correctly, they can rarely stop flood water entirely; they provide no protection if the flooding is due to rising groundwater; and after the floods the disposal of large numbers of contaminated sandbags can be difficult, expensive and an environmental hazard. In addition to this the resources to distribute sandbags in an emergency is likely to be very limited.

### Property Flood Resilience

Efforts can sometimes be better focused on investing in other, more reliable and reusable defence or resilience measures. Other property level resilience measures are more likely to protect property, make it more resilient to flooding and aid a quicker recovery. However, the county council are aware that the central government funding for those measures is limited to certain storm events and communities at present, as such these measures remain beyond the affordable reach of many homes. Therefore, the county council and its partners will continue to explore other opportunities. It is worth highlighting that the availability of passive devices is increasing which means those who are unable to lift or move barriers during a flood event may not have to if the right measures are installed.

The Know Your Flood Risk Campaign (<https://www.landmark.co.uk/products/know-your-flood-risk/>) offers free guides for residents and businesses to understand their risk and also what might be done to minimise the risk or the damage. A directory of manufacturers and suppliers can be found in their Homeowners guide.

The National Flood Forum also provide information and advice on how to prepare for and recover from flooding. It can be found here: <http://www.nationalfloodforum.org.uk/>.



## 7.5 Objective 4 - Ensuring appropriate development in Cambridgeshire

**Table 16: Management Activities for objective 4**

4.1M Contribute to achieving sustainable development
4.2M Support development of SFRAs, WCSs and LPs
4.3M Planning enforcement

### Management Activities

#### 4.1M Contribute to achieving more sustainable development

<b>Lead RMA</b>	All partner Risk Management Authorities
<b>Other partners</b>	Local communities
<b>Timescale</b>	Continual

The roles of different organisations to respond to planning applications of new developments is described in Section 4, with the references to the national and local policies described in Section 2. These roles look to ensure that all new development in Cambridgeshire is low risk to itself and will have no detrimental effect on flood risk elsewhere.

This also involves considering what makes appropriate access and egress routes for sites that are at risk of flooding, what emergency plans should consist of and the consideration of alternative designs that may be appropriate.



**Figure 19: Flood waters impede access to riverside homes**



Cambridgeshire County Council requires sustainable drainage in all new developments. Strengthened planning guidance plus the county council's in-house expertise will be used to help developers design drainage strategies and systems that reduce flood risk while also delivering the other benefits of SuDS such as water quality, amenity and biodiversity improvements.

Cambridgeshire's flood risk management organisations will continue to work closely with developers to this aim. For detailed guidance on SuDS, planners and developers are referred to the Flood and Water Management SPD, the Cambridgeshire Surface Water Guidance for Planning and the Government's technical standards.

#### 4.2M Support the development of Strategic Flood Risk Assessments, Water Cycle Studies or Local Plans

<b>Lead RMA</b>	All partner Risk Management Authorities
<b>Other partners</b>	Local communities
<b>Timescale</b>	Continual

To work with LPAs when they update their SFRAs and other flood risk related evidence for Local Plans. SFRAs should be updated regularly to ensure continued relevance with regards to changing flood zones and new flood risk data.

Critical Drainage Areas are no longer widely used but continue to be recognised as areas that are in Flood Zone 1 but that have special drainage requirements. These can include:

- existing flood records
- capacity issues which, with extra flows, would create increased surface water flood risk.
- sensitive receiving environments
- the potential for development to significantly change drainage patterns

The formal definition in the Town and Country Planning (General Development Procedure Amendment 2, England) Order 2006 for these is: *"an area within Flood Zone 1 which has critical drainage problems, and which has been notified [to] the local planning authority by the Environment Agency"*.

It is expected that work carried out by the county council to better understand flood risk, as a part of this strategy, will be used to inform future risk assessments.

### 4.3M Planning Enforcement

<b>Lead RMA</b>	Cambridgeshire County Council and Second Tier Authorities
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

The planning application process is supported by a system of enforcement, which ensures that development has planning permission and has been built in accordance with approved plans and that any conditions on an application are met by the developer according to agreed timescales.

The second tier authorities are responsible for the enforcement of their areas of decision making (housing, business, and other types of development). Cambridgeshire County Council is responsible for the enforcement of county matters (mineral extraction and mineral processing, waste disposal and recycling and county council services e.g. schools, libraries, roads and transport infrastructure.).

Where enforcement action is considered necessary, both planning and flood and water management officers will need to work closely together to decide what enforcement actions may be required having had regard to the relevant flood risk enforcement policy. In some cases, it may be possible to achieve an agreed solution through the submission of a new planning application or amending the drainage designs to meet approval requirements.

## 7.6 Objective 5 - Improving flood prediction, warning and post flood recovery

**Table 17: Management Activities for objective 5**

5.1M Carry out emergency response and recovery functions
5.2M Responding to a flood emergency

### Management Activities

#### 5.1M Emergency planning

<b>Lead RMA</b>	All Local Flood Resilience Forum partners
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

Under the Civil Contingency Act 2004, Cambridgeshire County Council and many of the other flood management organisations are also emergency responders. There are two categories of emergency responder:

- Category 1 – the core responders. Includes the ‘blue-light’ services (Police, Fire and Rescue, Ambulance Service), the NHS, local authorities and the Environment Agency.
- Category 2 – co-operating responders that act in support of the category 1 responders. Includes utility companies such as Anglian Water and UK Power Networks, and transport organisations such as Highway’s England.

In planning for flooding the following different roles exist under this legislation:

- Warning and informing people – all
- Putting joint response plans in place - all
- Response actions – blue light services
- Recovery – Local authorities i.e. Cambridgeshire County Council

All local authorities will have an emergency flood plan. It is intended now to create one plan covering both Cambridgeshire and Peterborough local authority areas as this would then align with the area over which the Emergency Services operate, making response more efficient. The plan would be used by all emergency responders and is therefore to be called a Multi-Agency Flood Plan. The Environment Agency will also be involved in the development of both this plan and others from surrounding areas to ensure full coverage of all catchments.

As part of their role in managing flood risk from Main Rivers, the Environment Agency provide a Main River forecasting and flood warning service. It is their intention to continue this service, to work with local communities and other risk management authorities to promote awareness of flood risk and the warning service.

## 5.2M Responding to Flooding

<b>Lead RMA</b>	All Local Flood Resilience Forum partners
<b>Other partners</b>	N/A
<b>Timescale</b>	Continual

Response to flooding can be varied subject to the level and severity of the flooding. The relevant Cambridgeshire and Peterborough Local Resilience Forum Flood Plan sets out the process and procedures for responding to flood emergencies.

There are several activation routes for the response to the flooding. Each flood plan details these arrangements, which is normally first to convene a Flood Advisory Service Teleconference or a Severe Weather Teleconference. Partners will share data such as locations of vulnerable individuals during an emergency.

The plan defines the roles and the responsibilities of the agencies involved in the response to flooding emergency. They are summarised in table 18:

Table 18: Resilience responsibilities of each organisation

Risk Management Authority	Resilience Role	Resilience Responsibilities
Cambridgeshire County Council	Support emergency services during the response and coordinate the recovery	<p>Prepare and maintain the Cambridgeshire and Peterborough Local Resilience Flood (Fluvial) Plan;</p> <p>Monitor warnings issued by the EA or the Met Office;</p> <p>Implement road closures;</p> <p>Resource Contact / Call Centres to take the lead in dealing with general enquiries from the public during and after major flooding;</p> <p>redirecting calls to other organisations when appropriate;</p> <p>Coordinate incident reports and response prior to formation of Tactical Coordinating Group;</p> <p>Manage the Recovery phase of the incident(s);</p> <p>Employ resources to mitigate the effects of the Emergency;</p> <p>Emergency Feeding and Housing of victims / evacuees;</p> <p>Provide welfare and counselling;</p> <p>Coordinate humanitarian assistance and the voluntary sector;</p> <p>'Clear Up' Operations on site; and</p> <p>Restoration of normality.</p>
Cambridgeshire Constabulary	Lead a coordinated response to protect life and property	<p>Lead the multi-agency command and control, including coordination of Major Incident and Inter-Operability communications with other Agencies;</p> <p>Coordinate road closure and traffic management;</p> <p>Coordinate incident reports and response on formation of the Tactical Coordination Group; and</p> <p>Lead media liaison in line with the Cambridgeshire and Peterborough Local Resilience Flood Plan Communications Plan.</p>
Cambridgeshire Fire and Rescue Service	The coordination of all rescue measures and the provision of specialist equipment.	<p>Coordination of the rescue of trapped people/casualties;</p> <p>Managing the safety of personnel in the inner cordon; and</p> <p>Information gathering and risk assessment.</p>
East of England Ambulance NHS trust	Treatment of all casualties at the scene and where necessary transporting casualties to hospital	<p>Provide the focal point for medical resources;</p> <p>Treatment and care of injured at the scene;</p> <p>Triage of casualties at the scene; and</p> <p>Liaison with nominated hospitals.</p>

Environment Agency	Provide information, specialist knowledge and support to local level emergency planning.	Provide warnings; Maintain defences; Support local emergency planners; Provide public information about flooding; and Chair Flood Advisory Service Teleconference.
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### Recovery

At an early stage during a flood event the key agencies consider the recovery process and the activation of the Cambridgeshire and Peterborough Local Resilience Forum Community Recovery plan. An appropriate agency is identified to lead on recovery, which is normally the District Council in whose area the flooding has taken place. There are arrangements whereby the District Council can request the county council to lead or if flooding is Countywide. The lead recovery agency will identify and engage the other relevant agencies and establish a recovery coordinating group (chaired by the 'lead' Local Authority).

More detail on how the recovery process will be managed is documented in the Cambridgeshire and Peterborough Local Resilience Forum Community Recovery plan.

## Monitoring and Review

The CPFloW Partnership meetings will provide a method for monitoring the progress on activities listed with the LFRMS's action plan. Actions will be rated as:

- Completed - blue
- Progress - green
- Some obstacles - yellow
- At risk – red
- Not started - white

The Partnership will then be able to work together to try and progress past any arising barriers to ensure that schemes can be delivered. Part of the process will also be about ensuring that the actions do deliver the LFRMS objectives.

The LFRMS should be updated every 5-6 years. The CPFloW Partnership may wish this to be done to best co-ordinate with updates to the Environment Agency's Flood Risk Management Plans. Some of the background sections may change very little but updates may be needed to the risk, climate change and management sections.

It is intended that the Action Plan will be reviewed every year at a CPFloW Partnership meeting alongside monitoring progress on the existing actions. In addition progress against the council's activities and actions will be reported to the full Council each year.

# 1 References

Anglian Water (2011). Towards Sustainable Water Stewardship – Sustainable Drainage Systems Adoption Manual.

CIRIA (2013). C724 - Creating Water Sensitive Places.

Department for Environment, Food and Rural Affairs (2015). Non-Statutory Technical Standards for Sustainable Drainage Systems.

Department for Environment, Food and Rural Affairs (website accessed 2015). *Planning Practise Guide – Flood Risk and Coastal Change*.

Department for Transport. (2013). Action for Roads - A Network for the 21st Century.

Environment Agency (Unknown). Adapting to Climate Change - Advice for Flood and Coastal Erosion Risk Management.

Environment Agency (2013). Climate change allowances for planners - Guidance to support the NPPF.

Environment Agency (2013). Living on the Edge: A Guide to your Rights and Responsibilities of Riverside Ownership.

Forestry Commission (2012). Research Report: Economic Benefits of Greenspace: a critical assessment of evidence of net economic benefits.

Ministry of Housing Communities and Local Government. (2015) Sustainable drainage systems: non-statutory technical standards

Local Authority SuDS Officer Organisation. (2015). Non-Statutory Technical Standards for Sustainable Drainage Systems – Best Practise Guidance

Met Office (accessed 2014). *Flooding – Summer 2007*. Retrieved from:  
<http://www.metoffice.gov.uk/about-us/who/how/case-studies/summer-2007>

Natural England. (2014). Microeconomic Evidence for the Benefits of Investment in the Environment.

Saunders, Dr M.A. (1998). The UK Floods of Easter 1998 - Commissioned Report for the Benfield Greig Hazard Research Centre.

Eye Peterborough (website accessed 2021). *The 1947 Flood*. Retrieved from:  
<http://www.eyepeterborough.co.uk/heritage/the-big-flood-of-1947/>

Cambridgeshire insight (website accessed 2021). Cambridgeshire and Peterborough Population Overview Report. Retrieved from: <https://cambridgeshireinsight.org.uk/population/>

Ministry of Housing Communities and Local Government. (2019) The Oxford-Cambridge Arc; Government Ambition and joint declarations between Government and Local Partners

Great Fen Project (website accessed 2021). Holme Fen Posts. Retrieved from: <https://www.greatfen.org.uk/about-great-fen/heritage/holme-fen-posts>

Environment Agency. (2021) The state of the environment: the urban environment

Department for Environment, Food and Rural Affairs. (2018) Surface water management action plan – July 2018

Department for Environment, Food and Rural Affairs. (2018) A Green Future: Our 25 year plan to improve the environment

Ministry of Housing Communities and Local Government. (2014) Flood Risk and Coastal Change Planning Guidance

RSPB (website accessed 2021). Hanson-RSPB Wetland Project. Retrieved from: <https://www.greatfen.org.uk/about-great-fen/heritage/holme-fen-posts>

Climate Change Committee. (2021) 2021 Progress report to parliament

Environment Agency. (2019) Long-term investment scenarios (LTIS) 2019

Environment Agency. (2021) National Flood Risk Assessment 2 (NaFRA 2) evidence assessment

National Infrastructure Commission. (2021) Water and Floods data

Water Resources East (website accessed 2021). Future Fens – The South Lincolnshire and Fenland Reservoirs. Retrieved from: <https://wre.org.uk/project/future-fens-the-south-lincolnshire-and-fenland-reservoirs/>

Environment Agency. (2021) Flood Risk Assessments: Climate change allowances

Environment Agency. (2021) National Flood and Coastal Erosion Risk Management Strategy for England Action Plan 2021

Ministry of Housing Communities and Local Government. (2009) Permeable surfacing of front gardens: guidance

Cambridgeshire County Council (website accessed 2021). The rights and responsibilities of a riparian owner. Retrieved from: <https://www.cambridgeshire.gov.uk/asset-library/The-rights-and-responsibilities-of-a-riparian-owner-leaflet-February-2021.pdf>

Environment Agency. (2018) Owning a watercourse

Environment Agency. (2013) Reservoir safety – Long return period rainfall

Prickwillow Museum (website accessed 2021). 1947 floods. Retrieved from: <https://www.prickwillowmuseum.com/wind-steam-and-diesel.html>



Ouse Washes A Landscape Partnership Scheme (website accessed 2021). Flooding in the Fens: 1947 Floods. Retrieved from: <https://ousewasheslps.wordpress.com/2014/02/07/flooding-in-the-fens-1947-floods/>

BBC News (website accessed 2021). Addenbrooke's Hospital Flood prompts 'major incident'. Retrieved from: <https://www.bbc.co.uk/news/uk-england-cambridgeshire-33564355>

Met Office (website accessed 2021). UK Climate averages. Retrieved from: <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/u1214qgj0>

Department for Environment, Food and Rural Affairs (2017). Schemes across the country to receive £15 million of natural flood management funding

Department for Environment, Food and Rural Affairs (2019). £2.9 million extra funding to boost action on making homes more resilient to floods

Department for Environment, Food and Rural Affairs (2020). Flood and coastal resilience innovation programme

Department for Environment, Food and Rural Affairs (2020). Government extends £5,000 grant scheme for flood hit homes

Catchment Based Approach (website accessed 2021). CaBA Partnership Support Guidance. Retrieved from: <https://catchmentbasedapproach.org/learn/caba-partnership-support-guidance/>

Landmark Information Group (website accessed 2021). Know your flood risk campaign. Retrieved from: <https://www.landmark.co.uk/products/know-your-flood-risk/>

Association of British Insurers (2021). Modelling the impact of spending on defence maintenance on flood losses – Summary Report

Public Health England (website accessed 2021). Flooding: health guidance and advice. Retrieved from: <https://www.gov.uk/government/collections/flooding-health-guidance-and-advice>

Flood tool kit (website accessed 2021). Ox-Cam Pathfinder Project. Retrieved from: <https://www.floodtoolkit.com/ox-cam/>

Ministry of Housing Communities and Local Government (2021). Planning for sustainable growth in the Oxford-Cambridge Arc: an introduction to the spatial framework

The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (2021). The Cambridge Nature Network – Final Report.



## **2 List of Associated Documents and Appendices**

### **Associated documents**

**Public Summary – Non technical summary of LFRMS**

**Action Plan – Plan showing the identified actions proposed for future delivery**

**Strategic Environmental Assessment – Assessment of the environmental impacts of the proposed actions**

### **Appendices**

- 1. A complete list of all internal drainage boards partly or wholly in Cambridgeshire**
- 2. The Fens**
- 3. National Objectives**
- 4. National Once Measures**
- 5. Flood Risk Management Plan Measures**
- 6. LFRMS Action Plan**

## Appendix 1 - A complete list of all internal drainage boards partly or wholly in Cambridgeshire

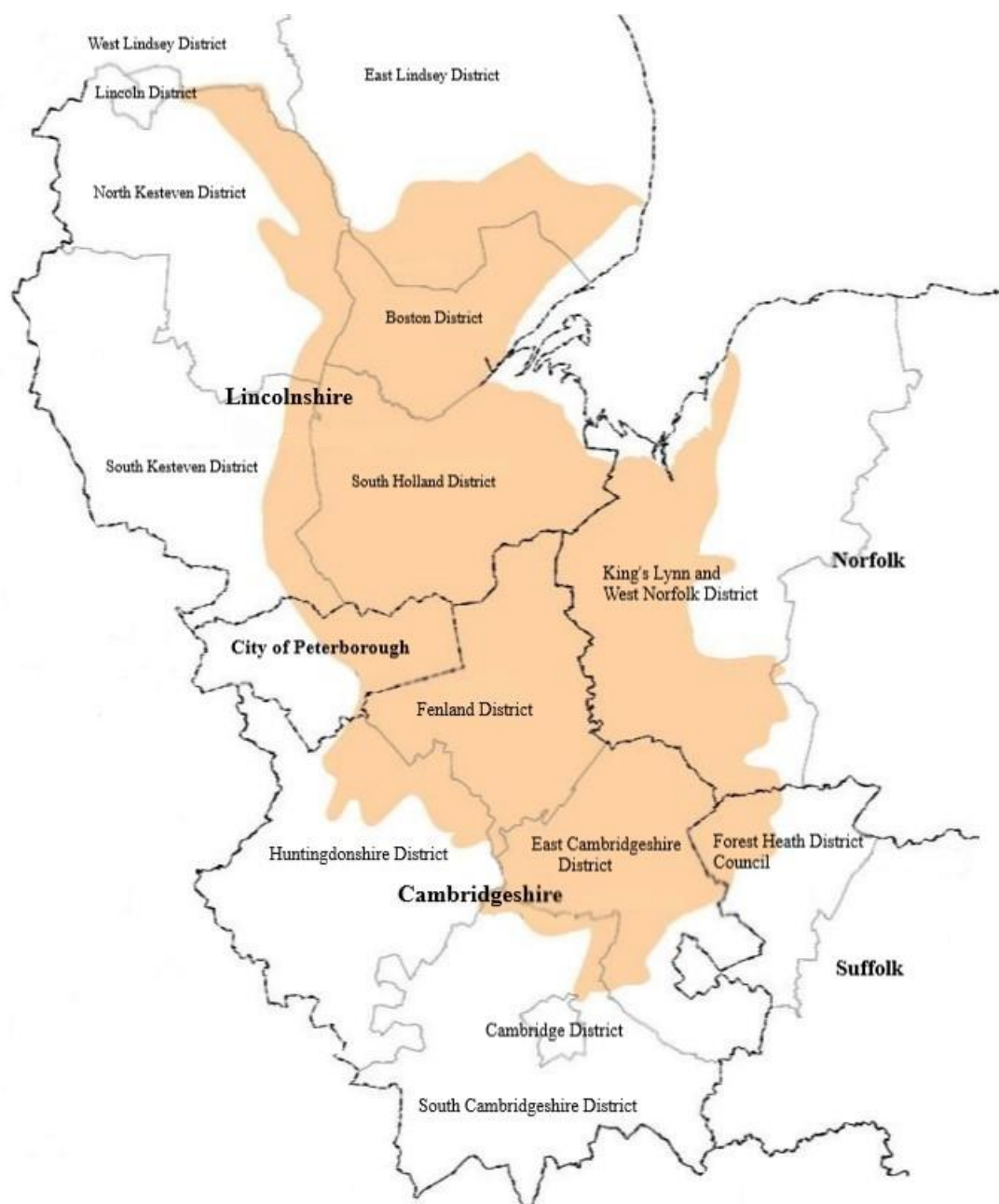
**Table 19: IDB boards by District**

Internal Drainage Boards	Applicable to the Relevant District Council Area
North Level Drainage Board	Fenland District Council
Ramsey IDB	Huntingdonshire District Council
Whittlesey and district IDB	Fenland District Council
Feldale IDB	Huntingdonshire District Council
Holmewood and District IDB	
Woodwalton Drainage Commissioners	
Whittlesey IDB	
Bedford Group of IDBs (In Cambridgeshire)	Huntingdonshire District Council
Alconbury and Ellington IDB	
Bedfordshire and River Ivel IDB	
IDB that have agreed to be represented by Ely Group:	East Cambridgeshire District Council  South Cambridgeshire District Council
Burnt Fen	
Cawdle Fen	
Littleport and Downham	
Middle Fen and Mere	
Old West	
Padnal and Waterden	
Swaffham	
Waterbeach Level	
IDBs presently managed by Middle Level Commissioners:	East Cambridgeshire District Council  Fenland District Council
Benwick IDB	
Bluntisham IDB	
Conington and Holme IDB	
Curf and Wimblington Combined IDB	

Euximoor IDB	Huntingdonshire District Council
Haddenham Level Drainage Commisioners	
Hundred Foot Washes IDB	South Cambridgeshire District Council
Hundred of Wisbech IDB	
Manea and Welney District Drainage Commissioners	
March West and White Fen IDB	
March East IDB	
March Fifth District Drainage Commissioners	
March Sixth District Drainage Commissioners	
March Third District Drainage Commissioners	
Middle Level Commissioners Note	
Needham and Laddus IDB	
Nightlayers IDB	
Over and Willingham IDB	
Ramsey First (Hollow) IDB	
Ramsey Fourth (Middlemoor) IDB	
Ramsey Upwood & Great Raveley IDB	
Ransonmoor District Drainage Commissioners	
Sawtry IDB	
Sutton and Mepal IDB	
Swavesey IDB	
Upwell IDB	
Waldersey IDB	
Warboys Somersham and Pidley IDB	

## Appendix 2 – The Fens

As a part of the previous Local Flood Risk Management Strategy a section on 'The Fens' was developed in partnership with Peterborough City Council, Lincolnshire County Council, Suffolk County Council and Norfolk County Council, and Internal Drainage Boards in the Fens, this has been retained to provide background for this strategy but edited to reflect more recent updates in this area.



**Figure 20: Map showing Fen area**

Since that time there have been developments with the Fens becoming incorporated into the National Flood and Coastal Erosion Risk Management Strategy and catchment studies led by Anglian

Water and the Environment Agency. At present those studies are in the early stages and not yet at consistent stages of development across the Fens as a whole.

Local strategies will integrate the needs and opportunities of the local Fens and fenland communities with those of the rest of the local Lead Local Flood Authorities area and promote a consistent approach across the Fens as a whole. This consistency is crucial, for example, to Internal Drainage Boards, who often span more than one local authority and whose practices will be similar throughout their area. As such Cambridgeshire will continue to work closely with other Lead Local Flood Authorities and other risk management authorities to achieve this aim.

### Background to the Fens

It is important to consider the history of the Fens when considering the areas future management. Systematic water management first commenced in the mediaeval period, but localised attempts had been known since Roman times. Large scale drainage of the Fens first began in the 17th century, when the 'Fens' as we now know it began to take shape. The creation of the Ouse Washes was one of the initial phases of draining the fens and is still a critical part of the flood risk management system. All these attempts met with setbacks, and it was not until the introduction of mechanised pumps in the industrial age that successful year-round water management was achieved across the area.

The Fens form around the Wash which is internationally designated for animal and plant biodiversity. There are also numerous local sites, ranging from Sites of Special Scientific Interest to Local Nature Reserves which need to be protected; for example, the Nene and Ouse Washes are internationally protected wetlands. The Fens also represent a unique archaeological and historic environment, where human activity has shaped the land, with evidence of the earliest drainage schemes going back to Roman times and containing many designated and undesignated heritage assets. Like any watercourses, Fenland Rivers and roddons (former channels) can contain significant archaeological materials and deposits.

Specific to the Fens, the peat deposits in the fen basin overlie internationally important prehistoric remains, such as the Bronze Age sites and boats from Must Farm, Whittlesey. The band of the silt fen to the north provides a contrast of mediaeval villages and towns. More information on this or any other aspect of Cambridgeshire's historic environment can be obtained from the Historic Environment Record at the county council.

Cambridgeshire's waterways have helped define its past. They have acted as routes for communication, conquest and trade, as sources of food and other requirements, provided power for industry, defined territories and acted as refuges and protection for the population. As such, they contain many remains of this past, from fish weirs to abandoned cargos, bridges to treasure hoards, all of which needs to be remembered when before suggesting changes to them.

Today this artificially drained landscape is home to approximately half a million people. The Fens cover an area of almost 1,500 square miles, divided between eleven district and five county councils. The Fens covers a large area of eastern England, stretching from the Wash to Lincoln, Peterborough and Cambridge (see figure 17). The Fens encompasses five different rivers – the Witham, Welland, Glen, Nene and Ouse, carry water from surrounding uplands through the Fens and into the Wash.

Well maintained coastal and fluvial flood defences are essential to providing the conditions in which Internal Drainage Boards can maintain extensive artificial drainage of the area.

Across the Fens, Internal Drainage Boards maintain 3,800 miles of watercourse, 200 miles of watercourse embankment and 286 pumping stations. Coupled with over 60 miles of coastal sea walls and 96 miles of river embankments, the Fens in the most part has a high level of protection and is classified as a defended flood plain.

The Internal Drainage Boards within the Fens have been established over many years because of the special water level and drainage management needs existing within this area, and the particular need for lowland and inland local flood risk management activities. These local works are funded in the main from funds levied locally by Internal Drainage Boards.

Well maintained coastal and fluvial flood defences, supporting an extensive drainage infrastructure are essential in promoting sustainable growth in the Fens. Housing, jobs, essential infrastructure (such as roads and railway lines) and services (such as utilities) that meet the needs of the market towns and the rural communities can only happen if drainage and flood risk is well managed. Growth in the Fens will need to be embraced in a sustainable way; balancing development needs with the need to promote and protect open spaces, natural habitats, landscapes, the built environment and the unique qualities of the Fens. It is therefore essential that Risk Management Authorities, utilities and local communities continue to work closely with local planning authorities, so that consideration of sustainable drainage in particular and flood and water management in general are an integral part of the forward planning and development control process.

Farming contributes significantly to the success of the local economy, supporting a large number of businesses involved in the production of food and rural tourism.

The important role that farming plays in the Fens is emphasised by the steady decline in self-sufficiency in the UK, and the Government's renewal of the food security agenda. The Fens account for 50% of all Grade 1 agricultural land in England, producing 37% of all vegetables and 24% of all potatoes grown in the country, as well as enough wheat to make 250 million loaves of bread every year.

The area also supports significant livestock, dairying and outdoor pig production. This in turn supports a large well-established food processing industry.

It is critical, therefore, that appropriate flood risk and drainage management measures are taken to protect this nationally important food production area. In addition to food production, the Fens is popular for tourism, attracting numerous visitors each year. The Fens provide a unique and rich habitat for wildlife and include the Ouse and Nene Washes which, while providing flood storage capacity, are also important wildlife sanctuaries and designated as such.

There are major transport networks, road and rail, as well as homes, critical infrastructure, water, gas and electricity that would be affected if fenland areas were to flood.

### **The impacts of climate change in the Fens**

Climate change, poses a serious threat to the Fens and a continued programme of investment in flood defences and drainage systems will be needed for existing standards of protection, including provision for the potential impact of climate change, to be maintained in the medium and long term.

Beyond the short to medium term, the likely impacts of climate change on flood risk management over the next 100 years poses future challenges we need to address to enable everyone who may be



affected to start planning for the future. Both these and the associated funding challenges are being discussed as a part of the future fens work.

Currently the standards of protection provided by the defences is generally high, between 0.8% (1 in 120 years) to 0.2% (1 in 500 years). However, section 5 of this document sets out a number of risks which are likely to impact on the Fens more in future; rising sea levels that reduce the amount of time the main rivers can discharge through gravity, increased peak river flows from climate change and continued shrinkage of peat among others. These factors, which are likely to require an increase in flood storage in the area to maintain existing standards, also work in combination to hinder the drainage of local surface water networks which can become flood locked or increase the risk of inundation in the IDB catchments. Further information on the long-term risk and infrastructure serving fens is available online as a part of the Future Fens project.

### Appendix 3 – National Objectives

**Table 20: Objectives from National Strategy**

Reference	Objective
<b>Future funding and investment</b>	
Strategic Objective A	Between now and 2025 the Environment Agency will have better evidence to inform future risk and investment needs for managing all sources of flood and coastal change
Strategic Objective B	Between now and 2030 risk management authorities will make greater use of funding and financing from non-public sector sources to contribute to the investment needs of flood and coastal resilience
<b>Climate resilient places</b>	
1.1	Between now and 2050 the nation will bolster its resilience to flooding and coastal change
1.2	Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change for a range of climate scenarios
1.3	Between now and 2050 risk management authorities will help coastal communities transition and adapt to a changing climate.
1.4	Between now and 2030 risk management authorities will use nature based solutions and improve the environment through their investments in flood and coastal resilience.
1.5	By 2030 risk management authorities will work with farmers and landowners to help them adapt their businesses and practices to be resilient to flooding and coastal change
<b>Today's growth and infrastructure resilient in tomorrow's climate</b>	

2.1	Between now and 2030 all new development will contribute to making places resilient to flooding and coastal change.
2.2	Between now and 2030 risk management authorities will encourage environmental net gain in all new development to support resilience to flooding and coastal change.
2.3	Between now and 2030 risk management authorities will support investments to manage flooding and coastal change that enables growth in a sustainable and climate resilient way.
2.4	Between now and 2040 risk management authorities will work with the finance sector and other partners to mainstream property flood resilience measures and to 'build back better' after flooding
2.5	Between now and 2030 owners of flood and coastal defences will understand and take responsibility for achieving flood and coastal resilience
2.6	Between now and 2030, owners and operators of large, raised reservoirs will ensure they are safe in a changing climate
2.7	By 2030 water companies will plan for their infrastructure to be resilient to flooding and coastal change.
2.8	Between now and 2050 risk management authorities will work with national infrastructure providers to contribute to more flood and coastal resilient places
<b>A nation ready to respond and adapt to flooding and coastal change</b>	
3.1	Between now and 2050, people will understand the potential impact of flooding and coastal change on their lives and livelihoods and will take action to reduce that impact.
3.2	Between now and 2030 people will receive the information and support they need to transform how the nation better prepares and responds to flooding and coastal change
3.3	Between now and 2030 people and businesses will receive the support they need from all those involved in recovery after flooding so they can get back to normal quicker after flooding
3.4	Between now and 2030 the Environment Agency will have an oversight of skills and capabilities across the flooding and coastal change sector to identify gaps and future needs
3.5	Between now and 2030 the nation will be recognised as world leader in researching and managing flooding and coastal change

## Appendix 4 – National Once Measures

### Prevention

Between 2021 and 2027, lead local flood authorities will maintain, keep under review, apply and monitor a local flood risk management strategy in their area to prioritise local flood management approaches.

Between 2021 and 2027, lead local flood authorities will implement relevant government guidance on taking climate change into account where necessary for flood risk decision making in their area to mitigate the effects of climate change.

Between 2021 and 2027, lead local flood authorities may start implementing steps to work towards net zero carbon in their area to mitigate the effects of climate change.

Between 2021 and 2027, lead local flood authorities will continue to work in partnership with other risk management authorities in their area to reduce the risk of flooding from all sources.

Between 2021 and 2027, lead local flood authorities may provide information to inform spatial and infrastructure planning, development and regeneration in their area to manage the current and future risk of local sources of flooding.

Between 2021 and 2027, lead local flood authorities will act as a consultee for major planning applications in their area to promote sustainable surface water drainage arrangements in new developments.

Between 2021 and 2027, lead local flood authorities may work with other risk management authorities to provide information where necessary to update flood maps in their area to better understand the risk of flooding.

### Protection

Between 2021 and 2027, lead local flood authorities may work with other flood asset owners and riparian landowners to raise awareness of, and where necessary enforce, maintenance responsibilities in their area to reduce the risk of flooding.

Between 2021 and 2027, lead local flood authorities may work with other risk management authorities to identify a programme of nature based approaches in their area to reduce the risk of flooding from all sources.

Between 2021 and 2027, lead local flood authorities may designate third party flood risk assets and maintain a register of designated flood risk assets in their area to manage the risk of flooding from local sources.

Between 2021 and 2027, lead local flood authorities will take a risk based approach to develop and maintain a register of flood risk assets/features in their area to manage the likelihood of flooding from local sources.

Between 2021 and 2027, lead local flood authorities will regulate the condition of, and third party activity on, ordinary watercourses and review new works on ordinary watercourses in their area to reduce the likelihood of flooding.

Between 2021 and 2027, lead local flood authorities may work with other risk management authorities to support the delivery of flood projects in their area to reduce the risk of flooding from all sources.

Between 2021 and 2027, lead local flood authorities may plan flood risk management projects to achieve wider environmental benefits where appropriate in their area to work towards biodiversity net gain.

### **Preparedness**

Between 2021 and 2027, lead local flood authorities may support communities to increase their resilience to flooding in their area to reduce the risk of flooding.

Between 2021 and 2027, lead local flood authorities may support emergency response partners and communities to plan, prepare and exercise for future flood scenarios in their area to reduce the consequences of flooding from all sources.

### **Recovery and review**

Between 2021 and 2027, lead local flood authorities will investigate local flood events where appropriate and necessary in their area to identify actions that may be taken to reduce future flood risk.

Between 2021 and 2027, lead local flood authorities may work with others to support communities through the recovery phase of a significant flood event in their area to support them to return to their homes and businesses.

## Appendix 5 – Flood Risk Management Plan Measures

Between 2021 and 2027, Cambridgeshire County Council:

Will assess future flood risk in Huntingdon to better understand the risk of climate change to the community and critical infrastructure in the Huntingdon, Anglian Flood Risk Area.

Will (alongside critical infrastructure owners), prioritise the need for flood risk management interventions in Huntingdon to inform the need for a future programme of works in the Huntingdon, Anglian Flood Risk Area.

Will (alongside Cambridge City Council) continue the existing programme of works in Cambridge to increase flood resilience in the Cambridge, Anglian Flood Risk Area.

Will (alongside Cambridge City Council) investigate known wet spots across the city in Cambridge to prioritise the need for flood risk management interventions and inform the future programme in the Cambridge, Anglian Flood Risk Area.

Will (alongside partner Risk Management Authorities) work together to explore opportunities to overcome existing barriers in March to identify new delivery mechanisms for flood risk schemes in the March, Anglian Flood Risk Area.

Will (alongside partner Risk Management Authorities) support riparian asset owners and the community in March to understand the impact of flooding on their lives and livelihoods and the importance of working together to manage risk in the March, Anglian Flood Risk Area.

Will (alongside partner Risk Management Authorities) work in partnership in March to create a strategic approach to managing water in the high ground in the March, Anglian Flood Risk Area.

Between 2021 and 2027, Cambridgeshire County Council:

Will continue as a valued partner in the Future Fens Flood Risk Management Project in Cambridgeshire to support engagement with communities around the vision for the Fens and what infrastructure is needed in the Fens and Lowlands Strategic Area.

Will work with partners to better understand and trial measures required to increase the resilience of chalk streams in Cambridgeshire to inform future work and local policies in the Cam and Ely Ouse Management Catchment.

Will (alongside partner Risk Management Authorities) investigate flooding events and identified new opportunities for Flood Risk Management Schemes in Cambridgeshire to plan and deliver improved resilience to flood risk in the Cam and Ely Ouse Management Catchment.

Will have greater strategic integration with the Local Highways Authority in Cambridgeshire to encourage better engagement with impacts on local flood risk and uptake of appropriate solutions in the Cam and Ely Ouse Management Catchment.


**Appendix 6 – LFRMS Actions**

The Action Plan is held as a separate working document and reviewed on an annual basis.


## Appendix 7 – Flood Warning Service


The Environment Agency provides a flood warning service throughout the country in areas at risk of flooding from rivers or sea. They monitor rainfall, river levels and sea conditions and forecast the possibility of flooding. If flooding is forecast, flood warnings are issued via a number of different channels including Floodline Warning Direct, Environment Agency website, Facebook, FloodAlerts' app, local media etc. There are a number of the flood warning areas across Cambridgeshire where many properties and critical infrastructure (e.g. schools, care homes, and fire stations) are at risk of flooding. For example, a combined number of 6,519 properties are affected by the River Great Ouse including 11 schools, 4 fire stations, 2 police stations and 1 ambulance station.

The Environment Agency uses three different warning codes – Flood Alert, Flood Warning and Severe Flood Warning. Each warning code is communicated to the public and requires a different response from residents and the emergency responders. The relevant information about the warning codes is listed below.

Flood Alert	
	Key message: Flooding is possible. Be prepared.
	Timing: 2 hours to 2 days in advance of flooding.
<p>Trigger: Forecasts that indicate that flooding from rivers may be possible and forecast intense rainfall for rivers that respond very rapidly, and /or forecasts of high tides, surges, or strong winds.</p>	
<p>Resident's actions:</p> <ul style="list-style-type: none"> <li>• Be prepared for flooding and prepare a flood kit of essential items;</li> <li>• Avoid walking, cycling or driving through flood water;</li> <li>• Farmers should consider moving livestock and equipment away from areas likely to flood</li> <li>• Call Floodline on 0845 988 1188 for up-to-date flooding information;</li> <li>• Monitor local water levels on the Environment Agency website <a href="http://www.environmentagency.gov.uk">www.environmentagency.gov.uk</a></li> </ul>	
<p>How communicated: Flood warning direct, Floodline and the internet.</p>	



Flood Warning	
	Key message: Flooding is expected, and immediate action required.
	Timing: Half an hour to 1 day in advance of flooding.
Trigger: High tides, surges coupled with strong winds, and / or heavy rainfall forecast to cause flash flooding of rivers, and / or forecasting flooding from rivers.	
Resident's actions: <ul style="list-style-type: none"> <li>• Protect yourself, your family and help others move family, pets and valuables to a safe place.</li> <li>• Turn off gas, electricity and water supplies if safe to do so and put flood protection equipment in place.</li> <li>• If you are caught in a flash flood, get to higher ground.</li> <li>• Call Floodline on 0845 988 1188 for up to date information.</li> </ul>	
How communicated: Flood warning direct, Floodline, the internet and media	

Severe Flood Warning	
	Key message: Severe flooding and danger to life.
	Timing: When flooding poses a significant threat to life and different actions are required.
Triggers: Actual flooding where the conditions pose a significant risk to life and / or widespread disruption to communities, and /or on-site observations from flooded locations, and / or a breach in defences or failure of a barrier that is likely to cause significant risk to life, and /or discussions with partners	

<p>Resident's actions:</p> <ul style="list-style-type: none"> <li>• Stay in a safe place with a means of escape;</li> <li>• Be ready should you need to evacuate from your home;</li> <li>• Co-operate with the emergency services;</li> <li>• Call 999 if you are in immediate danger; and</li> <li>• Call Floodline on 0845 988 1188 for up-to-date flooding information.</li> </ul>
How communicated: Flood warning direct, Floodline, the internet and media

Warning Removed
Key message: No further flooding is currently expected for your area.
Timing: Issued when a flood warning or severe flood warning is no longer in force.
Trigger: Risk of flooding has passed, and / or river or sea levels have dropped back below severe flood warning or flood warning levels, and / or no further flooding is expected, and / or professional judgment and discussions with partners agree that a severe flood warning status is no longer needed.
Residents' actions: Be careful. Flood water may still be around for several days and could be contaminated. If you've been flooded, bring your insurance company as soon as possible.
How communicated: Flood warning direct, Floodline, and the internet

The Environment Agency also provides the flood warning services for the emergency responders. A web-based service will provide the responders with a targeted and efficient service which will enable them to easily monitor their assets that are at risk of flooding. The responders can manage the information in the system and will be alerted by email when their assets are at risk from flooding.

There are currently no warning systems in place for flooding from ground water, surface water or ordinary watercourse. Risk Management Authorities in the area will monitor progress on the development and practicalities of such warning systems.

# Local Flood Risk Management Strategy

## ACTION PLAN

Risk Management Authorities			
• Anglian Water	• Cambridgeshire County Council	• Huntingdonshire District Council	• North Level District IDB
• Bar Hill Parish Council	• Developers	• Local communities and landowners	• South Cambridgeshire District Council
• Bedford Group of Internal Drainage Boards	• East Cambridgeshire District Council	• Local Planning Authorities	• St Ives Town Council
• Cambridge City Council	• Ely Group of Internal Drainage Boards	• Middle Level Commissioners	• St Neots Town Council
• Cambridge Water	• Environment Agency	• National Highways	• Water Resources East
• Cambridgeshire and Peterborough Local Resilience Forum	• Fenland District Council	• Network Rail	

Objective 1: Understanding flood risk in Cambridgeshire	
1.5A – Investigations into Flood Risk in Huntingdon	
<p>Huntingdon has been identified through both the Preliminary Flood Risk Assessment and the development of the Drainage and Wastewater Management Plan as being a priority location for a better understanding of local flood risk. As described in section 3.3.1, local experience of flooding at these locations has been comparatively low historically. Future risk needs to be reviewed and future interventions prioritised against that risk.</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time plus site investigations/modelling <£50k
<b>Drivers:</b> Flood Risk Management Plan, Drainage and Wastewater Management Plans, Local Flood Risk Management Strategy, National Once Measures	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Anglian Water, Huntingdonshire District Council
<b>District:</b> Huntingdonshire	<b>Progress:</b>
1.6A – Updating wet spots and understanding of the impact of changes in climate	
<p>As a part of the original Local Flood Risk Management Strategy the county council carried out an assessment to betterment understand areas of greater risk in Cambridgeshire, based on the national surface water flood risk maps. This process, like that carried out as a part of the Preliminary Flood Risk Assessment highlights anticipated risk but does not necessarily incorporate existing knowledge or make allowances for Climate Change. National Flood Risk Assessment 2 (NaFRA 2) is currently underway and due to provide updated maps in future years. In addition to this there is work that has already taken place and actions that are planned to better understand the local risk to ensure future assessments are better informed. The county council will work with partners to consider how best to approach the update of this assessment and whether it is appropriate to carry out an assessment that builds in more local understanding or to wait until the NaFRA2 results are available.</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time plus site investigations/ modelling <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy, National Once Measures, Flood Risk Regulations, Climate Change and Environment Strategy	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>
1.7A – Developing solutions to improve catchment understanding	
<p>Investigations into flood events can highlight gaps in knowledge in areas such as the functionality and connectivity of surface water assets, a part of the investigations is to improve that understand with partners and as such this was identified as National Once Measure. There is no statutory function for the county council to explore catchment interactions beyond the investigation or gather details that could feed into future business cases for schemes, the resources for this are constrained. As such an action has been included to work with partners to improve catchment understanding and to explore opportunities that allow the county council and its partners to fill knowledge gaps. Previous progress in this area includes successfully obtaining national funding to deliver some localised modelling of flood risk and being a partner in the Anglian Rain Gauge project which will provide an opportunity to better understand how catchments react to differing rainfall events.</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time plus site investigations/ modelling <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy, National Once Measures, Flood Risk Regulations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

**1.8A – Future Fens: Integrated Adaptation partnership working**

Cambridgeshire County Council will continue to work with Anglian Water and other partners on the development of the Future Fens: Integrated Adaptation programme and explore opportunities for projects which can provide flood risk improvements and wider benefits for residents and the environment within the Fens. The nature of the strategic approach to the environment, water resources and flood risk management will result in this work affecting all of Cambridgeshire. Projects will be planned and incorporated into future updates of the Local Flood Risk Management Strategy Action Plan.

<b>Timescale:</b> Long term	<b>Cost:</b> Staff time
<b>Drivers:</b> Local Flood Risk Management Strategy, Climate Change and Environment Strategy	<b>Lead partner:</b> Anglian Water <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

**1.9A – Future Fens: Flood Risk Management partnership working**

Cambridgeshire County Council will continue to work with the Environment Agency and other partners to support engagement on and develop, the vision for the Future Fens: Flood Risk Management within the Fens and Lowlands Strategic Area. The nature of the strategic approach to flood risk management and wider benefits will result in this work affecting all of Cambridgeshire. Projects will be planned and incorporated into future updates of the Local Flood Risk Management Strategy Action Plan.

<b>Timescale:</b> Long term	<b>Cost:</b> Staff time
<b>Drivers:</b> Flood Risk Management Plans, National Strategy Objectives, National Once Measures	<b>Lead partner:</b> Environment Agency <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

**1.10A – Drainage and Wastewater Management Plan partnership working**

As discussed in this strategy the Drainage and Wastewater Management Plan will help to inform future investment in infrastructure that will support future development and improve the resilience against existing flood risk. These plans have considered the development areas set out in the District and City Councils Local Plans. There is no statutory requirement for Risk Management Authorities to be involved in the development of these Plans but by doing so Risk Management Authorities can provide local knowledge and share ambitions so solutions can potentially provide multiple functions where necessary. Cambridgeshire County Council will contribute to these conversations.

<b>Timescale:</b> 2022	<b>Cost:</b> Staff time
<b>Drivers:</b> Local Flood Risk Management Strategy	<b>Lead partner:</b> Anglian Water <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

1.11A – IDB catchment modelling	
Updated modelling of North Level Internal Drainage Board district catchments	
<b>Timescale:</b> 2027	<b>Cost:</b> Staff time <£50k
<b>Drivers:</b> Partnership scheme	<b>Lead partner:</b> North Level IDB <b>Other Bodies:</b> Anglian Water, Internal Drainage Boards and LLFA partners
<b>District:</b> Fenland	<b>Progress:</b>
1.12A – Completion of Anglian Rain Gauge project	
Installation of rain gauges and supporting software	
<b>Timescale:</b> 2021	<b>Cost:</b> Staff time plus maintenance costs <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council
<b>District:</b> All	<b>Progress:</b>
1.13A – Integrated model for March	
Following the delivery of a surface water management plan for March in 2014 the council have been working with partners to deliver the actions in that plan, however, significant barriers to delivery have been consistently hindered progress. Project viability means progress as part of the normal capital programme is not feasible. Comprehensive modelling of all flood risk is needed to fully quantify the flood risk in the town, identify innovative solutions, and unlock more funding for the projects.	
<b>Timescale:</b> 2023	<b>Cost:</b> Officer time, site investigations, modelling <£50k
<b>Drivers:</b> Flood Risk Management Plan, Surface water management plans and Section 19 investigations	<b>Lead partner:</b> Anglian Water <b>Other Bodies:</b> Cambridgeshire County Council
<b>District:</b> Fenland	<b>Progress:</b>
1.14A – Ground water investigations/ studies	
Information gathering to improve understanding of ground water across the county.	
<b>Timescale:</b> Long term	<b>Cost:</b> Officer time and surveys <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b>
<b>District:</b> All	<b>Progress:</b>

<b>1.15A – Anglian Water to investigate capacity issues in Alconbury and consider mitigation measures</b>	
To investigate capacity within public sewers and the impact associated with high water levels in the adjacent brooks	
<b>Timescale:</b> 2022	<b>Cost:</b> Unknown
<b>Drivers:</b> Flood Risk Management Plan	<b>Lead partner:</b> Anglian Water <b>Other Bodies:</b> Cambridgeshire County Council
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>1.16A – Brampton: Explore opportunities for flood resilience schemes</b>	
Identification and delivery of flood alleviation schemes following outcomes of the area Flood Investigation Report. These measures would be in addition to any investigative or enforcement activities carried out by the county council following flood events.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>1.17A – The Offords: Explore opportunities for flood resilience schemes</b>	
Identification and delivery of flood alleviation schemes following outcomes of the area Flood Investigation Report. These measures would be in addition to any investigative or enforcement activities carried out by the county council following flood events.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>1.18A – Swavesey: Explore opportunities for flood resilience schemes</b>	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> South Cambridgeshire	<b>Progress:</b>

<b>1.19A – Broughton: Explore opportunities for flood resilience schemes</b>	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>1.20A – Godmanchester: Explore opportunities for flood resilience schemes</b>	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>1.21A – Ramsey: Explore opportunities for flood resilience schemes</b>	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>1.22A – Sawtry: Explore opportunities for flood resilience schemes</b>	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>



1.23A – Buckden: Explore opportunities for flood resilience schemes	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
1.24A – Wimblington: Explore opportunities for flood resilience schemes	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Fenland	<b>Progress:</b>
1.25A – Chatteris: Explore opportunities for flood resilience schemes	
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and Project Contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Fenland	<b>Progress:</b>

<b>Objective 2: Managing the Likelihood of flooding</b>	
<b>2.7A – Identifying new opportunities to improve flood resilience</b>	
<p>The Anglian Flood Risk Management Plan identifies a measure for the county council to investigate flooding events and identify new opportunities for improving resilience in the catchment. Investigations by the county council and its partners will help to highlight areas of flood risk where steps could be taken to improve the resilience of that community. This could come from sources such as Section 19 reports or operational findings and any proposed actions will be discussed with partners and possible funding bodies.</p>	
<b>Timescale:</b> 2023	<b>Cost:</b> Officer time and investigative costs
<b>Drivers:</b> Local Flood Risk Management Strategy Objectives and Flood Risk Management Plan	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>
<b>2.8A – St Neots: Explore opportunities for flood resilience schemes</b>	
<p>Following flood events in December 2020, investigations led to a Section 19 report. Flooding was experience from surface water and main river, initial findings highlight that a range of potential measures may be required both in St Neots and upstream of St Neots. Opportunities associated with existing projects around the town and the potential for partnership working will be explored as a priority.</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council and Environment Agency <b>Other Bodies:</b> Anglian Water, National Highways, Network Rail, Developers, Huntingdonshire District Council, St Neots Town Council and Local Communities
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>2.9A – St Ives: Explore opportunities for flood resilience schemes</b>	
<p>Following flood events in December 2020, investigations led to a Section 19 report. Flooding was experienced from surface water, main river, ordinary watercourses, and sewers. Extensive maintenance work has been carried out following flood events. The Environment Agency have commissioned modelling to assess the impact of blockages on the local river network and an independent report into the potential impacts on commercial and industrial areas has been commissioned locally. Initial findings highlight the need for maintenance, the potential impact of landscape management upstream and the exacerbation of the flooding caused by saturated ground. The need for interventions and potential opportunities is being explored, the county council is working in partnership with other parties to identify potential interventions and ensure that those interventions do not detrimentally impact on other sources of risk.</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council and Environment Agency <b>Other Bodies:</b> Anglian Water, Huntingdonshire District Council, St Ives Town Council and Local Communities
<b>District:</b> Huntingdonshire	<b>Progress:</b>

<b>2.10A – Cambridge: Explore opportunities for flood resilience schemes</b>	
The county council will continue support Cambridge City Council in the development and delivery of flood resilience measures.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Flood Risk Management Plan, Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council and Cambridge City Council <b>Other Bodies:</b> Anglian Water and Local Communities
<b>District:</b> Cambridge	<b>Progress:</b>
<b>2.11A – March: Explore opportunities for flood resilience schemes</b>	
March has suffered from multiple flood events in recent years, details around the extent of those events and the locations around March experiencing those issues can be found in the March Section 19 reports available online. A range of interventions will be required at multiple locations around March, with some already identified, there has been experience of difficulties in delivery for historic projects in the town and exploring how to overcome these barriers will require innovation in areas such as funding. Funding previously secured is anticipated to be available for future projects if deliverable schemes can be identified. Progress against 1.14A will work to inform this action.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions £500-1m
<b>Drivers:</b> Flood Risk Management Plan, Section 19 Investigations, Surface Water Management Plan, National Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Anglian Water, Fenland District Council, Middle Level Commissioners and Local Communities
<b>District:</b> Fenland	<b>Progress:</b>
<b>2.12A – Chalk Stream trials on River Granta catchment</b>	
The Granta Catchment Programme Catchment Management Plan was drafted in partnership in 2021 and looks to consider a whole catchment approach to the management of this important Chalk Stream. A range of measures have previously been identified on the main river section of the catchment and are being progressed by CamEO. The county council is working with partners, including landowners, to identify and plan delivery of measures upstream to provide improvements to the chalk streams including using nature based solutions to slow flow, clean water and recharge the ground waters.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project delivery £500-1m
<b>Drivers:</b> Flood Risk Management Plan, Climate Change and Environment Strategy	<b>Lead partner:</b> Cambridgeshire County Council, Cambridge Water, land owners group, CamEO, Water Resources East <b>Other Bodies:</b> Local communities
<b>District:</b> South Cambridgeshire	<b>Progress:</b>

<b>2.13A – Bar Hill Flood Alleviation Scheme</b>	
Alleviation scheme(s) being developed following recent study	
<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and project delivery £100-500k
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Bar Hill Parish Council
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>2.14A – St Neots Tributaries and A428 drainage improvements</b>	
Flood alleviation schemes to the east of St Neots	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project delivery £100-500k
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> National Highways, Environment Agency <b>Other Bodies:</b> Cambridgeshire County Council
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>2.15A – Public Sector Co-operation Agreements covering Cambridgeshire area</b>	
The county council will investigate opportunities for cost savings through partnership working with other authorities, including potential Public Sector Co-operation agreements with partners to co-deliver work at cost	
<b>Timescale:</b> 2024	<b>Cost:</b> Officer time
<b>Drivers:</b> Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Internal Drainage Boards and Districts
<b>District:</b> All	<b>Progress:</b>
<b>2.16A – Greater integration between Cambridgeshire Lead Local Flood Authority and Local Highways Authority</b>	
Cambridgeshire LLFA and LHA to work together to better coordinate roles in enforcement, investigation, and potential scheme delivery	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time
<b>Drivers:</b> Flood Risk Management Plan and Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b>
<b>District:</b> All	<b>Progress:</b>

<b>2.17A – Explore opportunities for NFM in the Cam and its tributaries</b>	
Partnership working in the Cam to explore opportunities for further NFM schemes and alternative land management practices to benefit the water environment	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project delivery £100-500k
<b>Drivers:</b> Flood Risk Management Plan and Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Environment Agency <b>Other Bodies:</b> Cambridgeshire County Council, LCs and Districts and Catchment Partnerships
<b>District:</b> South Cambridgeshire, East Cambridgeshire, and Cambridge	<b>Progress:</b>
<b>2.18A – Birch Fen OWC improvements</b>	
Delivery of programmed watercourse improvements by Fenland District Council	
<b>Timescale:</b> 2023	<b>Cost:</b> Officer time and project contributions £100-500k
<b>Drivers:</b> Partner Scheme	<b>Lead partner:</b> Fenland District Council <b>Other Bodies:</b>
<b>District:</b> Fenland	<b>Progress:</b>
<b>2.19A – Kelvin Close SW Scheme</b>	
Delivery of programmed surface water flood alleviation scheme for Kelvin Close	
<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and project contributions £50-100k
<b>Drivers:</b> Partner Scheme	<b>Lead partner:</b> Cambridge City Council <b>Other Bodies:</b>
<b>District:</b> Cambridge	<b>Progress:</b>
<b>2.20A – Brunswick SW Scheme</b>	
Delivery of programmed surface water flood alleviation scheme for Brunswick	
<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and project contributions £50-100k
<b>Drivers:</b> Partner Scheme	<b>Lead partner:</b> Cambridge City Council <b>Other Bodies:</b>
<b>District:</b> Cambridge	<b>Progress:</b>

<b>2.21A – Catch Water Drains Study</b>	
Study of Catch Water Drains in in Ely Group Internal Drainage Boards catchment	
<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Partner Scheme	<b>Lead partner:</b> Ely Group of Internal Drainage Boards <b>Other Bodies:</b> Environment Agency
<b>District:</b> East Cambridgeshire	<b>Progress:</b>
<b>2.22A – Alconbury: Explore opportunities for flood resilience schemes</b>	
Identification and delivery of flood alleviation schemes including measures in the Anglian Flood Risk Management Plan to address the identified Flood Risk Area. These schemes would complement those already identified within the action (Notably 1.15A, 3.9A and 5.8A)	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Section 19 Investigations and Flood Risk Management Plan	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> Huntingdonshire	<b>Progress:</b>
<b>2.23A – Linton: Explore opportunities for flood resilience schemes</b>	
Identification and delivery of flood alleviation schemes pending outcome of Flood Investigation Report. Cambridgeshire County Council will work closely with partners to ensure that opportunities arising from river improvements in the Granta Catchment (2.12A) provide for benefits to the flood risk in Linton. These measures would be in addition to any investigative or enforcement activities carried out by the county council following flood events.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Section 19 Investigations	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> South Cambridgeshire	<b>Progress:</b>

<b>Objective 3: Helping Cambridgeshire's citizens to manage their own risk</b>	
<b>3.4A – Promotion of property flood resilience and associated funding</b>	
<p>Cambridgeshire County Council are a part of the OxCam Property Flood Resilience Pathfinder Project funded by government. The main aim of this project is to increase awareness of property flood resilience measures. Promotional events associated with this project are being delivered in summer 2021, with the project end date anticipated as September 2021. Resources from this project will continue to be used as a part of the Community Flood Action Programme (3.5A) and in turn as an ongoing resource to community risk and solutions to the public (3.3M).</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time, supporting and educational resources <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Once Measures, Flood Risk Management Plan	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>
<b>3.5A – Community Flood Action Programme</b>	
<p>In 2021-22 the Community Flood Action Programme started with the aims to;</p> <ul style="list-style-type: none"> <li>· Develop guidance on riparian watercourse management</li> <li>· Establish a flood group network</li> <li>· Deliver flood risk management training for communities</li> <li>· Develop a new one-stop shop flood risk information website</li> <li>· Improve the flood reporting system</li> <li>· Improve the mapping of watercourses across the County</li> </ul> <p>The Flood Risk Management Plan sets a measure to engagement specifically with communities at risk in March, the county council will look to work more widely with priority communities across the whole of Cambridgeshire. This work will consider the individual needs of the different communities affected by risk and look at how to overcome their challenges.</p>	
<b>Timescale:</b> 2022	<b>Cost:</b> Officer time, supporting and educational resources £500-1m
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Once Measures	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Fenland District Council, Huntingdonshire District Council, East Cambridgeshire District Council, South Cambridgeshire District Council
<b>District:</b> All	<b>Progress:</b>

### 3.6A – Riparian responsibilities engagement

Since the last iteration of this strategy the county council has developed riparian guidance and shared this widely among other Lead Local Flood Authorities and partners of the Cambridgeshire and Peterborough Flood and Water Partnership. More recent flood events have highlighted the risk associated with a lack of maintenance on drainage and flood risk assets, notably including the lack of riparian maintenance. Ensuring that watercourses are maintained to prevent flooding is crucial. Section 5 discusses riparian rights and responsibilities. The county council, the Environment Agency and Internal Drainage Boards have permissive powers under the Land Drainage Act 1991 that they can use, funding permitting, for certain essential works and to enforce prohibitions on obstructions being placed in watercourses. Legislation related to fly tipping may also be used where this is appropriate. Any obstructions to the flow of watercourses could increase local flood risk. The Flood Risk Management Plan sets a measure for engagement specifically on riparian responsibilities in March. The county council will look to work more widely with priority locations across the whole of Cambridgeshire. This work will initially form a part of the Community Flood Action Programme and then continue thereafter. Additionally, there are other water management schemes that landowners may have already engaged with, which bring a wide range of other benefits to Cambridgeshire. Farm stewardship schemes encouraged by Natural England and Nene Park Trust seek to reduce soil erosion into nearby water bodies and therefore improve water quality. Anglian Water is also increasing the scale of its catchment advisory scheme which aims to help reduce the impacts of chemical fertilisers and pesticides in our water supply. It is important that any new schemes relating to riparian responsibilities are complimentary and do not create unnecessary burden for agricultural landowners or detract from these existing beneficial schemes.

<b>Timescale:</b> 2027	<b>Cost:</b> Officer time <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Flood Risk Management Plan and National Once Measures	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

### 3.7A – Awareness raising campaign in Oakington, notably for riparian responsibilities

Environment Agency to work in partnership with others to raise awareness of risks and responsibilities in the catchment, alongside delivery of other measures in the Anglian Flood Risk Management Plan to address the identified Flood Risk Area in Oakington.

<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and modelling or investigation costs <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Once Measures	<b>Lead partner:</b> Environment Agency <b>Other Bodies:</b> Cambridgeshire County Council
<b>District:</b> South Cambridgeshire	<b>Progress:</b>



### 3.8A – Engagement plan for Alconbury developed in partnership

The Environment Agency will work with the Parish Council and County Council to develop an engagement plan in Alconbury to promote partnership working and raise awareness of risk

<b>Timescale:</b> 2023	<b>Cost:</b> Officer time
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Once Measures	<b>Lead partner:</b> Environment Agency <b>Other Bodies:</b> Cambridgeshire County Council and Local Communities
<b>District:</b> Huntingdonshire	<b>Progress:</b>

<b>Objective 4: Ensuring appropriate development in Cambridgeshire</b>	
<b>4.4A – Build the evidence base for local flood risk to inform future development and investment decisions</b>	
As a part of the county council's role to better understand local flood risk and act as statutory consultee in major planning applications it is crucial that the LLFA have the best information available to assess the risk and to help inform future reviews of planning guidance or development proposals. The county council will continue to gather information from flooding reports to help inform future decisions and look to explore new opportunities to build the evidence base.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and modelling or investigation costs <£50k
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Once Measures	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Local Planning Authorities
<b>District:</b> All	<b>Progress:</b>
<b>4.5A – Update Cambridgeshire Flood and Water Supplementary Planning Document (SPD)</b>	
This SPD is a formally adopted part of Cambridgeshire's suite of planning policy documents. One of the principal actions set out in the Local Flood Risk Management Strategy is to ensure that the SPD is used, understood, and followed by planners working on new development. The SPD provides planning guidance on: <ul style="list-style-type: none"> <li>How to assess whether or not a site is suitable for development based on flood risk grounds.</li> <li>The use of different sustainable drainage measures within Cambridgeshire.</li> <li>The protection of aquatic environments and how development can contribute positively to the Water Framework Directive.</li> </ul> An update of the SPD would allow consideration of the evolution to local and national policies and consideration of the need for new development to be ready to adapt to changing risks.	
<b>Timescale:</b> 2023	<b>Cost:</b> Officer time
<b>Drivers:</b> Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Local Planning Authorities
<b>District:</b> All	<b>Progress:</b>
<b>4.6A – Surface Water Management Guidance document for Planning</b>	
This guidance document was updated in June 2021 and all changes to industry guidance has been considered as a part of that update. The county council will monitor further progress on National guidance and best practice and review this guidance as required.	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time
<b>Drivers:</b> Local Flood Risk Management Strategy objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> Local Planning Authorities
<b>District:</b> All	<b>Progress:</b>

#### 4.7A – Seek opportunities to work with those delivering development and infrastructure projects to improve existing flood risk

The Partnership Funding process described in section 7 will not fund flood risk management works to ‘new’ development. This is defined as any development built since 1st January 2009. This is because the appropriateness, design, and safety of all new developments with regards to all sources of flood risk should have been fully considered as part of the planning process. If funding is required for schemes that relate to new development or redevelopment it will be sought through developer contributions from organisations with an interest in the land or improved infrastructure. The potential for funding from CIL, POIS and S106 is explained further on each website of the Local Planning Authorities. In future environmental net gain introduced by the Environment Bill will require new development to provide environmental betterment, it is anticipated that this could include local flood risk and the wider water environment. The county will work with its partners to share ambitions and prepare for such opportunities.

<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and project contributions
<b>Drivers:</b> Climate Change and Environment Strategy, Local Flood Risk Management Strategy objectives, Doubling Nature and 25 Year Environment Strategy	<b>Lead partner:</b> All <b>Other Bodies:</b> Local communities
<b>District:</b> All	<b>Progress:</b>

#### 4.8A – Work with OxCam group to influence regional development guidance

The OxCam Growth Arc described earlier in this Strategy will have significant impacts on the environment in the region, with a potential to increase flood risk, increase pollution and demand for water among other concerns. In response to these challenges several initiatives have started to prepare for the planned new development, examples of this include the OxCam Local Natural Capital Plan, a strategic review of flood risk known as the OxCam Storage and Conveyance Project and a government commitment to develop a Spatial Framework to cover the Arc. The county council already work closely with the Lead Local Flood Authorities in other parts of the Arc on a regular basis and will build on this relationship in preparation of engaging with this work. The county council and Local Planning Authorities have guidance and assessments in place to help guide development. This work is expected to provide opportunities to further explore the catchment wide impact of development and influence the development in the wider area which will impact on the level of risk in the county.

<b>Timescale:</b> 2027	<b>Cost:</b> Officer time
<b>Drivers:</b> Climate Change and Environment Strategy, Local Flood Risk Management Strategy objectives, National Once Measure	<b>Lead partner:</b> All <b>Other Bodies:</b> N/A
<b>District:</b> All	<b>Progress:</b>

#### 4.9A – Alignment of ambitions to inform Net Gain opportunities

Anticipated legislative changes are expected to provide opportunities to improve the existing state of the environment within Cambridgeshire. To be fully prepared for such opportunities and improve the potential for partnership working, Risk Management Authorities across Cambridgeshire should share their ambitions and identify opportunities for delivery and efficiencies.

<b>Timescale:</b> Long term	<b>Cost:</b> Officer time
<b>Drivers:</b> Climate Change and Environment Strategy	<b>Lead partner:</b> Cambridgeshire County Council, Fenland District Council, Huntingdonshire District Council, East Cambridgeshire District Council, South Cambridgeshire District Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

#### 4.10A – SuDS in Schools support

As a part of development requirements there will be a continued increase in Sustainable Drainage Systems within schools, the LLFA will work to support the development of those schemes as a part of their planning consultation process.

<b>Timescale:</b> Long term	<b>Cost:</b> Officer time
<b>Drivers:</b> Climate Change and Environment Strategy	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> N/A
<b>District:</b> All	<b>Progress:</b>

<b>Objective 5: Improving flood prediction, warning, and post flood recovery</b>	
<b>5.3A – Review of processes associated with Highway flood related closure</b>	
<p>Cambridgeshire has several roads which are managed by the Cambridgeshire Highways Authority that are prone to closures periodically because of flooding. This includes the A1123 east of Earith and B1040 north of Whittlesey. These closures can have a considerable diversion route and as such have an impact of the isolation of rural communities, a potential carbon impact as well as financial implications for local businesses and residents. The process for the closure of these roads is reviewed periodically by the Local Highway Authority and technological changes will be monitored to see if economic solutions can be identified to improve the local service.</p>	
<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and potential infrastructure
<b>Drivers:</b> Flood Risk Management Plan, Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> N/A
<b>District:</b> All	<b>Progress:</b>
<b>5.4A – Review of emergency response plans</b>	
<p>As described in 5.1M, emergency response plans are developed by members of the Cambridgeshire and Peterborough Local Resilience Forum to set out processes for responding to significant events. This includes Plans for responding to severe weather and flooding events. The plan relating to flooding is awaiting a government review before it can be updated, government response is anticipated in the autumn of 2021. Updates will then be incorporated into that plan with an intention to test that plan as a part of a regional event in 2022. As a part of the review of the plans, consideration will be made with regards to how vulnerable individuals are identified in an emergency and how it is possible to ensure that they can be supported during an incident. In addition to these emergency response plans there are also business continuity plans and as outlined in the Climate Change and Environment Strategy, the county council intend to ensure that flooding and other climate relating risks are covered within the business continuity plans.</p>	
<b>Timescale:</b> 2023	<b>Cost:</b> Officer time and event costs
<b>Drivers:</b> Climate Change and Environment Strategy, Local Flood Risk Management Strategy Objectives, National Once Measure	<b>Lead partner:</b> Cambridgeshire And Peterborough Local Resilience Forum <b>Other Bodies:</b> Cambridgeshire County Council
<b>District:</b> All	<b>Progress:</b>
<b>5.5A – Explore the use of telemetry in operation and emergency management</b>	
<p>As technology develops opportunities exist to better use data, either live or after events, to improve responses to floods, provide warnings, find efficiencies in maintenance delivery, or provide a greater evidence base to validate projects. As opportunities to trial new technologies are available the council will work with partners to explore how services can be improved for residents.</p>	
<b>Timescale:</b> 2027	<b>Cost:</b> Officer time and infrastructure costs <£50k
<b>Drivers:</b> Climate Change and Environment Strategy, Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

#### 5.6A – Flood Risk built into Business contingency plans in council

Recent changes to council assets will require a review of contingency plans held by the county, the Climate Change and Environment Strategy detailed a need to consider climate change threats within those plans. Flood Risk, as one of the identified risks needs to be fully considered in the impact on the delivery of services.

<b>Timescale:</b> 2023	<b>Cost:</b> Officer time
<b>Drivers:</b> Climate Change and Environment Strategy, Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

#### 5.7A – CAMBRIDGESHIRE AND PETERBOROUGH LOCAL RESILIENCE FORUM to be involved in national event to test response plans

The Cambridgeshire and Peterborough Local Resilience Forum maintain plans which are activated during an emergency to inform emergency responders of the processes to follow during an emergency, these plans are regularly reviewed and tested. Future plans include a National test of emergency plans which the Cambridgeshire And Peterborough Local Resilience Forum will be involved in.

<b>Timescale:</b> 2023	<b>Cost:</b> Officer time, venue, and possible resource support <£50k
<b>Drivers:</b> Civil Contingencies Act, Local Flood Risk Management Strategy Objectives	<b>Lead partner:</b> Cambridgeshire County Council <b>Other Bodies:</b> All
<b>District:</b> All	<b>Progress:</b>

#### 5.8A – Explore flood warning in Alconbury

As a part of delivery of other Flood Risk Management Plan measures, the Environment Agency will work with the county to investigate the potential for early warning systems in the Alconbury catchment

<b>Timescale:</b> 2025	<b>Cost:</b> Officer time and potential infrastructure <£50k
<b>Drivers:</b> Flood Risk Management Plan	<b>Lead partner:</b> Environment Agency <b>Other Bodies:</b> Cambridgeshire County Council
<b>District:</b> Huntingdonshire	<b>Progress:</b>

## Business Planning Proposals for 2022-27 – opening update and overview

To: Environment and Green Investment

Meeting Date: 16 November 2021

From: Steve Cox, Executive Director for Place & Economy

Electoral division(s): All

Key decision: No

Outcome: This report continues the process of setting the business plan and financial strategy for 2022-27 which will culminate at the February Full Council. Through this report, Members will gain awareness of:

- The current business and budgetary planning position and estimates for 2022-27;
- The principal risks, contingencies and implications facing the Committee and the Council's resources; and
- The process and next steps for the council in agreeing a business plan and budget for future years.

Recommendation: The Committee is being asked to:

- a) Note the progress made to date and next steps required to develop the 2022-23 to 26-27 Business Plan; and
- b) Consider the budget and savings proposals that are within the remit of the Committee as part of the consideration of the Council's overall Business Plan.

### Officer contact:

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## 1. Purpose and background

- 1.1 The Council's Business Plan sets out how we will spend the resources we have at our disposal to achieve our vision and priorities for Cambridgeshire, and the outcomes we want for people. This paper provides an overview of the updates to the Council's financial position since September 2021 when Committees were provided with an update on the draft Business Plan for 2022-27. The paper sets out the changes to key assumptions impacting financial forecasts, further risks and opportunities and next steps required to balance the budget and agree the Council's Business Plan for 2022-27.
- 1.2 For context, the previous update on business planning provided to committee in September can be found here: [Environment & Green Investment](#)
- 1.3 The update in September showed a budget gap in the first year of the new business plan, 2022/23, that was larger than in the previous business plan. This was due to refreshed estimates of the impact of demand growth on services, and several new service pressures requiring funding.
- 1.4 This update shows the progress that has been made to identify opportunities to re-baseline budgets, make savings, and generate additional income, resulting in progress being made towards closing the budget gap in 2022/23. At the same time, further service pressures and investments are proposed to be funded. The result of these is a budget gap at this stage of £19.5m for 2022/23, and gaps in future years are set out at the end of the table in Section 3.2.

## 2. Context

- 2.1 On 9 February 2021, Full Council agreed the Business Plan for 2021-2026. This included a balanced budget for the 2021-22 financial year with the use of some one-off funding but contained significant budget gaps for subsequent years as a result of expenditure exceeding funding estimates. These budget gaps (expressed as negative figures) were:

2021-22	2022-23	2023-24	2024-25	2025-26
balance	-£22.2m	-£14.7m	-£15.1m	-£12.0m

- 2.2 The impacts of COVID-19 on the Council have been unprecedented and the pandemic remains a key factor and uncertainty in planning our strategy and resource deployment over the coming years. The Council continues to take a central role in coordinating the response of public services to try and manage the complex public health situation, impact on vulnerable people, education of our children and young people and economic consequences. Looking ahead we know that challenges remain as the vaccination programme progresses and winter illnesses re-emerge. We are already seeing the impacts of the pandemic on our vulnerable groups as well as those who have become vulnerable as a result of health or economic impact of the pandemic. Longer term there will be significant increases and changes in the pattern of demand for our services alongside the economic aftereffects. In this draft business plan, there are COVID-19 impacts across demand for services, pricing and supplier changes, and impacts on funding and income. Emerging work is shifting the Council's decision-making framework to prioritise sustainable development for



our county, whereby our citizens' social foundations are strengthened in the context of pandemic recovery and ongoing ecological emergency.

- 2.3 Whilst the financial settlement for the response to the pandemic last year was sufficient, predicting the on-going implications and financial consequences of COVID-19 remains challenging, particularly in terms of the impact on demand for council services. It is especially important this year that we keep these estimates under review as circumstances are so changeable over the course of this year. In this update, there is a reduction in the assessed cost of older people's services as a result of review of the "baseline" level of demand and need. This is shown in the table at 3.2 as a £2.4m budget reduction, reflecting that the number of people receiving support at the beginning of this year was lower than planned for, the result of COVID-19 loss. During this year there has been growth in numbers for support, and patterns of demand are challenging to predict.
- 2.4 Besides the pandemic, the other major risks and uncertainties in setting budgets for 2022-27 include the potential for national policy changes, such as reform of social care funding, the need for a multi-year funding settlement from government, the availability and sustainability of supply chains and resources, and changing patterns of demand for our services that has been a longer-term trend. The Council must make its best estimate for the effect of known pressures when setting its budget and retain reserves to mitigate against unquantifiable risks.
- 2.5 Government has announced that there will be significant reform of social care funding with effect from October 2023, this includes a cap on the amounts that people will have to contribute to their care costs during their lifetime and significant revisions to the asset thresholds for making contributions towards those costs. £5.4bn per annum has been identified nationally as the cost of these changes and further details are awaited in terms of how this will be operated. There are wide and complex changes for the Council as a result, including:
- the direct impact of the funding reforms on lifetime caps and asset thresholds
  - the need to assess a much wider number of people, including those who would previously have fully funded their own care (self-funders) who will be counting their costs towards the cap
  - an anticipated reduction in the difference in prices of care purchased by individuals and local authorities
  - the impact of the new Health & Social Care levy on costs, both on the Council and suppliers (and for employers and employees)

It is important to note that the new funds announced nationally do not address underlying funding issues for social care, such as historic funding or surges in demand and costs emerging from the pandemic.

- 2.6 With changes in local and national policy coinciding with hopes for a stabilisation of the public health response to the pandemic, the overarching themes we have identified to help us develop the Business Plan are as follows:
- Economic recovery
  - Prevention and Early Intervention
  - Decentralisation

- Environment & climate emergency
- Social Value
- Efficiency and effectiveness of Council services

### 3. Financial Overview

3.1 The September report set out in detail the changes to demand and inflation projections that make up a significant part of the initial budget refresh. We are now in a stage generally of identifying ways to close the budget gap through savings, income generation and budget rebaselining. We will also continue to review funding assumptions as further government announcements or local taxation estimates are made.

3.2 Following the addition of the next round of proposals to partially close the budget gap, as well as further service pressures and investments, the revised budget gap is set out in the table below:

	£000				
	2022-23	2023-24	2024-25	2025-26	2026-27
<b>Budget gap at September Committees</b>	<b>23,411</b>	<b>16,123</b>	<b>17,903</b>	<b>14,678</b>	<b>14,256</b>
<b>Budget Reviews and Re-baselining</b>					
Budget rebaselining in Adults	-2,405				
Budget rebaselining in Children's	-250				
<b>Inflation and Demand Adjustments</b>					
Staff costs inflation refresh	331	326	328	327	329
Adults demand projection adjustments	-73	-28	-29	-30	10
<b>Service Pressures &amp; Investments</b>					
Pressures in Children's Services and Education	-250	250	732		
Pressures in Corporate Services	1,297	-246	-5	-35	-35
Pressures in Place & Economy	260		-650		-1,000
Investments in Adults & Health	322	170			
<b>New or Amended Savings</b>					
New savings in Adults & Health	-1,361	70			
New savings in Communities	-450				
New savings in Corporate Services	-29				
Savings rephasing Children's Services	46	-54	-100		
Savings rephasing in Adults & Health	543	568	-51	31	
New savings in Place & Economy	-335	-130			
<b>Other changes</b>					
Energy schemes - phasing of spend and income	-938	932	287	-18	-131
Commercial income rephasing & Covid impact	519	-99	-296	-90	57
Changes in funding estimates	-1,157	329	-60	1,682	484
<b>Revised budget gap at October/November Committees</b>	<b>19,481</b>	<b>18,211</b>	<b>18,059</b>	<b>16,545</b>	<b>13,970</b>
Change in budget gap	-3,930	2,088	156	1,867	-286

3.3 More detail about the proposals that make up this table relevant to this committee are set out in section 4 below.

- 3.4 It is important to bear in mind that the lines in the table in 3.2, and the equivalent table presented to the committee in September, only show the changes made compared to the current business plan. In some cases, there were already proposals effecting 2022/23 budgets and beyond in the current business plan. The full set of proposed budget changes for this committee can be found in the attached budget table in Appendix 1b.
- 3.5 There remains a significant budget gap for 2022/23 and growing gaps in future years. Intensive work is continuing to identify further mitigations, and to review pressures that are already proposed to be funded.
4. **Business Planning context for Environment and Green Investment committee**
- 4.1 This section provides an overview of the pressures, savings, investments, or income proposals within the remit of the Committee.
- 4.2 The Committee is asked to comment on the proposals currently being explored. Further detail and business cases will then come to committee in December ready for recommending to Strategy and Resources Committee in January 2022, for consideration as part of the Council's development of the Business Plan for the next five years. Please note that the proposals being explored that are outlined in this report are still draft at this stage, and it is only at Full Council in February 2022 that proposals are finalised and become the Council's Business Plan.
- 4.3 Draft budget tables are provided in Appendix 1b (Place and Economy) reflecting proposals developed to date. Appendix 1a provides an explanation to the Draft Budget Tables.
- 4.4 The Planning, Growth & Environment, Connecting Cambridgeshire, and Climate Change & Energy Services that all feed into this committee include a range of important functions both statutory and non-statutory. These include strategic planning, transport assessment, archaeology, biodiversity and green open spaces, lead local flood authority and waste management duties, digital connectivity, climate change functions and the delivery of energy projects. These services work together to plan and deliver short, medium and long-term proposals and digital infrastructure, which in the case of energy projects includes providing an income for the Council to support frontline services. These services ensure that the Growth Agenda within Cambridgeshire is properly considered and the appropriate infrastructure planned in. We operate in a challenging funding environment, which has been exacerbated by the pandemic affecting revenue streams. As Cambridgeshire's economy recovers, environmental and digital challenges remain a key focus.
- 4.5 Key Joint Administration Agreement (JAA) priorities linked to the above services are as follows:
- Put Climate Change and Biodiversity at the heart of the Council's work;
  - Give equal weight to the environment and social benefits in all decisions;
  - Look for other ways to promote biodiversity and increase Cambridgeshire's natural capital;
  - Adopt a 'health in all policies' approach by promoting nature and open spaces to benefit residents; and

- Decentralise decisions through participation in place-based partnerships and align ambitions with District Councils, Greater Cambridge Partnership (GCP) and the Greater Cambridge and Greater Peterborough Combined Authority (CPCA).

#### 4.6 Budget Position, Pressures and Savings & Investments being explored

4.6.1 Across the Place and Economy Directorate, savings are required to be identified across this committee and the Highways & Transport Committee. A combination of savings and investments are still being considered across both committees and the investments and future savings being explored for Environment and Green Investment for 2022/23 to fit into the wider savings proposed are set out in paragraph 4.6.3 below.

4.6.2 In addition to the savings and investments being explored, the following pressures have also been identified:

- P&E Management Restructure Costs: In 2021 Place and Economy was restructured creating a pressure of £260K. The focus for changes was to provide a structure that:
  - Provides robust and resilient leadership for the future goals of the Place and Economy directorate;
  - Delivers on our commitment to work in partnership with others for the benefit of our residents and businesses;
  - Better aligns functions within Place & Economy to build cohesion and resilience;
  - Ensures accountability rests at the right level in the organisation through clearly articulated roles and responsibilities;
  - Provides a structure that lays the foundations for us to proactively pursue opportunities to do things differently to improve efficiency and outcomes; and
  - Puts in place supportive systems and processes that enable and facilitate innovative service delivery.
- Waste pressures:
  - Impact on revenue and capital costs associated with recommendations relating to the Best Available Techniques conclusions (BATc) works at the Waterbeach waste processing facilities presented to this committee on 16 September 2021 (£2,684K revenue in 2022/23 reduced by £1,600K to a total of £1,084K in 2023/24); and
  - Revenue pressures on funding resourcing for the RECAP waste partnership likely to result from implementing the Resources and Waste Strategy.

4.6.3 The Climate and Environment emergencies are a priority for the Joint Administration. As a result, the following investment proposals are being explored:

- Countywide Biodiversity Enhancements, a programme to enhance and maximise the benefits to nature, to wellbeing, and natural capital, whilst delivering the commitments of doubling nature.
- Community Flood Action Programme, to continue the innovative proposal that was only funded for one year, to continue supporting the emerging network of Flood Action Groups, provide riparian maintenance grants and develop a robust watercourse enforcement policy

to ensure the negligence and apathy by a minority does not have a detrimental financial and emotional impact on others.

- Managing Climate Risk – this incorporates:
  - Local Area Energy Planning, working towards the creation of a digital and spatial representation of Cambridgeshire’s current energy system and future energy requirements to strategically plan what and where energy infrastructure is needed to get Cambridgeshire to net zero and a smart energy system;
  - Cambridgeshire Decarbonisation Fund, supporting businesses and the community to collaborate on projects to speed up carbon avoidance and carbon removal in Cambridgeshire;
  - Seeking revenue costs for capital energy projects;
  - Reviewing the Environment Fund as part of the Climate Change and Environment Strategy work;
  - Supporting growth and communities, providing additional technical carbon and climate skills to support the wider Council e.g. advising on planning, procurements, and grant funding competitions etc.
- Future Parks legacy ‘Active Parks’, establishing arrangements for Collective Leadership for all parks and open spaces; a Model for Delivery that will secure the benefits of parks; and a Plan for Open Space that will integrate parks and help secure new sources of finance. Officers are seeking collaborative funding from the CPCA and District Councils, to continue this legacy.

- 4.6.4 The proposals being explored above recognise that currently the value of carbon emission reductions and natural capital improvements are not widely monetised and integrated into accountancy practice or the Council’s budget processes. For example, investing in carbon reductions can bring ‘future cost avoidance’ in the form of lower energy bills or reduced highways resurfacing costs and natural capital improvements can increase food productivity or offset health system costs. Further details for these investments are therefore being worked up to allow further information on this to be understood.
- 4.6.5 Whilst the investments being explored in paragraph 4.6.3 will bring identifiable benefits around improved health, wellbeing, environment and quality of life, they will also be able to demonstrate future savings / income in terms of carbon budgeting and natural capital accounting, in line with the Treasury Green Book.
- 4.6.6 Other benefits can be derived from carbon sequestration, ecosystem services, green investment and natural flood risk management. However, the Council will need to develop a model for understanding and drawing upon these.

## 4.7 Public Sector Savings for environmental investments being explored

- 4.7.1 Investments in the areas being explored in paragraph 4.6.3 by this authority will unlock significant savings to the wider public purse across Cambridgeshire. In particular, it will facilitate where and how to manage climate risk and protect vulnerable citizens whilst bringing forward changes to major infrastructures such as transport, power and heating that promote clean air, health and warm homes as a result of clean energy and lower energy bills, to prevent future poverty for our communities as the global competition for resources increases.
- 4.7.2 The impact on the health and wellbeing of residents from the COVID-19 pandemic is still to be fully realised but is likely to be considerable. It is also known that visits to and appreciation of nature and greenspaces increased, as people sought new areas to explore and experience in their locality. Access to good quality nature and open space can deliver tangible health benefits. Recent research for the Future Parks Accelerator project has calculated that such visits deliver a cumulative £375m per annum in benefits, 80% of which are from physical and mental health improvements. This is based on one visit delivering £25 per person, and further investment in our open spaces will increase these benefits.

## 4.8 Triple Sector Savings for environmental investments being explored

### 4.8.1 Business and Community Savings:

Cambridgeshire businesses and communities are looking at Councils for leadership and guidance, especially those that have declared climate emergencies. Businesses are already looking at how to reduce their scope 1, 2 and 3 emissions and there is evidence that businesses can create a competitive advantage where they are already thinking about a low carbon future and cutting their emissions. The Local Area Energy Planning (LAEP) and Cambridgeshire Decarbonisation Fund are strategic mechanisms that will need to be developed in partnership with the public and private sectors but will provide a process and plan to help realise benefits for the Cambridgeshire economy.

### 4.8.2 Social and Environmental Savings:

Investing in our environment to grow our green and blue infrastructure can also deliver tangible savings to the council and to residents. For example, enhancing the ability of our surface water courses to manage rainfall by either holding it back or quickly removing it to rivers reduces the catastrophic impact of potential flooding events on communities and businesses, as well as being a significant financial burden on those public sector bodies responsible for managing such events and the resulting impacts. Changing rainfall patterns make proactive surge management of watercourses an urgent priority to mitigate climate change.

## 5. Next Steps

- 5.1 The high-level timeline for business planning is shown in the table below.

October / November	Service Committees provided with an update of the current position along with information about business cases being prepared and their estimated savings or investment
November / December	Business cases go to committees for consideration
January	Strategy and Resources Committee will review the whole draft Business Plan for recommendation to Full Council
February	Full Council will consider the draft Business Plan

## 6. Alignment with corporate priorities

The purpose of the Business Plan is to consider and deliver the Council's vision and priorities and section 1 of this paper sets out how we aim to provide good public services and achieve better outcomes for communities, whilst also responding to the changing challenges of the pandemic. As proposals are developed, they will consider the corporate priorities:

- 6.1 Communities at the heart of everything we do  
Seeking to invest in our environment is for the benefit of all our communities and residents, particularly in relation to access to public open spaces and flood mitigation measures.
- 6.2 A good quality of life for everyone  
Investment into our environment now will align with ensuring a good quality of life for everyone in Cambridgeshire.
- 6.3 Helping our children learn, develop and live life to the full  
By investing in a framework for net-zero and doubling nature in line with our climate change aspirations we are providing a better environment for our children to learn, develop and live life to the full.
- 6.4 Cambridgeshire: a well-connected, safe, clean, green environment  
The proposed business plan investments for 2022/23 seek to set the framework for valuing net-zero and doubling nature to inform the development of triple bottom line accounting for the medium-term business planning process as well as provide actions to create the strategic mechanisms and partnerships to achieve long term change.
- 6.5 Protecting and caring for those who need us  
The vulnerable in our community are most at risk from the impacts of climate change. These investments will help minimise impacts and support those most in need. Improvements to open space will deliver tangible health and wellbeing improvements.

## 7. Significant Implications

- 7.1 Resource Implications  
The proposals set out the response to the financial context described in section 4 and the need to change our service offer and model to maintain a sustainable budget. The full detail of the financial proposals and impact on budget will be described in the financial tables of

the business plan. The proposals will seek to ensure that we make the most effective use of available resources and are delivering the best possible services given the reduced funding.

- 7.2 Procurement/Contractual/Council Contract Procedure Rules Implications  
There are no significant implications for the proposals set out in this report.
- 7.3 Statutory, Legal and Risk Implications  
The proposals set out in this report respond to the statutory duty on the Local Authority to deliver a balanced budget. Cambridgeshire County Council will continue to meet the range of statutory duties for supporting our citizens.
- 7.4 Equality and Diversity Implications  
As the proposals are developed ready for December service committees, they will include, where required, Equality Impact Assessments that will describe the impact of each proposal, in particular any disproportionate impact on vulnerable, minority and protected groups.
- 7.5 Engagement and Communications Implications  
Our Business Planning proposals are informed by the CCC public consultation and will be discussed with a wide range of partners throughout the process. The feedback from consultation will continue to inform the refinement of proposals. Where this leads to significant amendments to the recommendations a report would be provided to Strategy and Resources Committee.
- 7.6 Localism and Local Member Involvement  
As the proposals develop, we will have detailed conversations with Members about the impact of the proposals on their localities. We are working with members on materials which will help them have conversations with Parish Councils, local residents, the voluntary sector and other groups about where they can make an impact and support us to mitigate the impact of budget reductions.
- 7.7 Public Health Implications  
We are working closely with Public Health colleagues as part of the operating model to ensure our emerging Business Planning proposals are aligned.
- 7.8 Environment and Climate Change Implications on Priority Areas  
The climate and environment implications will vary depending on the detail of each of the proposals which will be coming to committee later for individual approvals (currently scheduled for November / December committees). The implications will be completed accordingly at that stage.



Have the resource implications been cleared by Finance?

Yes

Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the CCC Head of Procurement?

Yes

Name of Officer: Henry Swan

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law?

Yes

Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact?

Yes

Name of Officer: Beatrice Brown

Have any engagement and communication implications been cleared by Communications?

Yes

Name of Officer: Amanda Rose

Have any localism and Local Member involvement issues been cleared by your Service Contact?

Yes

Name of Officer: Julia Turner

Have any Public Health implications been cleared by Public Health?

Yes

Name of Officer: Iain Green

Have any Environment and Climate Change implications been cleared by the Climate Change Officer?

Yes

Name of Officer: Emily Bolton

## 8. Source Documents

Appendix 1a: Introduction to the finance tables

Appendix 1b: Place and Economy Finance tables (Table 3)

## Appendix 1a – Introduction to the Finance Tables

In the full business plan, there are usually six finance tables. Tables 1-3 and 6 relate to revenue budgets, while tables 4 and 5 relate to capital budgets and funding. At this stage of the business planning cycle, we only produce table 3 for revenue, along with the capital tables.

Table 3 explains in detail the changes to the previous year's budget over the period of the Business Plan, in the form of individual proposals. At the top it takes the previous year's gross budget and then adjusts for proposals, grouped together in sections, covering inflation, demography and demand, pressures, investments and savings to give the new gross budget. The gross budget is reconciled to the net budget in Section 7. Finally, the sources of funding are listed in Section 8. An explanation of each section is given below:

- **Opening Gross Expenditure:**  
The amount of money available to spend at the start of the financial year and before any adjustments are made. This reflects the final budget for the previous year.
- **Revised Opening Gross Expenditure:**  
Adjustments that are made to the base budget to reflect permanent changes in a Service Area. This is usually to reflect a transfer of services from one area to another.
- **Inflation:**  
Additional budget provided to allow for pressures created by inflation. These inflationary pressures are particular to the activities covered by the Service Area.
- **Demography and Demand:**  
Additional budget provided to allow for pressures created by demography and increased demand. These demographic pressures are particular to the activities covered by the Service Area. Demographic changes are backed up by a robust programme to challenge and verify requests for additional budget.
- **Pressures:**  
These are specific additional pressures identified that require further budget to support.
- **Investments:**  
These are investment proposals where additional budget is sought, often as a one-off request for financial support in a given year and therefore shown as a reversal where the funding is time limited (a one-off investment is not a permanent addition to base budget).
- **Savings:**  
These are savings proposals that indicate services that will be reduced, stopped or delivered differently to reduce the costs of the service. They could be one-off entries or span several years.

- **Total Gross Expenditure:**  
The newly calculated gross budget allocated to the Service Area after allowing for all the changes indicated above. This becomes the Opening Gross Expenditure for the following year.
- **Fees, Charges & Ring-fenced Grants:**  
This lists the fees, charges and grants that offset the Service Area's gross budget. The section starts with the carried forward figure from the previous year and then lists changes applicable in the current year.
- **Total Net Expenditure:**  
The net budget for the Service Area after deducting fees, charges and ring-fenced grants from the gross budget.
- **Funding Sources:**  
How the gross budget is funded – funding sources include cash limit funding (central Council funding from Council Tax, business rates and government grants), fees and charges, and individually listed ring-fenced grants.

## Section 3 - B: Place and Economy

**Table 3: Revenue - Overview**  
Budget Period: 2022-23 to 2026-27

		Detailed Plans	Outline Plans					
Ref	Title	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Description	Committee
<b>1</b>	<b>OPENING GROSS EXPENDITURE</b>	<b>85,338</b>	<b>90,946</b>	<b>92,992</b>	<b>96,672</b>	<b>100,021</b>		
B/R.1.001	Base adjustments	-	-	-	-	-	Adjustment for permanent changes to base budget from decisions made in 2021-22.	E&GI, H&T
<b>1.999</b>	<b>REVISED OPENING GROSS EXPENDITURE</b>	<b>85,338</b>	<b>90,946</b>	<b>92,992</b>	<b>96,672</b>	<b>100,021</b>		
<b>2</b>	<b>INFLATION</b>							
B/R.2.001	Inflation	1,917	1,988	2,058	2,104	2,178	The total inflation allocation is calculated based on the different inflation indicator estimates for each budget type – so pay awards, oil, gas, etc all have specific inflationary assumptions applied.	E&GI, H&T
<b>2.999</b>	<b>Subtotal Inflation</b>	<b>1,917</b>	<b>1,988</b>	<b>2,058</b>	<b>2,104</b>	<b>2,178</b>		
<b>3</b>	<b>DEMOGRAPHY AND DEMAND</b>							
B/R.3.007	Waste Disposal	266	308	272	245	238	Extra cost of landfilling additional waste produced by an increasing population.	E&GI
B/R.3.008	COVID impact - Waste Disposal demand	-638	-	-	-	-	Removal of the temporary budget intended to offset covid pressures as no longer required.	E&GI
<b>3.999</b>	<b>Subtotal Demography and Demand</b>	<b>-372</b>	<b>308</b>	<b>272</b>	<b>245</b>	<b>238</b>		
<b>4</b>	<b>PRESSURES</b>							
B/R.4.013	Guided Busway Defects	-	-650	-650	-	-	This is the removal of the short-term investment made in previous years. The Council is in dispute with the contractor over defects in the busway construction. This was to fund repairs to defects and legal costs in support of the Council's legal action against the Contractor. The Council expects to recover these costs.	H&T
B/R.4.014	Waste and permit odour conditions	2,684	-1,600	-	-	-	Waste and permit odour conditions	E&GI
B/R.4.015	P&E Management Restructure costs	260	-	-	-	-	Cost relating to the new P&E Management restructure.	E&GI, H&T
<b>4.999</b>	<b>Subtotal Pressures</b>	<b>2,944</b>	<b>-2,250</b>	<b>-650</b>	<b>-</b>	<b>-</b>		
<b>5</b>	<b>INVESTMENTS</b>							
B/R.5.104	Investment in Highways Services	1,000	1,000	1,000	-	-	Investment in Highways Services to increase funding for proactive treatment and maintenance of roads, bridges and footpaths.	H&T
B/R.5.107	Footpaths and Pavements	1,000	1,000	1,000	1,000	-	Additional funding for surface treatments, such as footway repairs, and deeper treatments, including resurfacing and reconstruction.	H&T

## Section 3 - B: Place and Economy

**Table 3: Revenue - Overview**  
Budget Period: 2022-23 to 2026-27

		Detailed Plans	Outline Plans					
Ref	Title	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Description	Committee
B/R.5.108	B1050 Design Costs	-170	-	-	-	-	Removal of the budget allocated to fund the design costs as now complete.	H&T
B/R.5.109	Flood Attenuation and Biodiversity	-680	-	-	-	-	Removal of the one off funding allocated for 2021/22, leaving the residual investment as permanent budget.	E&GI
5.999	Subtotal Investments	1,150	2,000	2,000	1,000	-		
6	SAVINGS H&T							
B/R.6.214	Street Lighting - contract synergies	4	-	-	-	-	Every year the budget is changed to reflect the level of synergy savings which will be achieved from the joint contract. This will not lead to any reduction in street lighting provision.	H&T
B/R.6.215	Recycle asphalt, aggregates and gully waste	-35	-	-	-	-	Savings achieved through recycling and reuse of materials.	H&T
6.999	Subtotal Savings	-31	-	-	-	-		
	<b>TOTAL GROSS EXPENDITURE</b>	<b>90,946</b>	<b>92,992</b>	<b>96,672</b>	<b>100,021</b>	<b>102,437</b>		
7	FEES, CHARGES & RING-FENCED GRANTS							
B/R.7.001	Previous year's fees, charges & ring-fenced grants	-21,021	-23,851	-24,681	-24,804	-24,931	Previous year's fees and charges for the provision of services and ring-fenced grant funding rolled forward.	E&GI, H&T
B/R.7.002	Fees and charges inflation	-116	-120	-123	-127	-131	Additional income for increases to fees and charges in line with inflation.	E&GI, H&T
B/R.7.006	Changes to fees, charges & ring-fenced grants	-	-	-	-	-	Adjustment for changes to fees, charges & ring-fenced grants reflecting decisions made in 2021-22.	E&GI, H&T
B/R.7.100	Changes to fees & charges Deployment of current surpluses in civil parking enforcement to transport activities	-200	-30	-	-	-	Deployment of current surpluses in civil parking enforcement to transport activities as allowed by current legislation.	H&T
B/R.7.101	Income from Bus lane and moving lane enforcement	-100	-100	-	-	-	Utilising additional fine income to highways and transport works, as allowed by current legislation.	H&T
B/R.7.121	COVID Impact - Park & Ride	-150	-150	-	-	-	Financial support required to support service due to the impact of Covid.	H&T
B/R.7.122	COVID Impact - Guided Busway	-200	-200	-	-	-	Government Covid grant to bus service operators ends and reduction in services.	H&T
B/R.7.123	COVID Impact - Traffic Management	-604	-	-	-	-	Removal of covid financial support as not required.	H&T

## Section 3 - B: Place and Economy

**Table 3: Revenue - Overview**  
Budget Period: 2022-23 to 2026-27

		Detailed Plans	Outline Plans					
Ref	Title	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Description	Committee
B/R.7.124	COVID Impact - Parking	-700	-300	-	-	-	Partial removal of covid financial support as income has recovered ahead of estimate.	H&T
B/R.7.125	COVID Impact - Bus Lane Enforcement	-500	-	-	-	-	Removal of covid financial support as not required.	H&T
B/R.7.126	COVID Impact - Other	-260	-50	-	-	-	Partial removal of covid financial support as income has recovered ahead of estimate.	E&GI
B/R.7.202	<b>Changes to ring-fenced grants</b> Change in Public Health Grant	-	120	-	-	-	Change in ring-fenced Public Health grant to reflect change of function and expected treatment as a corporate grant from 2022-23 due to removal of ring-fence.	H&T
<b>7.999</b>	<b>Subtotal Fees, Charges &amp; Ring-fenced Grants</b>	<b>-23,851</b>	<b>-24,681</b>	<b>-24,804</b>	<b>-24,931</b>	<b>-25,062</b>		
	<b>TOTAL NET EXPENDITURE</b>	<b>67,095</b>	<b>68,311</b>	<b>71,868</b>	<b>75,090</b>	<b>77,375</b>		
<b>FUNDING SOURCES</b>								
<b>8</b>	<b>FUNDING OF GROSS EXPENDITURE</b>							
B/R.8.001	Budget Allocation	-67,095	-68,311	-71,868	-75,090	-77,375	Net spend funded from general grants, business rates and Council Tax.	E&GI, H&T
B/R.8.002	Public Health Grant	-120	-	-	-	-	Funding transferred to Service areas where the management of Public Health functions will be undertaken by other County Council officers, rather than directly by the Public Health Team.	H&T
B/R.8.003	Fees & Charges	-16,963	-17,913	-18,036	-18,163	-18,294	Fees and charges for the provision of services.	E&GI, H&T
B/R.8.004	PFI Grant - Street Lighting	-3,944	-3,944	-3,944	-3,944	-3,944	PFI Grant from DfT for the life of the project.	H&T
B/R.8.005	PFI Grant - Waste	-2,611	-2,611	-2,611	-2,611	-2,611	PFI Grant from DEFRA for the life of the project.	E&GI
B/R.8.007	Bikeability Grant	-213	-213	-213	-213	-213	DfT funding for the Bikeability cycle training programme.	H&T
<b>8.999</b>	<b>TOTAL FUNDING OF GROSS EXPENDITURE</b>	<b>-90,946</b>	<b>-92,992</b>	<b>-96,672</b>	<b>-100,021</b>	<b>-102,437</b>		





## Service Committee review of the draft 2022-23 Capital Programme

To: Energy & Green Investment

Meeting Date: 16<sup>th</sup> November 2021

From: Steve Cox - Executive Director, Place & Economy  
Tom Kelly - Chief Finance Officer

Electoral division(s): All

Forward Plan ref: Not applicable

Key decision: No

Outcome: To inform the Council's Business Plan for 2022-23 by presenting to Committee an overview of the draft Business Plan Capital Programme for Place & Economy and providing Members with the opportunity to comment on the draft proposals and endorse their development.

Recommendation: Committee is asked to:

- a) Note the overview and context provided for the 2022-23 Capital Programme for Place & Economy
- b) Consider the draft proposals for Place & Economy's 2022-23 Capital Programme and their further development
- c) Recommend the additional capital borrowing set out in paragraph 2.3 for the St Ives Smart Energy Grid Project for approval at Strategy and Resources Committee

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## 1. Capital Strategy

- 1.1 The Council strives to achieve its vision through delivery of its Business Plan. To assist in delivering the Plan the Council needs to provide, maintain, and update long term assets (often referred to as 'fixed assets'), which are defined as those that have an economic life of more than one year. Expenditure on these long-term assets is categorised as capital expenditure and is detailed within the Capital Programme for the Council.
- 1.2 Each year the Council adopts a ten-year rolling capital programme as part of the Business Plan. The very nature of capital planning necessitates alteration and refinement to proposals and funding during the planning period; therefore, whilst the early years of the Business Plan provide robust, detailed estimates of schemes, the later years only provide indicative forecasts of the likely infrastructure needs and revenue streams for the Council.
- 1.3 This report forms part of the process set out in the Capital Strategy whereby the Council updates, alters and refines its capital planning over an extended planning period. New schemes are developed by Services and all existing schemes are reviewed and updated as required before being presented to the Capital Programme Board and subsequently Service Committees for further review and development.
- 1.4 An Investment Appraisal of each capital scheme (excluding committed schemes and schemes with 100% ring-fenced funding) is undertaken / revised, which allows schemes within and across all Services to be ranked and prioritised against each other, in light of the finite resources available to fund the overall Programme and in order to ensure the schemes included within the Programme are aligned to assist the Council with achieving its outcomes.

## 2. Development of the 2022-23 capital programme

- 2.1 Prioritisation of schemes (where applicable) is included within this report to be reviewed individually by Service Committees alongside the addition, revision and update of schemes. Prioritisation of schemes across the whole programme will also be reviewed by Strategy & Resources Committee (S&R) in December, after firm spending plans are considered again by Service Committees. S&R will review the final overall programme in January, in particular regarding the overall levels of borrowing and financing costs, before recommending the programme as part of the overarching Business Plan for Full Council to consider in February.
- 2.2 There are several schemes in progress where work is underway to develop the scheme, however they are either not sufficiently far enough forward to be able to include any capital estimate within the Business Plan, or a draft set of figures have been included but they are, at this stage, highly indicative. The following are the main schemes that this applies to at this stage:
  - Waterbeach Waste Treatment Facilities - this scheme has been included; however, figures are highly indicative at this stage.
  - Independent Living Services - this is moving through the committee process and has not yet been included within the plan.

## 2.3 The St Ives Smart Energy Grid Project

Table 4 of the Capital Programme (reference B/C 5.014) includes the forecast capital cost of the project as £4,321,000. In July 2021 committee approved the investment case for the Project on the understanding that latest costs from suppliers were required on key elements of the Project on the proviso the project continues to demonstrate an acceptable net present value before issuing a Notice to Proceed to Bouygues for project mobilisation. The finalised costs are shown in Table 6 below comparing final costs from the July 2021 investment case approved by Committee to the final costs in November 2021. The overall capital borrowing cost has increased by £372,021 for the project however the overall investment case has significantly improved mainly due to the rising costs and values associated with energy and carbon. These updated figures will be reflected in the Finance Tables being taken to December Committee.

Table 6

July 2021		Nov 2021		
Excl. carbon	Incl. carbon	Excl. carbon	Incl. carbon	
£2,232,378	£2,232,378	£2,604,399	£2,604,399	CCC cost to complete project
£4,283,123	£4,283,123	£4,814,331	£4,814,331	Total capital cost
£4,503,190	£5,895,263	£6,304,650	£13,129,823	Net operating revenue for 30 years
£1,647,534	£3,039,607	£3,492,547	£10,317,719	Net Cash Flow after loan costs
2.84%	4.62%	4.95%	11.57%	30yr Internal Rate of Return (IRR)
21.93	18.27	19.5	10.6	Payback Period (years)
-£58,199	£755,394	£330,455	£3,786,250	Net Present Value @ 30th Year
7,691	7,691	14,073	14,073	Tonnes Avoided Over 30 Year Life
256.38	256.38	469	469	Average Annual Carbon Saving
28.0GWh	28.0GWh	28.0GWh	28.03GWh	Generated over 30 years
~297	~297	~298	~298	Households equivalent

- 2.4 Where the Covid-19 pandemic has had an impact on the costs of a capital scheme and this has been quantified, this has been worked into revised budgets based on the current situation. However, any further changes to Government guidelines in response to the pandemic would also require further revision of costs/timescales, and therefore capital budgets. In addition, there have been signs of a sharp inflationary rise on construction goods due Brexit and wider supply chain issues; where the impact of this is known or can be estimated, it has been included, but further rises are anticipated.

## 3. Revenue Implications

- 3.1 All capital schemes can have a potential two-fold impact on the revenue position, relating to any cost of borrowing through interest payments and repayment of principal and the ongoing revenue costs or benefits of the scheme. Conversely, not undertaking schemes can also have an impact via needing to provide alternative solutions, such as Home to

School Transport (e.g. transporting children to schools with capacity rather than investing in capacity in oversubscribed areas).

- 3.2 The Council is required by the Chartered Institute of Public Finance and Accountancy's (CIPFA's) Prudential Code for Capital Finance in Local Authorities 2017 to ensure that it undertakes borrowing in an affordable and sustainable manner. In order to ensure that it achieves this, S&R recommends an advisory limit on the annual financing costs of borrowing (debt charges) over the life of the Plan. In order to afford a degree of flexibility from year to year, changes to the phasing of the limit is allowed within any three-year block (the current block starts in 2021-22), so long as the aggregate limit remains unchanged.
- 3.3 For the 2021-22 Business Plan, GPC (prior to the creation of S&R) agreed that this should continue to equate to the level of revenue debt charges as set out in the 2014-15 Business Plan for the next five years (restated to take into account the change to the MRP Policy agreed by GPC in January 2016) and limited to around £39m annually from 2019-20 onwards. S&R are due to set limits for the 2022-23 Business Plan as part of the Capital Strategy review in November.

## 4. Summary of the draft capital programme

- 4.1 The revised draft Capital Programme is as follows:

Service Block	2022-23 £'000	2023-24 £'000	2024-25 £'000	2025-26 £'000	2026-27 £'000	Later Yrs £'000
People and Communities	89,313	140,378	74,080	36,418	16,296	23,688
Place and Economy	73,566	36,057	26,743	16,302	11,997	23,182
Corporate Services	12,245	2,510	2,426	1,080	800	12,800
<b>Total</b>	<b>175,124</b>	<b>178,945</b>	<b>103,249</b>	<b>53,800</b>	<b>29,093</b>	<b>59,670</b>

- 4.2 This is anticipated to be funded by the following resources:

Funding Source	2022-23 £'000	2023-24 £'000	2024-25 £'000	2025-26 £'000	2026-27 £'000	Later Yrs £'000
Grants	55,698	28,788	30,570	28,325	19,047	21,437
Contributions	37,582	68,846	27,318	12,420	39,749	81,990
Capital Receipts	1,348	3,343	3,349	2,000	2,000	8,000
Borrowing	65,780	83,199	49,010	11,206	2,147	14,244
Borrowing (Repayable)*	14,716	-5,231	-6,998	-151	-33,850	-66,001
<b>Total</b>	<b>175,124</b>	<b>178,945</b>	<b>103,249</b>	<b>53,800</b>	<b>29,093</b>	<b>59,670</b>

\* Repayable borrowing nets off to zero over the life of each scheme and is used to bridge timing gaps between delivery of a scheme and receiving other funding to pay for it.

*All funding sources above are off-set by an amount included in the capital variation budget, which anticipates a degree of slippage across all programmes and then applies that slippage to individual funding sources.*

4.3 The following table shows how each Service's borrowing position has changed since the 2021-22 Capital Programme was set:

Service Block	2021-22 £'000	2022-23 £'000	2023-24 £'000	2024-25 £'000	2025-26 £'000	2026-27 £'000	Later Yrs £'000
People and Communities	-3,945	-26,983	27,081	23,501	8,004	1,529	-3,575
Place and Economy	27,914	16,530	7,758	5,170	-7	-8	7,610
Corporate Services	-29,899	-3,522	-2,999	-5,350	-180	-129	-3,224
Corporate and Managed Services – relating to general capital receipts	-	-	-	-	-	-	-
<b>Total</b>	<b>-5,930</b>	<b>-13,975</b>	<b>31,840</b>	<b>23,321</b>	<b>7,817</b>	<b>1,392</b>	<b>811</b>

The significant change in P&C relates to the removal of one large secondary scheme with a £38.8m total budget – see below.

4.4 The table below categorises the reasons for these changes:

Reasons for change in borrowing	2021-22 £'000	2022-23 £'000	2023-24 £'000	2024-25 £'000	2025-26 £'000	2026-27 £'000	Later Yrs £'000
New	4,728	12,298	12,557	24,610	2,435	210	0
Removed/Ended	-6,327	-27,554	-7,950	-2,912	-2,125	-150	-430
Minor Changes/Rephasing*	-14,421	12,569	5,913	-2,980	730	-99	3,065
Increased Cost (includes rephasing)	-5,737	11,515	26,207	19,295	8,909	-4,525	0
Reduced Cost (includes rephasing)	-152	-893	0	0	0	0	-4,525
Change to other funding (includes rephasing)	-1,627	-17,935	1,376	-11,470	-1,977	6,123	1,402
Variation Budget	19,779	-4,207	-5,851	-3,753	-263	-310	1,407
Capitalisation of Interest	-2,173	232	-412	531	108	143	-108
<b>Total</b>	<b>-5,930</b>	<b>-13,975</b>	<b>31,840</b>	<b>23,321</b>	<b>7,817</b>	<b>1,392</b>	<b>811</b>

\*This does not off-set to zero across the years because the rephasing also relates to pre-2021-22.

4.5 These revised levels of borrowing will have an impact on the level of debt charges incurred. The debt charges budget is also currently undergoing thorough review of interest rates, internal cash balances, Minimum Revenue Provision charges and estimates of capitalisation of interest – the results of this will be fed into the next round of committee papers on capital.

- 4.6 The above tables have been amended following previous service committees to take into account recent updates.

## 5. Overview of Place & Economy's draft capital programme

- 5.1 The revised draft Capital Programme for Place and Economy (P&E) is as follows:

Capital Expenditure	2022-23 £'000	2023-24 £'000	2024-25 £'000	2025-26 £'000	2026-27 £'000	Later Yrs £'000
Place & Economy	73,566	36,057	26,743	16,302	11,997	23,182

- 5.2 This is anticipated to be funded by the following resources:

Funding Source	2022-23 £'000	2023-24 £'000	2024-25 £'000	2025-26 £'000	2026-27 £'000	Later Yrs £'000
Grants	29,831	19,042	16,231	15,207	10,878	-
Contributions	13,791	6,968	3,982	963	963	5,500
Borrowing	29,944	10,047	6,530	132	156	17,682
<b>Total</b>	<b>73,566</b>	<b>36,057</b>	<b>26,743</b>	<b>16,302</b>	<b>11,997</b>	<b>23,182</b>

- 5.3 The full list of P&E capital schemes is shown in the draft capital programme at appendix one. Table 4 lists the schemes with a description and with funding shown against years. Table 5 shows the breakdown of the total funding of the schemes, for example whether schemes are funded by grants, developer contributions or prudential borrowing.

- 5.4 Papers on the individual schemes have been, or will be, considered separately by the appropriate Service Committee.

### 5.5 New Schemes and Changes to Existing Capital Schemes

- 5.5.1 Both new schemes and changes to existing schemes, such as rephasing, re-costing, and revised funding are highlighted below.

#### 5.5.2 Waterbeach Waste Treatment Facilities

A new scheme has been placed into the capital programme to take account of amendments to the Waterbeach waste treatment facilities following changes to the Industrial Emissions Directive to reduce emissions to levels which are able to meet the sector specific Best Available Technique conclusions (BATc) and comply with new Environmental Permit conditions issued by the Environment Agency.

#### 5.5.3 Connecting Cambridgeshire

A number of workstreams have been rephased into 2022/23 to continue the work of Connecting Cambridgeshire. Additional grant funding from the Combined Authority of £2.125m has also been included in the figures but this will not be finalised until January 2022.

#### 5.5.4 Energy

Updates have been made to several capital business cases, to reflect the re-phasing of work into 23-24 and recent movements in energy and carbon values.

## 6. Alignment with corporate priorities

The purpose of the Business Plan is to consider and deliver the Council's vision and priorities and section 1 of this paper sets out how we aim to provide good public services and achieve better outcomes for communities, whilst also responding to the changing challenges of the pandemic. As proposals are developed, they will consider the corporate priorities:

- 6.1 Communities at the heart of everything we do
- 6.2 A good quality of life for everyone
- 6.3 Helping our children learn, develop and live life to the full
- 6.4 Cambridgeshire: a well-connected, safe, clean, green environment
- 6.5 Protecting and caring for those who need us

## 7. Significant Implications

### 7.1 Resource Implications

The full detail of the financial proposals and impact on budget will be described in the financial tables of the business plan. The proposals will seek to ensure that we make the most effective use of available resources and are delivering the best possible services given the reduced funding.

### 7.2 Procurement/Contractual/Council Contract Procedure Rules Implications

There are no significant implications for the proposals set out in this report.

### 7.3 Statutory, Legal and Risk Implications

The proposals set out in this report respond to the statutory duty on the Local Authority to deliver a balanced budget. Cambridgeshire County Council will continue to meet the range of statutory duties for supporting our citizens.

### 7.4 Equality and Diversity Implications

As the proposals are developed ready for December service committees, they will include, where required, Equality Impact Assessments that will describe the impact of each proposal, in particular any disproportionate impact on vulnerable, minority and protected groups.

### 7.5 Engagement and Communications Implications

Our Business Planning proposals are informed by the CCC public consultation and will be discussed with a wide range of partners throughout the process. The feedback from consultation will continue to inform the refinement of proposals. Where this leads to significant amendments to the recommendations a report would be provided to Strategy and Resources Committee.

#### 7.6 Localism and Local Member Involvement

As the proposals develop, we will have detailed conversations with Members about the impact of the proposals on their localities. We are working with members on materials which will help them have conversations with Parish Councils, local residents, the voluntary sector and other groups about where they can make an impact and support us to mitigate the impact of budget reductions.

#### 7.7 Public Health Implications

We are working closely with Public Health colleagues as part of the operating model to ensure our emerging Business Planning proposals are aligned.

#### 7.8 Environment and Climate Change Implications on Priority Areas

The climate and environment implications will vary depending on the detail of each of the proposals which will be coming to committee later for individual approvals (currently scheduled for November / December committees). The implications will be completed accordingly at that stage.

## 8. Source documents

### 8.1 Source documents

The 2021/22 Business Plan, including the Capital Strategy Capital Planning and Forecast: financial models.

### 8.2 Location

<https://www.cambridgeshire.gov.uk/council/finance-and-budget/business-plans>



## Section 3 - B: Place and Economy

**Table 4: Capital Programme**

Budget Period: 2022-23 to 2031-32

Summary of Schemes by Start Date	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000
Ongoing	42,593	14,591	-4,360	7,882	8,293	10,841	10,841	-5,495
Committed Schemes	421,469	315,569	54,511	16,271	4,153	1,132	1,156	28,677
2021-2022 Starts	33,340	5,341	10,456	7,575	9,968	-	-	-
2022-2023 Starts	25,946	-	12,959	4,329	4,329	4,329	-	-
<b>TOTAL BUDGET</b>	<b>523,348</b>	<b>335,501</b>	<b>73,566</b>	<b>36,057</b>	<b>26,743</b>	<b>16,302</b>	<b>11,997</b>	<b>23,182</b>

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000	Committee
<b>B/C.01</b>	<b>Integrated Transport</b>												
B/C.1.002	Air Quality Monitoring	Funding towards supporting air quality monitoring work in relation to the road network with local authority partners across the county.		Ongoing	115	-	23	23	23	23	23	-	H&T
B/C.1.009	Major Scheme Development & Delivery	Resources to support the development and delivery of major schemes.		Ongoing	1,000	-	200	200	200	200	200	-	H&T
B/C.1.011	Local Infrastructure improvements	Provision of the Local Highway Improvement Initiative across the county, providing accessibility works such as disabled parking bays and provision of improvements to the Public Rights of Way network.		Ongoing	4,410	-	882	882	882	882	882	-	H&T
B/C.1.012	Safety Schemes	Investment in road safety engineering work at locations where there is strong evidence of a significantly high risk of injury crashes.		Ongoing	2,970	-	594	594	594	594	594	-	H&T
B/C.1.015	Strategy and Scheme Development work	Resources to support Transport & Infrastructure strategy and related work across the county, including long term strategies and District and Market Town Transport Strategies, as well as funding towards scheme development work.		Ongoing	1,725	-	345	345	345	345	345	-	H&T
B/C.1.019	Delivering the Transport Strategy Aims	Supporting the delivery of Transport Strategies and Market Town Transport Strategies to help improve accessibility and mitigate the impacts of growth.		Ongoing	6,730	-	1,346	1,346	1,346	1,346	1,346	-	H&T
B/C.1.020	Bar Hill to Northstowe cycle route	Bar Hill to Longstanton		Committed	982	163	819	-	-	-	-	-	H&T
B/C.1.021	Girton to Oakington Cycle Route	Girton to Oakington Cycle Route		Committed	1,000	1,000	-	-	-	-	-	-	H&T
B/C.1.022	Busway to Science Park cycle route	Busway to Science Park cycle route		Committed	150	150	-	-	-	-	-	-	H&T
B/C.1.023	Boxworth to A14 Cycle Route	Boxworth to A14 Cycle Route		2022-23	550	-	550	-	-	-	-	-	H&T
B/C.1.024	Dry Drayton to NMU link cycle route	Dry Drayton to NMU link cycle route		Committed	300	49	251	-	-	-	-	-	H&T
B/C.1.026	Hilton to Fenstanton Cycle Route	Hilton to Fenstanton Cycle Route		2022-23	500	-	500	-	-	-	-	-	H&T
B/C.1.027	Buckden to Hinchingsbrooke cycle route	Buckden to Hinchingsbrooke cycle route funded by Highways England		2022-23	780	-	780	-	-	-	-	-	H&T

**Table 4: Capital Programme**  
**Budget Period: 2022-23 to 2031-32**

**Budget Period: 2022-23 to 2031-32**

**Budget Period: 2022-23 to 2031-32**

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000	
B/C.1.050	A14	Improvement of the A14 between Cambridge and Huntingdon. This is a scheme led by the Highways Agency but in order to secure delivery a local contribution to the total scheme cost, which is in excess of £1bn, is required. The Council element of this local contribution is £25m and it is proposed that it should be paid in equal instalments over a period of 25 years commencing in 2020.		Committed	25,200	2,200	1,000	1,000	1,000	1,000	1,000	18,000	H&T
	Total - Integrated Transport				46,412	3,562	7,290	4,390	4,390	4,390	4,390	18,000	
B/C.02	Operating the Network												
B/C.2.001	Carriageway & Footway Maintenance including Cycle Paths	Allows the highway network throughout the county to be maintained. With the significant backlog of works to our highways well documented, this fund is crucial in ensuring that we are able to maintain our transport links.		Ongoing	48,747	10,672	7,615	7,615	7,615	7,615	7,615		H&T
B/C.2.002	Rights of Way	Allows improvements to our Rights of Way network which provides an important local link in our transport network for communities.		Ongoing	640	140	100	100	100	100	100		H&T
B/C.2.004	Bridge strengthening	Bridges form a vital part of the transport network. With many structures to maintain across the county it is important that we continue to ensure that the overall transport network can operate and our bridges are maintained.		Ongoing	11,709	2,564	1,829	1,829	1,829	1,829	1,829		H&T
B/C.2.005	Traffic Signal Replacement	Traffic signals are a vital part of managing traffic throughout the county. Many signals require to be upgraded to help improve traffic flow and ensure that all road users are able to safely use the transport network.		Ongoing	3,880	850	606	606	606	606	606		H&T
B/C.2.006	Smarter Travel Management - Integrated Highways Management Centre	The Integrated Highways Management Centre (IHMC) collects, processes and shares real time travel information to local residents, businesses and communities within Cambridgeshire. In emergency situations the IHMC provides information to ensure that the impact on our transport network is mitigated and managed.		Ongoing	915	200	143	143	143	143	143		H&T
B/C.2.007	Smarter Travel Management - Real Time Bus Information	Provision of real time passenger information for the bus network.		Ongoing	755	165	118	118	118	118	118		H&T
	Total - Operating the Network				66,646	14,591	10,411	10,411	10,411	10,411	10,411	-	

## Section 3 - B: Place and Economy

**Table 4: Capital Programme**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000
<b>B/C.03</b>	<b>Highways &amp; Transport</b>											
B/C.3.002	Footpaths and Pavements	Additional funding for surface treatments, such as footway repairs, and deeper treatments, including resurfacing and reconstruction.		Committed	10,000	4,000	3,000	2,000	1,000	-	-	- H&T
B/C.3.003	B1050 Shelfords Road	Full reconstruction of the B1050 Shelfords Road between Earith and Willingham.		2022-23	6,800	-	6,800	-	-	-	-	- H&T
B/C.3.004	Pothole Funding	Additional funding for Potholes.		2022-23	17,316	-	4,329	4,329	4,329	4,329	-	- H&T
B/C.3.005	Ely Bypass	The project has now been completed and the brand-new bypass opened to traffic on 31 October 2018.		Committed	49,006	48,993	3	10	-	-	-	- H&T
B/C.3.006	Guided Busway	Guided Busway construction contract retention payments.		Committed	149,791	145,712	4,079	-	-	-	-	- H&T
B/C.3.007	King's Dyke	The level crossing at King's Dyke between Whittlesey and Peterborough has long been a problem for people using the A605. The downtime of the barriers at the crossing causes traffic to queue for significant periods of time and this situation will get worse as rail traffic increases along the Ely to Peterborough railway line in the future. The issue is also made worse during the winter months as the B1040 at North Bank often floods, leading to its closure and therefore increasing traffic use of the A605 across King's Dyke.		Committed	33,500	30,984	2,516	-	-	-	-	- H&T
B/C.3.008	Wisbech Town Centre Access Study	Wisbech Town Centre Access Study - fully funded by CPCA		Committed	10,500	6,019	4,481	-	-	-	-	- H&T
B/C.3.009	Wheatsheaf Crossroads	Scheme to deliver traffic signals at the Wheatsheaf Crossroads, Bluntisham		2021-22	6,795	200	200	200	6,195	-	-	- H&T
B/C.3.010	St Neots Future High Street Fund	St Neots Future High Street Fund		2021-22	8,522	349	1,255	3,460	3,458	-	-	- H&T
B/C.3.011	March Future High Street Fund	March Future High Street Fund		2021-22	6,023	292	1,501	3,915	315	-	-	- H&T
	<b>Total - Highways &amp; Transport</b>				<b>298,253</b>	<b>236,549</b>	<b>28,164</b>	<b>13,914</b>	<b>15,297</b>	<b>4,329</b>	-	-

## Section 3 - B: Place and Economy

**Table 4: Capital Programme**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000	
B/C.04 B/C.4.002	<b>Planning Growth and Environment</b> Waste – Household Recycling Centre (HRC) Improvements	To deliver Household Recycling Centre (HRC) improvements by acquiring appropriate sites, gaining planning permission, designing and building new or upgraded facilities. New facilities are proposed in the Greater Cambridge area and in March where planning permissions for the existing sites are due to expire. Capital works are required to maintain/upgrade other HRCs in the network as population growth places additional pressure on the existing facilities.		Committed	6,634	414	6,220	-	-	-	-	-	- E&GI
B/C.4.003	Waterbeach Waste Treatment Facilities	Amendments to the Waterbeach waste treatment facilities following changes to the Industrial Emissions Directive to reduce emissions to levels which are able to meet the sector specific Best Available Technique conclusions (BATc) and comply with new Environmental Permit conditions issued by the Environment Agency.	B/R.4.014	2021-22	12,000	4,500	7,500	-	-	-	-	-	- E&GI
	<b>Total - Planning Growth and Environment</b>				<b>18,634</b>	<b>4,914</b>	<b>13,720</b>	-	-	-	-	-	-
B/C.05 B/C.5.013	<b>Climate Change &amp; Energy Service</b> Swaffham Prior Community Heat Scheme	A ground breaking scheme enabling the residents of Swaffham Prior to decarbonise their heating and hot water. The project comprises an energy centre located at Goodwin Farm supplying heat via a network of underground pipes that runs through the village connecting to homes and businesses.	C/R.7.110	Committed	13,522	7,912	5,610	-	-	-	-	-	- E&GI
B/C.5.014	Smart Energy Grid Demonstrator scheme at the St Ives Park and Ride	Low carbon energy generation assets with battery storage on Council assets at St Ives Park and Ride	C/R.7.106	Committed	4,321	1,257	3,064	-	-	-	-	-	- E&GI
B/C.5.015	Babraham Smart Energy Grid	The project is to develop a high level assessment, then an Investment Grade Proposal for a renewable energy scheme on the Babraham Park and Ride site. This project at Babraham will look to build on the skills developed in the St Ives project to replicate on other Park and Ride sites. A 2.1 MW solar canopy project is proposed at the HLA stage.	C/R.7.107	Committed	6,187	1,667	4,520	-	-	-	-	-	- E&GI
B/C.5.016	Trumpington Smart Energy Grid	The project is to develop a high level assessment, then an Investment Grade Proposal for a renewable energy scheme on the Trumpington Park and Ride site. This project at Trumpington will look to build on the skills developed in the St Ives project to replicate on other Park and Ride sites. A 2.1 MW solar canopy project is proposed at the HLA stage.		Committed	6,970	4		-	-	-	-	6,966	E&GI

## Section 3 - B: Place and Economy

**Table 4: Capital Programme**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000	
B/C.5.017	Stanground Closed Landfill Energy Project	The project is to develop a high level assessment, then an Investment Grade Proposal for a clean energy scheme on the closed landfill site in Stanground. Bouygues propose a 2.25MW Solar PV ground mounted array on the site together with a 10MW 2C battery storage system for demand side response.	C/R.7.108	Committed	8,266	551		7,715	-	-	-	-	E&GI
B/C.5.018	Woodston Closed Landfill Energy Project	The project is to develop a high level assessment, then an Investment Grade Proposal for a clean energy scheme on the closed landfill site in Woodston. A tailored 3MW 2C Battery Storage for Demand Side Response services is proposed. This would provide a steady revenue stream, while being respectful of the local environment in terms of disruption and visual amenity.		Committed	2,526	15		-	-	-	-	2,511	E&GI
B/C.5.019	North Angle Solar Farm, Soham	Investment in a second solar farm at Soham, bordering the Triangle Farm solar farm site. The scheme aims to maximise potential revenue from Council land holdings, help to secure national energy supplies and help meet Government carbon reduction targets.	C/R.7.109	Committed	24,444	22,304	2,140	-	-	-	-	-	E&GI
B/C.5.020	Fordham Renewable Energy Network Demonstrator	Development of an Investment Grade Proposal for a 58 acre solar park at Glebe Farm in Fordham. The scheme aims to assist local businesses in decarbonising their energy supplies while generating a return for the Council and contributing to the aims of the Climate Change and Environment Strategy.		Committed	635	635		-	-	-	-	-	E&GI
B/C.5.021	Decarbonisation Fund	An investment in the decarbonisation of Council owned and occupied buildings (approximately 69 buildings). All Council buildings will be taken off fossil fuels (primarily oil and gas) and will be replaced with low carbon heating solutions such as Air or Ground Source Heat Pumps. This investment is expected to be recouped in full from savings delivered on the Council's energy bills.		Committed	15,000	3,850	4,170	5,210	1,770	-	-	-	E&GI
B/C.5.022	Electric Vehicle chargers	An investment in Electric Vehicle (EV) charging infrastructure for main offices to host Cambridgeshire County Council electric pool cars/vans and staff vehicles.		Committed	200	200		-	-	-	-	-	E&GI
B/C.5.023	Oil Dependency Fund	Provision of financial support for oil dependent schools and communities to come off oil and onto renewable sources of energy. The initial investment of £500k will be paid back through business case investments into heat infrastructure.		Committed	500	500		-	-	-	-	-	E&GI

## Section 3 - B: Place and Economy

**Table 4: Capital Programme**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000	
B/C.5.024	Climate Action Fund	A fund to support the delivery of projects brought forward by services to improve the carbon efficiency of Council assets and services.		Committed	300	300		-	-	-	-	-	E&GI
	<b>Total - Climate Change &amp; Energy Service</b>				<b>82,871</b>	<b>39,195</b>	<b>19,504</b>	<b>12,925</b>	<b>1,770</b>	-	-	<b>9,477</b>	
<b>B/C.06</b> B/C.6.001	<b>Connecting Cambridgeshire</b> Investment in Connecting Cambridgeshire	Connecting Cambridgeshire is working to ensure businesses, residents and public services can make the most of opportunities offered by a fast-changing digital world. Led by the Council, this ambitious partnership programme is improving Cambridgeshire's broadband, mobile and Wi-Fi coverage, whilst supporting online skills, business growth and technological innovation to meet future digital challenges.		Committed	24,337	24,337		-	-	-	-	-	E&GI
B/C.6.002	Investment in Connecting Cambridgeshire - Fixed Connectivity	Promoting and facilitating commercial coverage and managing gap funded intervention contract to increase full fibre and Superfast broadband coverage across Cambridgeshire and Peterborough.		Committed	17,125	7,245	9,880	-	-	-	-	-	E&GI
B/C.6.003	Investment in Connecting Cambridgeshire - Mobile Connectivity	Working with government and commercial operators to improve 2G, 4G and 5G coverage across the county.		Committed	485	225	260	-	-	-	-	-	E&GI
B/C.6.004	Investment in Connecting Cambridgeshire - Public Access WiFi	Increasing the provision of free public access Wi-fi in public buildings, community and village halls and in city and town centres across Cambridgeshire and Peterborough.		Committed	705	605	100	-	-	-	-	-	E&GI
B/C.6.005	Investment in Connecting Cambridgeshire - Smart Work Streams	Using connectivity, advanced data techniques and emerging technologies across a range of work streams in Cambridgeshire and Peterborough to help meet growth and sustainability challenges and support the local economy.		Committed	2,013	1,413	600	-	-	-	-	-	E&GI

## Section 3 - B: Place and Economy

**Table 4: Capital Programme**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Description	Linked Revenue Proposal	Scheme Start	Total Cost £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000	
B/C.6.006	Investment in Connecting Cambridgeshire - Programme Delivery	"Keeping Everyone Connected" Covid-19 response and recovery programme supporting businesses and communities to access connectivity and digital technologies. Staff and support costs (including specialist legal, technical and data services) to deliver all elements of the Connecting Cambridgeshire programme.		Committed	3,350	2,865	485	-	-	-	-	-	E&GI
	<b>Total - Connecting Cambridgeshire</b>				<b>48,015</b>	<b>36,690</b>	<b>11,325</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
B/C.07 B/C.7.001	<b>Capital Programme Variation</b> Variation Budget	The Council includes a service allowance for likely Capital Programme slippage, as it can sometimes be difficult to allocate this to individual schemes due to unforeseen circumstances. This budget is continuously under review, taking into account recent trends on slippage on a service by service basis.		Ongoing	-41,003	-	-18,161	-5,919	-5,508	-2,960	-2,960	-5,495	E&GI, H&T
B/C.7.002	Capitalisation of Interest Costs	The capitalisation of borrowing costs helps to better reflect the costs of undertaking a capital project. Although this budget is initially held on a service basis, the funding will ultimately be moved to the appropriate schemes once exact figures have been calculated each year.		Committed	3,520	-	1,313	336	383	132	156	1,200	E&GI, H&T
	<b>Total - Capital Programme Variation</b>				<b>-37,483</b>	<b>-</b>	<b>-16,848</b>	<b>-5,583</b>	<b>-5,125</b>	<b>-2,828</b>	<b>-2,804</b>	<b>-4,295</b>	
	<b>TOTAL BUDGET</b>				<b>523,348</b>	<b>335,501</b>	<b>73,566</b>	<b>36,057</b>	<b>26,743</b>	<b>16,302</b>	<b>11,997</b>	<b>23,182</b>	

Funding	Total Funding £000	Previous Years £000	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	Later Years £000
<b>Government Approved Funding</b>								
Department for Transport	192,997	113,307	18,332	19,042	16,231	15,207	10,878	-
Specific Grants	69,843	58,344	11,499	-	-	-	-	-
<b>Total - Government Approved Funding</b>	<b>262,840</b>	<b>171,651</b>	<b>29,831</b>	<b>19,042</b>	<b>16,231</b>	<b>15,207</b>	<b>10,878</b>	<b>-</b>
<b>Locally Generated Funding</b>								
Agreed Developer Contributions	16,521	15,500	921	100	-	-	-	-
Anticipated Developer Contributions	14,261	1,571	3,992	832	780	793	793	5,500
Prudential Borrowing	164,187	99,696	29,944	10,047	6,530	132	156	17,682
Other Contributions	65,539	47,083	8,878	6,036	3,202	170	170	-
<b>Total - Locally Generated Funding</b>	<b>260,508</b>	<b>163,850</b>	<b>43,735</b>	<b>17,015</b>	<b>10,512</b>	<b>1,095</b>	<b>1,119</b>	<b>23,182</b>
<b>TOTAL FUNDING</b>	<b>523,348</b>	<b>335,501</b>	<b>73,566</b>	<b>36,057</b>	<b>26,743</b>	<b>16,302</b>	<b>11,997</b>	<b>23,182</b>

## Section 3 - B: Place and Economy

**Table 5: Capital Programme - Funding**

Budget Period: 2022-23 to 2031-32

Summary of Schemes by Start Date					Total Funding £000	Grants £000	Develop. Contr. £000	Other Contr. £000	Capital Receipts £000	Prud. Borr. £000	Committee
Ongoing					42,593	70,839	-2,284	-2,278	-	-23,684	
Committed Schemes					421,469	174,685	32,566	51,567	-	162,651	
2021-2022 Starts					33,340	-	500	14,545	-	18,295	
2022-2023 Starts					25,946	17,316	-	1,705	-	6,925	
<b>TOTAL BUDGET</b>					<b>523,348</b>	<b>262,840</b>	<b>30,782</b>	<b>65,539</b>	<b>-</b>	<b>164,187</b>	

Ref	Scheme	Linked Revenue Proposal	Net Revenue Impact	Scheme Start	Total Funding £000	Grants £000	Develop. Contr. £000	Other Contr. £000	Capital Receipts £000	Prud. Borr. £000	Committee
<b>B/C.01</b>	<b>Integrated Transport</b>										
B/C.1.002	Air Quality Monitoring			- Ongoing	115	115	-	-	-	-	H&T
B/C.1.009	Major Scheme Development & Delivery			- Ongoing	1,000	1,000	-	-	-	-	H&T
B/C.1.011	Local Infrastructure improvements			- Ongoing	4,410	3,410	-	1,000	-	-	H&T
B/C.1.012	Safety Schemes			- Ongoing	2,970	2,970	-	-	-	-	H&T
B/C.1.015	Strategy and Scheme Development work			- Ongoing	1,725	1,725	-	-	-	-	H&T
B/C.1.019	Delivering the Transport Strategy Aims			- Ongoing	6,730	6,730	-	-	-	-	H&T
B/C.1.020	Bar Hill to Northstowe cycle route			- Committed	982	52	930	-	-	-	H&T
B/C.1.021	Girton to Oakington Cycle Route			- Committed	1,000	-	450	550	-	-	H&T
B/C.1.022	Busway to Science Park cycle route			- Committed	150	-	150	-	-	-	H&T
B/C.1.023	Boxworth to A14 Cycle Route			- 2022-23	550	-	-	550	-	-	H&T
B/C.1.024	Dry Drayton to NMU link cycle route			- Committed	300	175	-	125	-	-	H&T
B/C.1.026	Hilton to Fenstanton Cycle Route			- 2022-23	500	-	-	500	-	-	H&T
B/C.1.027	Buckden to Hinchingsbrooke cycle route			- 2022-23	780	-	-	655	-	125	H&T
B/C.1.050	A14			- Committed	25,200	-	-	200	-	25,000	H&T
	<b>Total - Integrated Transport</b>			-	<b>46,412</b>	<b>16,177</b>	<b>1,530</b>	<b>3,580</b>	<b>-</b>	<b>25,125</b>	
<b>B/C.02</b>	<b>Operating the Network</b>										
B/C.2.001	Carriageway & Footway Maintenance including Cycle Paths			- Ongoing	48,747	48,747	-	-	-	-	H&T
B/C.2.002	Rights of Way			- Ongoing	640	640	-	-	-	-	H&T
B/C.2.004	Bridge strengthening			- Ongoing	11,709	11,709	-	-	-	-	H&T
B/C.2.005	Traffic Signal Replacement			- Ongoing	3,880	3,880	-	-	-	-	H&T
B/C.2.006	Smarter Travel Management - Integrated Highways Management Centre			- Ongoing	915	915	-	-	-	-	H&T
B/C.2.007	Smarter Travel Management - Real Time Bus Information			- Ongoing	755	755	-	-	-	-	H&T
	<b>Total - Operating the Network</b>			-	<b>66,646</b>	<b>66,646</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>B/C.03</b>	<b>Highways &amp; Transport</b>										
B/C.3.002	Footpaths and Pavements			- Committed	10,000	10,000	-	-	-	-	H&T
B/C.3.003	B1050 Shelfords Road			- 2022-23	6,800	-	-	-	-	6,800	H&T
B/C.3.004	Pothole Funding			- 2022-23	17,316	17,316	-	-	-	-	H&T
B/C.3.005	Ely Bypass			- Committed	49,006	22,000	1,000	5,944	-	20,062	H&T



## Section 3 - B: Place and Economy

**Table 5: Capital Programme - Funding**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Linked Revenue Proposal	Net Revenue Impact	Scheme Start	Total Funding £000	Grants £000	Develop. Contr. £000	Other Contr. £000	Capital Receipts £000	Prud. Borr. £000	
B/C.3.006	Guided Busway		-	Committed	149,791	94,667	29,486	9,282	-	16,356	H&T
B/C.3.007	King's Dyke		-	Committed	33,500	8,000	-	19,902	-	5,598	H&T
B/C.3.008	Wisbech Town Centre Access Study		-	Committed	10,500	10,500	-	-	-	-	H&T
B/C.3.009	Wheatsheaf Crossroads		-	2021-22	6,795	-	500	-	-	6,295	H&T
B/C.3.010	St Neots Future High Street Fund		-	2021-22	8,522	-	-	8,522	-	-	H&T
B/C.3.011	March Future High Street Fund		-	2021-22	6,023	-	-	6,023	-	-	H&T
<b>Total - Highways &amp; Transport</b>			-		<b>298,253</b>	<b>162,483</b>	<b>30,986</b>	<b>49,673</b>	-	<b>55,111</b>	
<b>B/C.04</b>	<b>Planning Growth and Environment</b>										
B/C.4.002	Waste – Household Recycling Centre (HRC) Improvements	B/R.4.014	-	Committed	6,634	-	550	-	-	6,084	E&GI
B/C.4.003	Waterbeach Waste Treatment Facilities		-	2021-22	12,000	-	-	-	-	12,000	E&GI
<b>Total - Planning Growth and Environment</b>			-		<b>18,634</b>	-	<b>550</b>	-	-	<b>18,084</b>	
<b>B/C.05</b>	<b>Climate Change &amp; Energy Service</b>										
B/C.5.013	Swaffham Prior Community Heat Scheme	C/R.7.110	-31,356	Committed	13,522	3,520	-	-	-	10,002	E&GI
B/C.5.014	Smart Energy Grid Demonstrator scheme at the St Ives Park and Ride	C/R.7.106	-1,254	Committed	4,321	1,608	-	-	-	2,713	E&GI
B/C.5.015	Babraham Smart Energy Grid	C/R.7.107	-4,805	Committed	6,187	-	-	-	-	6,187	E&GI
B/C.5.016	Trumpington Smart Energy Grid		-7,001	Committed	6,970	-	-	-	-	6,970	E&GI
B/C.5.017	Stanground Closed Landfill Energy Project	C/R.7.108	-8,898	Committed	8,266	-	-	-	-	8,266	E&GI
B/C.5.018	Woodston Closed Landfill Energy Project		-8,816	Committed	2,526	-	-	-	-	2,526	E&GI
B/C.5.019	North Angle Solar Farm, Soham	C/R.7.109	-39,988	Committed	24,444	-	-	-	-	24,444	E&GI
B/C.5.020	Fordham Renewable Energy Network Demonstrator		-	Committed	635	-	-	-	-	635	E&GI
B/C.5.021	Decarbonisation Fund		-	Committed	15,000	2,500	-	-	-	12,500	E&GI
B/C.5.022	Electric Vehicle chargers		-	Committed	200	-	-	-	-	200	E&GI
B/C.5.023	Oil Dependency Fund		-	Committed	500	-	-	-	-	500	E&GI
B/C.5.024	Climate Action Fund		-	Committed	300	-	-	-	-	300	E&GI
<b>Total - Climate Change &amp; Energy Service</b>			<b>-102,118</b>		<b>82,871</b>	<b>7,628</b>	-	-	-	<b>75,243</b>	
<b>B/C.06</b>	<b>Connecting Cambridgeshire</b>										
B/C.6.001	Investment in Connecting Cambridgeshire		-	Committed	24,337	8,750	-	6,499	-	9,088	E&GI
B/C.6.002	Investment in Connecting Cambridgeshire - Fixed Connectivity		-	Committed	17,125	9,325	-	6,700	-	1,100	E&GI
B/C.6.003	Investment in Connecting Cambridgeshire - Mobile Connectivity		-	Committed	485	485	-	-	-	-	E&GI
B/C.6.004	Investment in Connecting Cambridgeshire - Public Access WiFi		-	Committed	705	705	-	-	-	-	E&GI
B/C.6.005	Investment in Connecting Cambridgeshire - Smart Work Streams		-	Committed	2,013	2,013	-	-	-	-	E&GI

## Section 3 - B: Place and Economy

**Table 5: Capital Programme - Funding**

Budget Period: 2022-23 to 2031-32

Ref	Scheme	Linked Revenue Proposal	Net Revenue Impact	Scheme Start	Total Funding £000	Grants £000	Develop. Contr. £000	Other Contr. £000	Capital Receipts £000	Prud. Borr. £000	
B/C.6.006	Investment in Connecting Cambridgeshire - Programme Delivery			- Committed	3,350	385	-	2,365	-	600	E&GI
	<b>Total - Connecting Cambridgeshire</b>		-		<b>48,015</b>	<b>21,663</b>	-	<b>15,564</b>	-	<b>10,788</b>	
<b>B/C.07</b>	<b>Capital Programme Variation</b>										
B/C.7.001	Variation Budget			- Ongoing	-41,003	-11,757	-2,284	-3,278	-	-23,684	E&GI, H&T
B/C.7.002	Capitalisation of Interest Costs			- Committed	3,520	-	-	-	-	3,520	E&GI, H&T
	<b>Total - Capital Programme Variation</b>		-		<b>-37,483</b>	<b>-11,757</b>	<b>-2,284</b>	<b>-3,278</b>	-	<b>-20,164</b>	
	<b>TOTAL BUDGET</b>				<b>523,348</b>	<b>262,840</b>	<b>30,782</b>	<b>65,539</b>	-	<b>164,187</b>	

## Environment & Green Investment Committee Agenda Plan

Published on 1 November 2021

Updated on 8 November 2021

### Notes

The definition of a key decision is set out in the Council's Constitution in Part 2, Article 12.

\* indicates items expected to be recommended for determination by full Council.

+ indicates items expected to be confidential, which would exclude the press and public.

The following are standing agenda items which are considered at every Committee meeting:

- Minutes of previous meeting and Action Log
- Finance Monitoring Report
- Agenda Plan, Training Plan and Appointments to Outside Bodies and Internal Advisory Groups and Panels

Committee date	Agenda item	Lead officer	Reference if key decision	Deadline for draft reports	Agenda despatch date
16/11/21	Cambridgeshire Flood Risk Management Strategy	Richard Whelan and Hilary Ellis	Not applicable		
	Waste Management PFI Contract – Update on Variations to Waterbeach Facility Permits	Adam Smith	2021/074		
	Business Planning Update	Steve Cox	Not applicable		
	Capital report	Steve Cox/ Tessa Adams	Not applicable		
16/12/21	Business Planning	Steve Cox	Not applicable		
	Digital Connectivity Infrastructure Strategy refresh and programme update	Noelle Godfrey	?		

Committee date	Agenda item	Lead officer	Reference if key decision	Deadline for draft reports	Agenda despatch date
	Environment Fund: Skills and Resources to deliver projects skills	Sheryl French	2021/076		
	CUSPE 2021: Cambridgeshire Decarbonisation Fund	Sheryl French	Not applicable		
	Low carbon toolkit to inform decision making: Case Studies on waste and highways	Emily Bolton	Not applicable		
	CUSPE 2021: Evidence base for heat zones, Local Area Energy Planning	Sheryl French	Not applicable		
	Performance Report	Rachel Hallam	Not applicable		
	Annual Carbon Footprint Report	Sarah Wilkinson	Not applicable		
	Review of the Climate Change & Environment Strategy	Sheryl French	Not applicable		
	Northstowe 1 and Phase 2 Section 106 Cost Cap	Colum Fitzimons	2021/043		
20/01/22 [reserve date]			Not applicable		
03/03/22	Local Area Energy Planning and Heat Zones	Sheryl French	Not applicable		
	Trees and Woodland Strategy- Consultation Draft	Emily Bolton/ Phil Clark	Not applicable		
	Risk Report: Energy Projects and Programmes	Sheryl French/ Maggie Pratt	Not applicable		
	Stanground Solar and Battery Storage Project-Investment Case	Claire Julian-Smith	Not applicable		
	Draft Net-Zero and Doubling Nature Programme and Resourcing Strategy	Steve Cox			
28/04/22 Reserve date					

Please contact Democratic Services [democraticservices@cambridgeshire.gov.uk](mailto:democraticservices@cambridgeshire.gov.uk) if you require this information in a more accessible format