

Upwell I.D.B.

Consulting Engineers Report – December 2021

Pumping Stations

Other than the matters previously reported at the last meeting and that described below, only routine maintenance has been carried out.

Bedlam Bridge

The corroded pump bolts on pump 1 have not been addressed, it is recommended these are attended to next summer.

As previously reported the issue with the electricity meter only having one rate continues to be at an impasse with the meter operator refusing to alter it, stating rates can be seen remotely.

Cock Fen

An order was placed and an upfront payment made for the installation of a 3-phase supply at Cock Fen. The current UK Power Networks' completion date is March 2022. In order to hold prices, the order for the plant was placed with E Rand & Sons allowing items to be manufactured, stored and vested in the name of Upwell IDB for installation and commissioning in summer 2022. The order placed includes for the repairs to the flap valve main frames which are badly corroded.

During 2020 engine number 1 developed a leak on its heat exchanger (radiator). The District Foreman swapped this for the spare on site, but this spare unit does not have a tapping for the coolant low level switch and so pump 1 is only used whilst under supervision. It is the intention of the District Officer to put the original heat exchanger (now repaired) back at some time in the future.

Nordelph

It remains the case that the Middle Level Commissioners (MLC) are trying to get the relevant parties to meet on site in an attempt to get the faulty meter matter finally resolved but these attempts continue to be met with resistance due to the pandemic.

Upwell Fen

The leak around the thrust block returned last winter but was no worse than before and so monitoring is continuing.

Cranbrook/Counter Drain (CCD) FRM Strategy

Since the last Board meeting, the Middle Level Commissioners' Planning Engineer has represented both the Middle Level Commissioners and the relevant Boards at regular "Update" Progress Meetings, as well as more specific Meetings. Unless there is a specific issue related to the authority attendance at these meetings is not charged to the Board.

Stakeholder briefing

Background

The Cranbrook/Counter Drain is primarily a drainage and flood protection system which drains part of the 'Middle Level' Fenlands in Cambridgeshire and Norfolk immediately adjacent to the Ouse Washes, at Block Fen and Langwood Fen in between Chatteris and Mepal.

Members will recall that the strategy is investigating ways in which a more sustainable, holistic long term flood risk management solution for the Block Fen and Langwood Fen area, between Chatteris and Mepal, could bring wider social and environmental benefits, including water resources, carbon reduction and sequestration, peat restoration, biodiversity enhancements, navigation, amenity and reduced costs.

Progress during 2021

A topographical aerial drone survey was undertaken in April covering Block Fen and Langwood Fen from Welches Dam to Mepal. This survey provides high-resolution topographical data to feed into the modelling work. The survey will be used to create a 3D topographical GIS model to investigate the volumetric storage that may be available and allow an assessment on how to transfer the water around the site efficiently.

A groundwater monitoring network of nine boreholes was installed during May. Monthly readings are being taken to assist in understanding the groundwater conditions.

In May, partner organisations were consulted on their aspirations for the area, this included the Middle Level Commissioners, Cambridgeshire County Council, RSPB, Natural England, Water Resources East and the Great Ouse Boaters Association. A meeting was held after this and several more opportunities for benefits additional to flood risk mitigation were identified. The outcomes from this consultation have been included in the Cranbrook/Counter Drain Strategy Vision for the area.

Financial approval has been received through the Environment Agency's internal assurance process. In September the business case was approved which allows Strategy development to continue.

Procurement for a number of requirements has been underway since the summer, including:

1. Modelling of the Cranbrook/Counter Drain catchment; this will inform how existing assets are operated in the catchment and will be used to confirm the volume of water that will need to be stored in flood storage areas.

2. Topographical/Volume modelling; this will be used to calculate how much storage volume can be created across the site. This activity can be used to move towards an outline design and help to inform restoration proposals. It will also consider enabling infrastructure and the transfer of flood water into and out of the storage areas.

3. Groundwater modelling; groundwater will impact the feasibility of using empty spaces for storage and any clay lining that may be below ground level will impact the transfer of groundwater. The modelling will assess the impact of groundwater on the feasibility of storage options and likewise the impact of storage options on groundwater.

Next steps in 2022

The modelling activities will start at the beginning of 2022 and are the key activities in developing the detail of how the flood storage area will operate.

Early next year more high-resolution aerial surveys of the whole Cranbrook/Counter Drain catchment will be carried out, which will feed into the catchment modelling. This will extend the coverage from the survey undertaken in 2021.

A formal Steering Group workshop, which will bring all the stakeholders together, including minerals companies and Internal Drainage Boards, is currently planned for June. This will be used to advise on the next steps, following the modelling activities, and enable the development of the Strategy with a more detailed proposal of how flood storage can be delivered in the catchment.

Strategy Vision

In 2009, a Strategy Vision was developed following consultation with key stakeholders.

The updated 2021 version of this Vision, incorporating the aspirations from the Stakeholder Steering Group meeting held in May, follows.

Members are encouraged to review and provide comments on the document and:

- a) Confirm the Vision still captures stakeholder needs**
- b) Refresh with any further opportunities which may have arisen since 2009**

It is appreciated that the Vision, which concentrates on the Block Fen/Langwood Fen area, may require some debate on what is included. It is suggested that a separate meeting could be arranged for the spring to specifically discuss the issues involved.

The updated Vision is provided below:

Cranbrook Drain/Counter Drain Flood Risk Management Strategy



Flood Risk Management Principles

**A vision to create a Flood Storage Area at Block Fen
December 2021**

Introduction

In 2008 the Environment Agency's Flood Risk Management Strategy for the Cranbrook/Counter Drain was developed. One important component of the preferred strategy is to investigate and, if possible, develop flood storage over the medium term to replace Welches Dam pumping station. In so doing to provide a more sustainable long term flood risk management solution for the area that can bring wider social and environmental benefits.

The Cranbrook/Counter Drain is primarily a drainage and flood protection system. As structures within this system are approaching the end of their useful lives a strategic approach is required to safeguard the future of the system. The current standard of flood risk to the 10,550ha catchment is a 1 in 25 chance of flooding in any given year. This document presents the vision and key principles for flood storage at Block Fen.

Shared vision

Synergies between the Cranbrook/Counter Drain Flood Risk Management Strategy and the Cambridgeshire and Peterborough Minerals and Waste Development Plan were first identified during the development of the Environment Agency's Strategy. There is an opportunity to provide flood storage as one of a range of after-uses following mineral extraction in the Earith/Mepal area at Block Fen. This opportunity was recognised through the production of a Block Fen/Langwood Fen Master Plan which was adopted by Cambridgeshire County Council on 19 July 2011. The Master Plan continues to be part of the Cambridgeshire and Peterborough Minerals and Waste Local Plan, which was recently updated and adopted by Cambridgeshire County Council on 28 July 2021.

The Environment Agency's ambition is to be able to deliver their primary objective of providing sustainable flood risk management to the Cranbrook Drain catchment in the face of a changing climate whilst also contributing to partner ambitions surrounding recreation, amenity, biodiversity gains and maximising efficient use of natural resources.

This flood storage scheme accords very well with the National Flood and Coastal Erosion Strategy (2020), in particular Measure 1.5.4:

"By 2025 the Environment Agency will work with farmers, land managers, water companies, internal drainage boards and other partners to develop a long-term plan for managing future flood risk in the Fens."

And the Environment Agency's Corporate Strategy 'Fit for 2025' and its 3 long term goals:

- A nation resilient to climate change
- Healthy air, land and water
- Green growth and a sustainable future

In 2009, the Environment Agency established a Project Steering Group to help them to progress the flood storage element of their approved strategy. This comprised Natural England, Cambridgeshire County Council, the Royal Society for the Protection of Birds (RSPB), minerals companies, the Sutton and Mepal Internal Drainage Board (IDB) and the Middle Level Commissioners.

Engagement with these stakeholders helped the Environment Agency to understand their various aspirations for the area, the challenges the project faces and the multiple benefits that it can deliver. This improved understanding was used to inform the drafting of a number of key principles for the future design, operation and management of a flood storage area at Block Fen.

During 2021 and into 2022, the Environment Agency has been seeking to undertake various studies to develop the technical feasibility of flood storage. As part of this, the principles identified in 2009 are being revisited to ensure they still represent the views of key stakeholders.

A meeting was held in May 2021 with the RSPB, Natural England, Great Ouse Boating Association, the Middle Level Commissioners and Cambridgeshire County Council to discuss the vision for the area. The original eleven principles remain relevant with minor amendments proposed (highlighted in yellow), with an additional principle also suggested (principle 12).

Further engagement is planned with landowners, minerals companies, IDBs and Water Resources East to ensure these principles are up to date.

Flood Storage Principles

A set of guiding principles for a flood storage area at Block Fen.

PRIMARY OBJECTIVE To Provide a Sustainable Flood Risk Management Solution for the Cranbrook Drain/Counter Drain Catchment.

In meeting the primary objective the Environment Agency will look to:

- PRINCIPLE 1** Provide a sustainable flood risk management solution that is resilient to predicted changes in our climate (e.g. wetter winters with more intense rainfall events and warmer drier summers).
- PRINCIPLE 2** Ensure that there are no significant effects of the scheme on the ability of the IDB to manage the surrounding drainage system.
- PRINCIPLE 3** Minimise future operational and maintenance costs (e.g. pumping) through careful design and maximising funding opportunities.
- PRINCIPLE 4** Provide a water resource for local irrigators and consider how flood storage can contribute to strategic water resource opportunities and challenges across the East of England.
- PRINCIPLE 5** Maximise opportunities to balance land use with flood storage through careful design (e.g. focussing of high return period flood events into defined parts of the wider storage area).
- PRINCIPLE 6** Only where Principle 5 is unachievable, provide appropriate compensation to landowners, where required, for disruption caused by infrequent high return flood events.
- PRINCIPLE 7** Explore the potential for providing inert waste disposal (landfill) where it can be accommodated in the design and where it is in accordance with the Cambridgeshire and Peterborough Minerals and Waste Local Plan.
- PRINCIPLE 8** Promote appropriate recreational after-uses, particularly navigation, where there will be no detriment to the primary objective of flood storage, other land users and local habitat.
- PRINCIPLE 9** Maximise benefits to biodiversity and achieve biodiversity net gain e.g. providing water to and avoiding flooding of the habitat restoration area; reducing the volume of water pumped into the Ouse Washes SPA, SSSI, SAC and Ramsar site.
- PRINCIPLE 10** Actively engage with stakeholders as the vision and proposals for the area develop.
- PRINCIPLE 11** Ensure proposals comply with the Objectives and principles outlined in the Agency's Strategic Environmental Assessment for the Cranbrook/Counter Drain Flood Risk Management Strategy (SEA due to be updated in 2022)
- PRINCIPLE 12** Maximise opportunities to reduce current carbon emissions (i.e. through reduced pumping) and seek carbon offset opportunities (e.g. through habitat creation), contributing to net zero.

What we are proposing

Following the extraction of minerals from the area the vision shared by partners is to utilise the restored land for storage of water from flood events, along with maximising opportunities for wider benefits as set out in the principles. During periods of non-flooding the land would be available for various land uses. During times of flood the land would be inundated to varying depths depending on the intensity of the flood event.

The Environment Agency propose to undertake detailed investigations into the mechanisms of flood risk management and to work closely with the minerals extraction companies to develop their restoration proposals; in line with the primary objective of flood storage, according to the principles outlined above and the policies of the Cambridgeshire and Peterborough Minerals and Waste Local Plan (July 2021).

The Environment Agency's concept for flood storage is shown in Figure A. Conceptual cross-sections of the area are provided in figures B-D. These schematics are conceptual in nature and will be developed as more detail is provided through further studies to be undertaken in 2022.

These studies are due to commence at the start of 2022 and include several modelling exercises to calculate storage volumes, the impact on groundwater and how floodwater could be moved in and out of flood storage.

Characteristics of the flood storage area

The following provides a list of characteristics that, as a minimum, will need to be met in order to satisfy the primary objective to provide a long term sustainable flood risk management solution at Block Fen:

1. Sustain the current standard of flood protection of 1 in 25 year statistical return period event.
2. Provide 16 million cubic metres of flood storage capacity, equivalent to two 1 in 25 year statistical return period flood events in succession, including an allowance for increased river flows caused by climate change.
3. Serve the same area as is currently served by Welches Dam pumping station.
4. A phased restoration of land to bring flood storage on-line as land is released over the 40 year minerals extraction programme.
5. Maximise the capacity of lakes provided through restoration to maximise the available flood storage volume contained within the lakes, thereby reducing frequency of flooding on the remaining restored land.
6. Provide continuity of the drainage of the area with the surrounding IDB system to reduce ongoing drainage and pumping costs associated with the restoration of the site.

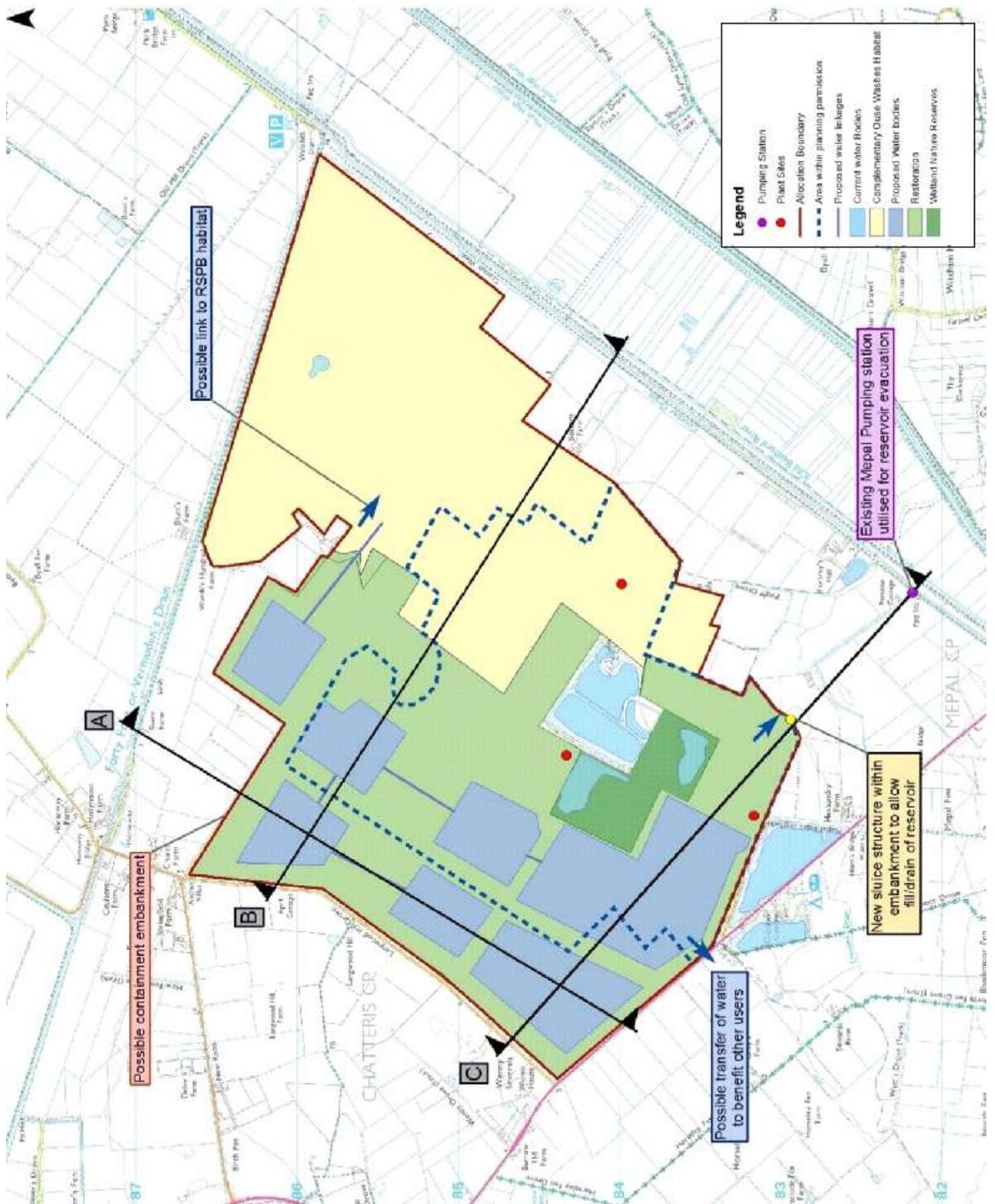


Figure A Environment Agency Flood Storage Concept – ‘area within planning permission’ indicative only

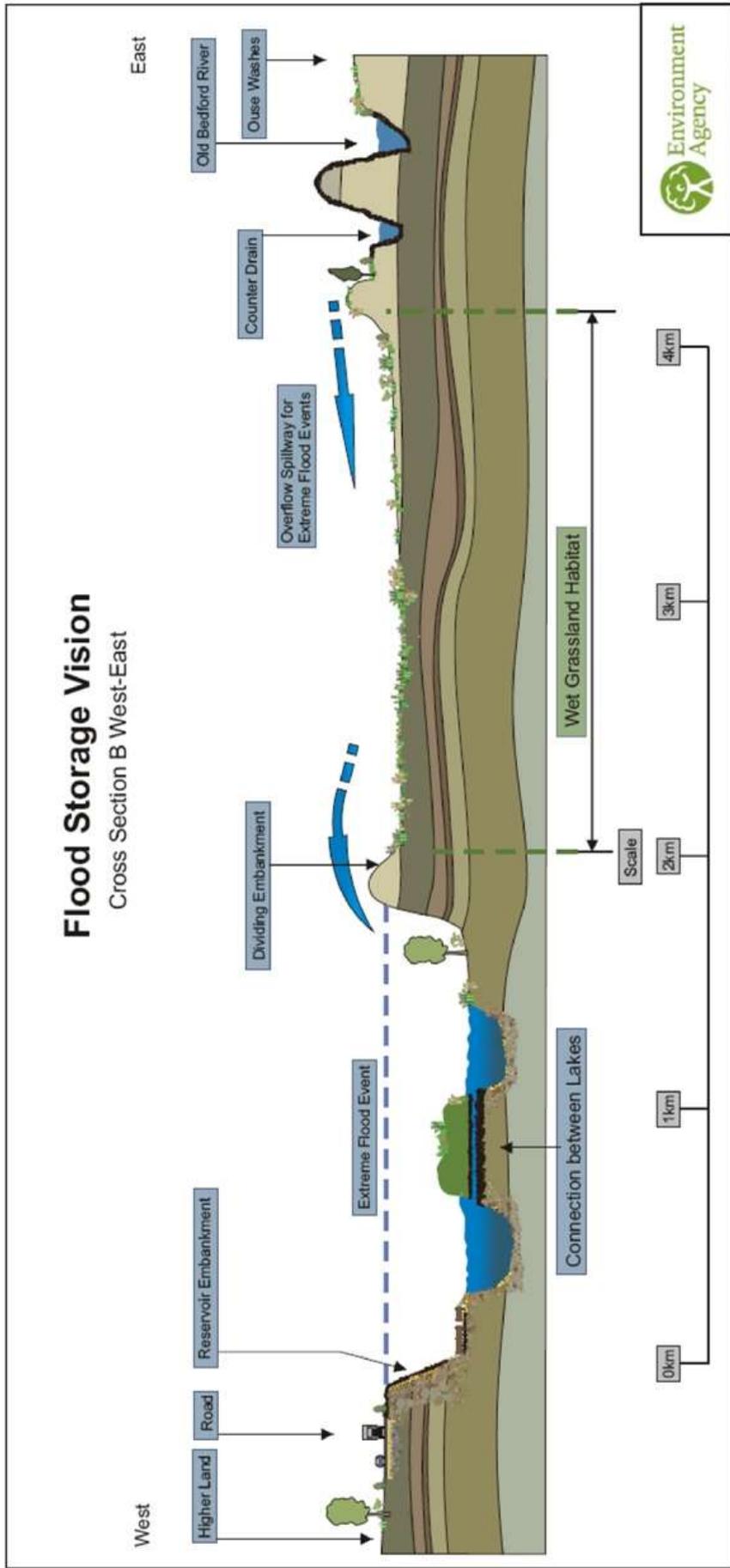


Figure C - artistic representation of vision only, based on low level restoration. Sites could be reinstated closer to ground level.

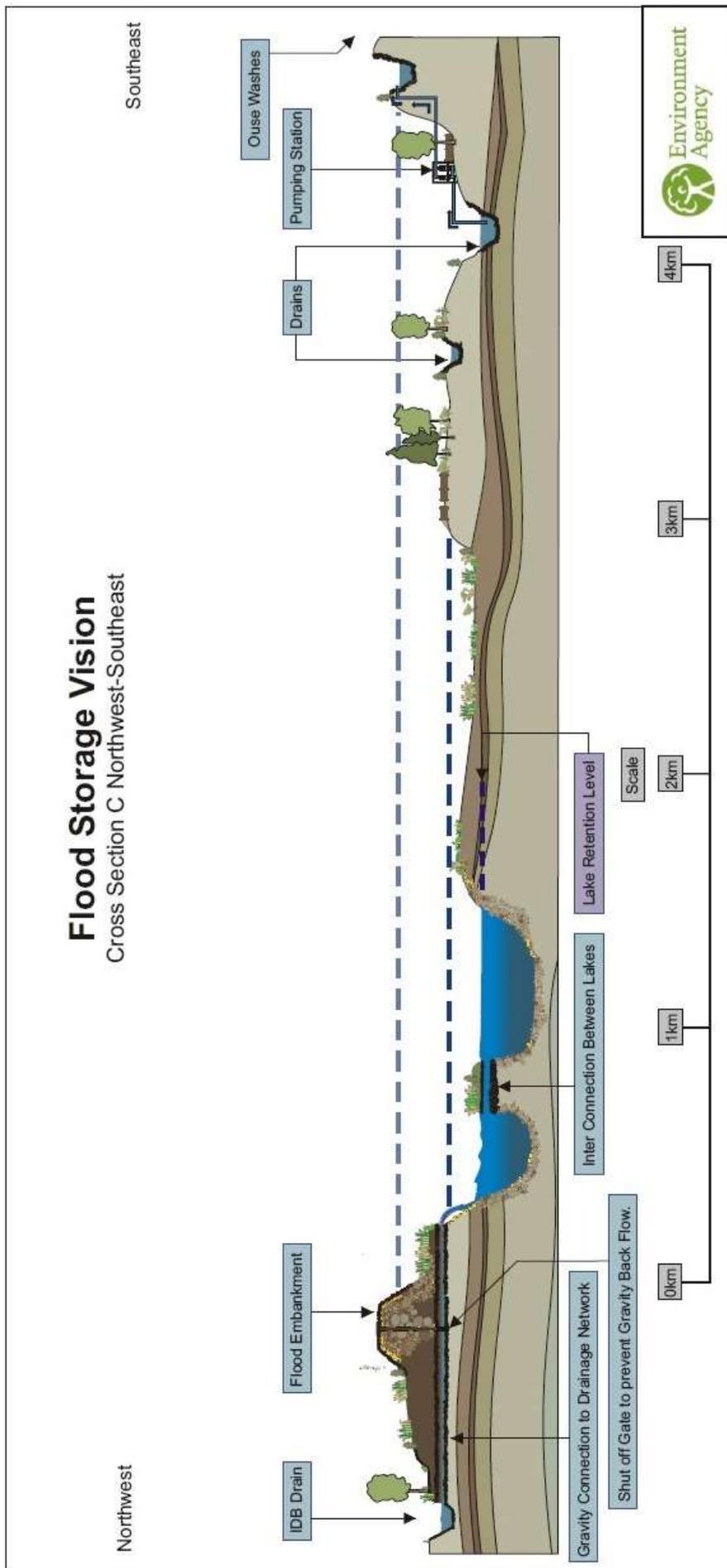


Figure D - artistic representation of vision only, based on low level restoration. Sites could be reinstated closer to ground level.

Old Croft Piling Works

These works were undertaken by the Board during the Autumn and the property owners are happy with what has been delivered. The cost of the works will be shared with the Manea and Welney DDC.

Planning Applications

In addition to matters concerning previous applications, the following 8 new development related matters have been received and, where appropriate, dealt with since the last meeting:

MLC Ref.	Council Ref.	Applicant	Type of Development	Location
517	21/00805/F	Mr Palmby	Residence (Annexe)	Flint House Road, Lott's Bridge
518	21/01157/F	L Bishop & L Mellish	Residence (Extensions)	Birchfield Road, Nordelph
519	Enquiry	Client of RSP Group	Provision of Flood Risk Information	Horsehead Road, Upwell
520	21/01324/F	Mr & Mrs V Burbridge	Residence (Annexe)	Main Street, Welney
521	21/00252/F	Norse Commercial Services	Storage (Grain store)	Birchfield Road, Nordelph
522	21/01465/F	Mrs K Porto	Storage (retrospective)	Welney Road, Lakes End
523	Pre-app	Ms C Gibbons	Residence (Garage)	The Walnuts, Tipps End
524	F/YR21/1234/F	Mr & Mrs S Barltrop	Residence (Extension)	Hall Farm, Upwell

From the information provided it is understood that all the developments propose to discharge surface water to soakaways, infiltration devices and/or Sustainable Drainage Systems (SuDS). The applicants have been notified of the Board's requirements.

Some of the above may discharge treated foul effluent water into the Board's system either via private treatment plants or Water Recycling Centres (WRC).

No applications for Infiltration Device Self Certification or the Checking Service have been received since the last meeting report.

Christchurch

The Croft off Church Road, Christchurch – Hazelmere Homes Ltd (Butcher & Harris)
(MLC Ref Nos 106, 167, 230, 240 & 242)

No subsequent correspondence has been received from Anglian Water but it appears from its DIGDAT GIS database that the on-site waste water systems have been adopted as Public Sewers.



Extract from Anglian Waters DIGDAT GIS database showing the Public Sewers in the immediate area

Would the Board like the Commissioners to confirm the position with Anglian Water?

Erection of a house with detached carport – The Ely Diocesan Board of Finance (MLC Ref No 269) & Mr & Mrs Mannion (MLC Ref Nos 309, 313 & 366) & Dr & Ms Mannion (MLC Ref No 416) & 2 plots on land south west of The Rectory, Church Road, Christchurch – Dr C Mannion & Ms R Amin-Mannion (MLC Ref Nos 465 & 512)

Further to the last Board Meeting Report, Fenland District Council (FDC) granted planning permission for the erection of two dwellings FDC Ref No F/YR21/0139/F MLC Ref No 512 in July.

The District Council imposed planning conditions concerning the ecology and the protection of trees. No specific surface water condition was imposed but a Drainage Advisory Note was included on the Decision Notice.

No subsequent correspondence has been received and no further action has been taken on the Board's behalf.

Erection of 4 dwellings with detached garages, comprising of 2 x 2-storey 4-bed dwellings and 2 x 3-storey 5-bed dwellings at the site of the former Shrub House, 46 Church Road, Christchurch – P J Farms Ltd (MLC Ref Nos 409, 412 & 414)

Further to Minute B.1941 Site of Former Shrub House, 46 Church Road, Christchurch – Planning Application F/YR15/0104/F it is reported that despite a few minor problems the outstanding amount of £2081.67 has been received and a recommendation to issue discharge consent has been forwarded to the Clerk to the Board.

Residential development on land to the south west of Syringa House, Upwell Road, Christchurch - Mr J Stittle & Miss R Watson (MLC Ref No 437) & Mr B Dawson (MLC Ref Nos 476 & 513)

Further to the last Board Meeting Report, FDC granted planning permission for the erection of three dwellings FDC Ref No F/YR21/0171/F MLC Ref No 513 in July.

The District Council imposed planning conditions concerning biodiversity, habitats and species. No specific surface water condition was imposed but a Drainage Advisory Note was included on the Decision Notice.

No subsequent correspondence has been received and no further action has been taken on the Board's behalf.

Lakes End

Development at Stanborough House, Welney Road, Lakesend – Mrs K Porto (MLC Ref Nos 339 & 522)

Further to previous meeting reports, a retrospective planning application was submitted to the Borough Council for a general purpose building and stables.

The applicant's agent, Churchgate Property, advised that surface water from the stables was to be solely collected in water butts. In accordance with current policy, it was advised that whilst the Board encouraged water harvesting and re-cycling, this method should be in addition to, but not replace, any part of a positive surface water disposal system. The agent subsequently advised that the surplus water would be discharged to the watercourse forming the northern boundary of the site.

An application for discharge consent is currently awaited from the applicant.

Given that the planning application was retrospective, and in order to deal with this matter expeditiously, **it is suggested to the Board that if the application submission is not received within a reasonable period, say two months, the Board issues an Advisory Notice to the applicant and/or requests a note be added to the Local Land Charges Register.**

If further action is required this can be discussed at the next Board Meeting.

Retrospective planning application for the change of use of residential garden for use of dog kennels and runs at The Cottage, Welney Road, Lakes End – Mrs S Millington (MLC Ref No 492)

Following the refusal of this planning application by The Borough Council of Kings Lynn and West Norfolk the applicant submitted an appeal to The Planning Inspectorate. The Planning Inspector dismissed the Appeal in November.

No subsequent correspondence has been received and no further action taken on the Board's behalf.

Revised drainage at 1-6 Hurst Crescent, Lakesend – Freebridge Community Housing (MLC Ref No 508)

An application for discharge consent has been received and is currently being progressed.

Nordelph

Erection of four bedroom detached farmhouse and garage at Mill House, Boothes Road, Nordelph – Mr Denis Pearcey (MLC Ref Nos 338 & 485)

It is assumed that the works associated with this development have now been completed.

Tipps End

Development at Walnuts, Tipps End – Mr M Dickinson (MLC Ref No 135) and Mr Gibbons (MLC Ref No 523)

A pre-application consultation request was received from the applicant's architect, Gary Johns Architects Limited, concerning the proposed replacement of a garage in the 9.0m wide maintenance access strip beside the Old Croft River.



Extract from Gary Johns Architects Proposed Site Plan Drawing No 012 Rev A

In accordance with current practice, the enquiry was the subject of an internal consultation with the Chairman of both Upwell IDB and Manea & Welney DDC. Both Chairmen considered it essential that the access strip was maintained to undertake critical maintenance operations alongside the Old Croft River. Concerns were also raised about the existence of established trees at the site which have caused blockages of the culvert under Wisbech Road due to falling leaves.

Gary Johns Architects Limited was advised accordingly and no subsequent correspondence has been received.

Welney

Proposed residential development of 17 units to the north west of The Grange and south east of North Road, Welney – Loyd Homes (Client of JPP Consulting) (MLC Ref No 462)

A site meeting has been requested by the developer's consultant, SEA Structural Engineers Ltd, to be attended by the appointed contractor, L4 Civils Ltd, and the Commissioners' Planning Engineer to discuss the contents of the various consents that have been issued.

It is assumed that work on site will commence in the New Year.

Proposed residential development (4 dwellings) at former Three Tunns Public House, Main Street/Bedford Bank (East) Welney – Elgood & Sons Ltd (MLC Ref No 475)

No subsequent correspondence has been received and no further action has been taken on the Board's behalf.

Development Contributions

Contributions received in respect of discharge consent will be reported under the Agenda Item – ‘*Contributions from Developers.*’

Norfolk Water Management Partnership [Norfolk County Council (LLFA)]

Local Flood Risk Management Strategy Policy Review 2021

No further correspondence has been received or discussion subsequently occurred concerning this matter.

General Advice

Assistance has been given, on the Board’s behalf, in respect of the following:

- (a) Clive Benjamin – An application was received for bylaw consent for the piping and filling of 15 metres of private watercourse with a 600mm diameter pipe at No 1 Brimstone Close, Christchurch. The pipe will connect to a previous piped length undertaken by an adjacent landowner, with a new manhole installed to pick up a road discharge outfall. The pipe end will be finished with a concrete bagged headwall. The application was recommended for approval.
- (b) Robert Palmby – Further to Minute B.1958 an application for bylaw consent for the installation of a 100mm diameter steel pipe and outfall into the Board’s watercourse between Points 128 and 129, alongside Flint House Road, Lott’s Bridge, Three Holes was recommended for approval.
- (c) Site visit to inspect the unconsented erection of a picket fence at Meadow Farm, Main Street, Welney, opposite the car park of the Lamb and Flag Public House. The necessary forms have been sent to the owners of the property for them to submit an application for bylaw consent that will then be duly considered.
- (d) The Middle Level Chief Executive met with the Board’s Chairman and a resident of Lakes End to discuss a localised flooding issue affecting the gardens of some properties there. A possible solution was identified and discussions with Freebridge are being undertaken to see if it would be feasible to implement this.

20 December 2021