

# **BLACK SLUICE**

## **INTERNAL DRAINAGE BOARD**



## **Northern Works Committee Meeting**

**Tuesday, 7<sup>th</sup> September 2021 at 3:30pm**

**Station Road, Swineshead, Lincolnshire PE20 3PW**



# Black Sluice Internal Drainage Board

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Swineshead  
Boston  
Lincolnshire  
PE20 3PW

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Our Ref: IW/JB/B10\_1

Your Ref:

Date: 31<sup>st</sup> August 2021

## To all Northern Works Committee Members

Dear Member

### Northern Works Inspection and Meeting on 7<sup>th</sup> September 2021

Please find enclosed the papers for the Northern Works Committee Meeting to be held after the Inspection of the northern area on Tuesday 7<sup>th</sup> September 2021.

The meeting will be a hybrid meeting; having the facility to attend either physically or remotely. If you would prefer to attend the meeting remotely, please inform the office and the meeting link will be sent to you.

We shall depart at 8:30am from the Board's Offices and arrive back for the meeting at around 3:30pm.

Tea/coffee and bacon rolls will be provided from 8:00am onwards, drinks and a lunch will be provided.

Please wear appropriate outdoor clothing and footwear for walking and possible trailer rides.

Yours sincerely

Chief Executive

## A G E N D A

1. Recording the meeting.
2. Apologies for absence.
3. Declarations of interest.
4. To receive and if correct sign the Minutes of the last Meeting of the Northern Works Committee held on 2<sup>nd</sup> June 2021 (**pages 1 - 8**)
5. Matters arising.
6. To discuss the Operations Report and Inspection (**pages 9 - 29**)
  - (a) Capital Schemes Budget (**page 30**)
  - (b) Summer Cutting Works Map - Flailing 2021 (**page 31**)
  - (c) Summer Cutting Works - Roding 2021 (**page 32**)
7. Rainfall (**pages 33 & 34**)
8. Any Other Business.

# **BLACK SLUICE INTERNAL DRAINAGE BOARD**

## **MINUTES**

of the proceedings of a Meeting of the  
Northern Works Committee

held remotely on the  
2<sup>nd</sup> June 2021

### **Members**

Chairman - \* Mr P Holmes

* Cllr T Ashton	* Cllr R Austin
* Cllr P Bedford	* Mr M Brookes
* Mr D Casswell	* Cllr M Cooper
* Mr J Fowler	* Cllr M Head
Mr R Leggott	Mr R Needham
* Cllr F Pickett	* Mr J E Pocklington
* Mr P Robinson	Mr N Scott
* Cllr P Skinner	Mr R Welberry

(\* Member Present)

In attendance: Mr I Warsap (Chief Executive)  
Mr D Withnall (Finance Manager)  
Mr P Nicholson (Operations Manager)  
Mr S Harrison (Works Manager)

### 1792 TO APPROVE THE AMENDED STANDING ORDERS – Agenda Item 1

The Finance Manager explained that there were temporary amendments made to the Standing Orders last year to allow remote meetings to take place due to COVID-19, which had an expiry of 7<sup>th</sup> May 2021. There has now been a permanent replacement paragraph added, as displayed on screen, to allow for remote meetings to continue, which will be presented at the next meeting of the Board for approval but are required to be presented at the beginning of any meeting prior to that due to the temporary version having expired. All APPROVED.

### 1793 RECORDING THE MEETING – Agenda Item 2

Members were informed that the meeting would be recorded.

### 1794 APOLOGIES FOR ABSENCE - Agenda Item 3

Apologies for absence were received from Mr M Rollinson, Mr R Leggott, Mr R Welberry, Mr R Needham and Mr K Casswell.

### 1795 DECLARATIONS OF INTEREST - Agenda Item 4

There were no declarations of interest.

1796 MINUTES OF LAST MEETING - Agenda Item 5

The Minutes of the Northern Works Committee, which was held on 4<sup>th</sup> November 2020, copies of which had been circulated, were considered. It was AGREED that the Minutes should be signed as a true record.

1797 MATTERS ARISING - Agenda Item 6

(a) FALLEN TREE - FX1472 - NORTH FORTY FOOT DRAIN

Cllr P Bedford questioned if this matter has been resolved yet? The Operations Manager noted that it is not yet resolved.

1798 RECEIVE THE ENGINEER'S REPORT - Agenda Item 7

The Operations Manager presented the report on Engineering Works, highlighting points as follows.

1. CAPITAL ASSET IMPROVEMENTS

(a) 2020/21 Defra/EA Funded Grant in Aid (GiA) Schemes

(i) NORTH FORTY FOOT CLEANSING/REVTMENT & LANGRICK ROAD PIPELINE

The works have started; all the planned replacement of existing pipeline is completed and are now awaiting quotations for the sections proposed to be lined.

Contact has been made with Lincolnshire County Council regarding the section under the highway who have agreed to fund that section of work.

Royal Smals will complete the desilting of the North Forty Foot Drain from Cooks Lock Pumping Station to the footbridge at Roseberry Avenue. These works are planned for late October 2021 and are expected to take between 4 – 5 weeks. The silt settlement lagoon having been completed in March.

(b) 2020/21 Board Funded Capital Schemes

(i) WYBERTON MARSH PS WEEDSCREEN CLEANER

The replacement of the weedscreen cleaner at Wyberton Marsh Pumping Station has been completed, photos were displayed on screen.

(ii) CHAIN BRIDGE PS WEEDSCREEN CLEANER

The refurbishment of the weedscreen cleaner at Chain Bridge Pumping Station has been completed, photos were displayed on screen.

(iii) JETTING TO MAJOR PIPELINES

The elements still to be completed in Kirton / Wyberton and Donington were displayed on screen, having encountered accessibility issues because of weather conditions and water levels. It was confirmed that when inspecting, defects in the pipes, separation of joints etc. are being looked for, however, there have been no major causes for concern in relation to the conditions of the pipelines already completed.

(iv) REMOTE MONITORING & CONTROL (H&S SCHEME)

This work has started; installing metric gauge boards and remote operation of the pumps. Some of the pumping station's control panels will require upgrading to be able to run the remote operation.

It was explained that the original source of funding (£110,000) was proposed through joint funding of Local Levy and Grant in Aid (GiA), however, unfortunately the scheme was not eligible for this. Local Levy funding (£110,000) has now been approved instead.

The Chairman questioned if a GiA Manager would have been able to help achieve the GiA funding? The Operations Manager responded that a new GiA Manager has been appointed and is due to commence work next month, however, noted that he didn't think it would have made a difference to achieving the funding as the required criteria was not met.

The Finance Manager added that the automated pumping stations used over the winter period worked well and as they were designed to.

(c) 2021/22 Defra/EA Funded Grant in Aid (GiA) Schemes

(i) REMOTE MONITORING, TELEMETRY H&S SCHEME

This scheme was explained in the above item; 1(b)(iv).

(d) 2021/22 - Board Funded Capital Schemes

(i) JETTING TO MAJOR PIPELINES

This scheme was explained in the above item; 1(b)(iii).

(ii) GENERAL CULVERT CONTRIBUTIONS

The following culverts are proposed to for replacement / contribution:

No. 635	Swineshead	15m x 0.6m	Armco	£1k max contribution
No. 1795	Kirton	12m x 0.6m	Armco	£1k max contribution
No. 2880	Kirton	9m x 0.6m	BAT	Potential to give this up

It was also agreed at the recent Structures Committee Meeting that Culvert No 1469 in Bicker Fen would have a £1,000 contribution from the Board.

Culvert No. 2880 has the potential to be given up as the Board are considering giving that watercourse up. Culverts No. 635 and 1795 are used for maintenance works and so have the potential for contribution. A contribution won't be made until it has been further investigated.

#### Culverts 1469 & 1408 – Bicker Fen

The Operations Manager next referred to an ongoing situation in Bicker Fen regarding two culverts, No. 1469 and 1408.

One culvert completely failed and the other partially failed. The culvert that failed completely was entirely removed by the Board, and the culvert that partially failed was partly removed by the Board as both were causing obstruction to the conveyance of water through the watercourse.

The two culverts are owned by the same landowner, with whom discussion has taken place, explaining that the Board would be willing to make a contribution to Culvert No. 1469 as the Board use it for their operations. The landowner argues that if the Board are using the culvert, then the Board should be fully responsible for it, that he is not willing to replace the culverts at his cost and that he won't pay his drainage rates until resolved. The Operations Manager is meeting with the landowner on site next week to explain the Board's position. The landowner has had formal notification and received the Structures Policy.

The Chairman questioned if the Board could carry out its operations without either of the culverts? The Operations Manager responded that, yes, the Board can carry out its operations without either culvert but noted that one of the culverts is required for the landowner to access his field as it is the only access point.

The Chairman felt that a contribution appropriate to the amount the Board use it, in line with the Structures Policy, be offered and that is it.

Mr J Fowler noted that from looking at it on Google Earth, it looks like a critical crossing point for the farm holding, noting that the Structures Policy should be adhered to. Adding that it looks a useful crossing point to the Board and so the standard contribution should be made.

Mr D Casswell questioned if the Board have accepted liability by removing the culvert? It was confirmed that the Board are obliged to remove any obstruction blocking the conveyance of water, as per the Structures Policy.

Cllr M Head questioned how much the replacement would cost? The Operations Manager responded that if the Board did it, it would be £7,000 + depending on the diameter and length. The Chairman noted that the Board is, admittedly, dearer than the market place, a landowner with their own labour and machinery would reduce the cost.

Cllr M Head next referred to the 'standard Board contribution' questioning what this is? Also adding, that setting a precedence needs to be considered with the action of this situation.

The Operations Manager noted that the contribution is calculated based on how much time using the culvert saves the Board operationally over a period of twenty years.

The Chief Executive noted the Structures Policy that holds a lot of information that can be found on the Board's website.

Cllr P Bedford felt that he should be offered the Board contribution only and no more and adhere to the Structures Policy.

The Finance Manager also noted that if the landowner refuses to pay his drainage rates they will be recovered through the court.

(e) Pumping Station Schemes

(i) GREAT HALE PS WEEDSCREEN REFURBISHMENT

The weedscreen at Great Hale Pumping Station has been deferred once and is due to be refurbished, however, it is proposed to defer this again and use the resource at Wyberton Marsh Pumping Station instead, as the pumps at that pumping station are making a worrying noise.

All AGREED to defer Great Hale Pumping Station weedscreen refurbishment and go ahead with work at Wyberton Marsh Pumping Station.

(ii) KIRTON MARSH PS NEW ROOF

Photos of the current roof at Kirton Marsh Pumping Station were displayed on screen, it being noted that they have been taken using the Board's drone which is helpful for completing roof inspections.

It was confirmed that it will be a pitch roof and that solar panels will be considered.

2. Proposed Works 2022/23

(a) Defra/EA Granted Schemes

(i) EWERBY FEN CATCHMENT WORKS

It was explained that this is about establishing the benefits in the whole of the catchment.

It further being added that GiA funding is based on identifying benefits within the area that are attributional to release funding. Currently, the greatest benefit is property (both residential and commercial), with a lot of pressure now being made to make agricultural land more valuable in this. If more value is given to agricultural land, then the Board will be successful in achieving GiA funding.

The medium term plan has just been completed; this is a six year projection of schemes wanted to be considered for funding. There are 26 schemes in this plan, however, it is not expected to achieve all of these in six years.

This is a survey of the Ewerby Fen Catchment to try and achieve betterment of every asset in the catchment. The Operations Manager felt this is something important, noting that the majority of pumping stations are at end of life, and it would be beneficial to consider developing the catchment in a different way.

Mr D Casswell questioned if the pumping stations were to be rebuilt if they would have increased pump capacity?

The Operations Manager responded that if funding was achieved, the Board would need to consider a 'start from scratch' method, and look at all the modern ways of pumping, and with it the potential to reconfigure the existing pump catchments.

(b) Board Funded Capital Schemes

(i) HELPRINGHAM FEN PS ROOF

The current flat roof at Helpringham Fen Pumping Station will be replaced in the same way as Mallard Hurn Pumping Station Roof was replaced in 2018.

3. Information on investigations at Ewerby, South Kyme and Damford

The Operations Manager explained that the conclusion of each report for each of the above pumping stations have been included in the agenda for information.

From the reports, it is now known what work needs to be completed. The Operations Manager proposed to ask Stantec to provide a quotation for the works they suggested in their report.

The Operations Manager continued that he is still trying to achieve an order from the EA for the investigations already carried out and for the recommended works. Discussion has also taken place around a potential insurance claim if the EA do not provide the funding.

The Chairman questioned the scale of the required works? The Operations Manager responded that he believes it will likely be around £100,000 per site.



The Chairman questioned whether the EA are likely to refuse responsibility for it? The Operations Manager noted that he has had email confirmation from the EA to go ahead with the inspections and are aware of those costs, accepting responsibility and not challenging as of yet. The Chairman expressed his concern that the EA will refuse responsibility.

The Finance Manager added that the report shows the problem is where the pumping station and bank meet.

Mr J Fowler noted that presumably there is a specification of a normal working water level within the EA drain and in these rainfall events this is exceeded and that is what causes the problem.

The Chief Executive felt that the water levels are above the design level which increases the pressure on the banks, therefore forcing the water through / around / under the bank and it being the EA's responsibility as a result of their water control.

#### 4. Trinity College PS issues during high water levels

The Operations Manager explained that the water is getting through the bank around Trinity College Pumping Station during high water levels.

Stantec were proposing to be on site mid May 2021 but have not yet been. However, they have provided a proposal and it is £1,970 for the initial inspections, which will provide a report which will include further suggested investigation works to establish the problem.

The Chairman felt it needing doing to know what is going on. Cllr M Cooper agreed that it needs to be found out what is going on.

The Operations Manager noted that the proposed catchment works can be identified on the Capital Scheme Budget in red.

Cllr M Head referred to the high water levels, questioning whether the lack of desilting is an affecting factor? Further noting that if this is going to be a recurring pattern of large amounts of rainfall, what can be done to mitigate?

The Operations Manager noted the Board's proactive approach to getting the South Forty Foot Drain (SFFD) desilted from Black Hole Drove to Black Sluice Pumping Station (Boston); 11km of the desilting has been completed and negotiation is currently ongoing regarding desilting of the next 9km. The Operations Manager noted an improvement of the SFFD's ability to recover after an event and also it's capacity to hold water. The Operations Manager further noted the 8 uncontrolled watercourses that flow into the SFFD and an ongoing project around Natural Flood Management (NFM) in the upper catchment which will slow flows into the uncontrolled watercourses. NFM works have commenced in Swaton to provide attenuation through swales, and attenuation ponds The Operations Manager finally noted the potential of the South Lincs Reservoir (SLR) and the opportunities it could present.

The Chairman added that with some of the amounts of rainfall there is no infrastructure that would be able to cope, especially with already naturally saturated ground.

1799 REPORT ON RAINFALL - Agenda Item 8

The rainfall figures at Black Hole Drove were circulated. The Committee RESOLVED that this report be noted.

1800 ANY OTHER BUSINESS - Agenda Item 9

(a) BOARD'S PLANT IN FARM SALE

The Operations Manager explained that there are 7 items proposed to be entered into the local farm sale on 17<sup>th</sup> July, photos were displayed on screen.

- Low Loader trailer - minimum of £2,200
- 2 x Diesel Bowers – both at 'end of life' (one with a hole in and one no longer meets towing requirements) – minimum of £500 and £400
- John Deere 6630 weights, carriage blocks and parts – no reserve.
- Fuel tank
- 3" pump

The Chairman noted that if the Operations Manager sends him the photos, he can help with the reserve price, also noting that if any members have any interest in the items, please contact the Operations Manager directly.

(b) FLAIL MOWING

Mr J Pocklington made reference to the early flail mowing on the four week cycle, which started this Spring. He noted that you can't tell what was flailed three weeks ago because of the rapid growth, questioning what advantage there is of doing it in relation to the cost.

The Operations Manager explained that the reason for early flail mowing is to be able to cut/mechanically weed control the watercourse channel early, and to keep the grass within 4 - 6 inches, between each flailmowing visit, preventing ground nesting birds. The Operations Manager noted that this seasons main cutting programme will not commence until at least the 1<sup>st</sup> August and so to be able to complete the programmed works within similar timescales, it either has to be started earlier or work longer / extra hours. The Operations Manager also noted that alternate bank cutting is also being developed and felt that with the environmental restrictions in place, there is no alternative, with the reason for the flail mowing being so that the excavator can see the bottom of the .watercourse, to enable the channel vegetation to be removed.

There being no further business the meeting closed at 15:40.

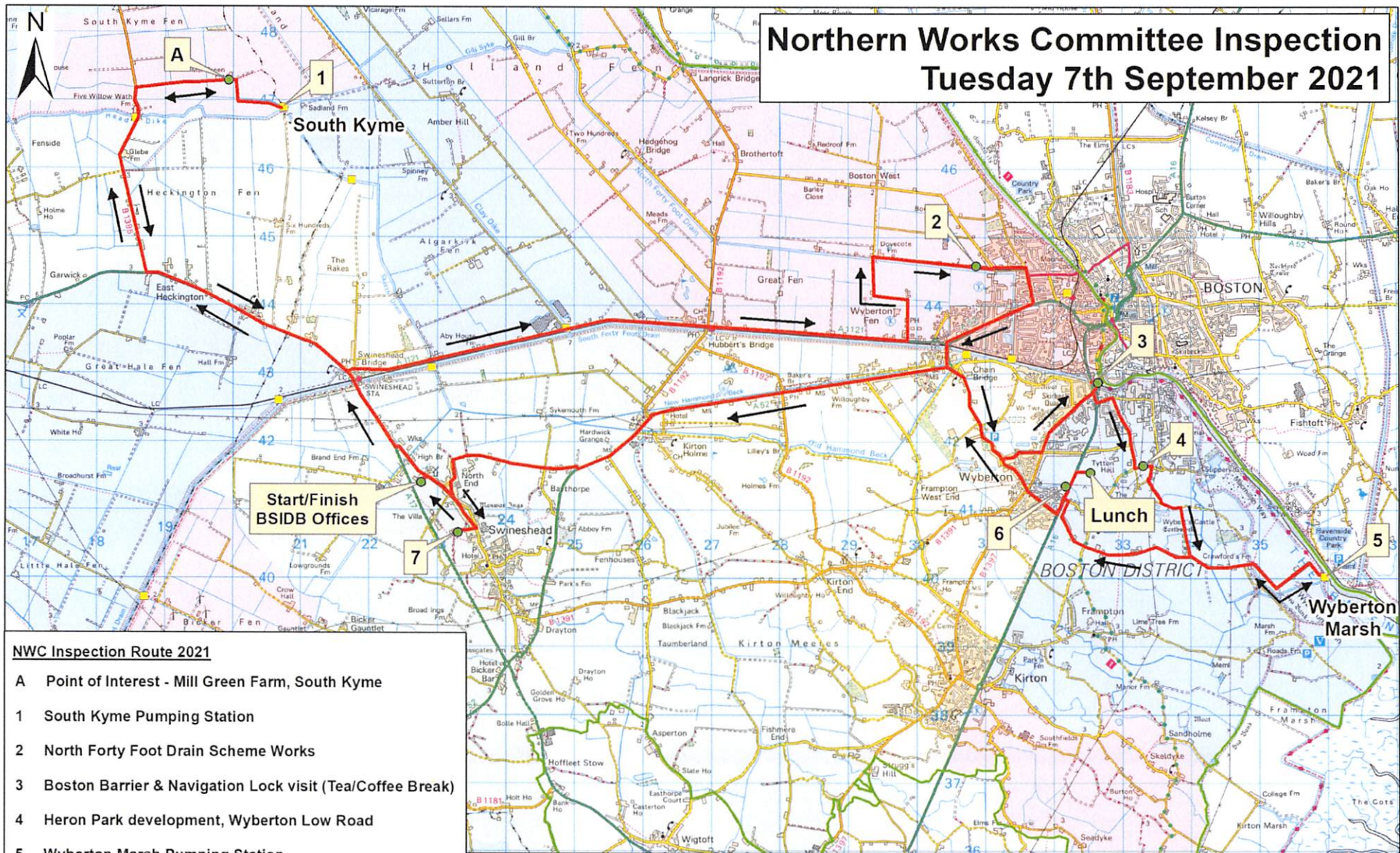


# **BLACK SLUICE INTERNAL DRAINAGE BOARD**



## **NORTHERN WORKS COMMITTEE INSPECTION Tuesday 07 September 2021**

# Northern Works Committee Inspection Tuesday 7th September 2021



Start/Finish  
BSIDB Offices

Lunch

- NWC Inspection Route 2021**
- A Point of Interest - Mill Green Farm, South Kyme
  - 1 South Kyme Pumping Station
  - 2 North Forty Foot Drain Scheme Works
  - 3 Boston Barrier & Navigation Lock visit (Tea/Coffee Break)
  - 4 Heron Park development, Wyberton Low Road
  - 5 Wyberton Marsh Pumping Station
  - Lunch - Boston United Community Stadium
  - 6 The Quadrant & the Wyberton Towns Drain
  - 7 Coles Lane, Swineshead



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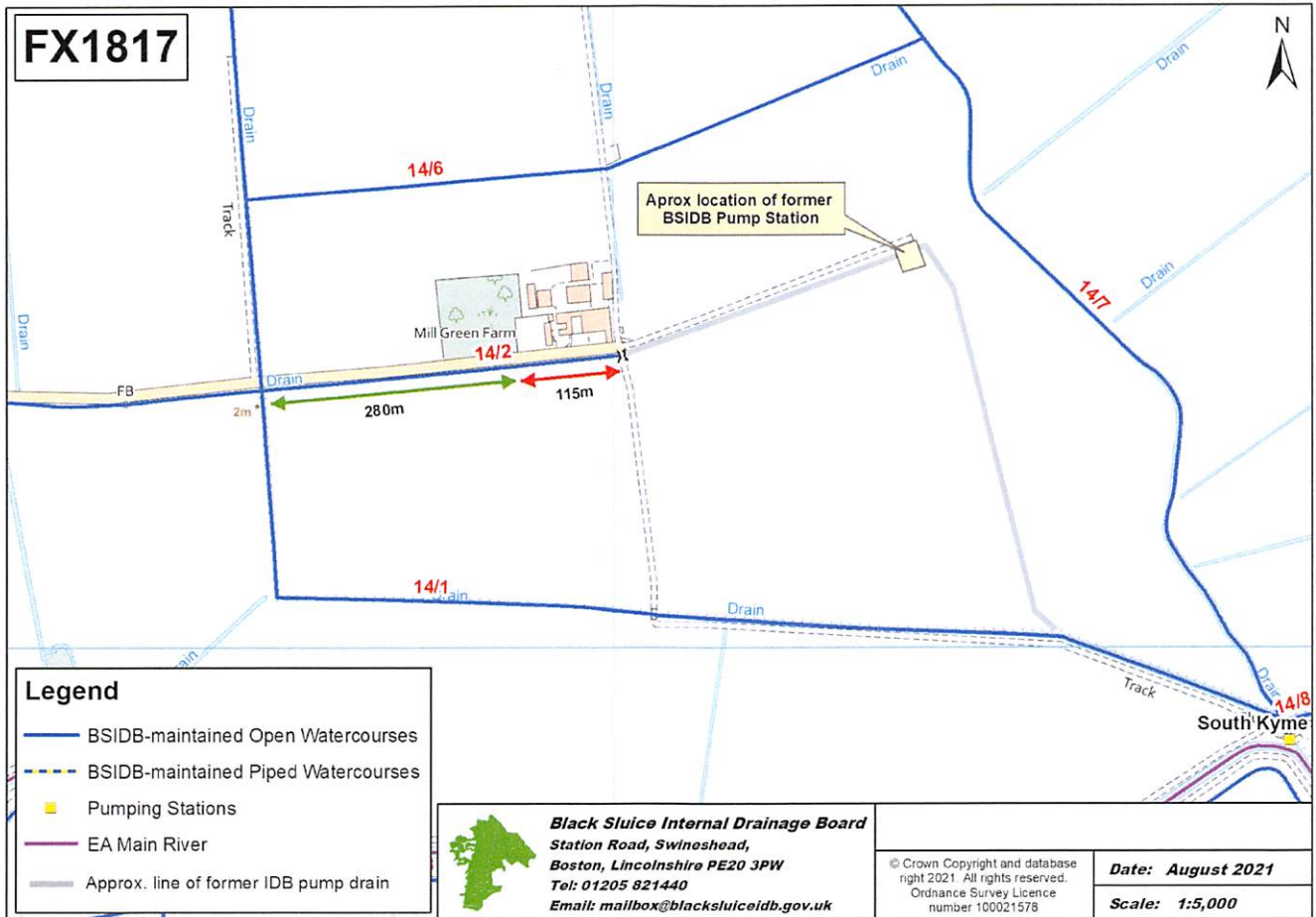
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**Date: August 2021**  
**Scale: 1:50,000**

**NORTHERN WORKS COMMITTEE**  
**INSPECTION ITINERARY**  
**TUESDAY 7TH SEPTEMBER 2021**

<b>S</b>	<b>BSIDB Offices</b>	
<b>A</b>	<i>Mill Green Farm, South Kyme</i>	<u>Point of Interest</u> <i>Proposals for Drain 14/2</i>
<b>1</b>	<b>South Kyme Pump Station</b>	<b>View &amp; discuss bank water seepage issues, including Ewerby/Damford/Trinity College</b>
<b>2</b>	<b>North Forty Foot Bank</b>	<b>View storage lagoon Discuss North Forty Foot Drain works progress</b>
<b>3</b>	<b>Boston Barrier</b>	<b>View Boston Barrier View Navigation Lock presentation (inc. Tea/Coffee Break)</b>
<b>4</b>	<b>Heron Park Development Wyberton Low Road</b>	<b>Discuss commuted sum for Drain 6/20 future maintenance</b>
<b>5</b>	<b>Wyberton Marsh Pump Station</b>	<b>View/discuss pump refurbishment</b>
	<b>Lunch</b>	<b>Boston United Community Stadium</b>
<b>6</b>	<b>Quadrant Development</b>	<b>View/discuss Wyberton Towns Drain Realignment</b>
<b>7</b>	<b>Coles Lane, Swineshead</b>	<b>View breach of 9m Byelaw Consent</b>
<b>F</b>	<b>BSIDB Offices</b>	<b>Northern Works Committee Meeting</b>

**A - Point of Interest - Proposed works to Drain 14/2, Mill Green Farm, South Kyme**

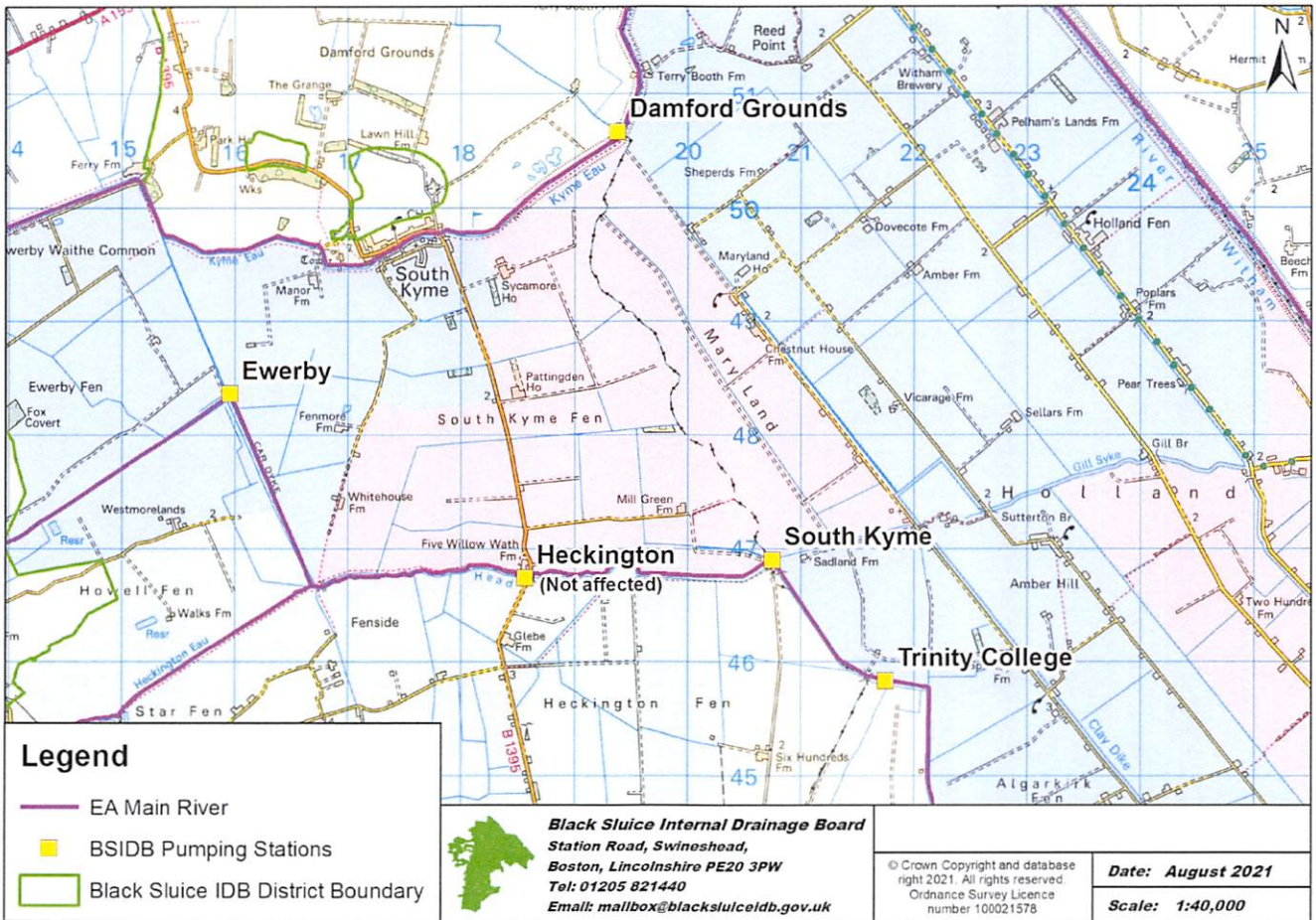


Request received from F Casswell & Sons to cleanse and pipe part of a BSIDB-maintained watercourse (Drain 14/2) at Mill Green Farm, South Kyme.

Proposals are to pipe a 115m section (in red) and connect the existing surface water drainage outfalls from the farm buildings into a 150mm (6 inch) perforated pipe. The applicants propose to use the foundations of the old IDB pump station as backfill for the piped section. The remaining 280m of open watercourse (in green) would be cleaned out by the applicant.

Once these works are complete, the applicants propose that the Board give-up the watercourse for adoption by the Casswells for all future maintenance.

**1 - South Kyme Pumping Station - Proposed rectification works to repair bank leakages from EA Main Rivers affecting South Kyme, Ewerby, Damford Grounds & Trinity College Pump Stations 2019-2021**

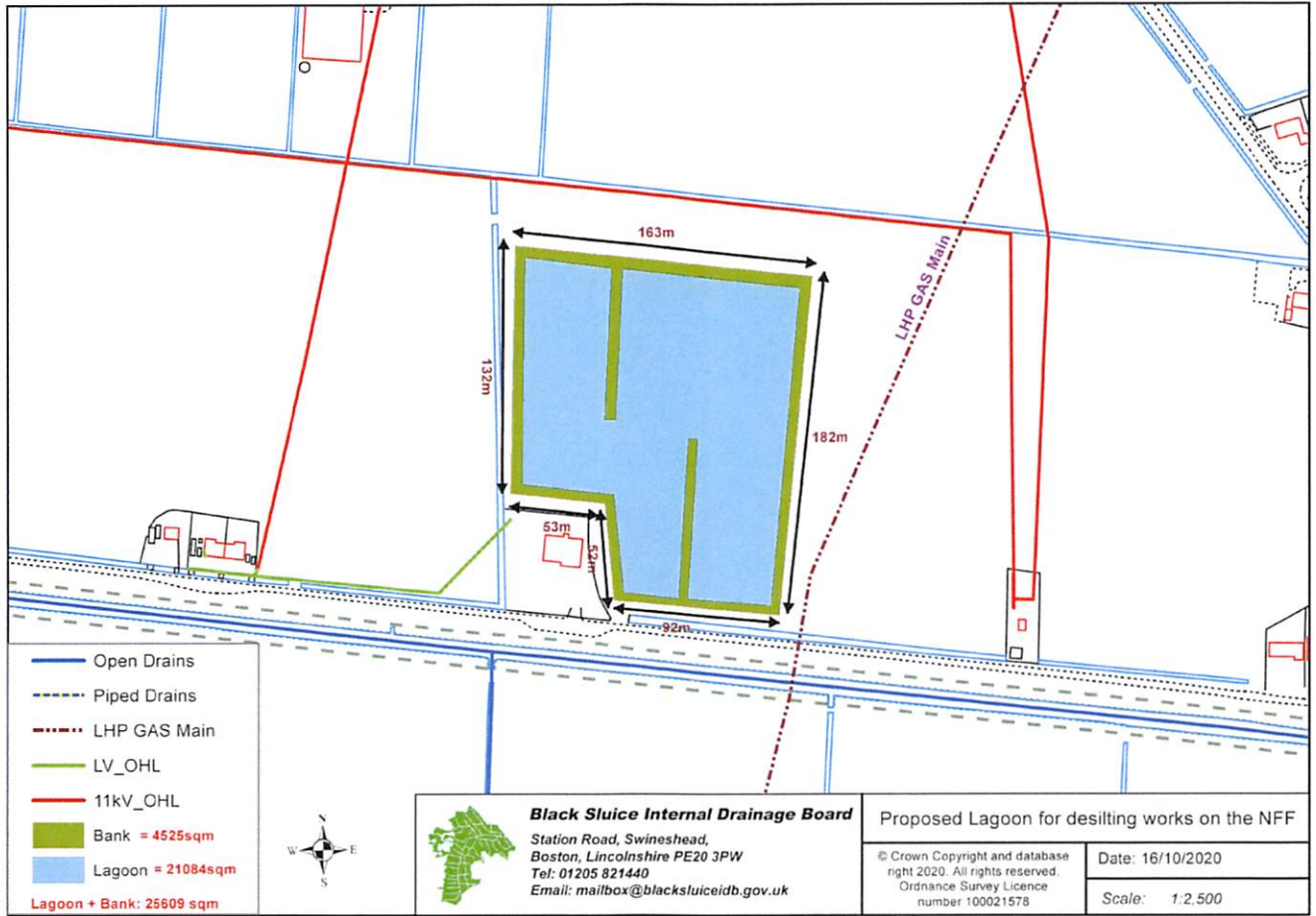


During the rainfall events of 2019 - 2020, a number of BSIDB pumping stations situated on the banks of Environment Agency Main Rivers were affected by water seepage within the banks caused by high water levels.

Incidents at South Kyme, Ewerby and Damford Grounds were reported during the events in 2019, with Trinity College being reported as affected during the event in January 2021.

As per the information provided at the Northern Works meeting in June, the Board have employed Stantec Engineering Consultants to complete site inspections and investigations and have been requested to provide a proposal for the design and specification of the remedial works. The EA have agreed to provide a purchase order to cover these costs.

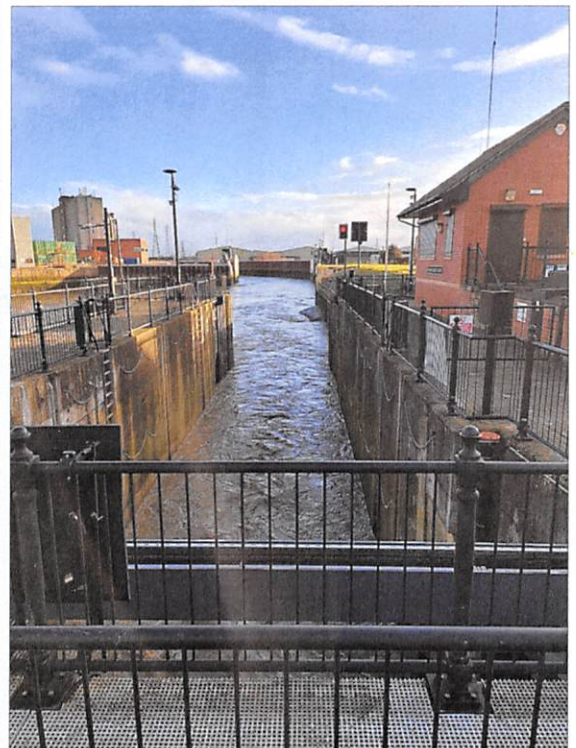
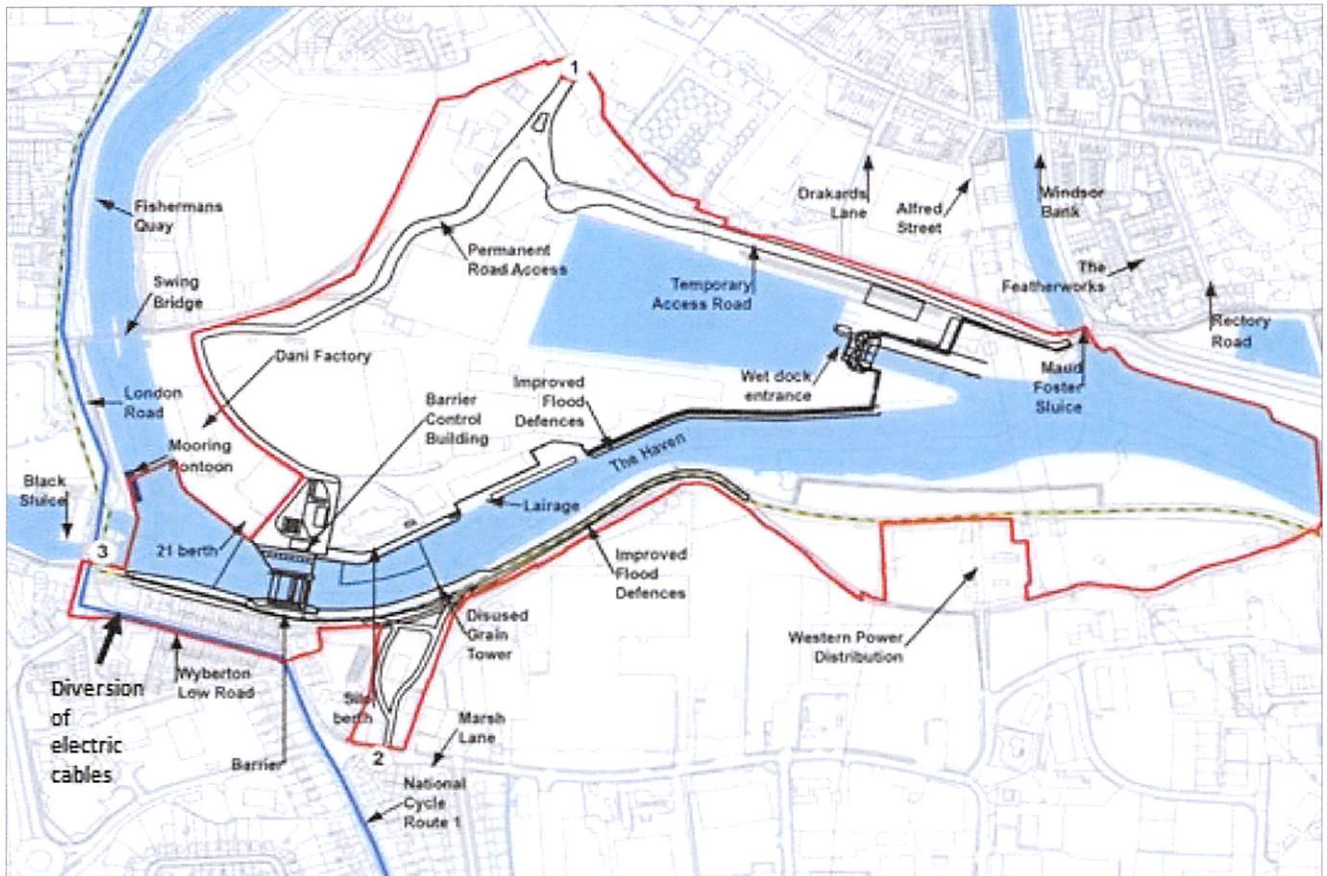
**2 - North Forty Foot Drain Works - desilting by suction dredger - Autumn/Winter 2021-22**



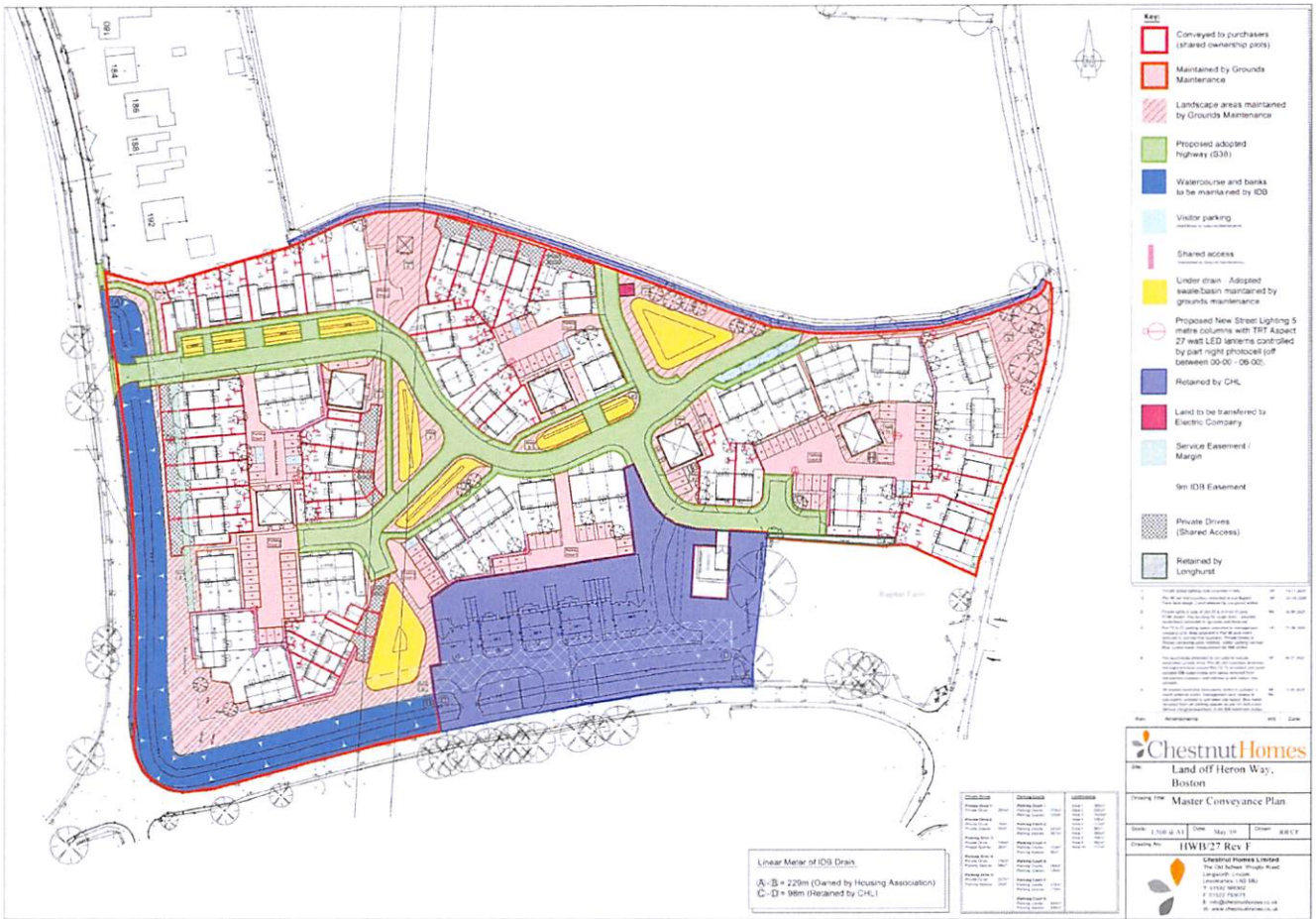
Lagoon Construction  
 November 2020



### 3 - Boston Barrier & South Forty Foot Drain Navigation Lock



# 4 - Heron Park Residential Development, Wyberton Low Road



**Heron Park - Longhurst Housing Association / Chestnut Homes**

**Commutated sum for maintenance of developed site.**

Land is currently being developed at Wyberton adjacent to the Board's watercourse 6/20.

The development affects operations as maintenance is usually completed from the field side as the watercourse is adjacent to Wyberton Low Road and Slippery Gowt Lane

This is a critical watercourse that requires additional maintenance and is therefore maintained up to 3 times per year.

Following discussions with LHA, it was agreed, to complete maintenance, additional costs to the Board would be incurred.

LHA agreed to purchase ground protection mats for the Board to use and keep, to enable access on-to site and protect the areas that are going to be travelled along with a Twiga and excavator.

The costs for annual maintenance therefore relate to delivering/placing/loading/returning the ground protection mats.

The desilting allows for up to 3 operations during the 25 year period, based on an estimated £10,000 in year 1, whereby all excavated material would be required to be removed from site, additional costs being incurred if the material is contaminated.

**Longhursts commuted sum (based on an annual average 2% compound interest)**

Annual maintenance £3,000 x 25 years x 2% compound interest	<b>£96,090.00 (Combined)</b>
Desilting based upon 3 visits to site over the 25 year period	<b>£44,500.00</b>
Total cost commuted sum over 25 year period	<b>£140,590.00 +VAT</b>

The Board's solicitor is currently reviewing a legal agreement.

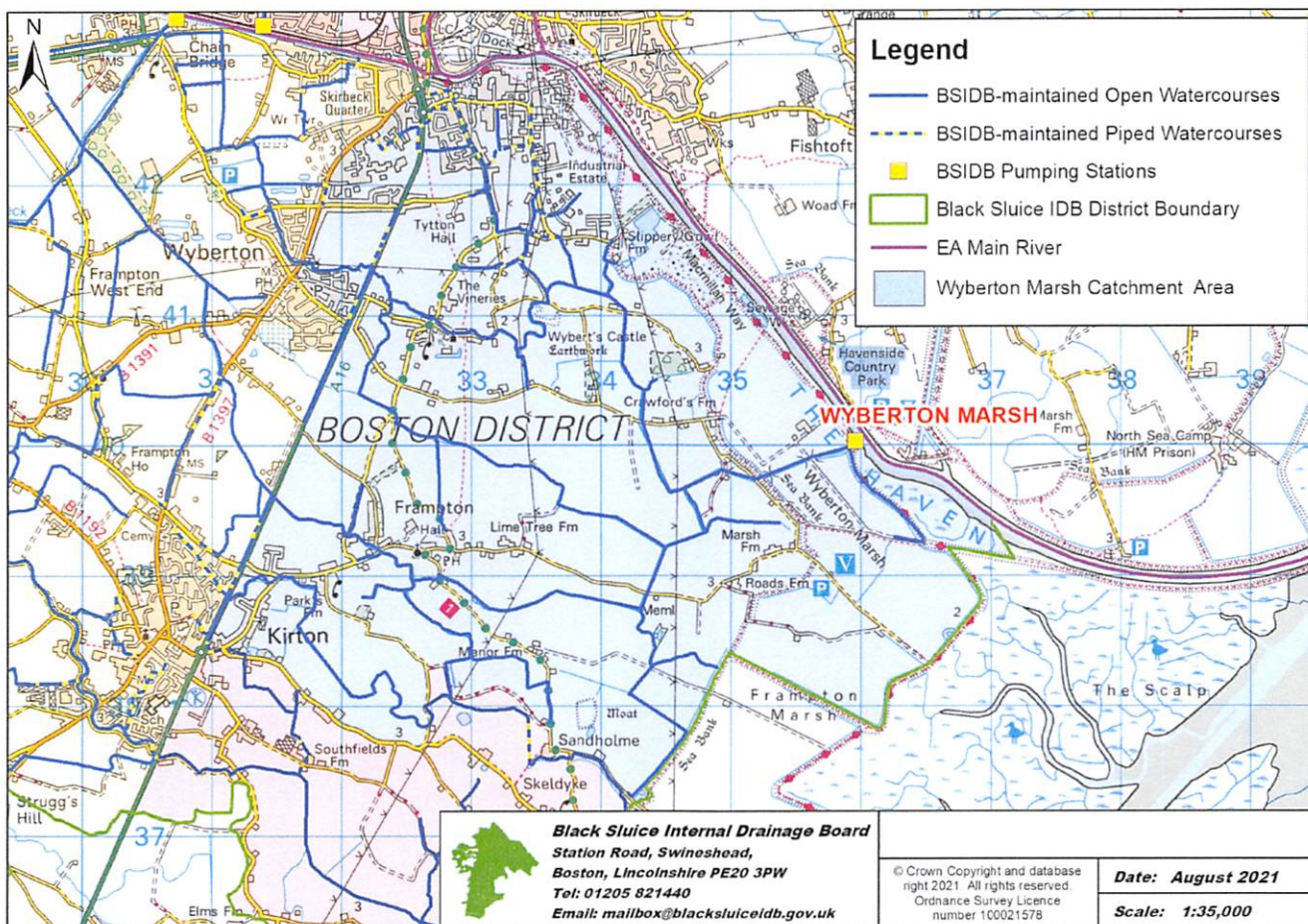
**Chestnut Homes commuted sum (based on an annual average 2% compound interest)**

Annual maintenance £3,000 x 25 years x 2% compound interest	<b>£96,090.00 (Combined)</b>
<i>Based upon 3 maintenance visits per year as this is a critical watercourse.</i>	
Desilting based upon 3 visits to site over the 25 year period	<b>£22,350.00</b>
<i>Based upon removal of excavated material from site, subject to no restrictions on transport of material from site</i>	

**NB: The proposal are not costs to complete our routine maintenance works, but are the additional costs associated with providing protection to the running surface to allow our Plant equipment access for maintenance and desilting.**

It is understood that Longhursts and Chestnut Homes are negotiating to share the maintenance enabling costs (i.e. the annual maintenance above) based on their individual frontages. This will be confirmed in due course.

**5 - Wyberton Marsh Pumping Station - Pump Refurbishment**



Catchment area 1981 Ha  
 Pump Capacity 2803 litres/sec  
 36.9 km of maintained watercourses

Two of the three pumps at the station require inspection due to a grease/noise issue in operation.

Refurbishment is required as a priority over Great Hale PS weedscreen cleaner refurbishment, which has now been deferred until 2023/24.

Pump 2 removed July 2021.

Weedscreen Cleaner replaced October 2020.



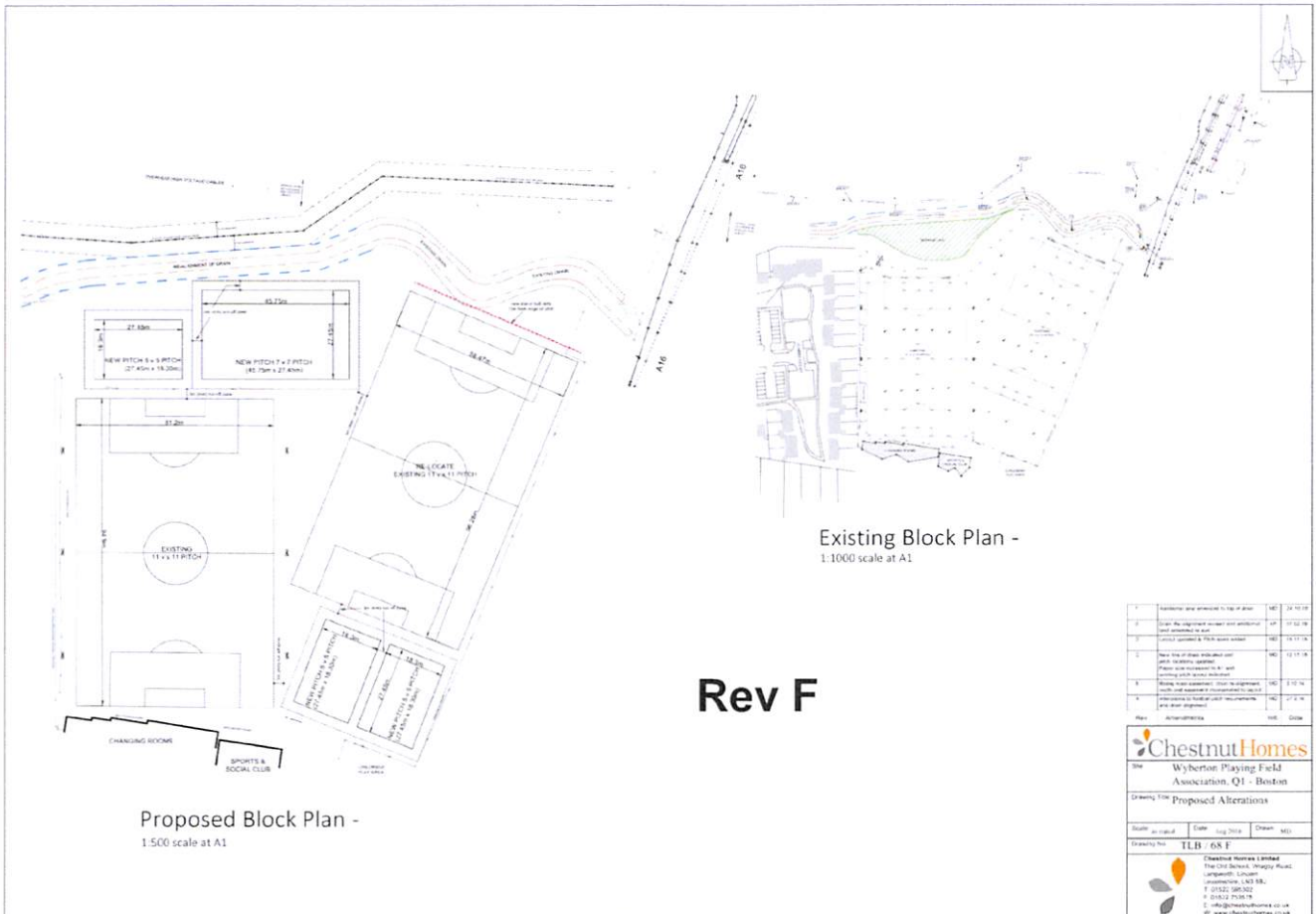
Pump 2 removal July 2021

Weedscreen replaced October 2020



**6 - Quadrant Development - Proposed realignment of the Wyberton Towns Drain**





The Board have been approached to provide an estimate to realign the Wyberton Towns Drain to provide additional area for the Q1 Development and an improvement of the Wyberton Sports Field.

Based upon the latest proposal from Chestnut Homes, to remove bushes/trees vegetation, realign and fill in the line of the existing watercourse will be **£42,500 + VAT**

As per the Heron Park development, the Board have discussed the payment of a commuted sum for the enabling of future maintenance of the Towns Drain, including desilting. The Board is awaiting a response.

**7 - Coles Lane, Swineshead - Breach of a Board consent (relaxation of Byelaw No. 10)**



Planning Application BB/0447/20 submitted to BBC in late 2020 for a proposed bungalow and garage with associated works. BBC specified the requirement for boundary fencing for the property as a condition of the planning permission, which would place the fence within 9 metres of piped Drain 4/44. The landowner applied to the Board for a relaxation of Byelaw No. 10 for the proposed fence, and Consent 2021-B03 was issued, conditions within which stated:

**Condition 3:** Any fences or gates to be erected within 9 metres of the Board-maintained piped watercourse 4/44 along the western boundary shall be fully demountable and shall be erected such that no manhole along the piped watercourse is obstructed.

**Condition 9:** No other structures, including planting, whether permanent or temporary, shall be sited within the 9 metre Byelaw distance without the prior written consent of the Board.



The Board subsequently received correspondence and photos from the landowner as follows:

*I am writing to you in the hope that you can offer some advice/assistance regarding the above development. We have spoken previously around 6 months ago whilst trying to obtain planning permission to build a sixth property on the site, which was successful. Whilst constructing this property I have also built a retaining wall on the eastern side of the entrance drive, the reason for this, there is a considerable difference in ground level of the driveway to the garden of The Croft. When having the topographical survey of the site, this area was omitted and the architect was unaware of the potential problem. Therefore when submitting his drawings he has stated that a demountable timber fence would be erected, but obviously this would be insufficient to retain the garden soil approximately 600/700mm in height. A neighbour has informed the local authority planning department that I have built the wall contrary to the planning permission. They have in turn notified me that I will need to apply for planning permission for the wall, this shouldn't be a problem but would be if the Black Sluice objects! I am hopeful that there can be a solution to resolve this issue, as I am sure you are aware the cost of constructing a garden wall is a considerable one. If you wish to call me please do not hesitate to contact me.*

The matter was presented to the Board's senior officers, who stated that the matter should be addressed at the next convenient meeting. The landowner was informed.

## **BLACK SLUICE INTERNAL DRAINAGE BOARD**

### **NORTHERN WORKS COMMITTEE MEETING - 7<sup>th</sup> SEPTEMBER 2021**

#### **AGENDA ITEM No 06**

#### **ENGINEER'S REPORT**

The ten year schemes budget, included on page 30, has been reworked with the following amendments being made immediately and the long term plan being adjusted to accommodate these changes, and are indicated in purple text.

- Defer £10,000 for Kirton Marsh Roof in 2021/22
- Defer £9,000 for Horbling PS Roof in 2020/21
- Defer the £90,000 for the replacement of Dunsby PS Weedscreen Cleaner in 2022/23
- Defer the £65,000 for the SFFD Works in 2022/23 and £65,000 in 2023/24
- Include £20,000 in the budget for the Board's contribution to the Leaveslake Drove Scheme
- Include the £1,000 in the budget for the Board's contribution to the Lane Dyke Culvert Scheme.
- The adjustment in purple was proposed to the works committees to change the allocation of budget to replace the Great Hale PS Weedscreen Cleaner to the refurbishment of the Wyberton PS Pumps which is a higher priority.

The net effect of all these schemes is a reduction over 3 years of £318,000 of Board expenditure. This amended proposal would then comply with the aims of the Reserve policy over the ten year period.

#### **1. CAPITAL ASSET IMPROVEMENTS**

##### **(a) 2021/22 Defra/EA Funded Grant In Aid (GiA) Schemes**

- (i) North Forty Foot cleansing/revetment & Langrick Road pipeline, lining/replacement works, total scheme value is £472,000. The approved sum being calculated as follows: -

£394,000 GiA  
£70,000 Board contribution  
£8,000 Development contribution

Local Levy support is no longer required for this scheme.

As reported to the Northern Works meeting in June, the majority of the pipeline has been replaced, tenders having been requested for the remaining sections proposed for lining.

In preparation for the desilting of 1.5km upstream section of the North Forty Foot from Cooks Lock p/s, some of the bushing works have been completed and the silt containment lagoon has been constructed. Covid 19 having caused delays to intended programmes, and is now expected to commence in November 2021, preceded by removal of remaining bushes and vegetation removal from the banks of the watercourse and the watercourse channel.

This scheme is now estimated to be completed by March 2022.

(ii) Remote monitoring, telemetry H&S scheme

Works have progressed on this scheme, with new metric gauge boards now being placed at pumping stations, and remote operation of the pump control at the pumping stations currently being completed, utilising the £57,000 contribution towards this scheme from the Board.

As reported to the last meeting, Holland Fen and Dyke Fen pumping stations now successfully running the pump control. Great Hale Fen has new operating system but setup is still required. There are five more, Mallard Hurn, Wyberton Chain Bridge, Cooks Lock, Blackhole Drove and Quadring pumping stations operating systems to install which the Pump Engineer will be completing.

This scheme has now been reviewed by the FCERM Capital Programme Manager, following a meeting with the Environment Agency, whereby originally the information had been that the benefits available did not meet the criteria to achieve Grant in Aid(GiA). Therefore a revised Business Case has now been developed and an application for £204,500.00 100% GiA submitted.

This revised total includes:

£110,000.00 original application for telemetry upgrades, metric gauge boards, CCTV equipment

£57,000.00 original Board contribution to the scheme

£37,500.00 CCTV equipment at the remaining 15 sites

**(b) 2021/22 Board Funded Capital Schemes**

(i) Remote Monitoring & Control(H&S Scheme)

Works have progressed on this scheme, with new metric gauge boards now being placed at pumping stations, and remote operation of the pump control at the pumping stations currently being completed, utilising the £57,000 contribution towards this scheme from the Board.

However, it is now anticipated that this scheme will be fully funded through GiA.

(ii) Jetting to major pipelines - £50,000 (estimate)

Jetting/CCTV works are to continue towards completing all proposed areas in the Wyberton and Donington catchments, some areas having been difficult to access due to weather conditions.

(iii) General culvert contributions - £5,000 (estimate)

At the recent Structures Committee meeting held on 24 March 2021 it was agreed that Culvert No 1469 in Bicker Fen would have a £1,000 contribution from the Board towards its replacement, along with the proposed in the table below.

Proposed replacement/contribution towards for 2021/22, none of these completed in 2020/21:

No. 635	Swineshead	15m x 0.6m	Armco	£1k max contribution
No. 1795	Kirton	12m x 0.6m	Armco	£1k max contribution
No. 2880	Kirton	9m x 0.6m	BAT	Potential to give this up

**(c) Pumping Station Schemes**

(i) Wyberton Marsh p/s pump refurbishment - £46,000(estimate)

As discussed at the NW meeting on 2nd June, and during the inspection tour, there have been some issues with the pumps at Wyberton Marsh. Originally the budget being for Great Hale p/s weedscreen refurbishment, which has now been agreed at the Board meeting on 30<sup>th</sup> June to be deferred and replaced, by Wyberton Marsh pump refurbishment as a priority.

**2. Proposed Works 2022/23**

Please refer to the Capital Scheme Budget on page 30.

**(a) Defra/EA Granted schemes**

(i) Ewerby Fen Catchment works

Ewerby Fen catchment covers an area of 1,142 hectares.

Catchment works schemes are part of a proposal discussed with the Environment Agency for some time now towards a whole catchment survey.

EA have advised that the best option would be to present an Outline Business Case based upon works that are required within individual catchments. It is envisaged that these works will include, a survey of the catchment along with proposed improvements to Board maintained assets within, to include Pumping Station refurbishments/updates. An indicative value for proposed works being provided as per the advice received, which will be subject to change as the scheme is developed. At proposal stage the estimated value being £530,000.

£410,000 GiA

£50,000 possible Board contribution

£70,000 Local Levy

An estimate of contribution from the Board is included for information and may be required to make the scheme viable, based on existing proposed benefits available for the scheme, should Local Levy or additional external funding not be available.

(ii) Bicker Fen Catchment Works Study

A study of the catchment to provide information required towards development of a Business Case

£20,000.00 estimate

(iii) Ewerby Fen Catchment Works Study

A study of the catchment to provide information required towards development of a Business Case

£20,000.00 estimate

**3. Information on site inspection at Trinity College**

During the last high rainfall event Trinity College P/S also experienced water seeping back through the bank, under or through retaining walls, similar to the other sites.

Stantec Engineering Consultants have been asked to complete site inspection works, with a proposal to complete investigations works following this.

Ongoing discussions are being held with the Environment Agency to secure the funding for the inspection and investigations works completed to date.

Site inspection completed by Stantec on 6<sup>th</sup> July 2021.

Recommendations for Ground Investigations

It is considered likely that the wingwalls will need replacing and the most suitable solution to cut off seepage is likely to be new steel sheet piled walls. Based on this assumption, the following ground investigation is recommended in order to record the below ground construction and depth of the existing wingwalls and to determine ground conditions and geotechnical data for the design of new walls:

- Check all areas to be disturbed for the presence of buried services.
- Sinking of one cable percussive borehole, to a depth of 20m for sheet pile design with associated standard penetration testing and open drive UT100 tube sampling. The borehole will prove the ground conditions including the depth to a suitable bearing stratum for sheet piles and the geotechnical properties of that stratum.
- Sinking of one windowless sampler borehole to circa 7m depth (ground conditions dependent) on the eastern side of the pumping station with associated standard penetration testing and follow-on dynamic probing (as required) to record the depth to a suitable stratum for sheet piles.
- Two hand excavated pits to attempt to record the depth and below ground construction of the wingwalls and to observe the ground conditions within the embankment at that location.
- A groundwater monitoring piezometer will be installed in the CP borehole to determine the phreatic surface within the embankment for subsequent geotechnical analysis.

Following the completion of the site investigation, better understanding of the potential causes of the ground movements should be determined together with an option appraisal for potential remedial solutions. The findings will be presented in a technical note. Detailed design can then be undertaken once the most cost-effective solution has been selected following consultation with a contractor.

#### **4. DRAIN MAINTENANCE**

##### **(a) Annual Summer Flailmowing / Cutting**

The summer flail mowing and cutting began w/c 2<sup>nd</sup> August. A sixth 13 ton excavator, operating one of the Boards 4m cutting baskets has been hired in for twelve weeks. Therefore, the Boards maximum production has three flails (Spearhead Twiga No 1 SPV 2 with side flail and cutting basket, Twiga No 2 SPV2 with side flail and front flail, and Twiga No 3 SPV2 with side flail and front flail) flailing in front of the six cutters (Hitachi ZX 210, JCB JS 145, JCB JS 145HD, 2 x JCB JS 130 and hired in JCB131) albeit the Twiga No 1 does change cutting heads and cuts some watercourses.

The 67km (Northern & Southern Works areas) of high profile watercourse assets are constantly being monitored to determine whether a second flail and/or cut is required, these will most probably require a second cut.

The SKDC (c£33k) & Lincolnshire Housing Partnership (c£11.5k) Hand Roding contract works are being completed. All the Board hand roding watercourses are being completed. Additional hand roding works are also being completed for the Environment Agency through PSCA.

A bulldozer has been hired in to grade out the previous year's winter cleansing arisings, these works are completed within a small window of opportunity (between harvest and drilling) and will continue as budgets dictate.

EA Waste Management exemptions have been applied for over the next year for burning wood on site, dredging inland watercourses and spreading watercourse arisings over adjacent land.

##### **(b) Prior Notice Given for Summer Cutting**

Notice was issued within the 2021/22 Drainage Rates brochure, along with a provisional works programme, stating that all landowners/farmers can view weekly updated accurate summer cutting works programmes on the Boards web site.

Landowners/farmers, were requested, to contact the Board with any summer cropping issues throughout the summer cutting season.

The text messaging service informing landowners/tenants that Boards machinery is working in the area continues to be used. This has proved successful and all landowners/tenants are encouraged to provide mobile phone contact details to enable ongoing success.

This has been a success, and we recommend that the Board continue with this approach.

##### **(c) Summer Crop Loss/Damage Compensation**

In line with the summer cutting landowners/farmers are encourage to agree to the Boards equipment travelling through their crops whereby the Board agree crop loss compensation, where crop damage/loss has occurred, instead of the higher costs associated with removing the machine and subsequently returning once the crop has been harvested, albeit in some cases a new crop may have already been planted.

The cutting programme in the drainage rates brochure along with the updated programme on the website will remind all landowners adjacent to all the Board maintained watercourses of the Boards intention to carry out summer vegetation flailing/cutting to the programmes identified on the Boards web site and therefore try to manage fields accordingly. At the same time the programme should be used to assist timely removal of any obstructions (electric fencing, bird scarers, irrigation pumps & pipes etc).

(d) Winter Crop and Land Loss Compensation

The Boards written intention of improvement cleansing works will be issued to landowners in October 2021 for the works to be undertaken throughout February to April 2022. The notice being given, the farmer can decide whether to plant the affected area or not, the arisings are spread and levelled by the landowner or by the Board generally the following year.

(e) Proposed Desilting, Bushing and Cleansing Works

Letters will be sent to landowners/occupiers adjacent to the drains identified for cleansing giving notice that the Board intend to bush where required and de-silt during the winter months.

Letters will also be sent to occupiers where the Board proposes to carry out other bushing works in preparation for next year's de-silting. We are currently employing Scarborough Nixon Associates as an external Environmental Consultant to carry out surveys of any relevant drains on our desilting programme.

**5. PUMPING STATION MAINTENANCE**

At the end of September (Period 4) the budget for maintenance works is £93,302 with the actual expenditure being £122,903 which includes estimated electricity payments

**6. EXTERNAL RECOVERABLE WORKS**

Current external recoverable income is £170,164 for rechargeable works compared to £88,099 last year.

**7. HEALTH & SAFETY**

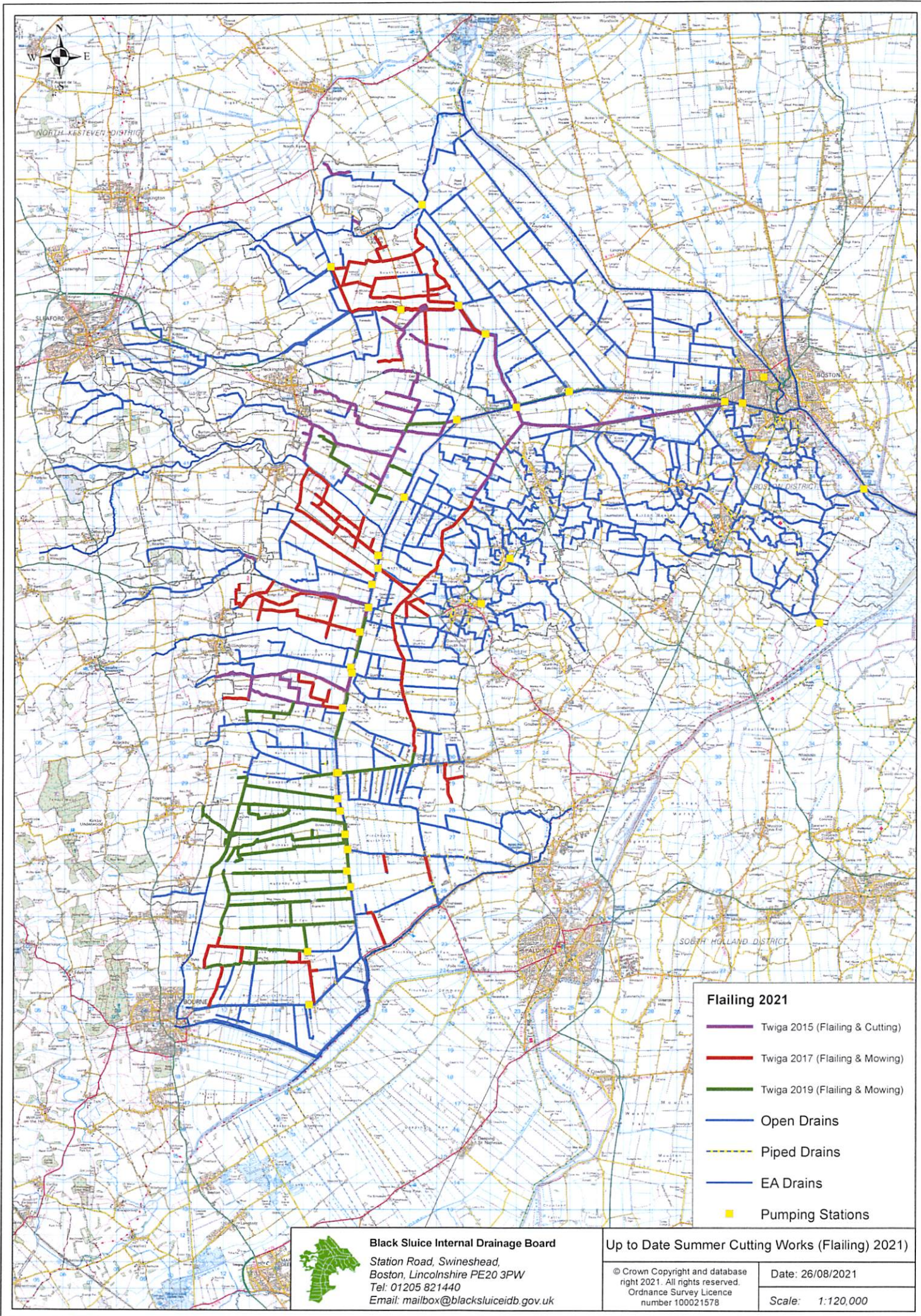
The Board have appointed Cope Safety Management agreeing terms on a new contract as their Health & Safety consultants for a 5-year period commencing June 2019.

All employees and contractors to the Board required to work alone, are now using the automated Peoplesafe system using mobile phone technology.

## Black Sluice Internal Drainage Board 10 Year Capital Schemes Budget

Year	Type	Scheme	Total	Grant	Local Levy	Possible Board Contribution	Drain	PS
2021/22	Drain	Leaves Lake Drove under capacity outfall and works	£ 200,000	£ 180,000		£ 20,000		
	Drain	Lane Dyke culvert replacement	£ 103,000	£ 102,000		£ 1,000		
	Drain	Graft Drain improvements	£ 60,000				£ 60,000	
	Drain	Jetting to major pipelines	£ 54,000				£ 54,000	
	Pump	Wyberton Marsh PS, Pump Refurb (Works approved)	£ 46,000					£ 46,000
	Drain	Alternative Programme access works	£ 20,000				£ 20,000	
	Drain	NFF Revetment Works	£ 341,963	£ 263,963	£ 8,000	£ 70,000		
	Pump	Sempringham PS Weedscreen Cleaner	£ 206,339	£ 206,339				
	Drain	SFF Upper Catchment NFM and Control Analysis	£ 64,800	£ 64,800				
	Pump	PS Automation & CCTV	£ 105,753		£ 105,753			
	Drain	Leaves Lake Drove, Under capacity South Forty Foot Outfall	£ 20,000	£ 20,000				
	Drain	Dunsby Fen Catchment Works	£ 20,000	£ 20,000				
	Drain	Flood Alleviation Scheme Horbling Town Beck	£ 20,000	£ 20,000				
	Drain	Bicker Fen Catchment Works	£ 20,000	£ 20,000				
	Drain	Ewerby Fen Catchment Works	£ 20,000	£ 20,000				
	Drain	General culvert replacement contributions	£ 5,000				£ 5,000	
			£ 1,306,855	£ 917,102	£ 113,753	£ 91,000	£ 139,000	£ 46,000
2022/23	Drain	Ewerby Fen Catchment Works	£ 530,000	£ 410,000	£ 70,000	£ 50,000		
	Drain	Graft Drain improvements	£ 60,000				£ 60,000	
	Drain	Dowsby Lode Catchment Works	£ 45,000	£ 20,000		£ 25,000		
	Drain	Haconby Fen Catchment Works	£ 20,000	£ 20,000				
	Drain	Alternative Programme access works	£ 20,000				£ 20,000	
	Pump	Dyke Fen PS, refurbish 1 pump motor	£ 3,000					£ 3,000
	Pump	Dunsby Fen PS, refurbish 1 pump motor	£ 3,000					£ 3,000
	Pump	Gosberton Fen PS refurbish 1 pump motor	£ 4,000					£ 4,000
Drain	General culvert replacement contributions	£ 5,000				£ 5,000		
			£ 690,000	£ 450,000	£ 70,000	£ 75,000	£ 85,000	£ 10,000
2023/24	Drain	Horbling Town Beck Flood Alleviation scheme	£ 525,000	£ 410,000	£ 95,000	£ 20,000		
	Drain	Dunsby Fen Catchment Works	£ 335,000	£ 230,000	£ 55,000	£ 50,000		
	Pump	Great Hale Fen PS refurbish weedscreen cleaner	£ 75,000					£ 75,000
	Drain	Jetting to major pipelines	£ 40,000				£ 40,000	
	Pump	Dyke Fen PS, refurbish 1 pump and 1 motor	£ 25,000					£ 25,000
	Drain	Quadring North Fen roadside revetment	£ 24,000				£ 24,000	
	Drain	Alternative Programme access works	£ 20,000				£ 20,000	
Drain	General culvert replacement contributions	£ 5,000				£ 5,000		
			£ 1,049,000	£ 640,000	£ 150,000	£ 70,000	£ 89,000	£ 100,000
2024/25	Drain	NFF Desilting	£ 65,000				£ 65,000	
	Drain	Bicker Fen Catchment works	£ 325,000	£ 275,000	£ 1,000	£ 49,000		
	Drain	Dowsby Lode Catchment Works	£ 245,000	£ 245,000				
	Drain	Jetting to major pipelines	£ 60,000				£ 60,000	
	Pump	Ewerby Fen PS Replace control panel	£ 60,000					£ 60,000
	Pump	Kirton Marsh PS refurbish 1 pump and 1 motor	£ 30,000					£ 30,000
	Drain	Dyke Fen (New Dyke) revetments	£ 25,000				£ 25,000	
Drain	General culvert replacement contributions	£ 5,000				£ 5,000		
			£ 815,000	£ 520,000	£ 1,000	£ 49,000	£ 155,000	£ 90,000
2025/26	Drain	Claydyke desilting	£ 65,000				£ 65,000	
	Drain	Haconby Fen Catchment Works	£ 280,000	£ 255,000		£ 25,000		
	Drain	Dowsby Fen Catchment Works	£ 300,000	£ 275,000		£ 25,000		
	Pump	Damford PS replace control panel	£ 65,000					£ 65,000
	Drain	Jetting to major pipelines	£ 50,000				£ 50,000	
	Drain	Dyke Fen (New Dyke) revetments	£ 35,000				£ 35,000	
	Drain	NFF Desilting	£ 20,000				£ 20,000	
	Pump	Haconby PS refurbish axial flow pump	£ 25,000					£ 25,000
Drain	General culvert replacement contributions	£ 5,000				£ 5,000		
			£ 845,000	£ 530,000	£ -	£ 50,000	£ 175,000	£ 90,000
2026/27	Drain	Claydyke desilting	£ 65,000				£ 65,000	
	Drain	SFFD Desilting Guthrum to Blackhole Drove PS	£ 60,000				£ 60,000	
	Drain	Jetting to major pipelines	£ 50,000				£ 50,000	
	Pump	Gosberton Fen PS Refurbish 3 x axial flow pumps	£ 40,000					£ 40,000
	Pump	Haconby Fen PS Replace control panel	£ 35,000					£ 35,000
	Drain	General culvert replacement contributions	£ 5,000				£ 5,000	
				£ 255,000	£ -	£ -	£ -	£ 180,000
2027/28	Drain	SFFD Desilting Guthrum to Blackhole Drove PS	£ 80,000				£ 80,000	
	Drain	Jetting to major pipelines	£ 50,000				£ 50,000	
	Pump	Cooks Lock p/s refurbish weedscreen cleaner	£ 50,000					£ 50,000
	Drain	New Hammond Beck Desilting	£ 40,000				£ 40,000	
	Pump	Bicker Fen replacement control panel	£ 33,000					£ 33,000
	Pump	Bicker Fen 1 x axial flow pump refurb	£ 15,000					£ 15,000
	Drain	General culvert replacement contributions	£ 5,000				£ 5,000	
			£ 273,000	£ -	£ -	£ -	£ 175,000	£ 98,000
2028/29	Drain	Old Hammond Beck Desilting	£ 80,000				£ 80,000	
	Drain	Jetting to major pipelines	£ 60,000				£ 60,000	
	Pump	Donington NI refurbish 3 x axial flow pumps	£ 43,000					£ 43,000
	Pump	Kirton Marsh p/s replace control panel	£ 37,000					£ 37,000
	Drain	Bourne Fen 28/10 Revetment	£ 30,000				£ 30,000	
		To be allocated	£ 15,000				£ 15,000	
	Pump	Helpringham p/s new roof	£ 11,000					£ 11,000
Drain	General culvert replacement contributions	£ 5,000				£ 5,000		
			£ 281,000	£ -	£ -	£ -	£ 190,000	£ 91,000
2029/30	Drain	Jetting to major pipelines	£ 60,000				£ 60,000	
	Pump	Chain Bridge p/s refurbish 3 x axial flow pumps	£ 45,000					£ 45,000
	Drain	Gosberton pump drain desilting/pump inspection	£ 40,000				£ 40,000	
	Drain	Dowsby Fen pump drain desilting/pump inspection	£ 40,000				£ 40,000	
	Pump	Quadring Fen p/s replace control panel	£ 40,000					£ 40,000
	Pump	Allen House p/s replace control panel	£ 32,000					£ 32,000
	Drain	Chain Bridge pump drain desilting/pump inspection	£ 20,000				£ 20,000	
		To be allocated	£ 8,000				£ 8,000	
Drain	General culvert replacement contributions	£ 5,000				£ 5,000		
			£ 290,000	£ -	£ -	£ -	£ 173,000	£ 117,000



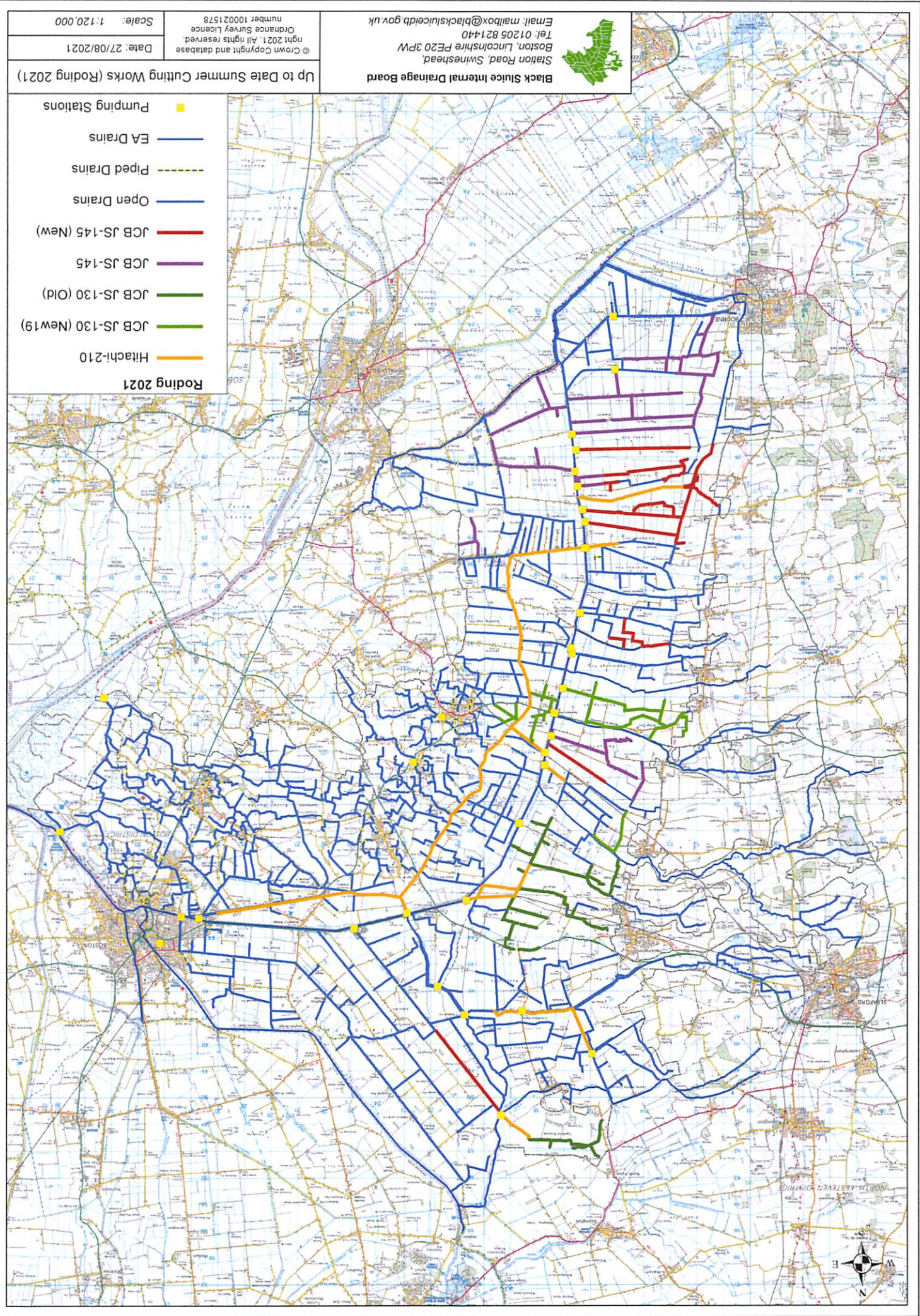


- Flailing 2021**
- Twiga 2015 (Flailing & Cutting)
  - Twiga 2017 (Flailing & Mowing)
  - Twiga 2019 (Flailing & Mowing)
  - Open Drains
  - - - Piped Drains
  - EA Drains
  - Pumping Stations

 **Black Sluice Internal Drainage Board**  
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 Boston, Lincolnshire PE20 3PW  
 Tel: 01205 821440  
 Email: mailbox@blacksluiceidb.gov.uk

**Up to Date Summer Cutting Works (Flailing) 2021)**

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Up to Date Summer Cutting Works (Roding 2021)

- Roding 2021**
- Pumping Stations
  - EA Drains
  - - - Piped Drains
  - Open Drains
  - JCB JS-145 (New)
  - JCB JS-145
  - JCB JS-130 (Old)
  - JCB JS-130 (New19)
  - Hitachi-210



## BLACK SLUICE INTERNAL DRAINAGE BOARD Rainfall at Swineshead Depot

MONTH	Rainfall		Actual / Average
	Actual	25 Year Average	
	mm	mm	%
Aug-20	94.4	61.5	153.50%
Sep-20	48.5	42.2	114.93%
Oct-20	67.9	57.8	117.47%
Nov-20	23.7	54.3	43.65%
Dec-20	99.2	48.5	204.54%
Jan-21	89.8	45.3	198.23%
Feb-21	40.0	41.1	97.32%
Mar-21	23.0	34.2	67.25%
Apr-21	6.1	50.5	12.08%
May-21	74.7	50.5	147.92%
Jun-21	45.7	60.6	75.41%
Jul-21	29.6	64.8	45.68%
<b>Totals</b>	642.6	611.3	105.12%

