

# **BLACK SLUICE INTERNAL DRAINAGE BOARD**

## **MINUTES**

of the proceedings of a Meeting of the  
Southern Works Committee

held at the offices of the Board  
7<sup>th</sup> March 2018 at 4pm

### **Members**

Chairman - \* Mr M Rollinson

Mr W Ash	*	Mr J F Atkinson
* Mr V A Barker	*	Mr K C Casswell
* Mr J Casswell		Mr R Dorrington
Mr C Dring	*	Mr A Mair
Mr M Mowbray		Mr M E Richardson
* Cllr B Russell	*	Mr C Wray
Mr J R Wray		

(\* Member Present)

In attendance at the meeting:

Mr I M Warsap (Chief Executive)  
Mr P Nicholson (Operations Manager)  
Mr D Withnall (Finance Manager)  
Mr C Richards (Pump Engineer)  
Mr P Holmes (Chairman Northern Works Committee)  
Mr J Fowler (Chairman Structures Committee)

Additional attendees:

Mr C Richardson Guest

### 1240 APOLOGIES FOR ABSENCE - Agenda Item 1

Apologies were received from Mr W Ash, Mr C Dring, Mr J Wray, Mr R Dorrington, Mr M Richardson and Mr M Mowbray.

The Chairman welcomed Mr C Richardson as a Guest at the meeting and was looking forward to hearing his views.

### 1241 DECLARATIONS OF INTEREST - Agenda Item 2

#### (a) Drain 27/1 Haconby

A declaration of interest was received from Mr J Atkinson with regard to Minute 1244(k).

### 1242 MINUTES OF LAST MEETING - Agenda Item 3

The Minutes of the last meeting of the Joint Works Committee's held on 8<sup>th</sup> November 2017, copies of which had been circulated were considered and it was agreed the Minutes should be jointly signed as a true record.

1243 MATTERS ARISING - Agenda Item 4

(a) External Studies, Strategies & Agreement - Minute 1191

Mr V Barker asked if the Chief Executive could update the Committee, the Chief Executive responded, in reference to the Black Sluice (Boston) Pumping Station (BSPS), there have been meetings with our local EA representatives and with the Regional Flood and Coast, the latest one was January 2018 and the next one will be in April 2018. The negotiations for the business case from the Boards' point of view with regard to the application for funding to put two new electric engines into the pumping station with the viability then of reducing the annual maintenance costs whereby we can receive that pumping station as an asset transfer to the point that on the 9<sup>th</sup> March 2018, at which attending will be Matt Warman MP, Chairman of RFCC Committee, the Regional Director EA, Chairman South Forty Foot Steering Group who is also Chairman of ADA, two Executive Board Members and three Officers of the BSIDB. We have representation from the Finance Department and Councillors from Boston Borough Council, Lincolnshire County Council these are quite high level attendees where the Chairman of the Board is making the introduction. The point of action from the Boards' point of view is that the time has come after years of negotiation and catchment surveys/studies; the decision has to be made. Does the BSPS move forward in the way that BSIDB are preparing for? As the most relevant and appropriate risk management authority to accept the responsibility and future control of the pumping station, or if the finance is not there the EA are to decommission the pumping station.

Mr Barker thanked the Chief Executive for the update, he believes that monies should be found from somewhere because of the water we have coming into the system we should have something fit for purpose. The Chairman responded that even ratepayers would struggle to raise the money required but our Council partners would not be able to raise the amount of money required for us to take the pumping station on without a serious injection of cash and it would be folly to try and force that route. Mr Barker added that ratepayers are paying for the land to be drained, and should they say that if you are not draining the land in an emergency?

Mr Rollinson concluded that the Board will have a lot better idea after the meeting on Friday. We will inform all members of the Board after that meeting.

1244 TO RECEIVE THE INSPECTION WORKS BROCHURE - Agenda Item 5

The Operations Manager presented on the screen and referred Members to their tour brochures:

(a) GIA Works Drain 2/11 - Malting Lane, Donington

The Operations Manager referred Members to page 4 of the brochure showing as a point of interest. He stated that funding has been achieved for £60,000 towards putting some new pipeline in the central sections.

He explained that as it progresses to its outfall the pipeline changes from a 300mm diameter to 600mm diameter, he continued we have completed various parts of this pipeline on various schemes towards changing this over the last 25 years so this is the next step in completing the next stage of improvements to that pipeline.

(b) Donington Mallard Hurn Pumping Station – Proposed New Roof

The Operations Manager referred Members to page 5, stating as a point of interest that there is an allocation for a new pumping station roof at Mallard Hurn within the budget for 2018/19.

He added that in regard to progression of the potential desilting works along the South Forty Foot Drain (SFFD) there is a meeting being held with the EA on the 8<sup>th</sup> March 2018 which we hope will progress towards a purchase order. The intention being that in October 2018 BSIDB will be progressing phase 1 up to the A52 and then looking to progress the following year into phase 2 as detailed within the brochure. He explained there are certain scenarios that may make that difficult for the Board moving forward, including Triton Knoll, Viking Link and also the high pressure gas main that travels through that site. Initial engagement with some landowners for future lagoon sites has taken place.

(c) Environment Agency Bank Armouring Works at Swaton Eau

The Operations Manager stated whilst on the Inspection tour we visited the EA site armouring works at the Swaton Eau. At the identified low spots, following a catchment survey, the EA are reinforcing the bank to the existing levels.

Mr Rollinson made reference to the fact that this has no bearing on Swaton flooding.

Mr P Holmes asked if we need to look at our Emergency pumping procedures? i.e. not turn off the BSIDB pumps and let it flood as designed.

The Chief Executive stated that Mr S Hooley, the EA Project Manager, has responded to his questions regarding increased flood risk and the revaluation of land. The email response;

*“there is no land at any increased of risk of flooding as a result of the armouring works – flood risk will reduce at this location as the banks are less likely to breach. The banks have had the top soil striped from the crest to the toe including partially into the field before a geotextile has been added along this section of bank. The top soil will then be replaced and grass seeded with crest level post the works will be maintained at its current level this protection will ensure in a flood event if the ground is eroded it will be limited by the geotextile which will reduce the risk of a breach”*

The Chief Executive stated he would respond to this email and argue the fact that there is no increase in the flood risk – this point is clearly identified as a flood storage area.

He wants the EA to recognise this and try to give him some idea of what size is it one field or is it going to A52 or spread towards Swaton not saying threaten Swaton but we need to know the answer to these questions.

Mr Barker added that the threat is a pipe or culvert under the A52 into Horbling Fen and historically Horbling Fen has always had problems with flooding and that would be where the threat is. The Chief Executive responded he is aware of the pipe but if the Swaton Eau is in full flow because the SFFD is full that pipe is only going to be running one way, south to north under the A52, and there is no water going to run back. Mr Barker added that this is the pipe your thinking that takes water from Rookfield, he's thinking there will be another drainage pipe to take the land drain water from the area we are in across to the Horbling Pump.

Mr James Casswell interjected stating that he rents land on both sides of these works, it is Crown land – it was previously rented by Peter Harborow. He mentioned that water has come over once or twice into the small slight field nearest to the A52. Mr Casswell did not get a huge amount of information prior to the works starting. The EA had been talking to the Crown Estates who did not tell the tenant, it was not mentioned that it might be a flood storage area. It was told to him that they are just levelling that bank to equal it up and strengthening it a little bit. He struggled to see the point of these works if they are making that as a run off flood area. The Chairman added the cost of these works (£300,000) and that we were amazed this was the lowest point of the SFFD catchment. The Operations Manager asked Mr J Casswell if that bank is considerably lower than the other side because visually it does not look it. Mr J Casswell responded he was not aware it was so if it has been, again, I assume they have measured it but no visually I have not seen it however Mr P Harborow did say it had only ever come over that side near the A52 but there is not much in it.

(d) Drain 36/2 – Bank Slip at Swaton Beck

The Operations Manager asked the Committee for a decision upon the site visit at Swaton Beck and the problems we have with bank movements and slippages on that section.

He outlined three potential options on page 9 of the brochure stating we have an £8,000 budget towards this scheme. If we were to go in and spend that budget that would be to leave the existing revetment in place, reduce the bank profile, this means to lay the bank back to a flatter profile to try and take some of the weight out of the bank and assist in stabilising the bank movement and that would be basically a man and a machine to do this work - as stated in option 1.

Option 1

To completely leave the existing pitched stone revetment in place, reduce the bank profile, reinstate the land drains and the outfalls and make sure everything is working as it should.

### Option 2

To do a similar thing as option one and leave the existing revetment in place but dig into the bank and remove the soil, create a shelf and put another revetment layer in that bank to assist in stabilising that movement and then still lay the bank back to a flatter profile.

### Option 3

Offer the allocated scheme budget of £8,000 (2017/18) as a minimum towards a partnership funding with the EA incorporating a stabilisation channel into the programme for the Natural Flood Management project. Assistance with Board's resource, plant and labour, could also be offered towards delivering further elements of the scheme.

He referred to the email from K Samms detailed in the brochure the email stated:

*"Currently we would like to start works next winter, but this is optimistic. We anticipate a phased approach to delivery to fit in the farming calendars and as and when we can get farmers on board with the project. We should have a much better idea of timescales once we have undertaken some targeted farmer engagement. We are aiming to have all features installed by 2020."*

The Operations Manager stated that he agrees it is optimistic to have anything in place by 2020 but because we have not done anything so far on what Mr C Richardson may or may not say he does not think it is still moving so there is potential to do nothing.

The Chief Executive added a fourth scenario along the lines of the theory that the land drains could have parted. Therefore, the water running from the field to the land drain is not running into the drain it is running down saturated in this sand/silt gravel layer hence causing the heave or the shift. Most probably within the original budget allocation labour and plant and materials with regards to connecting pipe with the landowner on site (Mr C Richardson) going to identify by rodding or finding the location of the break if we cannot rod up then measure and find the pipe and dig a cross trench and reconnect those land drains to hopefully take that water into the drain hence stopping the possibility of movement.

If we don't do this work, we will never know if it is the fix – Mr Holmes believed this would be a better budgetary spend rather than anything to try curing the cause of the problem rather than the symptoms of the problem.

The Chairman asked if Mr C Richardson would like to add anything. Mr Richardson responded that some of the land drains have disappeared because I know what was there before and they are not there now, the ones which are there now he has tried to rod them but you go in 6, 8, 10 foot and you cannot go any further. He believes that most of them have parted with the slip so yes this would be his favourite option. With regards to profiling, in respect of the bank concerned the profile was lessened the last time we did something and this has not done anything. He still thinks that changing it to a shallow angle still leaves that weight on top of the sand and therefore there is still the potential of slips, so unless you can stop that bottom from slipping there is no point in changing the profile.

The Chairman asked have you had a drainage quote for land drains and connect them all up, Mr Richardson responded no. The Chairman concluded he was wondering if we were better off to get a drainage professional in, make a contribution towards that and then come up with a deal with Mr Richardson, he responded that the Crown has had a lot of drainage work done in the past year and have paid for all this work - they have sort of a deal with a contractor, what they would say for that, they have paid for drainage work at Swaton in the last 6 months.

The Chairman concluded that the best course would be to not do anything to the revetment works at the moment and then get the Operations Manager, the landowner (Mr Richardson) and possibly the Crown Estates to negotiate. Mr Richardson stated that he does not have a water logging problem, the problem is possibly the water is going into that sub soil land and causing the slip so the only problem its causing is really the slippage. The bank is reasonably stable now due to the vegetation has re-established and seems to be holding it and moving anything may take it back to stage one, the only danger he could see would be there is a bit of a hollow so any machines that were going along there will reduce stability. He does flail it and keep it mown on the bank but it is not bad enough for that but a larger plant vehicle the biggest danger could be for the Boards equipment. The Chairman clarified that any works is to cure the stability of the bank not to assist landowners land drainage.

The Chairman asked the Members if this should be investigated further – ALL AGREED.

(e) Billingsborough and Gosberton Pumping Station – Break Ins

The Operations Manager reported to the Committee the problems we have had with break-ins - we have had one at Billingsborough and another at Gosberton.

At Gosberton there was the theft of the Royal Smals trailer. The Operations Manager would like the Committees viewpoint on the potential for increased security at some of the pumping station sites. This would be to install CCTV cameras for surveillance not only from a security point of view but also for a fault diagnosis of the weed screen cleaning equipment (where installed) and for the water level management on site.

The Operations Manager asked the Members should the Officers pursue the potential for installing CCTV at one of the pumping stations? Currently a budget cost which shows £2,200 has been received. This is a quote from only one contractor. If the Committee thinks it's worthwhile in pursuing then we will obtain other quotes.

Mr C Wray believes that figure sounds about right between £2,000 - £3,000 but questioned the annual cost on top of that figure for up keep and service. The Pump Engineer responded that this figure would be difficult to say as it is would be done in house. Mr Wray reiterated that servicing would be done in house – the Pump Engineer confirmed yes.

Mr Wray then asked what would be the financial gain to the Board annually to that end saving man hours running about. The Operations Manager stated the full details of how this would be financially beneficial with the man hours saved would need to be ascertained against the onsite benefits, although we have not costed these benefits. He gave the example of the telemetry. Sometimes there is an anomaly and are not quite sure what, if any, callout is required. Generally, what it comes down to is understanding if it requires one of the pump engineers to attend site or one of the workforce. So the added benefit from this system, we can see what's going on remotely and can make that judgement call so much easier.

The Chairman clarified that there is no money budgeted in this financial year but there is spare cash in the pumping station maintenance account.

Mr J Casswell asked have you had many other break-ins - is this the end of a long history of it or is it a one off? The Operations Manager responded not particularly at pumping stations we obviously over the years, replaced glass with steel doors and windows due to vandalism which is people taking pot shots to break the glass but security wise we don't think we have had too much problem. He believes the main driver behind installation of the CCTV system is the added benefit we would get from the remote viewing of our equipment.

Mr J Casswell asked from a crime point of view if you put them on those three then if anyone wants to break in they will go to other ones anyway it nearly comes down cost effective for you for operational reasons.

The Chairman pointed out that the pumping stations problems are the windows which have been damaged in the past.

Mr C Wray added that looking forward to the future you will have cameras on all of them looking ideally to have so that you can see your network and everything you are responsible for from the Office within five minutes of an issue in an ideal world.

The Operations Manager added that it is right to say that other IDBs are already doing this and like he said from a remoteness point of view there is a benefit to be able to view what's on site, he asked if Members want the Officers to pursue some options going forward. The Chairman added that there is some funding available in the pumping station maintenance budget at the yearend - see what is left and come up with a plan and prioritise. The Chief Executive stated that it is the deterrent, he strongly recommends that in several years' time every pumping station will be covered by CCTV – so let's get started and continue if there is some spare funding available then let's get started. The Finance Manager interjected with a sum of £23,619 remaining in the pumping station maintenance budget.

The Chairman felt that it should be prioritised and certainly have a rolling plan with a couple each year.

The Chief Executive asked for confirmation that this is approved to go ahead with that expenditure for those CCTV cameras and to what level of expenditure for funding this year. The Chairman clarified that clearly there is funding to do the two now and have a rolling programme going forward. ALL AGREED.

The Pump Engineer concluded that from the telemetry side of it a lot of the equipment in the pumping stations is very old whereas the Billingborough and Gosberton pumping stations have got fairly new outstations so they could go into another pumping station where you are not going to put a camera and bring them up to date, moving things around you are going to get the two benefits.

(f) South Forty Foot Drain Desilting Works Phase 1

The Operations Manager stated as a point of interest on site at Billingborough that BSIDB have completed phase 1 of the South Forty Foot desilting works also subject to Crown approval for lagoon number three which is on the set aside field adjacent to the pumping station.

(g) Sempringham Pumping Station - Proposed New Roof

The Operations Manager stated as a point of interest also for the Committees views we have a budget of £10,000 in 2019/20 for a new roof at Sempringham pumping station. Currently we are in the process of a business case approval for a potential scheme for a refurbishment at this pumping station predominately for a new weed screen cleaner. There is the potential to look at the site in total and the fabric of the building so it may be that within that budget we can accommodate a new roof as well.

So if we can, once that business case is approved - hopefully in this year, we may reallocate this funding towards one of the other pumping stations. He asked if this could be approved by the Committee. The Chairman enquired when you say a new weed screen cleaner you mean an initial one - there is not one there at the moment, the Operations Manager responded no at Sempringham we will be putting in an automatic weed screen cleaner. The Finance Manager interjected that this is not for approval this is for recommendation to the Board. The Chairman then asked the Members if they recommended this to the Board, ALL AGREED.

(h) EA Main River De-Maining - Cliff Beck

The Operations Manager stated as a point of interest that whilst drafting the route for the tour the Chairman asked if would we be going near the Cliff Beck, there are some detailed photographs of the Cliff Beck - one of the EA main rivers originally proposed for de-maining. The reasons why the BSIDB are not taking this one on are shown in the pictures on page 15 of the brochure, he hopes this goes some way to showing the large amount of bushing works that are stopping the Boards machines gaining access to that main section in the middle which is circa 650 metres and as it says the EA have no funding for bushing works therefore we are not going to be taking this on within this tranche.

The Chairman concluded that at the Board meeting it was agreed that should funds become available in the future if they de-bush it we may look at it again but certainly we could not take it on in that state.

(i) Drain 36/3 - Scredington North Beck

The Operations Manager stated this was viewed on the tour to look at the condition of the banks and the channel. Some works have been done to put some revetments in place around the northern side from Mareham Lane and the southern side from the roadway on the west end of the drain. He asked for the opinion of the Committee around what we do going forward? There is a central section that there are several slips and some of those slips are quite considerable and some are quite a lot smaller but he has identified a budget. Including the £10,000 that we currently have in this years budget there is an additional, he believes, £30,000 worth of work if we were to go and look at repairing some of those major slips before they get any worse.

The Operations Manager stated there were varying opinions regarding a way forward. He thinks from what we saw that where the drain changes direction they were the main slips so in one or two places we think it could be associated with land drains again. He asked for guidance from the Committee for a decision on the way forward on what we do and what budget we can apportion towards it we have not got anything in a budget at the moment over and above £10,000 we have in the budget this year.

The Chairman repeated what Mr N Morris said on the tour that piling it there and, not saying we go for wholesale piling project, but do a bit of experimentation there. The Operations Manager agreed, to identify an area and try this methodology. If this method works it could be continued to resolve the problem areas.

Mr K Casswell interjected, and if it works you will do bits and pieces as required rather than go wholesale in there trying to do too much to it. The Operations Manager responded that you will then have a per metre cost and once we have this cost we can look see how far the budget would go.

The Chairman stated that it appeared today that we are very good at maintaining fen drains or lowland drains and we still have a lot to learn about the highland carriers and with the de-maining going on from the EA it looks like we will be taking more and more of these on in the future a little bit of investment on how to deal with them in the future.

The Chief Executive stated that the proposal mentioned circular driven vibrated double row posts and some stone revetment in isolated lengths is certainly worth investigating I do believe having first-hand experience looking at the north bank it just seems to be an odd colouration association with broken land drainage pipes being through our own fault or not has a slight bulging of the banks so if we are onsite we certainly want to be identifying and putting small headwalls in making sure those pipes are running.

It's this low cost maintenance there could be a finger pointed at ourselves we should be tidying those up as we go along.

Mr C Wray added that it might be worth trying some vibrations piling because once you have the gear it's cheap to lay piles down a length and at least if you know costs going forward it does give you the experience and knowledge to know whether it will work or what will work. The Operations Manager responded that we have used timber piles before and it is a method we used the only difference we only used the timber piles then we covered them soil we did not cover them with stone so that would be the difference in methodology that Mr Morris was talking about but yes I think it's worth more than an experiment if we define a small area and see if it works and we know we can roll that out – the Chairman expressed like a case study.

The Chief Executive stated I think we need the conviction to do the work on the understanding that there is a finger of accusation of guilt of failure if it does not work, because if we don't try it we are never going to know we have all the equipment on site, we have a modern hydraulic vibrating pile head so lets go and try it.

Mr C Wray concluded it has worked in the past at Swaton until it was fetched out and it has helped improve something similar – The Chairman asked could this be done within the existing budget of £10,000, the Operations Manager responded yes we could identify a trial area.

The Chairman concluded we will have a case study within the existing budget, ALL AGREED.

(j) Dyke Fen Pump Station – Proposed New Control Panels

The Operations Manager outlined the budget in 2019/20 for the new control panels at Dyke Fen pumping station allocated at £35,000 which I think will be fairly tight if not potentially unachievable we will need to review this going forward. The Pump Engineer explained he has had the experience of putting in the new control panels at South Kyme. The Pump Engineer stated that this is now going to be nearer £40,000 as there is a lot of kit and there is more kit at Dyke Fen than there is at South Kyme as well the starters are bigger and it is going to need more control. This is upgrading what is already there and it's the Boards oldest panel.

Mr Holmes asked how old would this be, the Pump Engineer responded 1980, the Chief Executive added all we can do is obtain the quotations for what year the proposal is to put in the budget and seek approval. The Pump Engineer explained that most of these prices are done within a 10-year programme and it rolls on every year those prices have not necessarily moved with the price rises.

The Chairman asked what did South Kyme's control panel cost, the Pump Engineer responded the panel was £32,669 but because they had given me a verbal quote at £32,000 when they actually looked at it, it was going to cost him more because he had given me that quote

he kept to it so I don't think going forward there will be much change out of £35,000. The Chairman stated it seemed a lot of money but when you put it over 30 + years it's not.

(k) Drain 27/1, Culvert 604 – Haconby Fen

Mr J Atkinson declared an interest for this agenda item.

The Operations Manager stated we visited Haconby Fen today and looked at culvert no 604, a circa 1850s brick arch culvert which is now in a state of disrepair. This culvert has been referred as an agenda item to the Structures Committee meeting on the 21<sup>st</sup> March 2018. There is an issue around ownership of the structure, obviously depending on ownership will depend on what the Board does going forward and to what condition the existing structure remains or is replaced. Overall replacement costs could be £18,000 to £20,000 there was an opinion that it may be historical damage over 10 years ago and generally there is only two lorries a year go over it that have any weight on them.

Mr C Wray, stated that until you understand who is libel and responsible for it this is what it hinges on.

The Chairman asked if we are going to have legal opinion on this before the Structure Committee meeting, the Chief Executive responded we have asked the question and we hopefully will have this.

The Chairman made a point to note that although the Board does use it we don't need to use it we also store equipment in the yard. Obviously going forward the major benefit would be to the developer of the property so should we make a contribution in the future we certainly want to get rid of the ongoing responsibility. Mr K Casswell added that in his opinion the developer is creating the pressure.

Mr J Fowler asked if we could see any deeds or sale details of those properties that may or may not mention access and obligations of that crossing. The Finance Manager responded we will be able to request them from Land Registry; these properties have already been sold so they must be on the Land Registry it will have rights of way.

(l) Drain 23/1 Dowsby Drain - Proposed Works

The Chairman stated that before we went onto the Dowsby Lode Mr Barker had made reference to the issue of ash saplings in the bank. Mr Barker stated that bushing only one side he believes that if there is gain in the Summer by machines going faster on the other side some of that ought to be passed back to work in the slack period to put the matter right. The Operations Manager asked about the arising's on the verge, Mr Barker responded that the arising circa 45 years ago when I first went down the fen and when they have been there a bit. The GPO put their telephone wires underground, when somebody went to move that soil they were actually catching the GPO telephone wires because they were in the arising's they were not as deep as they should have been or could have been.

Mr Barker continued if you try to take the top off to make it right for mowing you have to be wary of GPO wires but there are still the ash saplings and soon to be ash trees when they become trees they will become harder work to maintain. The Chairman believes that it is the responsibility of the Country Council, the Finance Manager added that Highways will not do it either they have the right to put them in if you want to do anything different for the Boards purposes then it would be our liability. The Chairman added that there are alternatives, either flailing the far bank, the Operations Manager responded yes.

The Operations Manager stated that in the 2019/20 budget there is a £50,000 continuation for the Dowsby Lode scheme works. He pointed out on the map in the brochure works commenced from the pumping station and 800m upstream having been completed. There is a glacial melt seam where there is a change in the soil structure, following the bank improvements there was some slippage. This has since been repaired. A survey has been completed on the Dowsby Lode, but a more detailed survey is now needed to identify what works are required. A couple of years ago we visited the site on the tractor and trailer and we discussed the reasons behind the raised bank on the northern side of this drain and why it's there. Originally this was a highland carrier drain with gravity outfall into the forty foot.

For some reason the southern side was levelled out but the northern side was not and once a more detailed survey of land levels etc. is completed it may be that the northern side is a lower land level and that's why the raised bank is still in place. Some of the options proposed include removing the raised bank.

Mr Barker stated that the lowest level, to his knowledge, on that drain is about where it says Dowsby drain on the map in the brochure.

#### Option 1

2.7km drain works to design (bed width, depth and profile), to include slip repairs and incorporate any lateral connections/land drain outfalls, utility crossings, water control features. South side only. Estimate c£25,000-30,000

#### Option 2

5.4km drain works to design (bed width, depth and profile), to include slip repairs and incorporate any lateral connections/land drain outfalls, utility crossings, water control features. North and South side, to include improvements (profile and top running width) to raised northern bank sections, to enable future access to maintain from both sides. Estimate c£50,000

#### Option 3

5.4km drain works to design (bed width, depth and profile), to include slip repairs and incorporate any lateral connections/land drain outfalls, utility crossings, water control features. North and south side to include levelling of the raised northern bank sections, to enable future access to maintain from both sides. Estimate c£50,000

The Operations Manager stated if we only continue those works from the south side Option 1 I believe would cost circa £25,000 to £30,000 if we were to complete the scheme on both sides of the drain to keep the raised bank on the northern side or to remove the raised bank on the northern side the value of Options 2 and 3 are the same. Obviously following the survey when we have more detail from that survey this will give us a better idea of our options going forward. Unfortunately, we don't have the detailed survey yet but once we have these options may become more apparent.

The Chairman asked the reason for removing the raised bank. Mr Atkinson responded we have not been there that long if you work from the northern side need the south be touched at all the north is not in bad condition, the Operations Manager responded as far as he is aware the south side profile is where the issues are, the northern bank has got lots of badger setts obviously pre works engagements will be required with environmental surveys before topographical engineering surveys can be completed. However, going forward the idea is that we can maintain this drain from both sides. Currently it is predominately maintained from the south side. Going back 15/20 years it used to be maintained from the north side on the raised bank. The north bank is now in a poor condition and would require reprofiling and crest widening to work from safely with Board's plant.

Mr Atkinson asked could it be a sloping bank as opposed to a raised bank, the Operations Manager responded yes potentially if there is no engineering benefit for it to be at a raised profile then the ideal would be that the bank is removed. To establish first is why the bank is there and if it can be removed.

The Chairman concluded that once we have the survey then we can move forward with a decision.

Mr Barker referred to the map in the brochure stating west where you have the red line there is a pinch spot in the drain, the drain you can see its wider that is sort of holding the water back so there is something in there and you need to get rid of that pinch spot. The Operations Manager responded this is what the detail of the survey will bring out and that's what our intention is, it's to have a detailed survey from which a decision on the design and profile can be established and therefore which banks we are going to work on.

The Chief Executive asked about the materials on the north side - are they course materials or as raised out of improvement to the Dowsby Lode, Mr Barker responded that it is soil pre the Dowsby Lode pump going in because it was a highland carrier. The Chief Executive asked if a raised bank from the south side had been removed at some point then? Mr Barker responded yes he thought so.

The Operations Manager stated he will have the detailed survey completed which will provide the data which is needed to make a decision.

1245 REPORT ON RAINFALL - Agenda Item 6

The rainfall figures at Black Hole Drove were presented, copies of which had been circulated.

Mr Barker stated that at the Board meeting he had said he would find out about the situation in 1958 as to why we had the two extra pumps fitted to the Black Sluice (Boston) Pumping Station. He stated that there was 3 inches of rain in June followed by 4 inches in the first few days of July, just these storms happen and this is why we need those pumps. The Finance Manager presented a slide detailing the rainfall from 1944 in decades based on a 25-year average.

Mr K Casswell commented that not all the events have been in really wet years, it's when you get 3 to 4 inches of rain in a storm that creates the flooding because the water cannot go anywhere - everything fills up. The Pump Engineer agreed that it fills up the Forty Foot quite quickly from the highland carriers.

The Operations Manager referred Members to the front cover of the brochure which shows a photo of Black Hole gravity outfall taken in November 2017. It shows it actually gravitating – he cannot remember the last time it actually gravitated, this is following the desilting works completed in the South Forty Foot.

The Chief Executive reported that the East Midlands Long Boat Association have walked the banks to Black Hole Drove. By the 30<sup>th</sup> March 2018 the EA are going to lift the water level to the summer water levels. There is an application for twenty long boats to come down the South Forty Foot navigation lock at Black Sluice to come down to Black Hole Drove.

There being no further business the meeting closed at 17:06.