



Finance and Performance Sub-Committee – 11th February 2019

Stanwick Lakes – Sluice Gates

Purpose of report

The purpose of this report is to ask for Councillors' consideration of whether the Council should take on responsibility for sluice gates at Stanwick Lakes to allow a hydro power project to be implemented.

Appendices

Appendix 1 – Stanwick Lakes Sluice Gates Decisions

Appendix 2 – Business Case provided by Rockingham Forest Trust

1.0 Background and current position

- 1.1 Stanwick Lakes was officially opened in 2006, with the Visitors' Centre opening in 2009. Since then the facility has gone from strength to strength with improved play equipment, assault courses, outdoor theatres and cycle hire.
- 1.2 The land on which Stanwick Lakes sits is owned by East Northamptonshire Council (ENC). It is the subject of a 125 year lease which was signed by ENC and Rockingham Forest Trust (RFT) in October 2002. A new lease is in the process of being signed to reflect the extent of Stanwick Lakes and how the partnership agreement currently operates.
- 1.3 Under the lease ENC is required to contribute to the site maintenance with planned investment of £1.3m over the next 10 years in capital improvements, maintenance and its management. Cllrs Richard Lewis, Glenvil Greenwood-Smith and Dudley Hughes currently attend the quarterly Stanwick Lakes Management Board as ENC representatives.
- 1.4 As reported to the Committee at its meeting on 10th September 2018, the Environment Agency (EA) has contacted RFT to discuss the transfer of the maintenance and operation of the sluice gates from the EA to RFT. The EA are suggesting this must happen in order for them to give permission for the water to be used to allow the Stanwick Lakes hydro power solution to be implemented. The current legal position is that the gates are the responsibility of the EA, in addition to them owning the water that RFT would like to use to power the Archimedes Screw.
- 1.5 This report provides an update on the work that has been completed on the proposals and seeks approval from the committee in principle for ENC to take on responsibility for the sluice gates and immediately transfer this responsibility to RFT.

2.0 Transfer of Sluice Gates

- 2.1 The sluice gates have always been managed and maintained by the EA. The EA's strategy for dealing with flood management has changed and it is now in the process of transferring these responsibilities to the appropriate landowners. It should be noted this is the EA's policy and cannot be enforced legally. It is at the discretion of the landowner (in this case ENC) to take the responsibility on. This has already been done in other areas of our District such as Yarwell Mill. Upon transfer of the responsibility, money is passported to the relevant organisation to bring the gates up to the required standard and to cover ongoing maintenance for 50 years.

- 2.2 This proposal is attractive to RFT as it presents an additional opportunity. The money can be used to help implement the hydro power through the installation of an Archimedes Screw and secure the support of the EA to do this.
- 2.3 The EA is providing details of both the initial capital commuted sum for making good, and for the on-going maintenance. The proposed sum is based on two reports undertaken on the condition of the current sluice gates and the ongoing maintenance. The sum proposed by the EA is £265,000 based on the condition surveys. This amount covers the costs of repair plus £1,000 a year maintenance for the next 20 years. It is difficult to predict costs after 20 years and the EA do not predict costs beyond this point. It is expected the works on the sluice gates would be less than proposed as RFT will have access to cheaper suppliers; in addition, by combining this with the Archimedes Screw works, significant savings can be made for RFT.
- 2.4 If ENC does not take on responsibility for the sluice gates, the EA has proposed installing a fixed weir, and as such the ability to control flood risk to the site would be lost, along with the opportunity to utilise the hydropower solution. A fixed weir would be expected to last 50 years with limited maintenance requirements based on advice from the EA engineer. The responsibility would remain with the EA if the fixed weir option was chosen
- 2.5 There are risks associated with both taking on and not taking on responsibility for the sluice gates. The options in terms of the sluice gates are detailed at Appendix 1 and are summarised below:-

a) Do not take on the responsibility from the EA

Members could agree not to take on the responsibility for the sluice gates. The impact of this decision would mean that the EA would install a fixed weir and there would not be a way to control the flood risk. Additionally, the opportunity for a hydropower installation would be lost.

b) Take on responsibility for the gates and transfer the liability to RFT

Members could agree to take on the responsibility for the gates and immediately transfer this responsibility to RFT. By doing so, RFT would retain the ability to control the flood risk, and would maintain the gate using the funds commuted by the EA.

After RFT has the responsibility for the gates, the decision on whether the hydro power project should be developed can be made. RFT has a long term lease with ENC which would transfer over to any new authority. There is a risk that RFT could give 12 months' notice to terminate the lease, at which point responsibility would transfer back to ENC. This risk would be mitigated through positive working relationships with RFT and ultimately, if it did not continue to manage the site, seeking an alternative partner.

If this option was agreed, an annex would be appended to the current lease to reflect the responsibility of the sluice gates being taken on by RFT.

The EA also produces a contract document which makes it clear as to the standards that have to be maintained to ensure compliance with any water management requirements. If members were minded to choose this option, our legal advisers would ensure that these documents accurately reflected this position.

c) Take on responsibility for the gates and keep the liability

ENC could take on responsibility for the sluice gates and the funding provided by the EA to bring the gates up to standard and then be responsible for its maintenance and replacement at the end of its useful life. This would mean we would take on the risks associated with the gates and flood management for the site and maintenance responsibility. ENC does not have the skills to undertake these responsibilities. This option has therefore not been considered at Appendix 1 as it is deemed unviable.

2.6 Members are asked to consider this request, understand the implications in the short and long term for the council, and confirm in principle their intention for the Council to take on responsibility for the sluice gates from the EA. RFT is willing for us to transfer all the liability for the gates to them once we have agreed to take on responsibility. This can be an immediate transfer to ensure we do not have a period of risk we cannot manage.

3.0 The Archimedes Screw

3.1 RFT approached us in 2016 when ENC approved the installation of the Archimedes Screw as a hydro power solution for the site. In order to help support this, ENC re-profiled the funding we had already agreed over a three year period. The details have also been through the Stanwick Lakes Management Board and been approved. The project hasn't moved forward as quickly as planned, due to the sluice gates issues identified within this report, and the permissions and surveys required to ensure the viability of the screw. On this basis it is worth revisiting with current information to ensure members still support the project.

3.2 There is a tight deadline now in terms of accessing feed-in tariff; all of the papers and approvals need to be submitted by RFT by 31st March 2019. This includes a full proposal for the project, planning permission, sluice gate resolution and permission to use and EA licence to utilise the water. The work would then need to be completed within 2 years to access the feed-in tariff. The detail of the project is included at Appendix 2.

3.3 Current estimates show the screw could generate app. £25,000 for the site per annum. The money being provided by the EA as referred to above would reduce the capital cost of the hydro power by £40,000. RFT have raised £170,000 towards hydro so far and have a remaining £90,000 to find.

4.0 Equality and Diversity Implications

4.1 An equalities impact assessment has been completed and there are only positive implications associated with the continued funding of Stanwick Lakes.

5.0 Privacy Impact Implications

5.1 There are no privacy implications arising from the contents of this report.

6.0 Legal Implications

6.1 There are legal implications as already highlighted arising as a result of this report. Legal advice will be taken to ensure we are satisfied with the EA's documentation to ensure it specifically covers:-

- No flood management responsibilities/liabilities other than for the Stanwick Lakes site itself on either ENC or RFT
- Ensuring that sufficient funds are transferred from the EA to cover the costs associated with the repair and maintenance of the gate for the next 20 years
- Confirmation that the Archimedes Screw will not impact on water navigation
- A clear operating agreement

6.2 Legal advice would also ensure that an updated lease with RFT would cover:-

- Liability for management of the sluice gates transfers to RFT
- Responsibility for maintenance of the gates transfers to RFT
- Any additional insurance liabilities are the responsibility of RFT
- Ensuring that compliance with the EA's operating agreement is RFT's responsibility

7.0 Risk Management

- 7.1 There are risks associated with the sluice gate transfer and the subsequent decision over whether to approve the Archimedes Screw project. A summary of the risks associated with the decision is provided at Appendix 1. RFT have also completed a review of the risks associated with the gates; this is provided at Appendix 2. At this stage, a decision in principle is required to allow RFT to access the feed-in tariff. These risks will be mitigated through sound legal advice and documentation before any agreement is signed, full review and challenge of the business case before approval for the Screw project is sought, and continuing to support RFT through the Stanwick Lakes Management Board to ensure successful transfer of the responsibility for the gates.
- 7.2 There are financial risks associated with the responsibility for the sluice gates, but these are mitigated by the requirement that the structures are brought up to standard as part of the EA transfer and budget from EA is to be commuted across. Until legal and professional advice confirms this sum is adequate to cover all of these liabilities, ENC will not sign any transfer agreements. If these conditions are met, the liability for their on-going operation will pass to RFT simultaneously, mitigating the risk of ENC having to operate the gates.
- 7.3 If Members agreed the option to take on the gates, an annex would be appended to the current lease with RFT to reflect the responsibility of the sluice gates being taken on by RFT. This would be completed at the same time as the agreement to take on responsibility for the gates with the EA. There is a risk that RFT could give us 12 months' notice to terminate the lease, at which point responsibility would transfer back to ENC. This risk would be mitigated through positive working relationships with RFT and ultimately if they did not continue to manage the site seeking an alternative partner.
- 7.4 The EA will also produce a contract document which makes it clear as to the standards that have to be maintained to ensure compliance with any water management requirements. If members were minded to choose this option, our legal advisers would ensure that these documents accurately reflected this position and confirm that neither ENC nor RFT would be responsible for any flooding elsewhere in the Valley.
- 7.5 The alternative is not risk-free: the EA has proposed installing a fixed weir, and as such the ability to control flood-risk to the site would be lost. The costs of repairs to the site have been estimated at £50k per incident, not including any income lost from a reduction in visitor numbers if the site needed to be closed. It is not possible to estimate how many floods may occur over the 20 year period, however costs are likely to be over the £265k sum currently proposed by the EA to transfer across for the gates.

8.0 Resource and Financial Implications

- 8.1 The funding that comes with taking on the responsibility for the sluice gates would go directly to RFT, but long term it could be our responsibility to maintain. The associated risks and mitigations for this are set out in section 7 above.
- 8.2 In terms of the Archimedes Screw project, if approved, it is not expected to be a project where we need to invest any further ourselves it is more supporting RFT in the management of the site. In the long term this could bring additional benefits to ENC in terms of a reduction in the need for support in funding as Stanwick Lakes becomes more sustainable and creates additional revenue stream. This project also recognises the social value that Stanwick Lakes brings in terms of positive impacts on the community and the environment.
- 8.3 Further work is required on the business case currently prepared by RFT. Early indications show the site investment could be paid back in year 14 based on current information; this will be updated as more detailed financial information becomes available. Additionally, it is proposed that ENC's finance team support RFT in developing a fully robust business case,

including scenario planning, financial modelling and net present value calculations over the lifetime of the scheme.

9.0 Constitutional implications

9.1 There are no constitutional implications arising directly from this report.

10.0 Implications for our customers

10.1 The sluice gates will have no implications for our customers other than continuing to enable them to use Stanwick Lakes and contributing to the environment.

11.0 Corporate Outcomes

11.1 These proposals will contribute to the achievement of the following corporate outcomes:



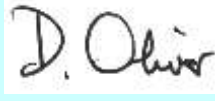
- **Effective Partnership Working:** Supporting and enabling our partnership arrangement with Rockingham Forest Trust to develop.
- **Value for Money:** Ensuring sustainability of Stanwick Lakes through supporting investment in hydro power
- **Prosperity:** Supporting the local tourism offer and supporting a scheme that is both educational and environmentally sound.

12.0 Recommendations

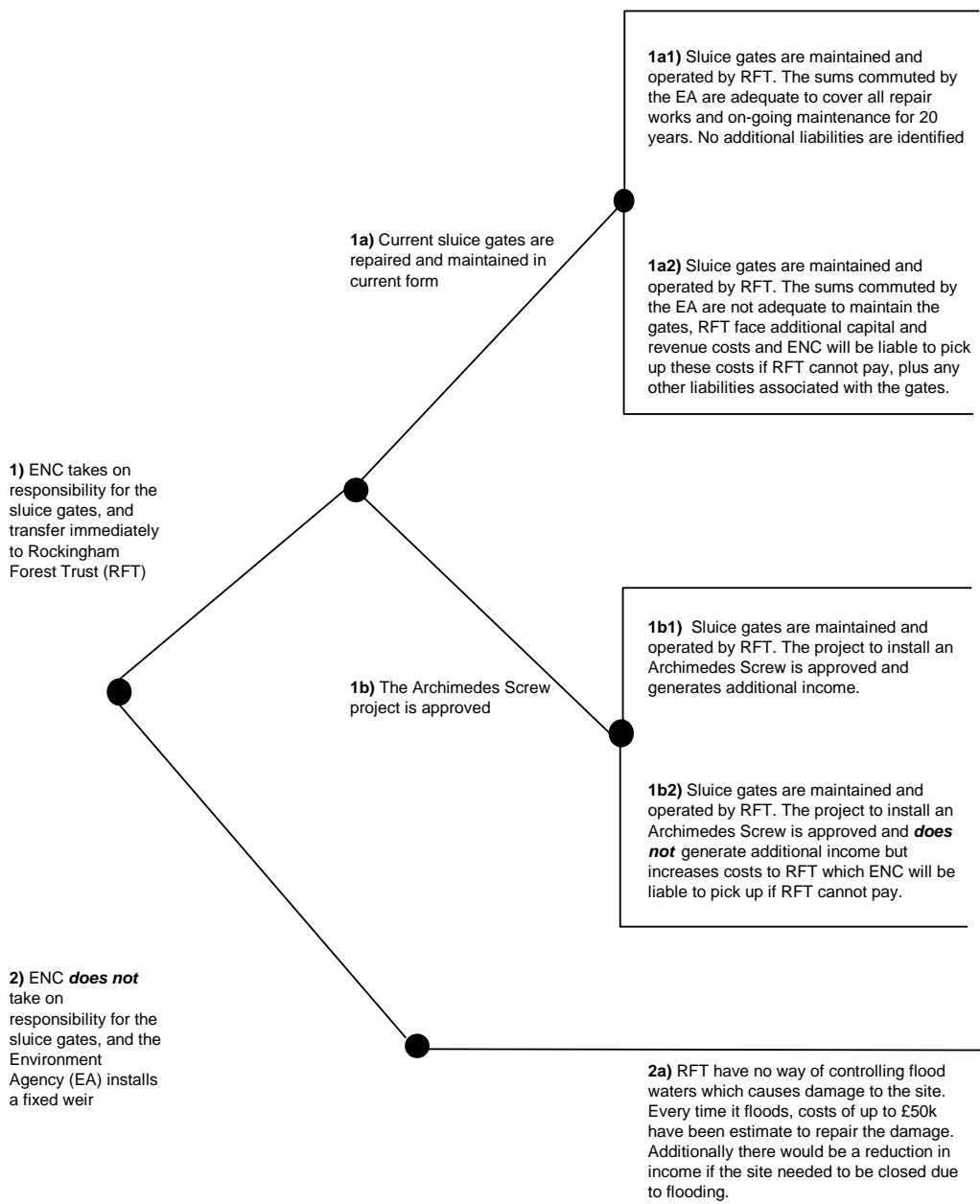
12.1 The Committee is recommended to:

- a) Agree this council will, in principle, accept the responsibility for the sluice gates
- b) Delegate authority to the Chief Finance Officer, following consultation with the Chairman of Finance and Performance Sub-Committee, to legally accept responsibility for the sluice gates once the following conditions have been met:
 - EA confirm the value of sums to be commuted in respect of the sluice gates
 - Legal and professional assurance has been obtained that this sum is sufficient to cover all liabilities associated with the gates over the next 20 years
 - Legal agreement has been obtained that ENC nor RFT will not be liable for any flooding in other areas of the valley
 - Confirmation that no other liabilities will transfer to ENC as a result of this agreement
- c) On taking on responsibility, transfer the liability for the gates to RFT in a back to back agreement
- d) Delegate authority to the Head of CCS in consultation with Stanwick Lakes Board members to sign the updated lease once satisfied with the relevant legal documentation.
- e) Agree this council, in principle, supports the Archimedes Screw project, and therefore supports RFT in its application to access the feed in tariff.
- f) Delegate authority to the Head of CCS and Chief Finance Officer, following consultation with the Chairman of Finance and Performance Sub-Committee, to work with RFT to develop a robust business case and to report back to Finance and Performance Sub-committee before a final decision is made as to whether to progress with the scheme.

(Reason: To support Stanwick Lakes and its future sustainability)

Legal	Power: Local Government Act 2000		
	Other considerations:		
Background Papers: Bentleys Condition Report, Stanwick Lakes Board Meeting Minutes, EA Asset Disposal Strategy			
Person Originating Report: Julia Smith, Head of Customer and Community Services jsmith@east-northamptonshire.gov.uk 01832 742066			
Date: 7.1.19			
CFO 31/01/19		MO 31/01/19	 CX 31/01/19
			

Stanwick Lakes Sluice Gates Decisions



<u>Ref:</u>	<u>Estimated cost to ENC</u>	<u>Risks associated with the decision</u>	<u>Mitigations</u>
1a1)	£0	<ul style="list-style-type: none"> - Monies EA transferring may not cover all liabilities associated with the gate - ENC does not have the expertise to operate the gates, therefore transfer to RFT needs to be at the same time as accepting responsibility from EA 	<ul style="list-style-type: none"> - Agreement with EA is not signed by ENC until: <ol style="list-style-type: none"> 1) Legal confirmation received that they will commute sums to cover all works associated with the gates for the next 20 years, to be spend as RFT/ENC deem fit 2) External, professional confirmation that the sum is adequate to cover all works (to be gained when RFT tender for the works) 3) Legal agreement with EA confirms upon transfer that neither ENC or RFT is liable for any flooding elsewhere in the valley, including the navigation, due to the 'incorrect' operation of the gate. EA have confirmed that this gate only affects Stanwick Lakes, therefore this needs to be made explicit at the point of transfer
1a2)	£?		
1b1)	+£25k income pa	<ul style="list-style-type: none"> - Capital scheme is currently not fully funded - RFT current business plan requires review and development as it currently doesn't cover all potential risks and future costs - Feed in tariff is not secured - Project timetable not currently completed 	<ul style="list-style-type: none"> -ENC to provide support in terms of developing the business plan for the proposals and review to ensure robustness before Archimedes Screw project is approved -Only once this work is complete would ENC be in a position to consider whether to approve this scheme
1b2)	£?		
2a)	£50k every time it floods	<ul style="list-style-type: none"> - RFT will have no way of controlling flood waters at Stanwick Lakes. Therefore the risk of remedial work has been estimated at up to £50k per flood. The additional loss of income is difficult to estimate, but would also adversely impact on RFT and the running of Stanwick Lakes 	<ul style="list-style-type: none"> - RFT would have to plan for flood damage including setting aside additional budgets for emergency and remedial works

Conclusion:

Option 1 for ENC to take responsibility of the sluice gates is proposed to mitigate the risk of flooding. Further work is required on the business plan before a decision can be made as to whether to support the Archimedes Screw project or not. However, this decision can be made after the sluice gates transfer has been agreed in principle.

The Business Case for taking on the sluice gates at Stanwick Lakes by Rockingham Forest Trust

Overview

RFT and the Council, via the Stanwick Management Board, have for some time been looking into the benefits of installing a hydropower unit on the back channel of the River Nene as it flows through Stanwick Lakes. This would fit with the site's environmental ethos, and both organisations' aspirations for sustainable development: a flagship renewable energy project, which would also reduce or eliminate the site's current electric bill (currently c£30,000 pa and rising).

An opportunity has arisen to reduce the costs of installing the scheme, which, when combined with RFT's having now secured the majority of the private funding required for the project means it is now within reach (private money is necessary to enable it to qualify for Feed-in Tariff).

The Environment Agency currently has responsibility for maintaining and operating the sluice gates along the Nene Valley, including those at Stanwick Lakes, but under a new national strategy is looking to transfer this responsibility to the appropriate landowners. In each case they are required to bring the structures into good repair, before handing them over. The sluice gates area is where the hydro scheme would be sited.

The business case below shows how any perceived risk to the Council is mitigated, and needs to be balanced with the opportunity to make Stanwick Lakes more financially sustainable for the future.

The detail of the business case

- The EA have decided that the Stanwick Lakes sluices are not important to them in terms of managing flood risk, and therefore to reduce their on-going maintenance costs they propose to have them made good and transfer responsibility for them to ENC/RFT. The Council already owns the structures, following the transfer of the milling rights to the landowner many years previously.
- Responsibility and liability for the sluice gates would immediately be passed to RFT, in a back-to-back agreement, thereby removing any liability to the Council.
- Should the Council and RFT refuse to take them on, the EA will simply put in a fixed weir, as a cheaper option. This would effectively prevent the introduction of the hydropower scheme – a scheme which would generate c£30,000 per annum for the site.
- It would also mean that RFT would have no means of controlling flooding on the site by opening and shutting gates, resulting in increased flood damage following high rainfall, particularly to the paths. The repair costs would be £5,000 - £10,000 per year. In 2012, the most severe flood year since opening, the cost was over £20,000.
- The EA will draw up Heads of Terms which will include confirmation that neither the Council nor RFT will be held responsible for any flooding either at Stanwick Lakes or

elsewhere in the valley, including the navigation, as a result of 'incorrect' operation of the sluice gates. They cannot do otherwise, given their assertion that sluice gates only affect/benefit Stanwick Lakes.

- The structures will be brought into a good state of repair before transfer – the EA have had a detailed report produced by an engineering consultancy (in April 2017), and thus know exactly what is required. They have based their offer on the consultants' estimate of costs, informed by similar works elsewhere.
- Once the works have been done, at the EA's expense, the structures will represent no greater risk than the seven railway bridges, some of which are multi-span, all along the old railway line which forms part of the Stanwick Lakes landholding.

The mechanics of how the process would work:

- The EA commute the agreed sum of £265,000 to RFT, and the Trust engages the appropriate contractors to undertake the work highlighted in the engineers' report, to make the necessary repairs to the sluice gates. The project managers will be Saturn, who managed the visitor centre's construction
- The advantage to this approach is that RFT are, by the EA's own admission, likely to get better value for money from the works than the EA would do as a large government organisation
- As part of the works to upgrade the concrete plinth in the river below the larger sluice gate, the hydro's Archimedes Screw is dropped into place, removing the need for separate and costly civil engineering works, and thus reducing the cost of the hydro project by up to £40,000
- The EA train the RFT ranger team in how to work the sluice gates before handover, including providing a manual to guide decisions and operation.
- Prior to the works beginning RFT applies for planning permission and EA impoundment license & flood risk consent (process already underway), then registers for Feed-in Tariff (FIT) by March 2019. This is the last deadline before FIT is withdrawn for hydro schemes, which will halve their value. Once registered, FIT payments are secured for the Stanwick hydro for twenty years and index-linked.
- RFT then has up to two years (to March 2021) to raise the rest of the money for the hydro scheme, get the sluice gate works done and the hydro installed.
- A sum of £170,000 has already been raised, and RFT plans to raise the remaining amount through crowd-funding (in the region of £80,000 - £90,000).
- Once up and running the hydropower scheme will save the site c£30,000 per year, the value of the current electric bill, making Stanwick Lakes more sustainable in the future.

Liabilities and risks see table below:

Risk analysis

Risk	Mitigation measure
Sluice gates not taken on, EA install fixed weir, leaving sluice gates to deteriorate & ultimately collapse. Hydro scheme opportunity thus lost Site floods uncontrollably	RFT would have to set aside additional budget for frequent flood damage repairs. Over 20 years this could cost as much as £200,000
EA's commuted sum fails to cover actual cost of sluice gate works	EA have had a full condition survey done & subsequently costed, and are doing this along the valley. RFT would obtain competitive quotes before works started and would flag up any shortfall with EA
The actual hydro scheme within the works costs more than anticipated	Full up-to-date costings are to be provided by hydro consultant who has adapted original scheme to fit new opportunity & who will be involved throughout
RFT fails to raise remaining money for hydro	RFT has good track record for fundraising & already has nearly 70% of the sum required. Crowd-funding likely to be effective (lots of people contributing who visit & love site) Still get sluice gates brought into good repair with EA money, retaining ability to better control flood risk
Flooding caused by inexperience in operating sluice gates	Having full control of sluice gates for first time will actually improve ability to control flooding. EA will advise & train RFT staff, and absolve them from any off-site flooding, including affecting the navigation. . In addition, (a) a new flood gate alongside the Screw will be fully automated to respond immediately to high river levels, (b) having electricity on site will enable the 2 nd (hinged) gate to be automated as well.
Rising & on-going maintenance costs	EA's costs for this are known, RFT can undertake maintenance more cost-effectively as already on site. A sum will be set aside each year from hydro income for maintenance
Fatality from drowning affects site's reputation	This could happen now. Landowner already 'owns' sluice gates. Area is off beaten track and securely fenced. The site will be safer than at present, with automated lighting and the facility for webcams, alarms, etc. to be added.
Wildlife disturbance	RFT have consulted Natural England, who are relaxed about the project. Their specific advice to limit impact during construction will be followed. Hydro scheme no noisier than current sluice

	gates.
Hydro fails to generate predicted income	Will use proven technology which is generating power elsewhere. Careful best & worst case scenarios mapped based on river flow readings

Financial Summary

Capital

Original cost of hydro scheme installation	£296,600
Cost benefit of undertaking hydro concurrently with sluice repairs	-£40,000
Revised cost of hydro scheme installation as part of sluice gate repair	£256,600
Funding sources	Amount
Initial EA commuted sum for sluice gates	£265,000
Capital amount raised for hydropower (through fundraising)	£256,600
Total funding	£521,600
Capital Expenditure	
Repairs to sluice gates	£265,000
Installation of hydro scheme	£256,600
Total capital expenditure	£521,600

Income & Expenditure Summary

Income	Amount
Hydropower : direct electricity generation value	£17,500 per annum
Hydropower : Feed-in Tariff value	£11,900 per annum
Total income generation over 20 years	£588,000
Expenditure	
Annual maintenance of hydro & sluice gate area	£3,500 per annum
Total running costs over 20 years	£70,000

Note: The above figures do not include VAT because the commuted sum from the EA will not attract vat, and RFT will be able to reclaim the vat related to the construction expenditure. Depreciation is not included, nor is the total income generated reduced by the initial capital outlay: in both cases this is because the scheme will be paid for using externally-raised funds.

Costs for both the sluice gate repairs and the hydro works will be obtained at tender stage before the project starts, so any price fluctuations (eg as a result of Brexit) can be taken into account.