AGENDA ITEM NO
REPORT NO 343/11

ANGUS COUNCIL
12 MAY 2011

KEPTIE POND, ARBROATH – ESTABLISHING A BOREHOLE

REPORT BY DIRECTOR OF NEIGHBOURHOOD SERVICES

ABSTRACT: This report advises Angus Council of the necessary arrangements required in order to maintain water levels at Keptie Pond, Arbroath. The report concludes that after due consultation, on a variety of options, the use of a borehole offers the best solution to remedy the ongoing issues. In order to take the project forward, funding is sought from Arbroath Common Good.

1. RECOMMENDATION(S)

1.1 It is recommended that the Council:-

(i) authorise the Director of Neighbourhood Services to procure a borehole provision at Keptie Pond on the basis set out in this report, subject to the appropriate approval from the Scottish Environment Protection Agency (SEPA);

(ii) authorise the Director of Neighbourhood Services to invite tenders to install a trial borehole for ground water abstraction (conditional to a successful pump test), the installation of a water well (including pumping equipment) and underground pipe installation to top up water levels in the pond;

(iii) note that due to the timescale for the tendering process and necessary abstraction consents being sought, that Members recognise the borehole will not be operational in this coming summer;

(iv) approve funding from Arbroath Common Good Fund in respect of the project as detailed in Section 4 of this report;

(v) note the Arbroath Common Good revenue account balance updated to reflect the contents of this report as detailed in Section 4 of this report.

2. BACKGROUND

2.1 Report No. 500/05 to the Environmental and Leisure Services Committee outlined options in relation to the provision of boreholes to provide natural water for Keptie Pond. In addition, the report outlined the benefits associated with conserving mains water, a methodology that had been previously used to maintain water levels at the pond.

2.2 Report No. 711/09 to the Neighbourhood Services Committee in October 2009 highlighted the ongoing issues in relation to algae and fluctuating water level issues at Keptie Pond. The report presented four options to manage these issues which are noted below:-

Option 1 – Retaining the pond as a diversity feature while monitoring and removing the algae population manually.

Option 2 – The utilization of a water aeration and circulation system to increase oxygen levels in Keptie Pond. This approach would encourage the growth of aerobic bacteria, which acts as a natural competitor for nutrients to algae speeding up its decomposition process.

Option 3 – The topping up water levels by the use of a borehole, whereby existing ground water is abstracted to enhance the Keptie Pond water levels.

Option 4 – The topping up water levels through the mains supply when required.
2.3 Notably Option 1 represents maintaining the status quo and Report No. 711/09 estimated the annual cost of this as being £8,088. There is currently no budget provision available for this cost, rather it is being absorbed within the Neighbourhood Services budget.

3. CURRENT POSITION

3.1 Since consideration of Report No. 711/09, continued warm summer weather combined with low water levels have supported the rapid growth of some varieties of algae resulting in an algae bloom. Essentially the growing acuteness of this issue requires that a prescriptive remedy be applied at the earliest opportunity.

3.2 After careful consideration of the four options presented in Report No. 711/09 by Neighbourhood Services and following formal consultation with the local Elected Members, Option 3: topping up the water level by use of a borehole, is considered the preferred methodology for delivering a practicable solution to the ongoing issue. A summary of the option appraisal is provided in Appendix 1.

3.3 Essentially Option 3 recognises that it would be possible to install a trial borehole reaching into the existing ground water (subject to a successful pump test). This would allow the provision of capping and water well arrangements including the installation of pumping equipment and underground pipework to maintain future water levels.

3.4 It is suggested that Option 3 best meets the needs of the current issues facing Keptie Pond and is the preferred approach. This option represents the most cost effective and sustainable solution to maintain water levels.

3.5 It is recognised that although topping up the water levels will not fully remove the problem of algae growth, it is believed that this procedure should greatly reduce the problem down to a more manageable level and, therefore, forms a sustainable long term solution.

3.6 Notably Scottish Environmental Protection Agency permission will be required for borehole abstraction of 10-50m³/day of sub-soil water. Careful consideration has been given to ensure that the proposed borehole will minimise any impact on the pond wildlife and environment. Appendix 2 plan sets out the proposed borehole locations.

4. FINANCIAL IMPLICATIONS

4.1 There will be a package of costs associated with the project. In order to establish a borehole there will be a requirement for a hydrological survey (and report). This will allow the project team to identify ground water conditions, establish possible yields and complete water sampling. Furthermore, there is a requirement for the provision of a pump and the associated revenue operating costs. The operating costs will include pump systems maintenance, ground maintenance and energy costs.

4.2 Report No. 711/09 estimated the cost of Option 3 as £25,600, with additional annual running costs to be incurred, albeit these were not quantified at that stage. This cost was historic and did not capture the full cost of all facets, the capital works. This cost estimate has now been updated and the annual running costs have been quantified. The estimated costs associated with this project are summarised in the table below:-

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost (£)</th>
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<tbody>
<tr>
<td>Borehole Capital Cost</td>
<td>45,000</td>
</tr>
<tr>
<td>Annual Operating Costs</td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>46,000</strong></td>
</tr>
</tbody>
</table>

4.3 As outlined in the table above, the capital cost of establishing the borehole is projected to be £45,000 with ongoing revenue costs of approximately £1,000 per annum thereafter. All of these costs can be met from the Arbroath Common Good Fund. The effect on the Arbroath Common Good Fund revenue account balance in 2011/12 is summarised below:-
**Arbroath Common Good**

<table>
<thead>
<tr>
<th>2011/12 Final Budget Volume Revenue Balance* (£)</th>
<th>2011/12 Borehole Project Keptie Pond (£)</th>
<th>2011/12 Revised Revenue Balance (£)</th>
<th>Minimum Revenue Balance (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>518,431</td>
<td>45,500**</td>
<td>473,181</td>
<td>300,000</td>
</tr>
</tbody>
</table>

* estimated at 31 March 2012 (and subject to the 2010/11 final accounts process)

** part year effect of annual running costs only

4.4 The ongoing revenue cost of £1,000 will be reflected in future years’ Arbroath Common Good Fund budgets. The above financial position specifically excludes all other proposed Arbroath Common Good projects currently being consulted upon.

4.5 It is proposed that the procurement process would commence in June 2011 with an anticipated on site start date of late August 2011.

5. **HUMAN RIGHTS IMPLICATIONS**

5.1 There are no human rights implications arising from this report

6. **EQUALITIES IMPLICATIONS**

6.1 The issues dealt with in this report have been the subject of consideration from an equalities perspective (as required by legislation). An equalities impact assessment is not required.

7. **SINGLE OUTCOME AGREEMENT**

7.1 This report contributes to the following local outcome contained within the Single Outcome Agreement for Angus:-

- We value and enjoy our built and natural environment and protect it and enhance it for future generations.

8. **CONSULTATION**

8.1 The Chief Executive, the Director of Corporate Services, the Head of Finance and the Head of Law and Administration have been consulted in the preparation of this report.

9. **CONCLUSION**

9.1 All local Elected Members have been consulted on and supportive of the proposal and are agreeable to funding the costs from the Arbroath Common Good Fund.

**RON ASHTON**

DIRECTOR OF NEIGHBOURHOOD SERVICES

**NOTE:** The background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) which were relied on to any material extent in preparing the above Report are:-

- Report No. 500/05
- Report No. 711/09 – “Update on Keptie Pond, Arbroath”

EnvManagement/NS/RA/DFI