

## ANGUS COUNCIL

## MEETING OF ANGUS COUNCIL – 4 JULY 2002

## RESERVOIRS MAINTENANCE PROGRAMME – SCOPE OF WORKS

## JOINT REPORT BY THE DIRECTOR OF LEISURE SERVICES &amp; THE DIRECTOR OF ROADS

**ABSTRACT**

This report outlines the need for essential maintenance to the Council's reservoirs at Crombie and Monikie Country Parks and scopes the proposed timetable and estimated cost for the works which are intended to be carried out over a 6 year period.

**1. RECOMMENDATION(S)**

It is recommended that the Council: -

- (a) note the required programme of essential maintenance works to the Council's reservoirs at Crombie and Monikie and associated estimated costs as set out in this report
- (b) note that the current funding shortfall for the works will require to be addressed as part of the preparation of the 2002/2006 Financial Plan
- (c) note that further reports on the awarding of contracts for the required works and providing updates on progress will be submitted to committees as appropriate

**2. HISTORY**

The reservoirs at Crombie and Monikie are currently managed by the Council's Leisure Services department and have for some years now operated as part of the Country Parks. It is however important to outline the history of the reservoirs and how the Council finds itself in the position of having to meet a significant repair bill.

By 1983, the reservoirs were no longer regarded as strategic water supply assets, and accordingly, maintenance was reduced to a minimum.

With the reorganisation of Water Services in 1994/5, these assets were considered redundant and were transferred to Tayside Regional Council's Planning department who were willing to take over the sites for public amenity and recreation. There was generally no financial provision for dealing with liabilities or depreciation apart from ground maintenance related operations. This group of reservoirs is typical of such assets, which were transferred with no clear statement of asset infrastructure condition and value. They were also transferred without engineering drawings, or any detailed asset schedule.

In summary at local government reorganisation Angus Council inherited the reservoirs at Crombie and Monikie with limited knowledge of their condition and future maintenance liabilities.

**3. BACKGROUND**

The Reservoirs consist of 4 separately contained bodies of water which are interconnected by aqueducts and pipeworks. The system is estimated to be around 150 years old and as far as can be determined the existing engineering works, valves and pipe work are original.

As enforcing authority under the Reservoirs Act (Scotland) 1975 Angus Council is required to ensure that reservoirs within its area of responsibility are regularly inspected and reports identifying any necessary remedial works published. There are two types on inspection:-

- a 10 year detailed inspection by an Inspecting Engineer
- regular inspections by a Supervising Engineer (these are usually done at least annually)

Angus Council as the owner of the reservoirs at Crombie and Monikie Country Parks is, like all reservoir owners, required to undertake necessary remedial works identified by the Inspecting / Supervising engineers to maintain safety.

The specialist nature of the work requires the Council to employ specialist consultants to carry out these inspections. The Inspecting Engineer is working with the Council on an ongoing basis to design the most appropriate engineering solutions for the various elements of the required works. These design solutions are then worked up in detail by further specialist consultants in order that the required works can be put out to tender. Roads department engineering staff are providing additional input to ensure that the work of the consultants accords with the Council's own policies and procedures.

Members are asked to note that the reservoirs at Crombie and Monikie Country Parks represent a major recreational asset for Angus Council. They attract some 300,000 visitors annually and also provide for water sports and fishing activities and add to the tourism product in Angus. The reservoirs are also an important habitat for aquatic fauna and flora.

#### **4. OUTCOMES FROM INSPECTIONS**

The overall process of the inspections is to define the infrastructure, assess current condition, and report. Thereafter, consideration can be given to engineering options, and the Council's needs. The opportunity can be taken at this stage to incorporate a considered series of recommendations for programmed modernisation to reflect the Councils long term operating requirements, rather than an inherited historical position. This will allow some valves to be rendered inoperative and made safe, within the Leisure Department's operating brief.

The need to meet current Health and Safety criteria under CDM regulations by way of access etc. is an essential part of the current proposals. To advise on technical matters the Roads Department have been appointed by Leisure Services to supervise the various works required.

The most recent 10 year inspection was carried out in August 2000 and the Inspecting Engineer submitted a report under section 10 of the Reservoirs Act 1975. The report identified that extensive urgent remedial works were necessary and suggested an indicative cost for these works of some £400,000, subject to more detailed investigation. The key difficulty with assessing the extent of work required is that the core valve and pipeworks infrastructure is below water and cannot therefore be fully assessed without dewatering the reservoirs.

Members may recall report 702/01 submitted to the Personnel and Property Services and Finance and Information Technology Committees of 12 June 2001 which noted the need for substantial remedial works at the reservoirs and authorised £31,000 worth of additional investigation works in order to obtain a more accurate assessment of the cost of such remedial works. The investigative works were undertaken commencing November 2001 which required the Crombie reservoir to be dewatered.

The investigation works authorised in report 702/01 have now been substantially completed for Crombie reservoir and a better informed picture as to the full extent of the repair works required has now emerged. Based on the experience with Crombie a more informed estimate of the extent of works required at Monikie has also been obtained.

This report updates the Council on developments over recent months with regard to the infrastructure repairs required at Crombie Reservoir. The report also sets out the estimated programme of essential works at Crombie and Monikie and the associated costs over the next 6 financial years.

#### **5. INTENDED WORKS PROGRAMME**

##### **Crombie, Monikie North and Monikie South Reservoirs**

In broad terms the scope of works to the above reservoirs includes refurbishment or replacement of strategic valves and pipeworks and stabilisation of channels and abutments. Engineering appraisals were completed for the works required at Crombie towards the end of 2001 when the reservoir was dewatered. Initial feasibility costs have also been provided to allow programming and financial planning for the Monikie North and South Reservoirs and these are based on the experience with Crombie. However both of the Monikie reservoirs will also need to be dewatered to allow engineering appraisals to be carried out and only at this point will it be possible to be more definitive about costs.

The Financial Implications section of this report outlines the intended programme of works at Crombie and Monikie reservoirs over the next 6 financial years.

##### **Crombie Channel Failure**

During the dewatering process partial failure of the diversion channel embankment was observed which if left would have rendered the channel inoperative. The essential facility to divert water away

from the Crombie dam to allow for any maintenance on the dam, valves and pipework and to balance the Monikie system would have been lost.

As the slippage was progressive, and weather dependent, deferral was not an option, and expenditure from the Property Repairs and Renewal Fund had to be committed on an emergency basis to deal with this unforeseen event. Urgent stabilisation works to the channel at Crombie were carried out in May 2002. These urgent works were additional to the provisional programme reported in the Inspecting Engineers report of August 2000. (Report No. 392/02 refers).

### Denfind, Monikie

As the scour facilities for Monikie South Reservoir are routed through the Denfind works it is essential that the Denfind outfall is capable of accommodating this. During the engineering appraisal of this facility it has become apparent that substantial works to the outfall additional to the August 2000 Inspecting engineers report are necessary to repair erosion at the down stream channel. This work is of a high priority and is therefore reflected in the programme of works for completion in 2002/03.

## 6. FINANCIAL IMPLICATIONS

### Intended Programme of Works, Estimated Costs and Phasing of Expenditure

The intended programme for the various works together with the estimated cost and phasing is shown in the table below. Members are however asked to bear in mind that this programme may require some minor adjustments depending on the availability of financial resources, particularly for 2003/04 to 2007/08. The essential nature of the works does however mean that postponing the works indefinitely is not a realistic option. Members are also asked to note that with the exception of the Crombie stabilisation works, which have already been tendered, the costs for the remaining works will be subject to the tender process and could therefore move up or down.

The costs for the Monikie elements are provisional at this stage and will require to be firmed up once the North and South reservoirs have been dewatered to allow more detailed engineering appraisals to be carried out. The costs shown for Monikie are however based on experience at Crombie and are not therefore anticipated to move significantly. All costs shown are based on the advice of the Councils consultant engineers and are shown at outturn prices.

Work	2002/03 £000	2003/04 £000	2004/05 £000	2005/06 £000	2006/07 £000	2007/08 £000	Total £000
Crombie Channel Stabilisation Works	98	5					103
Crombie Valve & Pipeworks		108	21				129
Crombie Aqueduct Sluices					15	2	17
Roads Department Fees	9	2					11
Other Engineering Fees	35	24			2		61
<b>SUB-TOTAL CROMBIE</b>	<b>142</b>	<b>139</b>	<b>21</b>	<b>0</b>	<b>17</b>	<b>2</b>	<b>321</b>
Monikie Denfind Outflow Channel	34						34
Monikie North Valve Works			79	4			83
Monikie South Valve Works				113	7		120
Monikie Geigy Valve Works				11	5		16
Monikie Hillhead Channel / Sluice Works			11	1			12
Monikie Inlet Abutment / Sluice Works			12	1			13
Monikie Aqueduct Sluices					15	3	18
Roads Department Fees	2	1	3	3	1		10
Other Engineering Fees	11	37	23	11	2		84
<b>SUB-TOTAL MONIKIE</b>	<b>47</b>	<b>38</b>	<b>128</b>	<b>144</b>	<b>30</b>	<b>3</b>	<b>390</b>
<b>GRAND TOTAL</b>	<b>189</b>	<b>177</b>	<b>149</b>	<b>144</b>	<b>47</b>	<b>5</b>	<b>711</b>

### Nature of Investment

The cost of the works required is clearly a major commitment for the Council, but given the Council's responsibilities under the Reservoirs Act (Scotland) 1975 and the strategic importance and amenity value of these assets, the investment is considered both essential and worthwhile. It is also worth noting that this investment is of a one-off nature. Although the reservoirs may need some annual

routine maintenance (including 10 year renewal of the electric valve motors) the new core infrastructure to be put in place would be expected to last for 75-100 years.

### Use of Consultants

Members will note from the above table that "Other Engineering Fees" form a significant part of the overall project cost. This reflects the highly specialised and thus expensive nature of the consultancy input.

Given the urgent nature of the works the consultant input to the Crombie stabilisation works was procured in accordance with Financial Regulation 16.1.3b(i) and the same consultants have been retained for the work at Den Find, Monikie for the same reasons. The specialist nature of the work requires the Council to employ specialist consultants to carry out inspections and prepare engineering solutions. The role of the Inspecting Engineer in particular is highly specialised and although expensive it is proposed to retain his services for this purpose in accordance with Financial Regulation 16.1.3b(ii). It is however intended to procure the consultancy input required to take the Inspecting engineers design solutions to full tender stage through competition.

### Funding Position

Prior to the dewatering of Crombie reservoir an indicative cost estimate for all of the works anticipated to be required at both Crombie and Monikie of £400,000 was obtained from the Inspecting engineer. The level of works now identified at Crombie and expected to be required at Monikie have proved to be much more significant than initially allowed for. The need for the significant and unexpected slope stabilisation work at Crombie has also increased the overall costs.

Part provision for the cost of the works at Crombie and Monikie is included in the Council's current budget plans via the Leisure Services Financial Plan 2001/2005 and the Property Renewal and Repair Fund. These provisions were however largely based on the earlier (lower) estimated cost of the works, adjusted upwards to reflect the additional slope stabilisation works at Crombie. A summary of the funding available and the shortfall based on the latest estimated costs is shown in the table below.

<b>Funding Source</b>	<b>2002/03 £000</b>	<b>2003/04 £000</b>	<b>2004/05 £000</b>	<b>2005/06 £000</b>	<b>2006/07 £000</b>	<b>2007/08 £000</b>	<b>Total £000</b>
Leisure Services Financial Plan 2001 / 2005	0	96	106	48	0	0	250
Property Renewal & Repair Fund	180	0	0	0	0	0	180
<b>Total Funding</b>	<b>180</b>	<b>96</b>	<b>106</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>430</b>
Less Estimated Cost (per table above)	189	177	149	144	47	5	711
<b>Funding Shortfall</b>	<b>9</b>	<b>81</b>	<b>43</b>	<b>96</b>	<b>47</b>	<b>5</b>	<b>281</b>

The significant increase in the cost of the works means there is a substantial expected shortfall over the period of £281,000 which will require to be addressed.

Members may recall that subsequent to the setting of the Council Tax report 543/02 to the Finance and Information Technology Committee of 7 May 2002 outlined a number of changes to the Council's budget which had arisen, mostly due to Scottish Executive initiatives. The report approved the contribution of £88,000 to the Property Renewal and Repair Fund for as yet unspecified work(s) but in the knowledge that various cost pressures of a property nature were anticipated. It is intended that the funding shortfall in financial year 2002/03 of £9,000 be funded from this additional contribution to the Property R & R Fund. The remainder of the additional Property R & R Fund resource will be retained in the Fund meantime but could be used to part fund the rest of the funding shortfall shown above.

Even if the full £88,000 of the above Property R & R Fund is applied to the reservoirs works a shortfall of some £193,000 will still exist. It is recommended that the shortfall identified in the table above be addressed as part of the preparation of the 2002/2006 Financial Plan, which will include consideration of the possible use of the resources available in the Property R & R Fund.

### Procurement of Works

With the exception of the Crombie stabilisation works, which have already been tendered, the costs for the remaining works will be subject to competitive tendering. The tender process will be the subject of reports to appropriate committees as the project progresses.

## Revenue Budget Implications

The programme of works identified in this report should bring the infrastructure at Crombie and Monikie Reservoirs up to modern standards and should assist in keeping running costs to a minimum. In any event it is expected that all future revenue costs associated with the maintenance of the reservoirs will be contained within Leisure Services budget resources. The position in terms of loan charges costs will be clarified as each stage of works are tendered for.

## **7. HUMAN RIGHTS IMPLICATIONS**

There are no human rights implications associated with this report.

## **8. CONSULTATION**

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

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## **BACKGROUND PAPERS**

**NOTE:** The following background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information), were relied on to a material extent in preparing this report.

Report No 702/01	Repairs to Crombie and Monikie Reservoirs, Personnel and Property Services Committee, 12 June 2001 and Finance and Information Technology Committee 12 June 2001 and Recreation and Cultural Services Committee 16 August 2001.
Report No 392/02	Crombie Slope Stabilisation Works, Roads Executive Sub Committee, 28 March 2002.