

Open Report on behalf of Richard Wills, Executive Director for Communities

Report to:	Executive Councillor for Economic Development
Date:	23 August 2011
Subject:	Replacement of Air Handling and associated boiler plant, with a new full air conditioning system including humidity control at Lincolnshire Archives
Decision Reference:	01937
Key decision?	Yes

Summary:

The Archives building boilers and air handling plant are inefficient and are now working beyond their usual life cycles. In order to minimise cost, repairs have attempted but the systems are no longer fit for purpose and need to be replaced with new energy efficient boilers and a full air conditioning plant including chilled water and full humidification control. The new plant will maintain the building environmental condition maintaining constant temperatures and humidity levels required to maintain the buildings artefacts in pristine condition for future generations.

This Report seeks the Executive Councillor's approval to the Scheme appraisal.

Recommendation(s):

It is recommended that the Executive Councillor approves the appraisal for option scheme C.

Alternatives Considered:

1. The following options have been considered;

Option A - Do nothing

Advantages: No expenditure

Disadvantages: Unable to control the environment to the required levels. Risk of deterioration to irreplaceable artefacts. Limitation of the Archives to store new material in the future. Expensive ongoing maintenance.

If the existing air handling equipment fail completely the risk of infection

and deterioration of records would increase dramatically.

Option B - Repair existing boilers and air handling equipment.

Currently, repairs have been attempted and failed in respect of the humidifiers leading to doubts that the expenditure on further repairs would be appropriate or achieve the stable conditions required. The system would remain at risk of failure and at risk of restricted or unavailable replacement parts. On-going maintenance costs are likely to be high.

Advantages: Lesser allocation required from the existing R & M capital budget.

Disadvantages: Restriction or unavailability of replacement parts, unable to control environment conditions to the required levels, deterioration and fungal formation to irreplaceable artefacts. Limitation of the Archives to store new material in the future. Expensive ongoing maintenance.

Option C - Replace the existing boilers and air handling plant.

This option will protect the longevity of the material, safeguard staff and reduce LCC's risk and liability.

Advantages: Provide the Archives with an efficient energy solution and provide the correct environment for the building for the long term future. The new system will reduce CO2 emissions, lower life cycle costs due to reduced running costs and provide a better storage facility and working environment.

Disadvantages: Higher capital allocation from the existing budget.

Reasons for Recommendation:

This is the most economically viable long term solution that manages the potential risk of deterioration of irreplaceable artefacts. The solution will reduce CO2 emissions and create a better storage and working environment.

The cost of even a slight outbreak of mould would far out-weigh the cost of the new installation, and this damage would not be covered by the Council's insurance.

There is a potential for litigation from staff and other users of the building due to illnesses caused by mould spores.

The environment should be improved to prevent the possibility of Lincolnshire Archives having their 'licence to hold public records' withdrawn. This would result in damage to Lincolnshire County Council's reputation.

1. Background

Lincolnshire Archives was established as a county service in 1948 with the bringing together of the records collected by the Lindsey, Kesteven and Holland County Councils, and the Lincoln Diocesan Record Office. The Archives service was known as the Lincolnshire Archives Committee.

The service is now part of Lincolnshire County Council's Economy and Culture department and is based in modern offices in St Rumbold Street, Lincoln.

Lincolnshire Archives offers a public search room where members of the public are welcome to consult original archives, microfilm resources and library material relating to the county of Lincolnshire and its connections in other parts of the UK and overseas.

Records held at Lincolnshire County Council's Archives Service have been named as amongst 38 national collections designated as having outstanding national and international importance. The Bishops Rolls and Registers (dating from 1214/15) which form the core historical records of the diocese of Lincoln are of 'national and international significance'.

Staff within Culture have explored a large number of options for alternative means of delivering archive, library and museum services after the Libraries and Heritage Best Value Review in 2002 highlighted the desirability of establishing a "one stop shop" for users of local studies and archival collections. Over 60 possible site locations were explored in 2006, and the former Lincolnshire Echo building identified as a possible location. Given its proximity to the University further work with the University of Lincoln and Bishop Grosseteste University College was undertaken between 2006-2010. This explored the concept of an Integrated Cultural Facility which would encompass the University's academic library which was due for expansion. However the £20-30m price tag and the economic downturn ruled this scheme, and multi-site variations of it out.

Faced with this the situation the focus has returned to making best use of the existing archives complex which has a total volume of 13,983m³, of which 6,378m³ is environmentally controlled by boiler plant for space heating, air handling units to provide forced air with DX refrigeration condensers to provide cooling.

Although the boiler and air handling plant is in poor state of condition and is operating extremely inefficiently the rest of the building is in a relatedly good state of repair and the only further works that are anticipated in the next five years are to the roof of the archaeology store.

From 2007 to 2011 holdings increased by 18m³, an average of 3.6m³. These figures are net, and take into account the ongoing archival process of disposing of material which no longer needs to be retained. The building currently has 116m³ of free space for new holdings which means that it has adequate capacity for 32 years at the current rate. However, periodically large deposits can occur as a result of company liquidations, or changes in legislation or national guidelines on retention (e.g. Coroners records) which could shorten this timescale. Based on current information, and taking into account storage capacity across the heritage

service as whole, the building is likely to prove to be adequate for a further 10 to 15 years, which provides sufficient time for a longer term solution, such as the Integrated Cultural Facility to be revisited, explored, funding secured and investment delivered.

The boiler and associated plant requires urgent replacement, and time is now short to achieve this before the winter of 2011-12. Because of the relative age and condition of plant, spare parts are increasingly difficult to resource with certain spares becoming impossible to obtain such as the main heating boilers, availability of service will not be guaranteed. Repair of the existing plant will prove to be uneconomic and will only provide a very short term solution.

The existing air handling units date from the 1970's and are beyond their useful life, parts are difficult to source and sometimes are unattainable. The main air handling unit is defective with the sound attenuators collapsed within the supply ducts and therefore is restricting the supply air flow into the repository areas.

The existing condensers are inefficient and in poor condition. Again parts are hard to source and in some circumstances unattainable.

2. Need

Artifacts within the buildings are stored within the repository areas. These areas need to be kept at constant levels of temperature and humidity to avoid deterioration. Environmental Levels required are generally as follows:

- Humidity from a range of between 45% and 60% relative humidity.
- Temperatures. 13-16 °C little used material.
- Temperatures. 16-19 °C frequently used material.

The existing systems are unable to provide this constant level required.

The age of material stored at the Archives means it will be carrying inactive mould and fungi. Failure to ensure on-going and improved control of the environment at Lincolnshire Archives will result in regular outbreak of mould resulting in damage to archives and, if severe, to the loss of some material, the historic information it contains and the value that this material represents

Conservation costs of a slight outbreak of mould have been assessed at £1,432,950. Costs of a prolonged outbreak have been estimated at £5,731,800 (excluding costs of replacement packaging materials), plus potential health and safety risks for staff and visitors in contact with the infected materials.

The Archives have sought advice on the insurance and health and safety position. The advice received is that, as we are aware of the potential for the mould to occur in the current circumstances, we will not be insured for any damage that might arise from active mould growth on the documents. In terms of potential effects on health and safety, the advice is that: "Should anyone be physically affected by spores and suffer personal injury we would not have insurance coverage - especially if the conditions were created by us failing to install a suitable

treatment”.

This advice has been re-iterated by the Council’s Health and Safety advisor, who has also advised that if any injury occurs as a result of mould in a situation where we have not taken remedial action the risk of litigation would increase.

In addition, the Archives annually submits self-assessment returns to The National Archives. These returns include details of environmental conditions over the previous 12 months. Should The National Archives withdraw Lincolnshire Archives’ licence to hold public records, there is a risk both of damage to reputation and potentially affect our ability to insure items under the National Indemnity Scheme (currently used in respect of the Magna Carta and Charter of the Forrest).

3. Conclusion

The existing systems need to be replaced with a full air conditioning including chilled water and full humidification control; this will provide a long-term energy efficient solution for the Archives, prevent deterioration to artifacts, reduce CO₂ levels and provide a suitable environment for the important and sensitive collections stored there.

The M & E ventilation services within Levels 0, 2 and 3 of the building will be renewed and replaced, with new air handling unit upgrades complete with full air conditioning cycles.

The existing inefficient boilers will be replaced with new high efficiency condensing boilers.

A specifically designed air conditioning system will control the filtration, air movement, temperature and humidity of the repositories atmospheric environments.

The cost for this work inclusive of fees is £544,875.52. This investment will provide 10 to 15 years in which the authority can consider the future of archives provision, e.g. for a longer term solution, such as the Integrated Cultural Facility to be revisited, explored, funding secured and investment delivered.

3. Legal Comments:

The Council has the power to pursue this proposed scheme. The decision is consistent with the Policy Framework and within the remit of the Executive Councillor.

4. Resource Comments:

Approval of this report, specifically option C, will commit the Council to £545k of capital expenditure. This sum will be funded from the existing corporate repairs & maintenance capital budget.

5. Consultation

a) Has Local Member Been Consulted?

No

b) Has Executive Councillor Been Consulted?

Yes

c) Scrutiny Comments

n/a

d) Policy Proofing Actions Required

n/a

6. Appendices

These are listed below and attached at the back of the report	
Appendix A	Lincolnshire Archives building feasibility study, of the mechanical environmental conditions for the storage of Archival documents.

7. Background Papers

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

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