



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



MS LE COUTEUR: To ask the Minister for Environment and Sustainable Development

Ref: ESDD Directorate, Output 1.5 Policy, Budget Paper 4 pp. 312 & 316

In relation to : Release of the final 'Waste Sustainable Energy Policy'.

Page 25 of the "Waste Sustainable Energy Policy" discusses the relationship between waste and energy policies in particular the conversion of municipal waste into electricity. Measure 24 represents options to create energy from waste.

1. What waste streams is the Government planning on using as feedstock for such a facility?
2. What are the current levels of these feedstocks in tonnes and where are they located?
3. Will the choice of waste streams change once the facility is up and running? Why?
4. What options has the government considered for where a facility might be located, what are the most likely options and why?
5. What studies, if any, the Government is using to guide choice and development of such a facility?
6. When is it planned to be built?
7. What will its capacity be?
8. What are the health and safety risks associated with such a facility? How will these be managed?

SIMON CORBELL MLA : The answer to the Member's question is as follows:-

1. The ACT Waste Management Strategy (the waste strategy) reaffirms the waste hierarchy and states suitably sorted materials that should only be used for energy generation where recycling is not practicable.

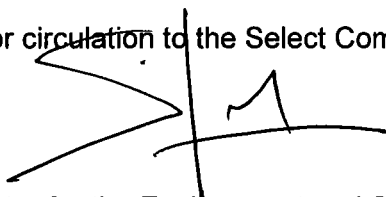
A study by URS-EcoWaste in 2010 sought to identify suitable waste streams for energy generation that are currently being sent to landfill or stockpiled. The report is available on the Directorate website:

http://www.environment.act.gov.au/data/assets/pdf_file/0012/210504/URS_thermal-conversion-technologies_Final.pdf

2. The URS – Eco Waste study estimated the source and quantity of various potential feedstocks.
3. It is too early to specify the actual feedstocks and quantities that might go to an Energy-from-Waste facility and how these might change over time.
4. ~~The waste strategy identifies the Hume Resource Recovery Estate as the Government's preferred location for new waste infrastructure. However, it has not yet been decided that this will be the location of an Energy-from-Waste facility.~~
5. ~~Waste infrastructure considerations, including for Energy-from-Waste facilities, were informed by the aforementioned URS-EcoWaste 2010 reports and the Hyder Consulting 2011 study. The Hyder Consulting report can be located here: http://www.environment.act.gov.au/data/assets/pdf_file/0018/239031/AA004437_R03-02_ACT_Waste_Scenarios_Analysis_FINAL_REPORT.pdf~~
The Government may conduct market sounding to help inform further considerations of new waste infrastructure for the ACT.
6. The Government is yet to conduct market sounding on an Energy-from-Waste facility. Hyder Consulting indicated a 4 to 5 year lead time for the procurement of an Energy-from-Waste facility in the ACT.
7. The ACT Government has not conducted market sounding to determine the private sector's willingness to provide an Energy-from-Waste facility or what type of facility they might provide and under what terms. Hence, it is too early to specify the actual capacity of an Energy-from-Waste facility.
8. Health, Safety and Environment controls are specific for the risks associated with each development proposal. Parties submitting development proposals to Government on waste infrastructure would generally be required to address Health, Safety and Environmental issues. Relevant Government agencies such as the Environment Protection Authority, Health Protection Services and ACT NOWaste would address Health, Safety and Environmental concerns as part of the Development Application process.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:



Date:

25.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Ms Le Couteur: To ask the Minister for Territory and Municipal Services

Ref: ESDD Directorate, Budget Paper 3 pp. 281

In relation to : MRF for commercial and construction waste

1. What are the major waste streams that will go into such a facility? Please breakdown by weight and volume.
2. What is the estimated recovery rate of recyclables?
3. What is the breakdown, by weight and volume, and according to waste streams identified in response to 1), of estimated recovery of recyclables from such a facility?

Mr Barr: The answer to the Member's question is as follows:—

1. The Material Recovery Facility for Dry Commercial and Industrial Waste is expected to accept up to 100,000 tonnes of primarily dry commercial and industrial mixed waste per annum.

Information on the composition of Commercial and Industrial waste streams is available at http://www.tams.act.gov.au/live/Recycling_and_Waste/about_ACT_NOWaste/publications_and_reports_list under the heading Reports and Audits.

2. At this stage, it is anticipated that over 40% of all waste delivered will be recovered.
3. It is too early to estimate the breakdown of recovered material until the facility is operational and detailed audits are conducted, however the waste streams recovered are likely to include paper, cardboard, timber, metals, plastics, etc.

Approved for circulation to the Standing Committee on Estimates 2012-2013

Signature: *Andrew Barr*

Date: 17.7.2012

By the A/g Minister for Territory and Municipal Services, Mr Andrew Barr MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Ms Le Couteur : To ask the Minister for Territory and Municipal Services

Ref: ESDD Directorate, Output 1.5 Policy, Budget Paper 4 p316

In relation to : Materials Recovery Facility for dry mixed commercial waste

1. What operational plans are in place in relation to the construction of a Materials Recovery Facility for dry mixed commercial waste?
2. Where will it be located?
3. What are the current costs to Government for the construction of a Materials Recovery Facility for dry mixed commercial waste in relation to:
 - a. any feasibility studies?
 - b. road and other infrastructure works?
 - c. any tendering or other administration of contracts?
 - d. Staffing in terms of classification status and FTE for the procurement process and the day to day contract management of the successful provider?
 - e. Any other general administration?
4. What are the current expected future costs to Government for the construction of a Materials Recovery Facility for dry mixed commercial waste in relation to:
 - a. any feasibility studies?
 - b. road and other infrastructure works?
 - c. any tendering or other administration of contracts?
 - d. Staffing in terms of classification status and FTE for the procurement process and the day to day contract management of the successful provider?
 - e. Any other general administration?
5. Do you expect to charge for the land that may be used for a Materials Recovery Facility for dry mixed commercial waste?
6. Do you expect the provider to meet all expenditure and all profits?
7. Will the Territory be liable for any expenditure?
8. Will the Territory be entitled to any percentage of the profits?

Mr Barr: The answer to the Member's question is as follows:-

1. No operational plans are yet in place for the Dry Commercial and Industrial Materials Recovery Facility.
2. The facility will be located on Block 10 Section 25 Hume.
3. The current costs for the facility in relation to:
 - a. No specific feasibility study was carried out by TAMS in relation to this project, however an industry consultation and market testing process was completed prior to seeking proposals.
 - b. At present there have been no changes required to existing roads and infrastructure.
 - c. Tendering and other administration costs have been approximately \$36,000. For administration costs associated with tendering refer to point d. below.
 - d. This project requires input from multiple staff. It is estimated that total costs amount to 0.5 FTE at the SOG C level over the past two years.
 - e. General administration costs have been absorbed by TAMS see d. above.
4. The expected future costs for the facility in relation to:
 - a. feasibility studies, if required, will be covered by the proponent.
 - b. road and other infrastructure works, if required, will be covered by the proponent
 - c. any tendering or other administration of contracts will be covered by the site lease fees for this Facility, which will provide for one FTE position at the SOG C level. This resource recovery administration position will entail contract management and will be involved in the future development of the Hume Resource Recovery Estate.
 - d. Staffing in terms of classification status and FTE for the procurement process and the day to day contract management of the successful provider will be covered by the site lease fees via the position outlined in point 4. c. above.
 - e. Any other general administration will be covered by the site lease fees via the position outlined in point c. above.
5. Yes.
6. Yes.
7. Yes. The Territory will be funding one FTE SOG C position as outlined in point 4 c. above. Additionally, as a potential user of the Materials Recovery Facility the Territory may incur costs if it opts to have material processed at the Facility.
8. No.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature: 

Date: 17.7.2012

By the Acting Minister for Territory and Municipal Services, Mr Andrew Barr MLA


LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE

MS HUNTER: To ask the Minister for Environment and Sustainable Development

ESDD Directorate, Output 1.5 Policy (pp. 312 & 316, BP4).

In relation to : Review of Nature Conservation Act

1. What was the original deadline for the conclusion of the review of the Nature Conservation Act, that is, what was the legislated requirement for the review?
2. What extensions of this deadline have been announced by the Government?
3. What specifically has delayed the review of the Nature Conservation Act?
4. What are the issues that remain to be resolved with the review of the Nature Conservation Act?
5. Do all these issues need to be resolved for the review of the Nature Conservation Act or could the review be concluded with other matters to be resolved later?
6. What resources, staffing and otherwise, has the Government allocated to the review of the Nature Conservation Act in 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13?
7. When will the review of the Nature Conservation Act be concluded?

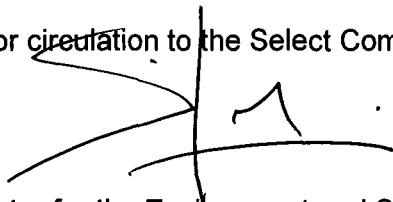
SIMON CORBELL MLA: The answer to the Member's question is as follows:—

1. There is no legislative requirement within the *Nature Conservation Act 1980* to undertake a review, or how long such reviews should take.
2. On 14 February 2012, the Government indicated that it intended to bring forward an exposure draft bill of changes to the Nature Conservation Act to the Assembly in 2012.
3. On 19 August 2011, Council of Australian Governments (COAG) agreed on the need for major reform of environmental regulation across all levels of government. The dual aim of the reform is to reduce regulatory burden and duplication for business and to deliver better environmental outcomes. COAG noted that national reforms are needed to better integrate State, Territory and Australian Government regulatory arrangements for environmental protection. The Government considers that it would be prudent to wait until COAG processes have concluded before considering major areas of reform for the *Nature Conservation Act 1980*.

- E12-556
4. In May 2012, COAG identified that the reforms would focus on processes for Environmental Impact Assessment and the accreditation of State and Territory processes. The primary aim is to align processes between the Commonwealth and the States and Territories. The Government will need to take account of any agreed COAG reforms in finalising its review of the *Nature Conservation Act 1980*.
 5. A range of minor and technical reforms that are not related to the COAG processes are being progressed within Government. Timing of these reforms is subject to Government processes and the Assembly program.
 6. 2008-2009 – approximately 1.3 staff
2009-2010 – approximately 1.3 staff
2010-2011 – approximately 2 staff; 2 consultancies (\$18,181 GST Exclusive); and (\$44,800 GST exclusive); \$21,392 (public consultation)
2011-2012 - approximately 2 staff
 7. The review of the Act will be concluded as major policy issues are resolved and COAG processes are finalised.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:



Date:

25.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



MS LE COUTEUR: To ask the Minister for Environment and Sustainable Development

ESDD Directorate, Output 1.4 Heritage, BP4 pp. 312 & 316

In relation to : Heritage layer on ACTMapi.

1. What is the nature of negotiations between the Heritage Unit and the planning authority to provide data sets for a heritage layer on ACTMapi?
2. Can heritage information be loaded while excluding those Aboriginal sites which have restricted information, and cannot be made public?
3. When is ACTMAPi expected to include information with a layer on the heritage register places?
4. What is the additional cost to the Heritage Unit of providing heritage data for ACTMAPi?
5. What is the additional cost to ACTMAPi of including a heritage layer?

SIMON CORBELL MLA: The answer to the Member's question is as follows:—

1. A decision was made to utilise ACTMAPi to display information about heritage places in February 2012.

The ACT Heritage Unit is the custodian of heritage data.

Work is being undertaken within ESDD to create a heritage layer to be displayed in ACTMAPi, including search functionality.

Negotiations between the Heritage Unit and Information Services have included discussion about the compatibility of data sets, and ways to migrate spatial information of heritage places to ACTMAPi.

2. Yes. The data held by the ACT Heritage Unit can be easily modified to identify those sites suitable for uploading as public information, and those which have restricted or sensitive information and should remain confidential.

Any Aboriginal or other site with restricted or sensitive information may be displayed in such a way that an indicative location is provided, though no specific information which would enable the public to trace the exact location. This is particularly effective where a site is located on a large block of land.

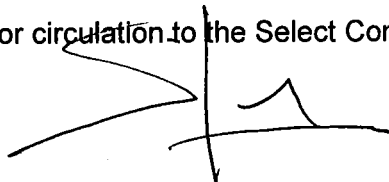
- 3. The ACT Heritage Unit's database which contains spatial information on heritage registered places is currently being updated for compatibility with ACTMAPi.

A test period will be implemented, during which time, Heritage Unit staff will be asked to check search functionality, map display and correctness of heritage data included. Any necessary amendments will then be made by Information Services staff.

It is expected that this process will be completed, and a heritage layer made available on ACTMAPi within the next 6 months.

- 4. The ACT Heritage Unit has a dedicated part-time 0.35 FTE staff member who is responsible for all matters relating to heritage data, including spatial information. There is no additional cost to the Heritage Unit to provide the heritage data for ACTMAPi.
- 5. This work is done within existing budgets and staff resources.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:  Date 1.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013



ANSWER TO QUESTION ON NOTICE

MS LE COUTEUR: To ask the Minister for Environment and Sustainable Development

ESDD Directorate, Output 1.4 Heritage, BP4 pp. 312 & 316

In relation to : Guidelines for development applications in heritage precincts.

1. Can you please provide the guidelines for development applications in heritage precincts?
2. Is any public consultation required if development applications are for developments that might affect the heritage of areas?
3. How does the Heritage Council get involved in relation to exempt and other developments in heritage areas?
4. What work is underway between the heritage unit and the planning authority to clarify and streamline the processes with regard to how those exemptions work?
5. When will this work be concluded and how and when will it be reported to the Assembly?

SIMON CORBELL MLA: The answer to the Member's question is as follows:—

1. Part 5 of the *Heritage Act 2004* makes provision for the ACT Heritage Council to make Heritage Guidelines in relation to the conservation of heritage significance of places and objects.

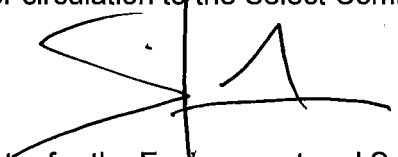
Heritage Guidelines have been made for each of the Precincts entered in the ACT Heritage Register. The requirements of each guideline varies according to the heritage significance and features intrinsic to each Precinct.

By way of example, the Guidelines relating to the Reid Housing Precinct. These are contained within the Registration document for this place, and are attached.

The Guidelines for other Heritage precincts are contained on the online Heritage Register, available at http://environment.act.gov.au/heritage/heritage_register

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

A handwritten signature in black ink, appearing to be 'S. Corbell', written over a horizontal line.

Date: 9.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



ACT Heritage Council

Entry to the ACT Heritage Register

Heritage Act 2004

20023. Reid Housing Precinct

Sections 15-18, Sections 34 – 38, Section 39 Blocks 3 & 5, Section 40 Block 1 and adjacent road reservations bounded by Anzac Park, Limestone Avenue, Allambee Street, Currong Street, Coranderrk Street and Booroondara Street.

REID

This document has been prepared by the ACT Heritage Council.

This entry which was previously part of the old heritage places or the old heritage objects registers (as defined in the *Heritage Act 2004*), as the case may be, is taken to be registered under the *Heritage Act 2004*.

Conservation Requirements (including Specific Requirements), as defined under the *Heritage Act 2004*, that are contained within this document are taken to be Heritage Guidelines applying to this place or object, as the case may be.

Information restricted under *the old heritage places register or old heritage objects register* is restricted under the *Heritage Act 2004*.

Contact: ACT Heritage Council c/o Secretary PO Box 144 Lyneham ACT 2602
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environment ACT 

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23. REID GARDEN CITY HERITAGE PRECINCT

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LOCATION:

District of Canberra Central , Division of Reid, Section 15 Blocks 1-15; Section 16 Blocks 1-10; Section 17 Blocks 1-10; Section 18 Blocks 1-14; Section 23 Blocks 1-22; Section 24 Blocks 1-22; Section 25 Blocks 1, 3-11; Section 26 Blocks 2 and 3; Section 27 Block 1; Section 28 Blocks 1-10; Section 29 Blocks 1-20; Section 30 Blocks 1-17; Section 31 Blocks 1-17; Section 34 Block 1; Section 35 Blocks 1-16, 19-24; Section 36 Blocks 1-22; Section 37 Blocks 1-20; Section 38 Blocks 1-20; Section 39 Blocks 3 and 5; Section 40 Block 1 and adjacent road reservation bounded by Anzac Park, Limestone Avenue, Allambee Street, Currong Street, Coranderrk Street and Booroondara Street as identified in Figure 23 and indicated on the Territory Plan Map by the Heritage Register Overlay at H23.

FEATURES INTRINSIC TO THE HERITAGE SIGNIFICANCE OF THE PLACE

The features intrinsic to the heritage significance of the place and requiring conservation comprise:

- (1) An early C20th 'Garden City' planned subdivision including:**
 - (i)** road pattern - curvilinear symmetrical arrangement of streets and parks;
 - (ii)** hierarchical road pattern with wide arterial roads (Ainslie and Limestone Avenues and Anzac Parade) in an axial pattern around the perimeter of the subdivision, secondary curving streets within the subdivision and narrow width roads around internal reserves;
 - (iii)** central landscaped reserves with community facilities;
 - (iv)** symmetrical subdivision of blocks generated from the road pattern, including examples of tapered triangular blocks;
 - (v)** land use allocated to distinct uses to create an ordered and efficiently planned environment ie, residential, community, recreational and educational uses. Public buildings (Uniting Church) given special prominence in street planning and suburban layout;
 - (vi)** generous landscaped verges containing substantial street trees and footpaths;
 - (vii)** patterns of modest dwellings in a generous garden setting whereby the gardens enhance the streetscape and form a buffer of landscaped open space between adjacent dwellings;
 - (viii)** predominantly single storey detached dwellings with occasional semi-detached dwellings. Two storey semi-detached dwellings only introduced for reasons of economy;
 - (ix)** generally uniform front setbacks with occasional variations where one or two houses will have an increased setback to break the unity and create visual interest in the streetscape;
 - (x)** highly-ordered composition of dwellings, driveways and public space including dwellings sited centrally on blocks, parallel to the street and with entrance doorways facing the street. At street corners, dwellings are aligned to face the intersection point;
 - (xi)** dwellings with unifying architectural style, scale and materials;
 - (xii)** garages sited towards the rear of the block to deliberately down play the presence of a utilitarian structure in the streetscape and to give emphasis to the garden setting of each dwelling;
 - (xiii)** driveways along side boundaries generally sharing or 'pairing' the verge crossing with the neighbouring block;
 - (xiv)** public utility services removed from the streetscape and located underground or at the rear of blocks;
 - (xv)** unified landscape treatments and street furniture including verges, driveway materials, street trees, hedges, fences, street signs and lighting.

- (2) **A distinct pattern of housing development and landscape demonstrating early Federal Capital planning philosophy for the provision of low-density public housing:**
 - (i) blocks and original cottage forms of equivalent size to accommodate a single socio-economic group of government employees - originally planned to provide rental accommodation for middle income public administrators.
- (3) **The Federal Capital architectural style/character of the original public housing.**
 - (i) Federal Capital Commission (FCC) designs reflecting a mix of international styles and subtle variations of roof forms and materials including examples of rendered masonry construction with prominent gables;
 - (ii) Department of the Interior designs utilising pitched roof forms and red face brick exteriors;
 - (iii) Use of repetitive elements across designs including chimneys on gables and recessed and projecting porches.
- (4) **Historic remnants of the original street furniture including street signs, fire hydrants and footpath lighting and other elements including kerbs and gutters.**
- (5) **Mature public and private treescape of historic, aesthetic, natural and amenity values.**
- (6) **Individual places of specific aesthetic, architectural, historical and social value as listed in Schedule 1.**

STATEMENT OF SIGNIFICANCE

The Garden City heritage precincts of Alt Crescent, Barton, Blandfordia 5, Braddon, Corroboree Park, Forrest, Kingston/Griffith, Reid and Wakefield Gardens collectively and individually demonstrate the early principles of Garden City planning.

'Garden City' planning, in combination with American 'City Beautiful' principles, underpinned the initial planning of Canberra by the Federal Capital Advisory Committee (FCAC), Federal Capital Commission (FCC) and the Department of Interior (DOI) between 1920 and the Second World War.

The philosophy behind Garden City planning was to create healthy working and living environments for urban residents. It developed internationally through the 1900s and many of the principles were integral to Walter Burley Griffin's winning design for the new Federal Capital of Australia.

Garden City planning has evolved to become the basis of professional town planning practice, and Canberra as a whole reflects this progressive evolution. The key significance of the heritage precincts is their demonstration of Garden City characteristics that reflect aspects of the original Garden City philosophy.

Since the Second World War, Garden City planning has followed a continuous process of rationalisation to suit changing lifestyles. Key features such as the presence of central landscaped reserves overlooked by housing, the generous verge widths, generous block sizes and front setbacks and government supplied and maintained hedges have been lost or diminished.

The heritage precincts also demonstrate historical and social aspects of the detailed planning and construction of early Canberra by the FCAC, FCC and DOI. The delineation of suburbs/precincts into segregated socio-economic classes was a departure from the Garden City ideology of combining social classes together. As the date for the opening of the provisional parliament house was set for 1928, there was an urgent need to accommodate both government staff and workmen engaged in building city infrastructure and administrative facilities. A lack of private-sector interest and capability forced the government to construct the major portion of new housing within Canberra throughout the 1920-40 period.

The influences of early planning philosophy, including social segregation, and the urgent need for large public housing estates are reflected in the highly-ordered layout and aesthetic unity of the precincts. Blocks and dwellings within each precinct are of comparable size to accommodate government employees of a similar class and the dwellings are repetitions of a limited number of designs. In many instances the layout of buildings, fences and public landscaping for entire sections was planned and constructed as a single project. Large rear gardens reflect the planners' intention to provide opportunities for residents to grow fruit and vegetables in the face of critical shortages of locally available fresh produce.

The precincts demonstrate a mix of international architectural styles including 'Arts & Crafts', 'Federation', 'Interwar Californian Bungalow' and 'Interwar Georgian Revival', whilst reflecting the trend of the interwar period towards the subtle or minimal decoration as a precursor to Modernism and in contrast to the ornamentation of the previous Victorian and Federation periods.

The architectural character of the precincts is also valued for its high degree of aesthetic unity and demonstration of technical innovation in the design of low-density public housing subdivisions for the period. This includes the use of alternate exterior elevations on the same floor plan, the mirror reversing of floor plans, and the recurring use of architectural elements such as recessed porches or chimneys centrally located on a gable facade.

The limited number of remaining examples of privately-built housing from the original construction period are valued for their ability to reflect the comparable architectural and social values of the private sector or specific individuals during the period 1920-1940.

The landscape treatment of the precincts is also valued for its aesthetic unity. This emanates from the spatial treatment of landscape including setbacks providing for a generous garden setting and separation between dwellings, with garages at the rear of the block, and the unity in the existing grassed verges, hedges, and street trees.

The resultant composition of architectural and landscape elements form a cohesive streetscape that the community values.¹

The retention and diversity of mature exotic and endemic trees on public and private land within the precincts enhances the concept of Canberra being a Garden City.

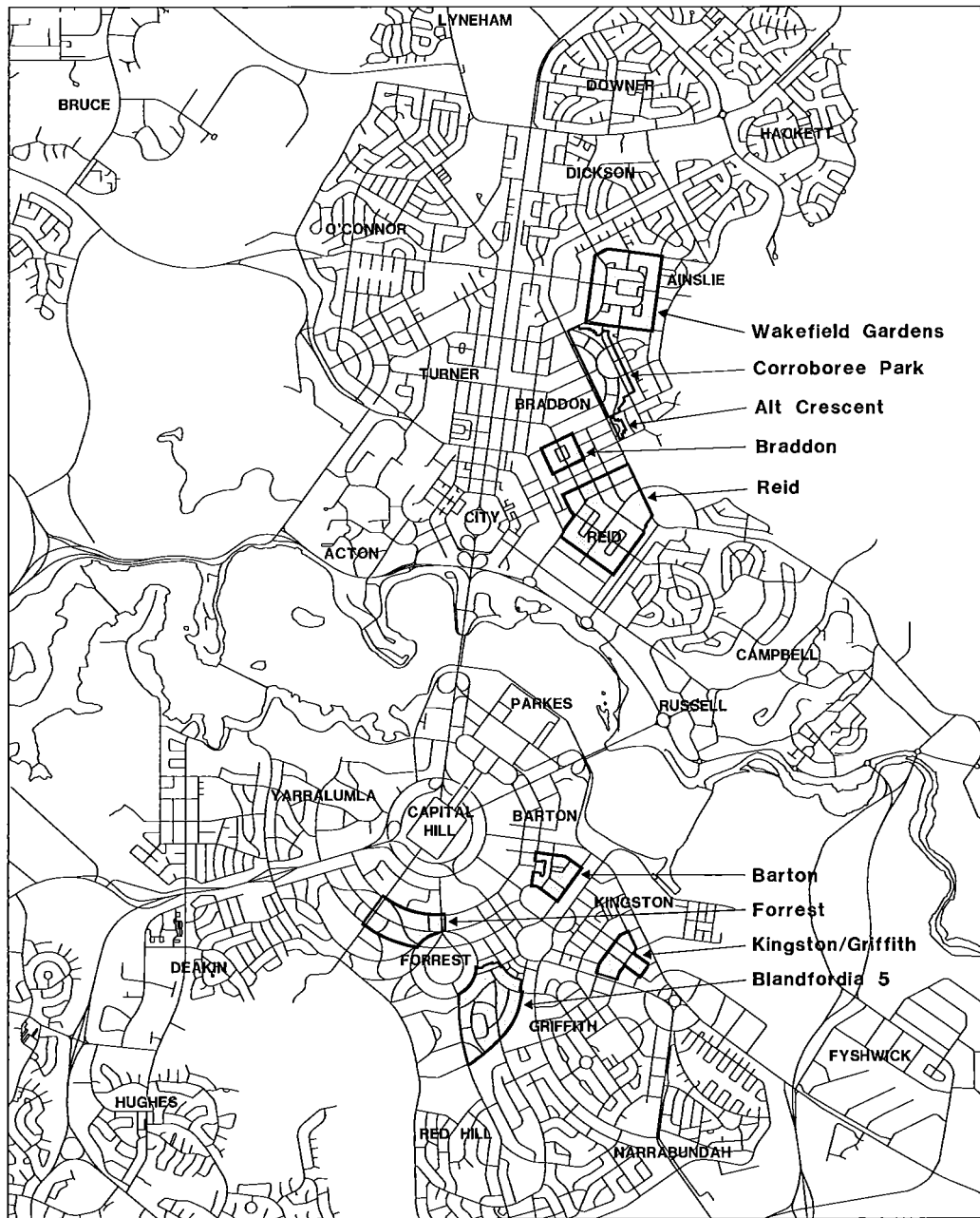
Additional values specific to the Reid Garden City heritage precinct are:

- The majority of the precinct was constructed in 1926 – 27 to meet the urgent need to provide housing for public servants prior to the opening of the provisional Parliament House in 1927.
- The suburb of Reid was named after the Australian politician Sir George Reid (1845-1918). Reid was the 4th Prime Minister of Australia.

- The Reid Pre-School, built in 1944 and opened in 1945, as a mothercraft centre provided a focal point for women living in the area and was developed through community interest and effort.
- The tennis courts and pavilion in Dirrawan Gardens formed a focal point for social life in the founding community of the newly established suburb of Reid.
- The Reid Uniting Church, built in 1927, was the first church built specifically for the new city of Canberra.
- The precinct contains privately built examples of the domestic architecture of Kenneth H Oliphant and other local architects. Oliphant was one of Canberra's first independent practising architects and his work has contributed notably to the urban architectural character of Canberra.
- The public domain landscape was directed by Thomas Charles Weston who was Canberra's first Superintendent of Parks and Gardens. The species used are typical of Weston's choice of planting for Canberra.

¹Industry Representatives, precinct residents and the general community were invited to attend one of a series of consultation workshops held during October 2000 to discuss proposed revisions to the conservation objectives and development controls for the Precincts. During these workshops all participants agreed that the Precincts had special values that should be conserved.

Figure 1: Canberra's Early Garden City Planned Precincts



SPECIFIC REQUIREMENTS FOR THE CONSERVATION OF THE PRECINCT

In accordance with s54(1) of the *Land (Planning and Environment) Act 1991*, a series of specific requirements have been identified to implement conservation objectives to ensure the retention of the heritage significance of the place.

Intent:

To retain and conserve the intrinsic features of the precinct:

- for their ability to demonstrate historical values including 'Garden City' planning principles and architectural and landscape design from the initial period of urban development within Canberra;
 - for the aesthetic unity of the streetscapes arising from the harmonious integration of low-density built forms within a mature landscape setting, and high proportion of landscape space and trees; and
 - for the social values associated with the retention of communal landscaped reserves and community facilities,
- whilst managing change to meet the contemporary requirements of residential usage.

The following interpretations shall apply in respect of the inclusion of 'shall' and 'should' within these Specific Requirements:

'shall' the requirement is mandatory and must be complied with in any development or action post-dating gazettal of this Register.

'should' the requirement represents the Heritage Council's interpretation of how a development may fulfil the relevant objective in a manner that is consistent with the conservation of the heritage values identified in the statement of significance and intrinsic features. The Authority shall have discretion to accept an alternate solution subject to the applicant demonstrating to the satisfaction of the Authority that:

- the alternative solution fulfils the relevant conservation objective without risk of adverse impact upon the heritage values, and
- the alternative solution provides a high quality outcome which is comparable to the outcome that would be achieved by directly complying with the relevant requirement, or
- the alternative is necessary to address public health and safety concerns.

1.0 CONSERVATION OF THE 'GARDEN CITY' SUBDIVISION AND URBAN INFRASTRUCTURE	
Objective 1.1 - Road and Subdivision Patterns: To conserve the existing original road hierarchy and layout, pedestrian circulation patterns and subdivision layout.	
Mandatory Requirements	
1.1a	Blocks shall retain the visual characteristics of the original development when viewed from the street or adjacent public domain ie. a single detached dwelling or duplex.
Requirements subject to the discretion of the Authority	
1.1b	Roads should retain their current alignments and widths and should remain bitumen or asphalt sealed. Kerbs should remain of 'upright' design. Kerbs and gutters should retain their current alignments and should be concrete.
1.1c	New traffic calming and other road and traffic control devices should be designed to minimise disruption to the original street pattern, and the installation of raised humps or islands should be avoided.
1.1d	Original footpath alignments and widths should be retained. Surfacing treatments should be consistent throughout the precinct.
1.1e	Original traffic islands should be retained and maintained in their current locations. Preferred surface treatments are gravel, pebble or grass and the practice of planting low shrubs and flowering plants in traffic islands should be continued.
Objective 1.2 – Reserves, Parks and Street Trees: To conserve landscaped reserves and parks, and to conserve and reinforce the historical pattern of street trees consistent with early Garden City principles and contemporary social values.	
Mandatory Requirements	
1.2a	The Dirrawan and Geerilong Gardens internal reserves (Sections 26, 27, 34 and 40) shall remain urban open space and may include the provision of recreation and community facilities. New recreation and community facilities shall only be permitted where they are consistent with a Conservation Management Plan that has been endorsed by the ACT Heritage Council.
1.2b	The Reid Park Sports Ground at Section 39 shall remain urban open space and may include the provision of recreation and community facilities and municipal depots. New recreation and community facilities shall only be permitted where consistent with a Conservation Management Plan for Reid Park that has been endorsed by the ACT Heritage Council.
1.2c	Trees shall be protected during development. Vehicles, equipment and materials shall not be parked or stored within the drip line of trees or on the reserve or parks.

Requirements subject to the discretion of the Authority

- 1.2d** Where trees occur in an historical formal arrangement, the original alignments, spacings and species (including patterns of species variation) should be retained, with trees being replaced where missing or in a declining or hazardous condition.
- 1.2e** Where trees occur without a definable arrangement or pattern, the general character of the planting should be conserved where it enhances the landscape character of the precinct.
- 1.2f** 'Environmental Weeds' or pre-1940 trees where the species has not proven suited to the location may be replaced with an alternate species. Replacement species should, at maturity, be of similar size, shape and habit to the original.
- 1.2g** Non-original trees that do not complement the pre-1940 species or patterns should be removed.

Objective 1.3 – Original Street Furniture and Utility Services:

To ensure that remaining examples of street furniture (including bus shelters and seats, street signs, footpath lighting and fire hydrants) and brick gutters dating from the period 1920 - 1940 are retained and conserved *in situ*.

Requirements subject to the discretion of the Authority

- 1.3a** Remaining examples of street furniture from the period 1920-1940 should be retained and conserved *in situ*. Modifications to retain ongoing functional use, eg: the inclusion of reflective street nameplates on original precast signposts, may be permitted.

Objective 1.4 – New Street Furniture and Utility Services:

To ensure that the design of new street furniture and utility services is complementary with remaining examples of street furniture from the period 1920-1940, and that it is of a uniform appearance that is sympathetic to the streetscape character of the precinct.

Requirements subject to the discretion of the Authority

- 1.4a** The design, scale and location of new or replacement street signs and footpath lighting should complement the design, scale and location of original street furniture and the streetscape character.
- 1.4b** The design and location of new fire hydrants, road lighting or any other new street furniture should complement the streetscape character.
- 1.4c** Traffic signage should be kept to an essential minimum.
- 1.4d** New street furniture or utility services should not require the removal or detrimental pruning of trees within verges, parkland and reserves.
- 1.4e** New utility services should be incorporated along existing overhead routes or be routed underground in a manner that does not impact on built or major landscape elements.
- 1.4f** Existing installations of overhead utility services within verges or forward of average building lines should progressively be removed.

2.0 CONSERVING LANDSCAPE AND STREETScape VALUES

Objective 2.1 - Siting, Setbacks and Garden Settings for all dwellings:

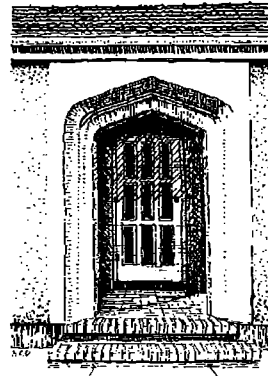
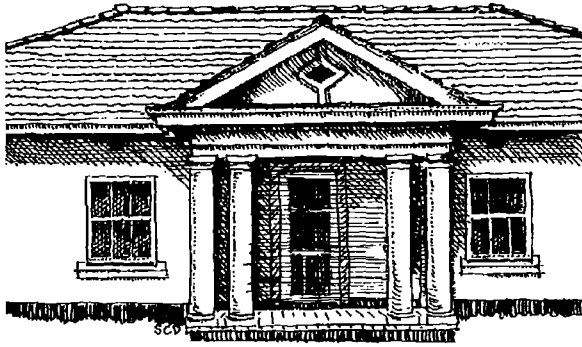
To conserve and reinstate the historical arrangement of dwellings across the precinct and the provision of a generous garden setting for each dwelling.

Mandatory Requirements

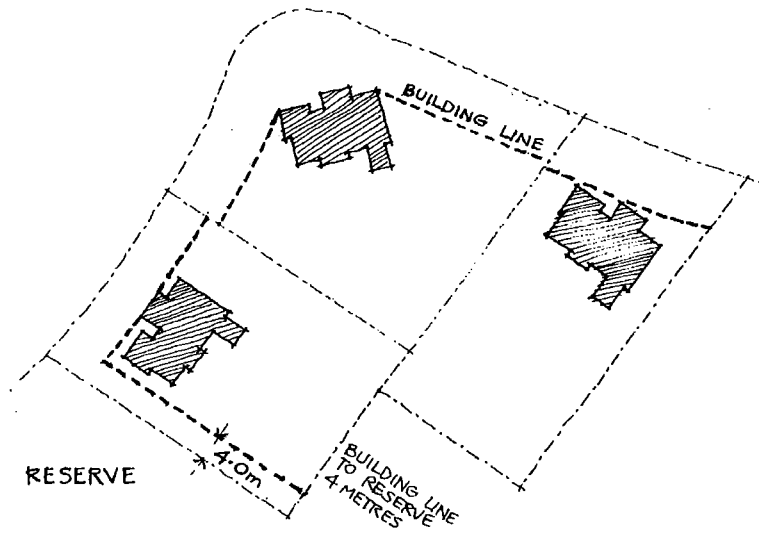
- 2.1a** Development shall not preclude any current or future provision of vehicle accommodation behind the building line.
- 2.1b** Additions to dwellings or the construction of new dwellings, buildings or structures shall not be permitted closer to a front boundary than the original building line, irrespective of existing encroachments.
- 2.1c** Side setbacks for dwellings shall be not less than 1.8 metres and at least 4.8 metres in combined total. For semi-detached dwellings having a shared party wall on a side boundary (eg. a duplex), the side setback to the other side boundary shall be a minimum of 3 metres.
- 2.1d** Site coverage of built development (including the area of any dwelling, garage, carport, outbuilding or other roofed area but excluding driveways and unroofed paved areas) on a residential block shall not exceed 27.5% of the area of the block.
- 2.1e** Not less than 40% of the area of a residential block shall be retained as planting area. Planting area means an area of land within a block that is not covered by buildings, vehicle parking and manoeuvring areas of any other form of impermeable surface and that is available for landscape planting.

Requirements subject to the discretion of the Authority

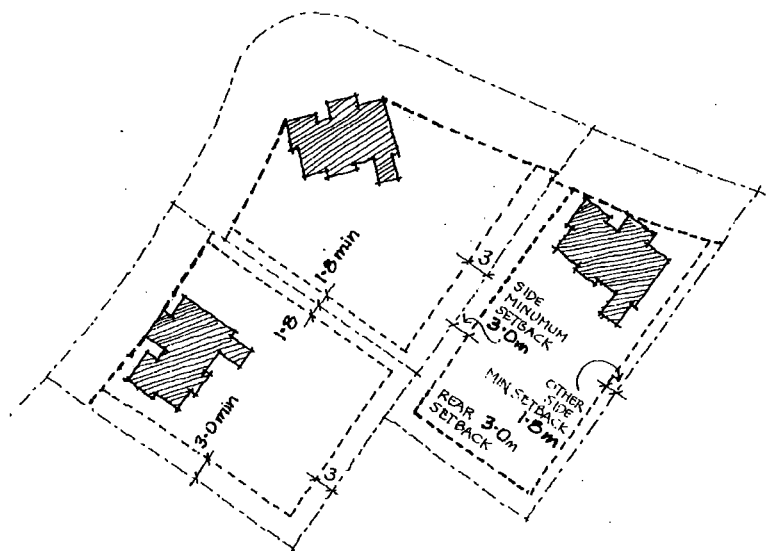
- 2.1f** The original alignment of each dwelling should be retained (eg: main elevation parallel or perpendicular to the street, or angled across the block to face an intersection).
- 2.1g** The original attributes of the point of entry to the original dwelling should be retained (eg: entry facing the street, entry integrated within a central covered porch).
- 2.1h** Where a dwelling clearly demonstrates a breach of the predominant original building line in the street, additions to or new construction that encroaches to the predominant original building line may be permitted, except where the variation to the building line is determined to have been a feature of the original planned layout of the precinct subdivision.
- 2.1i** For blocks adjacent to a public reserve or public pedestrian way, the building line along that boundary should be not less than 4 metres from the boundary.



Examples of original entry attributes



Examples of building lines



Side and rear setbacks

Objective 2.2 – Trees on Private Land:

To perpetuate the long term retention of trees on private land to complement tree management on public land within the precinct. (Requirements for the conservation of trees on public land can be found at 1.2).

Mandatory Requirements

2.2a Trees or shrubs over 6 metres tall shall not be removed from leased land without the consent of the Authority and only where in accordance with approval criteria included in relevant tree protection legislation operating in the Territory.

Requirements subject to the discretion of the Authority

2.2b Where the removal of a tree is approved a replacement tree, of stock and species common or sympathetic to the precinct, should be introduced at an approved location within the block, unless existing planting is considered to be adequate in terms of its quantity and location.

Objective 2.3 – Verges:

To retain the broad grassed verges that are complemented by the patterns of street trees, and form a landscaped foreground to the precinct subdivision.

Mandatory Requirements

2.3a Verges shall be retained at their current widths and remain grassed.

2.3b The introduction of new paving shall not be permitted unless, in the opinion of the Authority, the paving is essential for pedestrian or vehicular safety, public transport, or to restore or maintain an original pathway or driveway.

2.3c The introduction of trees or shrubs or any form of planting that detract from the open character of the verge shall not be permitted, excluding approved street trees.

2.3d Verges shall not be used for the long term parking of vehicles, trailers or other equipment or for the storage of building and landscaping materials or garden refuse.

Objective 2.4 - Verge Crossings and Driveways:

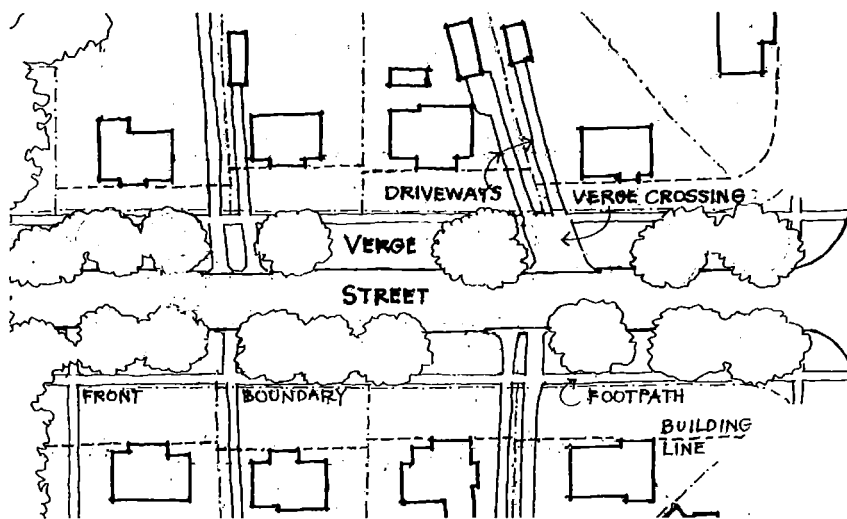
To retain the original pattern and appearance of verge crossings, and minimise the visual prominence of driveways within the streetscape.

Mandatory Requirements

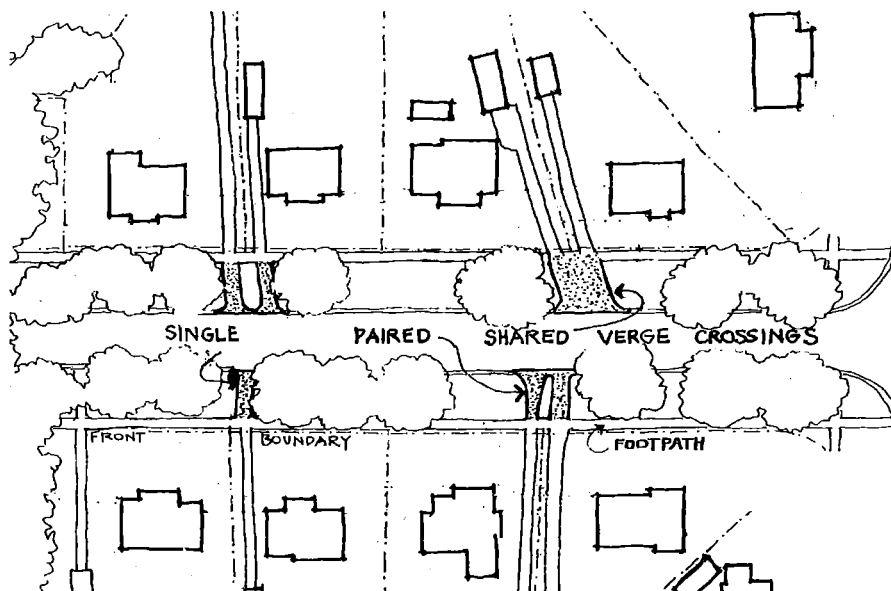
- 2.4a** Shared or paired verge crossings shall be conserved in their original locations and width.
- 2.4b** Not more than one verge crossing shall be permitted where blocks have a single frontage.
- 2.4c** Driveways shall conform to the verge crossing location with an alignment close to the nearest side boundary.
- 2.4d** Strong textures including stamped concrete, and bright colours including bare or exposed aggregate concrete shall not be permitted on driveways or verge crossings.

Requirements subject to the discretion of the Authority

- 2.4e** Single verge crossings may be relocated where :
- The existing verge crossing is to be reinstated to its original location, or
 - in the opinion of the Authority, the street on which the verge crossing is located does not have a prevailing pattern that will be adversely affected by the relocation, and
 - the relocated verge crossing will not have an adverse impact on street trees, and
 - the relocated verge crossing will retain the original width, kerb detailing and proximity to a side boundary of the original, and
 - the original verge crossing location will be planted with grass and the kerb reinstated.
- 2.4f** For blocks with two street frontages or with a street frontage along Limestone Avenue, a second verge crossing may be permitted where:
- the new verge crossing will not have an adverse impact on street trees, and
 - the new verge crossing will retain the original width, kerb detailing and proximity to a side boundary of the original, and
 - any driveway connecting the two verge crossings is screened by planting.
- 2.4g** Driveways should integrate with front garden planting to reduce the visibility of the driveway from the street.
- 2.4h** Driveways should be a single-vehicle width (<3.6m) between the front boundary and building line and have a uniform surface of subdued charcoal or earthen tones. Gravel, brick, clay or concrete pavers or bitumen are preferred surface finishes.
- 2.4i** Verge crossings should have a bitumen surface. Where existing verge crossings are surfaced in a material other than bitumen opportunities for replacement should be sought. Where required, the replacement of existing bitumen verge crossings with new bitumen is encouraged.



Verges, verge crossings and driveways



Single, shared and paired verge crossings

Objective 2.5 – Hedges and Front Gardens:

To conserve the original hedge patterns separating public from private domain and 'framing' the view of each dwelling and its front garden.

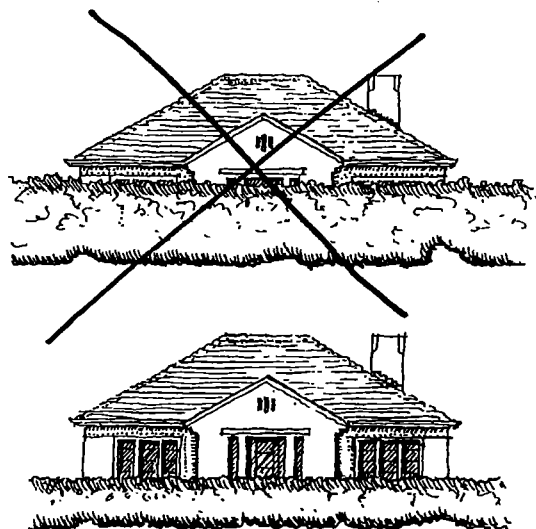
Mandatory Requirements

2.5a Hedges shall be retained at existing locations.

Requirements subject to the discretion of the Authority

2.5b The planting of hedges along front boundaries and along side boundaries forward of the building line, and the maintenance of hedges to heights of not more than 1200mm is encouraged.

- 2.5c Replacement or new hedge species should be evergreen and of appropriate scale and shape to form a border of typically not more than 1200mm in height.
- 2.5d Existing hedges of species that are 'Environmental Weeds' should be replaced.
- 2.5e A composition of soft landscaping should be retained between the building line and the front boundary. Soft landscaping may include trees, shrubs, grass and garden beds. Hard surfacing, other than for pathways and driveways, should be avoided.
- 2.5f Retaining walls or earth mounding visible to the street should only occur where they will not have an adverse impact on the streetscape character.



Hedges should not hide the contribution of the dwelling to the streetscape

Objective 2.6 – Fences:

To re-establish unified fence patterns including heights, locations and materials.

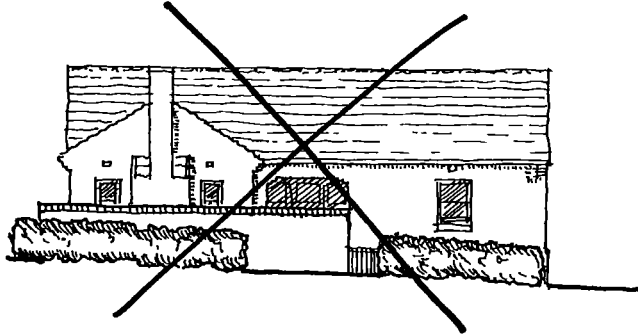
Mandatory Requirements

- 2.6a Fences, courtyard walls and vehicular gates shall not be permitted closer to the street than the building line.
- 2.6b Colour bonded steel and other sheet metal fencing and masonry walls shall not be approved for fences and gates between buildings and side boundaries or at any location visible to the street or adjacent public domain.

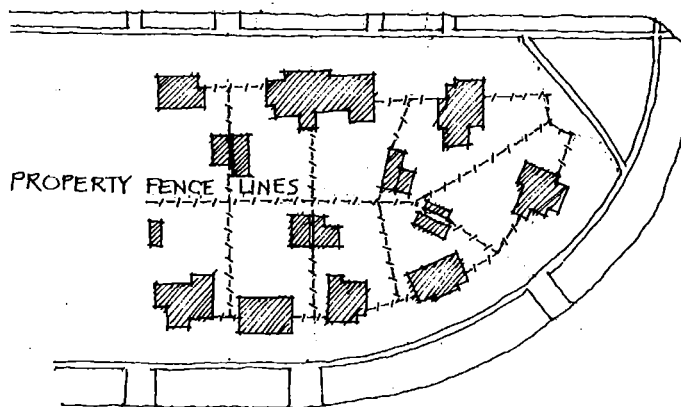
Requirements subject to the discretion of the Authority

- 2.6c Pedestrian gates or driveway pillars forward of the building line should only be permitted where they are integrated with hedge planting and are less than 1200mm in height above natural ground level.
- 2.6d Fences and gates between buildings and side boundaries should be:
 - set at least 0.6m behind the building line; and
 - less than or equal to 1.8m in height above natural ground level; and
 - timber paling, timber lattice, brush, open mesh or metal railing.

- 2.6e** Side and rear boundary fences and gates should:
- not extend forward of the building line;
 - be less than or equal to 1.8metres above ground level; and
 - be timber paling, timber lattice, brush or open mesh metal railing.



Courtyard walls obscure the contribution of the dwelling to the streetscape



Examples of original fence lines

3.0 CONSERVING THE UNITY OF BUILT FORM WITHIN THE STREETScape

Objective 3.1 - Unity of Built Form for all Dwellings:

To conserve the unity of built form within the streetscape by ensuring that additions to existing dwellings and new dwellings that are visible from the street or adjacent public domain, reflect and complement the scale, form, and materials of the identified original dwellings in the street.

Mandatory Requirements

- 3.1a** Two-storey development shall not be approved except where the original dwelling was of two storey design. Where existing two-storey additions were not a part of the original dwelling, further two-storey additions shall not be approved.
- 3.1b** The level (RL) of the ridgeline or highest roof point of any development shall not exceed the level of the ridgeline or highest roof point of the original dwelling.
- 3.1c** Additions shall have a finished floor level not in excess of 1.8 metres above natural ground level.

3.1d The roof form, roof pitch, wall and roof materials, eaves overhang and height-to-width ratio of windows within any new construction visible from the street or adjacent public domain shall complement the architectural character of the original dwellings in the street. Applied finishes to the roof of the dwellings shall complement the roof colours of original dwellings in the street.

3.1e The form of any roof projection or opening, where permitted, shall complement the original roof form and architectural character of the dwelling.

Requirements subject to the discretion of the Authority

3.1f Dwellings may include attics provided they will not be apparent from the street or adjacent public domain.

3.1g Alterations and additions should be sited to retain the visual characteristics of the original development when viewed from the street of adjacent public domain ie. single detached dwelling or duplex.

Objective 3.2 - Garages and Carports for all residential blocks:

To retain the historical pattern of garages sited towards the rear of the block, where they are not visually prominent in the streetscape and the form of the original dwelling is not impacted by the inclusion of a garage under the dwelling roof form.

Mandatory Requirements

3.2a Entries to basement parking shall only be permitted where the structural stability of the dwelling is assured, the entry and ramp are not prominent in the streetscape, and the top of a decline does not come forward of the dwelling.

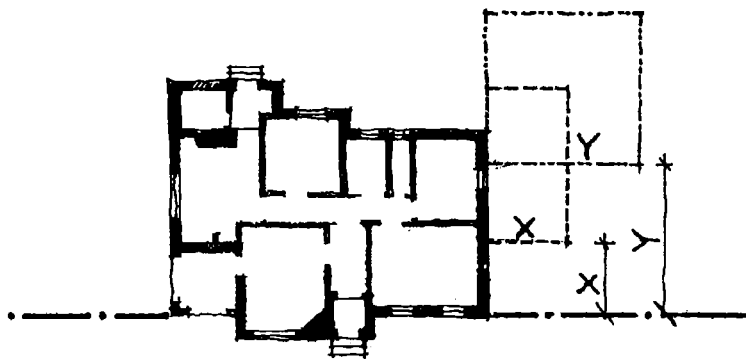
3.2b No more than the equivalent of a double garage or a double width carport shall be visible to the street. Garage doors visible to the street shall be of a single car width.

Requirements subject to the discretion of the Authority

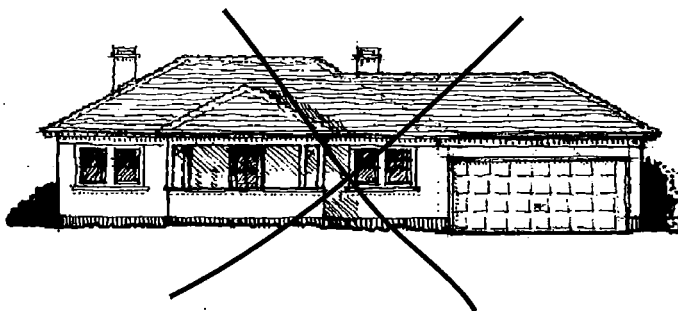
3.2c New garages or carports should be sited on or adjacent to the site of the original garage, otherwise new garages or carports should:

- utilise the original driveway, and
- retain a setback from a side boundary not less than the original garage and be no closer than 1.5 metres to a garage, carport or outbuilding on an adjacent block, and
- where located within 2 metres of a side boundary, have a wall height along the side closest to the boundary that is less than 3 metres above natural ground, and
- be set back from the nearest front face of the dwelling toward the rear of the block a minimum distance equal to the external width of the proposed garage or carport (refer XY diagram), and
- have a ridge height lower than the existing dwelling and a roof form that appears separate from the main form of the dwelling; and
- utilise scale, form, details and materials that complement the original dwelling.

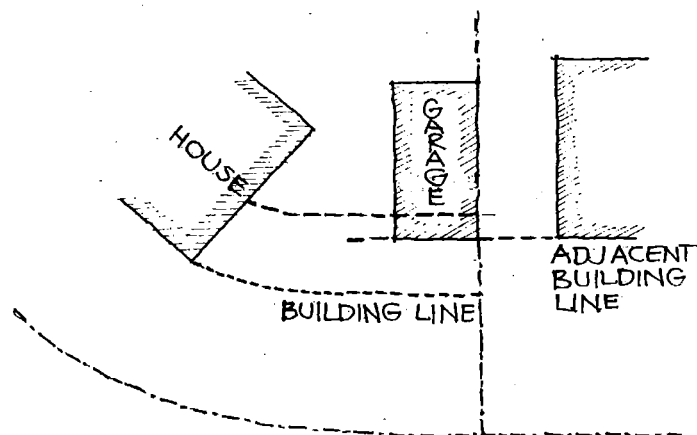
- 3.2d** Where a block has two street frontages, the setback of the new garage or carport may be reduced provided:
- the roof form of the garage or carport remains separate from that of the main dwelling,
 - the garage or carport is not to extend forward of the front face of the dwelling, and
 - the garage or carport is not to conflict visually with the alignment of the buildings on adjoining properties.



New garages and carports should be set back a minimum distance equal to their width from the nearest front face of the dwelling



Incorporating a garage under the roof line alters the form and scale of the dwelling



Where a block has two street frontages the setback from the front face of the dwelling may be reduced. The garage or carport should not extend forward of the front face of the dwelling and should respect the building line of the adjacent dwelling.

Objective 3.3 - New Architecture:

To enable contemporary architectural expression where additions are not visible from the street or adjacent public domain.

Requirements subject to the discretion of the Authority

- 3.3a** Additions that vary in architectural style to that of the original dwelling may be permitted on individual merit only where:
- the additions are detached or have minimal attachment to the original dwelling; and
 - the design, scale and materials of the additions are subordinate to the form of the original dwelling, and
 - the additions are not visible when viewed from the street or adjacent public domain; and
 - the design is of high quality and complements the architectural character of the precinct.

4.0 ADDITIONAL REQUIREMENTS FOR IDENTIFIED DWELLINGS – See Figure 2

Objective 4.1 – Form and Scale of Identified Dwellings:

To maintain the form of the identified dwelling as the dominant built form on the block when viewed from the street or adjacent public domain.

Mandatory Requirements

- 4.1a** External alterations and additions shall only be permitted to the front of a dwelling where:
- the alterations or additions will reinstate the original façade and details thereof, and/or,
 - the alteration is to a previous unsympathetic addition and will enhance the streetscape character.
- 4.1b** Subject to 4.1e below, additions to a side of a dwelling shall be set at least 1.8 metres toward the rear of the block from the nearest front face of the original dwelling.

4.1c The enclosure of original unenclosed front porches or verandahs shall not be permitted.

4.1d The original roof shall not be replaced with an alternate form.

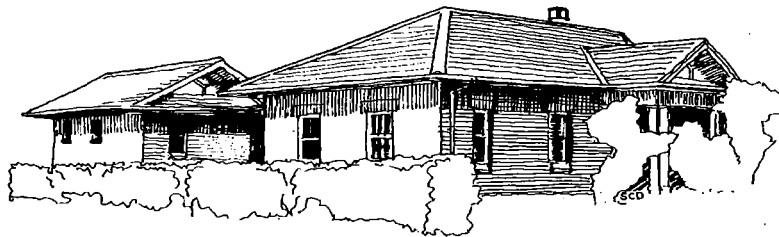
Requirements subject to the discretion of the Authority

4.1e For blocks with two street frontages or a front boundary adjoining a public reserve or pedestrian way, additions to one side elevation may occur with a reduced setback provided the apparent form of the original dwelling is retained.

4.1f Additions to dwellings should be designed to minimise disturbance to the form of the identified dwelling. Wall articulation and roof form should complement the identified dwelling. The addition of singular roof forms larger than the original roof should be avoided.

4.1g The restoration of any enclosed porches and verandahs to their original open design should be encouraged.

4.1h The restoration of non-original roofs to their original form should be encouraged.



Additions should minimise the disturbance to the roof form of the dwelling.

Objective 4.2 – Architectural Character of Identified Dwellings:

To retain the architectural character of identified dwellings.

Mandatory Requirements

4.2a The painting or rendering of face brick dwellings shall not be permitted. The removal of render from dwellings that were originally rendered shall not be permitted other than where render is being repaired.

4.2b Applied finishes to the tiled roof of an identified dwelling shall retain the original roof colour. Applied finishes to the metal roof of an identified dwelling shall complement the roof colours of original dwellings in the street.

4.2c Roof elements such as skylights, solar hot water heaters, air-conditioners and telecommunications masts or dishes shall be sited to minimise visibility from the street or adjacent public domain.

Requirements subject to the discretion of the Authority

4.2d Alterations and additions that will be visible from the street or adjacent public domain should match the original details, materials and finishes for key elements including roofing and ridge capping; gutters and downpipes; fascias and eaves; wall finishes and decorative treatments; windows including fenestration patterns; entrance doors; and verandah joinery. Details, materials and finishes at locations not visible to the adjacent public domain should complement the original.

<p>4.2e</p> <p>4.2f</p> <p>4.2g</p>	<p>Identified weatherboard-clad dwellings and mixed fibre-cement and weatherboard-clad dwellings should retain their original exterior claddings. Replacement claddings should match the profile, material and finish of the original dwelling.</p> <p>Applied finishes to external walls should be coloured off-white or be of subtle, earthy tones that complement the streetscape.</p> <p>Chimneys visible from the street or adjacent public domain should be retained. New chimneys visible from the street or public domain should match the original proportions, finishes and capping detail.</p>
<p>Objective 4.3 – Community Buildings To ensure community facilities are consistent with the streetscape character of the precinct.</p>	
<p>Mandatory Requirements</p> <p>4.3a Alterations and additions to community buildings identified on Figure 2 shall be sympathetic to the streetscape character of the precinct and the form and scale of the existing buildings.</p> <p>Requirements subject to the discretion of the Authority</p> <p>4.3b The landscape setting of the identified community buildings, including spatial relationships between the built form and the landscape, and formal patterns of hard landscaping that contribute to the streetscape and landscape character of the precinct should be conserved.</p> <p>Reid Uniting Church: refer to Heritage Places Register entry No 35.</p>	
<p>5.0 DEMOLITION</p>	
<p>Objective 5.1 – Preserving the Historical Integrity of the Precinct: To retain original dwellings.</p>	
<p>Mandatory Requirements</p> <p>5.1a The total demolition of identified dwellings shall not be permitted except in exceptional circumstances, including:</p> <ul style="list-style-type: none"> • the dwelling is so structurally unsound as to be beyond reasonable economic repair. The application must include a professional structural assessment in support of demolition; or • the existing condition poses a significant health or safety risk that is beyond reasonable economic repair. The application must include a professional structural or health assessment in support of demolition; or • where, in the opinion of the Authority, the integrity of the built form and street elevations of an original dwelling has been extensively and irreversibly diminished by unsympathetic alterations and additions. <p>AND any replacement construction conforms to all provisions applicable to non-original dwellings.</p> <p>5.1b Except where a dwelling presents an immediate threat to public safety, the total demolition of an identified dwelling shall not be permitted unless an application for a replacement dwelling within a garden setting is approved.</p>	

5.1c Where in the opinion of the Authority, neglect of an identified dwelling has contributed to the dwelling becoming structurally unsound so as to necessitate total demolition, redevelopment of the site shall not exceed the gross floor area of the identified dwelling.

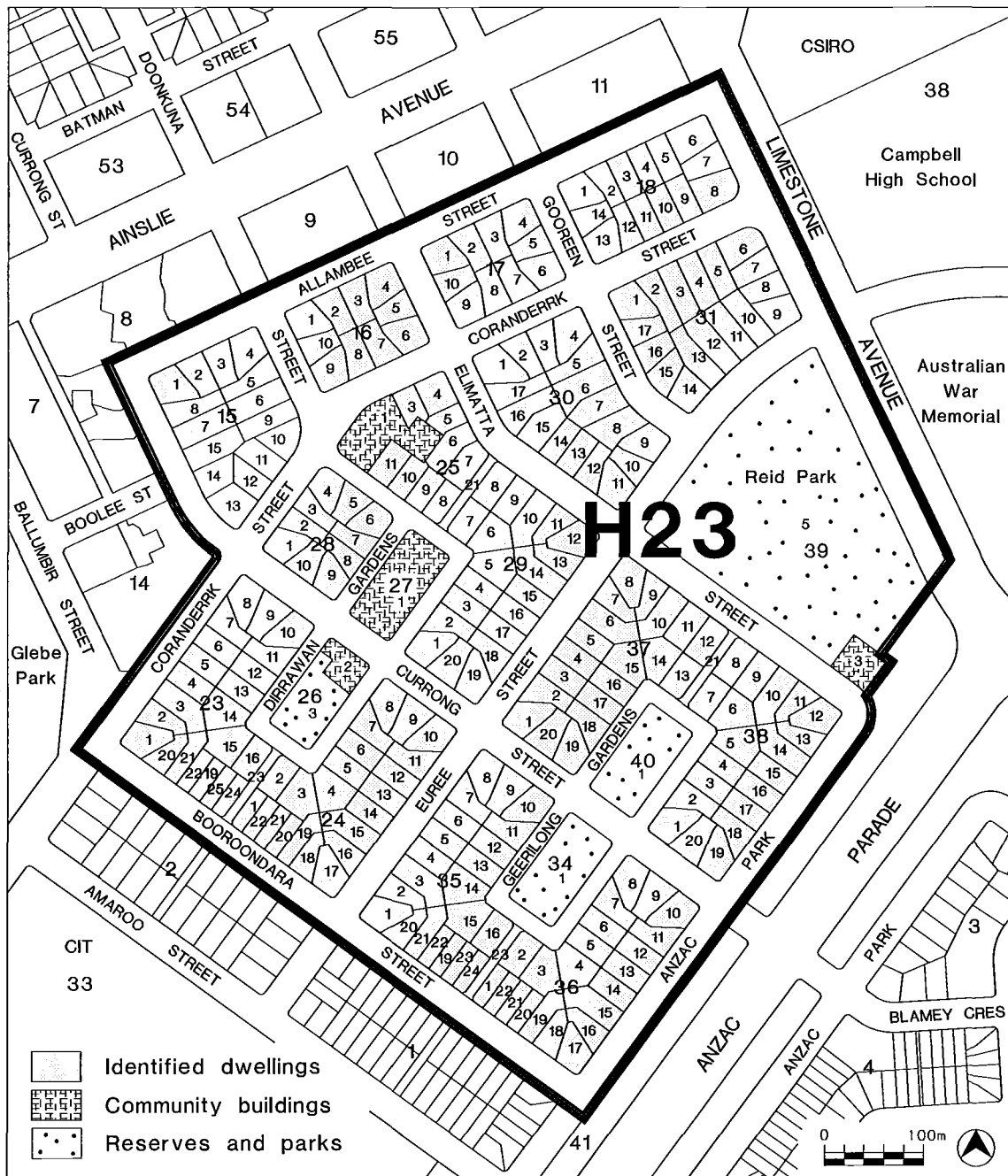
Additions to a replacement dwelling shall not be permitted within 3 years of completion of the replacement dwelling.

5.1d The partial demolition of original external building fabric of identified dwellings shall only be permitted in the context of permitted alteration or additions.

Requirements subject to the discretion of the Authority

5.1e Alteration to, or demolition of, internal building fabric of identified dwellings may be permitted provided the external building fabric of the dwelling is not adversely affected.

FIGURE 2: IDENTIFIED DWELLINGS, COMMUNITY BUILDINGS, RESERVES AND PARKS



SCHEDULE 1: INDIVIDUAL PLACES OF SPECIFIC VALUES

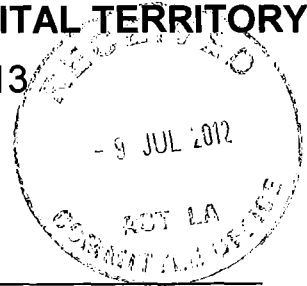
Reid Uniting Church	Section 25 Block 1
Reid Preschool	Section 26 Block 2



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Ms Le Couteur : To ask the Minister for Environment and Sustainable Development

In relation to: Fuel Sales Data

Thank you for publishing the report on Fuel Sales Data it is very useful and we look forward to future reports. We note that the report says: "... the net increase in total transport emissions over the past four years is not encouraging in terms of the ACT Government making significant progress towards meeting its legislated total GHG emissions reduction targets, including a 40 per cent reduction from 1990 levels by 2020." Given this:

1. How is existing fuel sales data used to develop approaches to reduce the ACT's greenhouse gas reductions?
2. What will be done in Weathering the Change Action Plan 2 to reduce greenhouse gas reductions from the transport sector?

SIMON CORBELL MLA: The answer to the Member's question is as follows:—

- The data collected for fuel sales in the ACT is a key input to the ACT Greenhouse Gas Inventory. This Inventory shows the contribution of greenhouse gas emissions for each sector and tracks how the ACT is progressing towards its 2020 greenhouse gas emission reduction target.
- The actions to address transport sector emissions will be released with *Weathering the Change Action Plan 2*. This will be guided substantially by the *ACT Transport for Canberra plan* released on 19 March 2012.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

Date: 9.7.12

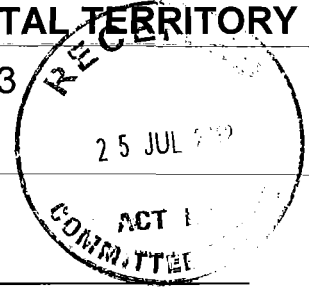
By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



ZED SESELJA MLA : To ask the Minister for Environment and Sustainable Development

Ref: ESD, Budget paper 4, page number 305 – 331, Output Class 1

In relation to : Energy

1. What capital works or initiatives does the Directorate have planned for 2012-13 to reduce carbon emissions and/or energy costs?
2. Please provide a breakdown of costs for each initiative.
3. What reduction in emissions are these initiatives estimated to achieve?

SIMON CORBELL MLA : The answer to the Member's question is as follows:—

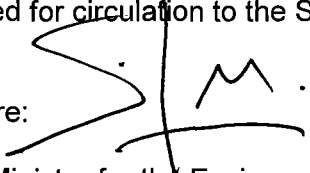
1. Directorates are currently able to access loan funding for capital works projects that increase energy efficiency by applying to the Resource Management Fund (RMF). The 2012-13 ACT Budget announced a new \$5 million Carbon Neutral Government Fund. The Directorate is currently developing guidelines for the allocation of funding under the new initiative.

A call for applications for funding under the RMF is made four times a year and it is expected that applications to the next round will close in August 2012. The previous funding round closed in May 2012.

2. No applications for funding have yet been considered for the 2012-13 financial year.
3. Please see response to question 2.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

 25.7.12

Date:

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA


LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE

ZED SESELJA MLA : To ask the Minister for the Environment and Sustainable Development

Ref: ESD, Budget paper 4, page number 312, Output Class 1.6

In relation to : Canberra Centenary Project – 2020 Vision: How we Will Change

1. Can you provide more information on this initiative?
 - a. What is the scope of this project in our schools?
 - b. What are the participating schools?
2. What has been the government's role in this project?
3. Can you confirm that this is a SEE-Change initiative?
4. How much funding has the government contributed to this?
 - a. What was this for?
5. What in-kind contributions have the government provided?
 - a. What was this for?
6. Does the government support and endorse the contents in the Imagining A Sustainable Canberra publication, which is a manual for teachers, parents, volunteers and students?

SIMON CORBELL MLA : The answer to the Member's question is as follows:–

1. 2020 Vision is a pilot project that has been developed and managed by SEE-Change. The project aimed to engage the Territory's youth and involve them in planning for their future by asking them to consider how Canberra would look in 2020. The project culminated in a Festival of Young Ideas which was held in the Legislative Assembly Exhibition Room from 14 to 19 November 2011.

Further details on the program can be found at www.see-change.org.au.

- a. The project invited children and youth to communicate their vision of Canberra in the year 2020 through art, video, poetry, song, drama and written and spoken word. The project aimed to engage Canberra's youth to consider how the Canberra community can meet the greenhouse gas reduction targets.
- b. The project targeted 18 schools including primary, high schools and colleges in both the public and private systems.. These were: Canberra High; Lake Ginninderra College; Campbell High; Dickson College; Merici College; Wanniasa

High; Lanyon High; Orana (K-12); O'Connor Cooperative; Hawker Primary; Gowrie Primary; Chapman Primary; Gilmore Primary; St Francis of Assisi Primary; Namadgi School; Ainslie Primary; Macquarie Primary; St Peter and Paul Primary School.

E12-562

2. The ACT Government, through the Environment and Sustainable Development Directorate, has provided two grants to SEE-Change to run the project and presented information to three workshops.

3. Yes.

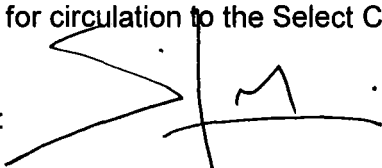
4. The ACT Government has provided a total of \$31,054 for this project in the 2010-11 financial year.
 - a. An Environment grant of \$10,000 was provided to enable the *2020 Vision: How will we change?*; A Climate Change Grant of \$21,054 was provided to fund the *Festival of Young Ideas*.

5. Staff from the Climate Change, Energy and Sustainability Policy section of ESDD provided presentations on three occasions to SEE-Change workshops as part of the Vision 2020 project. These were conducted between March and May 2011.
 - a. The presentations provided the participants information on the greenhouse gas reduction targets established under the *Climate Change and Greenhouse Gas Reduction Act 2010*, and an overview of the development of *Weathering the Change Draft Action Plan 2*.

6. SEE-Change is a not for profit, community based organisation, independent from the ACT Government. While the Government has not endorsed the content of the SEE-Change publication, the Government does commend the work of SEE-Change in providing a broad range of information on environmental sustainability across the community and advancing the understanding of climate change issues.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:



Date:

25.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



ZED SESELJA MLA : To ask the Minister for the Environment and Sustainable Development

Ref: ESD, Budget paper 4, page number 323, Output Class 1.5

In relation to : Capital Delays

1. Please provide the explanation for the delays in the capital projects listed below.

Works	2011-12 Budget	2012-13 Budget	Delay
Inner North Stormwater Reticulation Network	Jun-13	Jun-14	12 months
Gungahlin - The Valley Ponds and Stormwater Harvesting Scheme	May-12	Dec-12	7 months
Accelerating Replacing Stormwater Drains and Wetlands	Sep-11	Sep-12	12 months

SIMON CORBELL MLA : The answer to the Member's question is as follows:—

Inner North Reticulation Network

Following resolution of a range of technical, governance and funding issues, the contract for design was tendered in May 2010 and, subsequently, awarded in December 2010. Design and approvals were then completed within 6 months and the construction contract was tendered in July 2011. Extensive negotiations were required with the preferred contractor arising from the complexity of the project and the need to finalise an agreed Bill of Quantities. The contractor commenced construction in December 2011 and works have progressed on time and on budget. The civil works are scheduled for completion by December 2012, however the project will not be financially completed until 2013-14 due to operational requirements.

Gungahlin - The Valley Ponds and Stormwater Harvesting Scheme

The commencement of the construction of the Valley Ponds was delayed due to the contractor being required to coordinate work with adjacent sites within the Gungahlin precinct. A single contractor is undertaking the construction of the Leisure Centre and the enclosed oval within the precinct. This offers efficiency benefits in terms of coordination of stormwater management and contract costs.

The commencement and progress of the works were also delayed due to unusually wet weather. The Valley Ponds are on-line. This means the pond fills up after every rain event and preventing work for a period of 5-7 days. The works are scheduled for completion by October 2012.

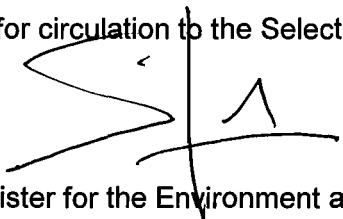
Accelerating Replacing Stormwater Drains and Wetlands

The Dickson Pond development was completed in December 2011 and opened to the public. The Dickson Pond is an off-line pond. This enabled stormwater flows to be easily diverted so that works could continue soon after rain events.

The Lyneham Pond experienced delays due to unusually wet weather which impacted on the progress of the project. As the Lyneham Pond is on-line, when it rains the pond fills up and prevents work for a period of up to 7 days. The Lyneham Pond was opened to the public in April 2012. Both ponds have now reached practical completion with minor tasks required to be undertaken by the contractor prior to financial completion.

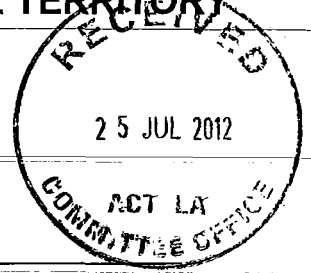
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Signature:



Date: 25.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA


LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE

ZED SESELJA MLA : To ask the Minister for the Environment and Sustainable Development

Ref: ESD, Budget paper 3, page number 187, Output Class 1.5

In relation to : Carbon Neutral Government Initiative

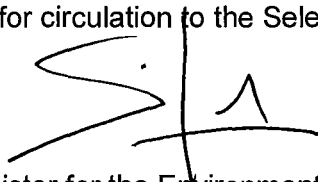
1. How many projects does the Government expect to fund from this \$5 million initiative?
2. When does the Government expect to see reduced emissions from the implementation of projects funded by this initiative?
 - a. What is the level of reduction in emissions?
3. Given this is a loan facility, why is there no revenue identified in the budget papers?
 - a. When does the Government expect repayments to begin?
 - b. When does the Government expect these repayments to be finalised?
 - c. What is the average duration of loans expected to be?

SIMON CORBELL MLA : The answer to the Member's question is as follows:-

1. The number of projects funded will depend on the number of applications received and their value. It is expected that projects with between 3-6 year payback periods will apply to the Fund. This will enable the fund to be replenished annually with repayments from those projects.
2. The current Resource Management Fund has delivered evidence of cost and energy savings that are available to agencies. For example, a loan of \$178,000 provided in 2011 for LED lighting replacement at Dame Pattie Menzies House resulted in 30 per cent energy savings, with a payback period of 1.5 years.
 - a. The level of reductions in emissions will vary depending on projects being implemented. Previous projects funded through the RMF include:
 - \$178,000 to the former ACT Planning and Land Authority to replace existing fluorescent light fittings with energy-efficient LED lighting with estimated annual savings of 243.26 tonnes of CO₂-e;
 - \$116,000 to the former Department of Land and Property Services to conduct a range of improvements to ACT Government office buildings with estimated annual savings of 708 tonnes of CO₂-e.

- 3. The loan facility is a non-interest bearing loan and therefore the Directorate does not receive any revenue as a result of the operation of the facility. All repayments are processed through the balance sheet of the Directorate.
 - a. Repayments are over an agreed timeframe. Generally this is through an annual repayment. For example, a loan of \$200,000 for 4 years would see annual repayments of \$50,000 per year for 4 years.
 - b. Repayments will be ongoing to an agreed timeframe dependant on the approved projects. Existing RMF projects have been repaying their loans as scheduled. One loan has been repaid early, with savings accruing at a faster rate than estimated in the application.
 - c. The average duration of loans is expected to be between 3 and 6 years.

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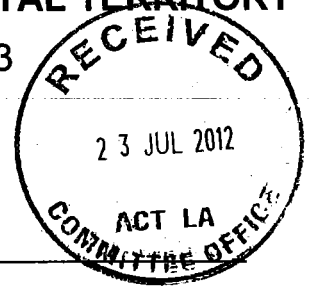
Signature:  Date: 25.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



ZED SESELJA MLA : To ask the Minister for the Environment and Sustainable Development

Ref: ESD, Budget paper 4, page number 312, Output Class 1.6

In relation to : Canberra Centenary Project – 2020 Vision: How we Will Change

1. How much revenue did the Government collect from its environment enforcement activities in 2011-12?
 - a. What was the revenue collected for 2008-09, 2009-10 and 2010-11?
 - b. Please provide a breakdown of this revenue by enforcement type.
2. Is this revenue used for a specific purpose or returned to the budget?
 - a. If used for a specific purpose, what initiatives are funded?
3. Does or has the government funded environment advocacy groups or provide in kind support outside of its environmental grants program?
 - a. What has been the total funding for this support?
 - b. What activities does this funding support?
 - c. Has the Government provided funding to organisations such as Greenpeace?
 - i. If yes, what was this funding for?
 - d. Please provide a list of all environmental organisations or advocacy groups that have received funding support by the Government.

SIMON CORBELL MLA : The answer to the Member's question is as follows:–

1. Revenue collected by the Environment Protection Authority from its environment enforcement activities under the *Environment Protection Act 1997* and *Water Resources Act 2007*.

1(a)(b)

Year 2008-09	Revenue collected (\$)
Light Pollution	100
Breach of Authorisation	10,000
Illegal Fishing	174
Noise Offences	13,334
Water Offences	13,900
Total	37,508

Year 2009-10	Revenue collected
Light Pollution	-
Breach of Authorisation	20,000
Illegal Fishing	-
Noise Offences	10,800
Water Offences	2,675
Total	\$33,475

Year 2010-11	Revenue collected
Light Pollution	-
Breach of Authorisation	10,000
Illegal Fishing	-
Noise Offences	4,600
Water Offences	2,425
Total	\$17,025

Year 2011-12	Revenue collected
Light Pollution	-
Breach of Authorisation	20,000
Illegal Fishing	-
Noise Offences	1,400
Water Offences	7,859
Controlled Waste	1,500
Total	30,759

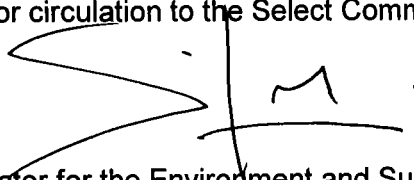
2. It is returned to consolidated revenue.
 - a. See 2 above
3. The ACT Government allocated funding in the 2008-09 Budget to support the operation of three community environmental organisations over four years as follows:
 - Conservation Council of the ACT \$554,000
 - Canberra Environment and Sustainability Resource Centre \$410,000
 - SEE-Change \$390,000.

In the 2012-13 ACT Budget the Government allocated a further \$350,000 a year for three years to support these organisations.

- a. The total funding to the end of 2012-13 is \$1,354,000.
- b. The funding supports the administrative operation of the organisations, including the employment of core staff and day to day operating costs of their premises.
- c. No.
 - i. See response to c above.
- d. The following organisations have received operational funding support from the ACT Government:
 - Conservation Council of the ACT
 - Canberra Environment and Sustainability Resource Centre
 - SEE-Change

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

A handwritten signature in black ink, appearing to be 'S. Corbell', written over a horizontal line.

Date:
23.7.12

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013



ANSWER TO QUESTION ON NOTICE

ZED SESELJA MLA : To ask the Minister for the Environment and Sustainable Development

Ref: ESD, Budget paper 4, page number 312, Output Class 1.6

In relation to : Feed-In Tariff Scheme

1. In the estimates hearing of 27 June 2012, you stated:

"At this point in time, the government has agreed only to the deployment of 40 megawatts of large-scale renewable energy generation in the territory. We estimate that the cost passed through to households will be in the order of \$32 per year per household in the year 2014-15"

What is the expected cost (what has been modelled) to households once all of the 210 Megawatts of capacity is utilised?

2. What is the present status of rooftop installations for the micro and medium scale category that were pending inspections?

a. Are all of these installations now connected to the electricity grid and switched on?

i. If no, how many are still waiting and what is the reason for this continued delay?

ii. If yes, what was the average and longest wait time experienced by a household?

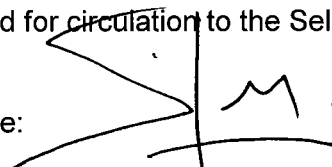
SIMON CORBELL MLA : The answer to the Member's question is as follows:—

1. In 2010 the Government considered options for extending the feed-in tariff mechanism to support large scale renewable energy generation. Modelling undertaken by KPMG-Econtech at that time indicated that *should* the ACT *immediately* deploy 210 MW of PV generation *at the prevailing price*, a cost of about \$225 per household could accrue. This option was not pursued and since 2010 components of large scale generation have declined in cost by almost 80%.

2. All inspections are up to date where the installer has requested electrical inspectors attend a site. There are some installations where repairs are required to make the installation compliant, a follow up inspection is undertaken when requested by the licensed electrical entity.
- a. Photovoltaic installations requiring electrical inspections are done in a timely manner. The backlog from 2011 was cleared in April 2012.
- i. Some installations have faults that the installers of the system need to resolve before electrical inspectors can return to the site. Some systems have been removed where the installer was unable to make the installation compliant.
- The Directorate does not maintain a record of these statistics.
- ii. All inspection requests have been actioned. The longest wait in 2011 was approximately 5 months and the current wait time it is less than 5 working days. The Directorate did not compile records of inspection delays during the backlog.

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Signature:



11-7-12

Date:

By the Minister for the Environment and Sustainable Development, Simon Corbell MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Ms Hunter MLA: To ask the Minister for Health

[Ref: Budget paper 4, page number 349/350, Output 2]

In relation to: Federal Government Healthy Kids Check

1. The Federal Government has recently announced a mental health screening program for three year olds that will include home visits to check for family problems such as domestic violence, drug and alcohol problems and neglect.
 - a) How will this program be implemented in the ACT?
 - b) How will this program integrate with the various local plans, frameworks and initiatives?

Mr Barr MLA: The answer to the Member's question is as follows:—

The Commonwealth Department of Health and Ageing, which is developing the implementation for the National Healthy Kids Check, advises that:

- The Australian Government is expanding the existing Medicare Healthy Kids Check (a check of physical health, general wellbeing and development) to include consideration of social and emotional wellbeing, and to bring forward the target age of the check, from 4 years old to 3 years old.
- The expanded Healthy Kids Check will be made available in the 2012-13 financial year, with expected implementation in early 2013.
- The expansion of the Healthy Kids Check is not aimed at screening children for mental illness.
- The expansion of the Healthy Kids Check is about ensuring that support can be provided to families and children where needed for social and emotional wellbeing, similarly to physical health.
- The Healthy Kids Check is voluntary and this will not change. Families will be able to choose to have the expanded check undertaken by a general practitioner, practice nurse or Aboriginal Health worker. Where a child requires additional support he/she will be referred to an appropriate health care professional, which might include a specialist physician, a paediatrician or psychologist.
- Family visits for checks of family problems like domestic violence, drug and alcohol problems, and neglect are out of scope of the Medicare Healthy Kids Check.
- A multi-disciplinary expert group has been established to advise on the additional social and emotional wellbeing content of the health check, and how the check

will be carried out. This group is currently finalising its advice to the Minister for Mental Health and Ageing, the Hon Mark Butler, MP.

- The expanded Healthy Kids Check will continue to be available to parents alongside existing health checks provided by state and territory health services.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature: 

Date: 14.7.12

By the Acting Minister for Health, Andrew Barr MLA

QoN-12/79



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013



ANSWER TO QUESTION ON NOTICE

Meredith Hunter : To ask the Minister for Community Services

Ref: Community Services Directorate, Care and Protection Services , Budget paper 4, page number 346/355, output class 4.2

In relation to : Therapeutic protection orders

1. What has happened to the facility that was designated for housing children and young people under the Therapeutic protection orders?
2. What was the total amount spent on the facility?

Minister Burch: The answer to the Member's question is as follows:—

1. The facility is currently being used for high needs young people who require specialised therapeutic support.
2. The capital works expenditure was approximately \$270,000.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

A handwritten signature in black ink, appearing to be "Joy Burch".

Date:

19/7/12

By the Minister for Community Services, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE

Meredith Hunter: To ask the Minister for Community Services

[Ref: Budget paper 4, page number 354, Youth Services - Output 4.1]

In relation to: Accountability Indicator (a)

1. I note the 2011-12 Estimated Outcome of 8,000 and the target of 8,000 for 2012-13 with respect to the number of days served in custody by a young person:
 - a) How many young people were recidivist offenders in 2011-12?
 - b) What is the expected level of recidivist offenders in 2012-13?
 - c) Why are the targets for 2011-12 and 2012-13 the same?

MINISTER BURCH: The answer to the Member's question is as follows:—

1a) There were 5 recidivist offenders in Bimberi Youth Justice Centre in 2011-12.

1b) The target for recidivism for young people in custody in 2012-13 is 44%. It is expected that the recidivism rate will be under this target.

1c) The 2011-12 days in custody target was significantly reduced from the target of the previous year. This target was set to reflect the early effect of the newly established diversionary programs. The same target was set in 2012-13 to reflect the consolidation of these diversionary programs.

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Signature:

A handwritten signature in black ink, appearing to read 'J. Burch', followed by the date '9.7.12'.

Date:

By the Minister for Community Services, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Meredith Hunter: To ask the Minister for Community Services

[Ref: Budget paper 4, page number 354, Youth Services - Output 4.1]

In relation to: Youth Connection Service

1. What is the current focus and target group for the Youth Connection Service delivered by the Directorate?
2. The target for indicator (d) is 116 accessing the Youth Connection Service and the Adolescent Day Unit:
 - a) Of the targeted 116, how many of these relate to the Youth Connection Service and how many relate to the Adolescent Day Unit?
 - b) Has there been an increase in referrals to the Youth Connection Service or the Adolescent Day Unit and if so, what is this increased number?
 - c) What is the level of unmet needs for children and young people with respect to the Youth Connection Service or Adolescent Day Unit?
 - d) Are there waiting lists for the Youth Connection Service or Adolescent Day Unit? If so:
 - I. what is the average number of children or young people waiting (by service) at any one time?
 - II. How long on average do children or young people have to wait until they are able to access the Youth Connection Service or Adolescent Day Unit?

MINISTER BURCH: The answer to the Member's question is as follows:—

1. Outreach case management support for young people aged between 11 and 17 to assist in re-engagement with education, training or work.
2. Following the cessation of referrals to the Adolescent Day Unit in 2010, the Adolescent Day Unit staff resources were combined with the Youth Connection team to increase capacity to support the target group as indicated in the 2011 Annual Report.
 - (a) All targeted 116 relate to the now combined Youth Connection team.

- (b) The number of young people supported by Youth Connection programs from 2010 to 2011 was 10% greater than the estimated target. The 2011-12 data is currently being finalised for release.
- (c) Youth Connection has provided support for all appropriate referrals received. This includes working closely with other service providers to achieve re-engagement with education, training or work.
- (d) There are no waiting lists for Youth Connection. Youth Connection provide, within 2 weeks, an assessment of need and support through the Senior Case Manager, while an allocation to a Case Manager is determined appropriate.

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Signature:

 10.7.12

Date:

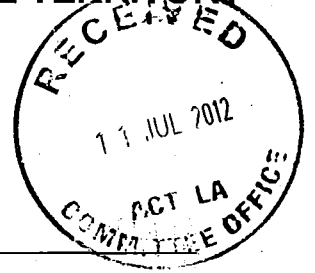
By the Minister for Community Services, Ms Joy Burch MLA





LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Amanda Bresnan: To ask the Minister for Community Services

[Ref: Budget paper 4, page numbers 386 & 393, Housing ACT - Operating Statement]

In relation to: Asset Revaluations

1. I note that there was a decrease of \$162M in the expected asset revaluation between the original 2011-12 Budget and the 2011-12 Estimated Budget Outcome. The explanation provided on page 393 is rather generic, stating that it is "due to asset revaluation".
 - a) Could you please explain why there is such a dramatic reduction in the expected asset revaluation between the original 2011-12 Budget and the 2011-12 Estimated Budget Outcome?

Minister Burch: The answer to the Member's question is as follows:-

At the time the Budget is prepared, the revaluation of the public portfolio has not been completed. The valuer however, is asked to provide advice on the likely change in property values across the portfolio at this time in order to put the revaluation adjustments into the Budget. Based upon this advice, the revaluation of the portfolio was included in the Budget, however, when the detailed figures for 2011 were received and uploaded, the revaluation was substantially lower than the original estimate. The revaluation was affected by significant negative sentiment, not only about the local economy but the Australian and world economy more broadly, and this contributed to a lower valuation of properties across the portfolio. This lower value also flows into the out years.

A depressed sentiment was also evident when the valuer advised that the likely increase in the property values across the portfolio in early 2012 would be probably less than 1%.

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Signature:

Date:

By the Minister for Community Services, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Amanda Bresnan: To ask the Minister for Community Services
 [Ref: Budget paper 4, page numbers 386, Housing ACT - Operating Statement]

In relation to: Gains from sale of properties

1. The audited financial statements for Housing ACT over the years 2005-06 to 2010-11 include a separate line item, below "Total Revenue", setting out the gains from sale of properties. In 2009-10, the gain was \$2.373M and in 2010-11, the gain was \$3.405M.
 - a) I note that the gains from sale of properties is not separately classified in the Housing ACT Operating Statement in the Budget papers and appears to now be included above the "Total Revenue" line and included in "Other Revenue". Is this the case?
 - b) If gains from sale of properties are included in "Other Revenue", could you please provide advice as to why there has been a dramatic fall in this revenue line item since 2010-11?

Minister Burch: The answer to the Member's question is as follows:—

1.
 - a) Yes. However, in the Annual Report the separate identification and breakdown of the gains is disclosed.
 - b) The profit on sale of dwellings is a measure of the difference between the value of properties on the Housing ACT accounts (as set by the annual valuation process). In a rapidly rising residential market the difference (largely due to timing differences) will be greater. In a flat market that difference will be less and as a consequence the "profit on sales" will be less. In addition, the gain on sale achieved by Housing has been impacted by the reduction in sales numbers over the last few years and in 2011-12 in particular, as more properties have been re-let for public housing rather than being sold.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

 10/7/12

Date:

By the Minister for Community Services, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Amanda Bresnan: To ask the Minister for Community Services

[Ref: Budget paper 4, page numbers 386 & 393, Housing ACT - Operating Statement]

In relation to: Share of Operating Result from Joint Venture accounted for using the Equity Method

1. I note that in the 2011-12 Budget, Housing ACT were expecting to receive a share from the distributions from the Lyons Estate joint venture of \$2.343M, but the estimated outcome for 2011-12 revises this amount to zero on the basis of delays in profit distributions. I note that there are no further distributions from joint ventures until 2015-16 and the amount expected is \$6.186M. Could you please advise:
 - a) Is the share of distributions from the joint venture in 2015-16 related to the Lyons Estate joint venture? If not, what is the joint venture?
 - b) If the share of distributions in 2015-16 is related to the Lyons Estate joint venture, why has a delay of four years in receiving this distribution occurred?

Minister Burch: The answer to the Member's question is as follows:-

1.
 - a) Yes.
 - b) The profit distributions from the Lyons Estate Joint Venture have been retained in the joint venture to lower the borrowing costs for the joint venture and improve the profits from the joint venture operations. The profits will be distributed once all construction has been completed and the units sold. This is expected early in 2015-16.

Approved for circulation to the Select Committee on Estimates 2012-2013.

Signature:

12.7.12

Date:

By the Minister for Community Services, Ms Joy Burch MLA

- a) What is the cost of providing these services?
4. Regarding the expanded Refugee Transitional Housing Program (from eight to sixteen properties) which delivered 4,285 bed nights in 2010.
- b) Please advise the total number of Housing ACT properties utilised to assist refugee families for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;
 - c) Please advise the total number of bed nights that were provided to refugees for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;
 - d) Please advise the total costs to government in providing Housing ACT properties for refugees during this financial year and the total costs budgeted in providing these services for 2012-13 and the three forward estimates years.
 - e) Please advise why Service Funding Agreement Contract No: 2010.12671.210 between the Territory and Migrant and Refugee Settlement Services of the ACT Inc. (MARSS) does not include any reference to the requirement to allocate properties under the Refugee Transitional Housing Program.
 - f) Please advise whether there is a separate agreement between MARSS and the Territory for the allocation of properties under the Refugee Transitional Housing Program and if such an agreement exists please provide a copy of the agreement.

Minister Burch: The answer to the Member's question is as follows:—

1. a) As previously stated in response to Part 3 of Question No. 2312, the ACT Government has been working collaboratively with the Commonwealth to establish support arrangements for asylum seekers awaiting residence determination in our community, particularly in relation to health (including mental health) services and education. This process is ongoing and no memorandum of understanding, or any alternative form of agreement, has been reached between the Commonwealth Government and ACT Government at this time.

b) As previously stated in response to Part 2 of Question No.2312, the Commonwealth Government does not provide any funding to the ACT Government to provide support services and community based accommodation for asylum seekers. The Commonwealth Government funds the Red Cross to provide support services to asylum seekers in the ACT.
2. a) The ACT Government is unable to provide an average level of expenditure by the ACT Government to assist asylum seekers as a number of the government services which they are entitled to, such as Health and legal services, are not considered an expenditure, but rather the ACT Government foregoes revenue.

b) The ACT Government has introduced the ACT Access Services Card to help provided smooth access to government services and to centrally gather information on the number of services accessed and how often. Collation of usage will begin at completion of the first year of the program.

As previously stated in response to Part 1 of Question No. 2312, the ACT Government funds support programs for asylum seekers through a number of community organisations including the Multicultural Youth Service Inc and the Migrant and Refugee Settlement Service Inc. De-identified usage information is available.

3. a) The Refugee Transitional Housing Program provides short term accommodation (approximately six months) for newly arrived refugees to the ACT. The program operates under a tripartite agreement. MARSS provide tenancy management, Companion House provides medical services, including torture and trauma counselling and Housing ACT provides the dwelling. Once again the ACT Government does not count this as expenditure but rather as revenue forgone.
4. Regarding the expanded Refugee Transitional Housing Program (from eight to sixteen properties) which delivered 4,285 bed nights in 2010.
 - a) Please advise the total number of Housing ACT properties utilised to assist refugee families for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;

The total number of properties utilised for the 2011-12 financial year was 19 properties. There are no properties budgeted to be utilised in the three forward estimates years. The Refugee Transitional Housing Program utilises up to 16 properties at a time, when available, for short term on arrival accommodation. Properties used are either awaiting re-development or sale. This number up to 16 is expected to remain the same in the three forward estimate years.

- b) Please advise the total number of bed nights that were provided to refugees for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;

The number of bed nights for the 2011-12 financial year was 3,968. There is no number budgeted for the 2012-13 or forward estimate years but the number is expected to be similar to previous years.

- c) Please advise the total costs to government in providing Housing ACT properties for refugees during this financial year and the total costs budgeted in providing these services for 2012-13 and the three forward estimates years.

The total cost for repairs and ongoing maintenance on properties used for the program in 2011-12 was \$25,920.52. There are no budgeted costs for 2012-13 and the forward estimate years for this program. Repairs and maintenance costs cannot be predicted in advance.

- d) Please advise why Service Funding Agreement Contract No: 2010.12671.210 between the Territory and Migrant and Refugee Settlement Services of the ACT Inc. (MARSS) does not include any reference to the requirement to allocate properties under the Refugee Transitional Housing Program.

The services covered under this funding include:

- Case work;
- Referrals; and
- Provision of information and cultural assistance

There is a separate tripartite agree between Housing ACT, MARSS and Companion House to deliver the Refugee Transitional Housing Program.

- e) Please advise whether there is a separate agreement between MARSS and the Territory for the allocation of properties under the Refugee Transitional Housing Program and if such an agreement exists please provide a copy of the agreement.

Yes there is a separate tripartite agree between Housing ACT, MARSS and Companion House to deliver the program. The agreement is attached.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:



Date:

By the Minister for Multicultural Affairs, Ms Joy Burch MLA

8812



ACT
Government
Community Services

Refugee Transitional Housing Program (RTHP)

Agreement between Companion House Assisting Survivors of Torture and Trauma Inc (Companion House), Migrant and Refugee Settlement Services of the ACT Inc (MARSS) and Housing and Community Services for the provision of support, tenancy management and accommodation assistance to Refugee Transitional Housing Program clients.

INTRODUCTION

This agreement sets out the parameters of the collaborative partnership between Migrant and Refugee Settlement Services of the ACT Inc, Housing and Community Services (HCS) and Companion House to provide supported housing services to the Refugee Transitional Housing Program. This agreement will be reviewed annually to ensure it is meeting objectives, but may be reviewed at any time on the request of any partner.

OBJECTIVE

The Refugee Transitional Housing Program is available for:

i) people eligible for a permanent visa under the Commonwealth's Humanitarian Settlement Strategy (HSS) which includes:

- Refugees – visa subclass (200, 201, 203 and 204);
- Special Humanitarian Program entrants – (visa subclass 202);
- Protection Visa holders– (visa subclass 866, and 851); and

ii) on shore Asylum Seekers who are granted a bridging visa of any class.

Clients will, in the main, be accommodated for up to six months. This period of transitional housing is designed to enable clients to settle themselves in the ACT and to give them time to secure more permanent and appropriate accommodation.

CLIENTS

Potential clients for the RTHP will be prioritised and allocated housing in accordance with the following assessment criteria.

Target Groups

People are eligible for housing assistance under the program within their first six months of arrival in the ACT.

The allocation prioritisation set out below is a guide only. Where any family from any group has significant greater risk and vulnerability factors they may be allocated from either group.

Mainstream Refugee visa holders and Protection visa holders are to be given priority in allocation unless other eligible clients demonstrate greater risk or vulnerability factors. As a guide, 70% of allocations are expected to be made to this group.

Asylum Seekers will be prioritised based on the assessment carried out by Companion House and by the criteria below. As a guide 10% of allocations are expected from this group. Asylum seekers need not be clients of any specific service to be assessed.

Special Humanitarian Program visa holders are expected to be around 20% of allocations.

CRITERIA

In considering and prioritising applicants for the program, people with a combination of vulnerability factors will receive higher priority. These factors include:

- ill health (physical and /or psychological);
- disability;
- pregnant mothers or single parents with small children;
- age (elderly or very young);
- private rental barriers such as extreme affordability barriers and ongoing discrimination;
- overcrowding where this places children at risk, however, overcrowding in a proposers home will not necessarily be an overarching consideration; and
- other exceptional circumstances (eg: complex family issues).

In prioritising applicants, consideration will also be given to the following factors:

- strength of evidence against criteria;
- family most suited to property size and design;
- geographic suitability; and
- safety needs.

DECISION-MAKING

A representative each from Companion House and Migrant and Refugee Settlement Services of the ACT Inc will be jointly responsible for allocation decisions to all properties except for two "On Arrival" properties which will be utilised for short-term accommodation for HSS clients. Allocation decisions of the two "On Arrival" properties will be solely made by Migrant and Migrant and Refugee Settlement Services of the ACT Inc.

Decision makers should be from management positions in order to create some distance from everyday case management roles. This is to ensure that decisions are made as objectively as possible, whilst protecting the case management and counselor/advocate roles.

To assist in these decision making processes and to maintain open communication channels, Companion House and Migrant and Refugee Settlement Services of the ACT Inc representatives will meet at least monthly to discuss client and program management issues. Decisions should be recorded for transparency.

PROPERTIES

Properties utilised for this program may be obtained by Migrant and Refugee Settlement Services of the ACT Inc under the following arrangements:

- i) Short-term properties provided by HCS identified by HCS for disposal or redevelopment. These will generally be provided for a maximum of 6 months; and
- ii) A Head Tenant, Tenancy Agreement will be signed by MARSS and the Commissioner for Social Housing for each property available under the program.

TENANCY MANAGEMENT AND RENT

Migrant and Refugee Settlement Services of the ACT Inc will sign all clients to an appropriate leasing agreement, which will reflect the short term or transitional nature of the Program. Migrant and Refugee Settlement Services of the ACT Inc will manage all aspects of the leasing agreement including notification of rent levels, tenancy obligations and legal rights.

Rent will be charged on the basis that Migrant and Refugee Settlement Services of the ACT Inc will pay 33.3% of the market rent. Rent is payable on a fortnightly basis and is due from the commencement of the lease. Rent will be paid to Housing and Community Services in accordance with the Tenancy Agreement.

Where a client is not in receipt of ANY income, such as Asylum Seekers, a reduced rent will be charged at a rate of \$5.00 per week.

Where a property is vacant for a period of up to three weeks a reduced rent of \$5.00 per week will also apply. After the three week period of vacancy the property should be handed back to Housing ACT. A new rebate application form will be required to be completed in both of the above cases.

All parties to this agreement will assist clients in their understanding and compliance with their leasing obligations. Migrant and Refugee Settlement Services of the ACT Inc will undertake periodic property visits to ensure that clients are complying with these obligations. A minimum of two visits per six month period will be organised at

times agreeable to clients, with reasonable notice given. Migrant and Refugee Settlement Services will complete a property condition report at these visits and provide a copy to Housing and Community Services upon request.

Migrant and Refugee Settlement Services of the ACT Inc and Housing ACT representatives will meet regularly to discuss and review housing and tenancy issues.

INSURANCE

Migrant and Refugee Settlement Services of the ACT Inc will provide insurances in accordance with and as set out in clause 8.2 of the Tenancy Agreement.

GRIEVANCE PROCEDURES

In the event of a formal disagreement between their organizations, Directors of Migrant and Refugee Settlement Services of the ACT Inc and Companion House will attempt to resolve this in the first month of it being formally raised in writing. If disagreements cannot be resolved at this level, mediation will be provided by HCS at an appropriate level.

In the event of a dispute between MARSS or Companion House and HCS, or a dispute surrounding all parties, or where a disagreement cannot be resolved, an external facilitator will bring the parties together to resolve the issue.

EXIT PLANS

A clear exit plan with identified exit points will be negotiated for all clients within their first month of accepting accommodation under this program.

Companion House will complete exit plans for all non-HSS clients Migrant and Refugee Settlement Services of the ACT Inc will complete exit plans for all HSS clients. Exit plans should seek to exit all clients from the program by the end of their leasing period.

A sample exit plan will be developed by Migrant and Refugee Settlement Services of the ACT Inc and Companion House and will be provided to Housing ACT within one month of the signing of this agreement.

Clients will be housed for a period of time dependant upon the type of property offered. In the event that housing continues for more than 6 months, Migrant and Refugee Settlement Services will:

- liaise with Housing ACT in regard to any possible extension;
- continue to provide tenancy management services;
- continue to exit the clients from the property as per exit plans; and
- Apply to DIAC to extend the provision of HSS services for up to 12 months, or,

where an extension is not possible, transition clients through the Settlement Grants Program.

Where clients exit this program to private rental accommodation and they are registered for public housing, Housing ACT will ensure that these clients will not lose their place on the waiting list for public housing unless they no longer meet the Housing ACT eligibility criteria.

FINANCIAL MANAGEMENT

Migrant and Refugee Settlement Services of the ACT Inc will provide a rent setting policy stating how it intends to charge clients for rent within this program. This policy will be provided to Housing and Community Services within one month of signing this agreement and should be consistent with Social and Community Housing rent policies.

Use of funds

Any Commonwealth Rent Assistance (CRA) payments that are collected may be managed by Migrant and Refugee Settlement Services and used as tenancy management fees and expended as follows:

- Migrant and Refugee Settlement Services of the ACT Inc may collect Commonwealth Rent Assistance (CRA) payments where appropriate to fund its RTHP tenancy management; and
- 10% of the profit will be provided to Companion House for administrative support costs associated with running the program.

REPORTING

Statistical reporting and data collection

Data collection will be in the format of and recorded in the attached spreadsheet which enables tenancy details to be linked to dwelling details by the dwelling identifier. The spreadsheet will be available electronically and is Attachment A.

To ensure accurate reporting, the success of the program and identify areas for improvement the following will also be collected:

- Migrant and Refugee Settlement Services of the ACT Inc will collect all data required by their HSS contracts;
- all assessment and exit forms will be retained for the purposes of reporting and accountability;
- all property condition reports will be retained for the purposes of reporting and accountability; and
- data will be made available to Housing ACT on request and otherwise will be reported bi annually.

SUMMARY OF RESPONSIBILITIES

Companion House will:

For non HSS clients:-

- provide exit planning;
- assist clients with completion of public housing and/or private market rental applications; and
- assist with household goods and furnishings, and with utilities connections

Migrant and Refugee Settlement Services of the ACT will:

For all clients:-

- sign appropriate leasing agreements with all clients;
- undertake tenancy and property management functions appropriate to the leasing arrangement for the property;
- liaise with Housing ACT as the housing provider regarding repairs and maintenance on HCS properties; and
- maintain a record of all required data as required within this agreement and any attachments.

For HSS clients:

- ensure a clearly identified support plan is in place;
- commit to ongoing settlement support of clients during transition placement;
- assist tenants with completion of public housing and/or private market rental applications;
- provide household goods and furnishings and assist with utilities connections;
- carry out exit planning with clearly identified exit plans;
- develop relationships with the private sector providers and explore alternative exit options other than social housing
- be able to provide alternatives to the original exit plan as appropriate; and
- Provide ongoing HSS support services to clients in transitional housing, or, in the event that a client is to be exited from HSS, transition clients through the Settlement Grants Program at the Migrant and Refugee Settlement Services Inc or Woden Community Services.

HCS will:

- provide up to 16 properties if and when they become available made up of two (2) "On Arrival" properties for HSS clients and fourteen (14) transitional properties;
- provide properties for a period of six months;
- take into consideration preferred size and location, with the majority of

- properties being 2 – 3 bedroom dwellings;
- offer properties across the ACT; and
 - provide health, safety and security property maintenance for properties to be sold or re-developed. Normal maintenance processes will apply to stairwell or common areas of properties.

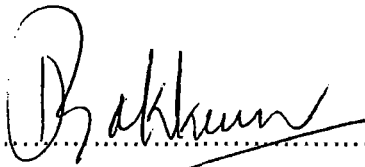
CONTACTS

The contact officer at HCS is Andrew Roylance Ph: 62071306

The Companion House contact is Glenn Flanagan 6251 4550

The Migrant and Refugee Settlement Services of The ACT inc. contact is Myf McKenna 62488577.

Signed:.....



On behalf of Migrant and Refugee Settlement Services of the ACT Inc.

Date:

Signed:.....



On behalf of Companion House

Date

13/9/11

Signed:.....



Executive Director, Housing and Community Services ACT

On behalf of Housing ACT

Date

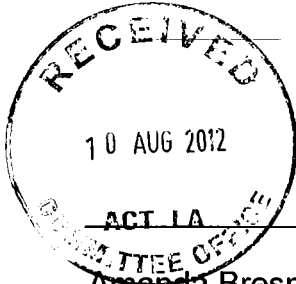
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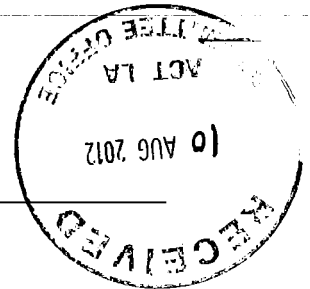
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LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013



ANSWER TO QUESTION ON NOTICE



Amanda Bresnan : To ask the Minister for Community Services

[Ref: Community Affairs, Budget paper 4, page number 345, output class 3.2]
Question No. 2312

In relation to : Asylum Seekers

1. Answer (2) to Question No. 2312 states, "The **Commonwealth Government does not provide any funding to the ACT Government** to provide support services and community based accommodation for asylum seekers." Answer (3) to Question No. 2312 states, "Key considerations throughout this process have been to ensure that asylum seekers have the requisite support to live successfully in the community, that services providers and residents are not significantly impacted **and that the ACT is fairly compensated by the Commonwealth for the services that it provides.**"
 - a) Please clarify why your answers to these two questions are inconsistent;
 - b) Given your response to Question (3) of Question No. 2312, please advise the total monies provided to the ACT Government by the Commonwealth for the periods 1 July 2010 to 30 June 2011 and 1 July 2011 to 31 May 2012 to assist the ACT in supporting asylum seekers.

2. Answer (4) to Question No. 2312 states that, "The average level of expenditure provided, by individual, by the ACT Government to assist asylum seekers is not readily available".
 - a) Please advise why the Directorate does not maintain details of the expenditure incurred in supporting asylum seekers;
 - b) Please advise how the Directorate is able to demonstrate to ACT Rate Payers that it is delivering value for money in the services it provides where it is not able to effectively account for moneys it is expending.

3. Answer (5) to Question 2312 states that the ACT Government does not provide funding for community based support for asylum seekers, but then advises that Housing ACT provides properties to the Refugee Transitional Housing Program and that allocation of properties is at the discretion of the provider which operates the program. It is therefore clear that there is a cost to Government to provide housing services, yet this cost has not been provided with the answer to the question.

- a) What is the cost of providing these services?
4. Regarding the expanded Refugee Transitional Housing Program (from eight to sixteen properties) which delivered 4,285 bed nights in 2010.
- b) Please advise the total number of Housing ACT properties utilised to assist refugee families for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;
 - c) Please advise the total number of bed nights that were provided to refugees for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;
 - d) Please advise the total costs to government in providing Housing ACT properties for refugees during this financial year and the total costs budgeted in providing these services for 2012-13 and the three forward estimates years.
 - e) Please advise why Service Funding Agreement Contract No: 2010.12671.210 between the Territory and Migrant and Refugee Settlement Services of the ACT Inc. (MARSS) does not include any reference to the requirement to allocate properties under the Refugee Transitional Housing Program.
 - f) Please advise whether there is a separate agreement between MARSS and the Territory for the allocation of properties under the Refugee Transitional Housing Program and if such an agreement exists please provide a copy of the agreement.

Minister Burch: The answer to the Member's question is as follows:—

1. a) As previously stated in response to Part 3 of Question No. 2312, the ACT Government has been working collaboratively with the Commonwealth to establish support arrangements for asylum seekers awaiting residence determination in our community, particularly in relation to health (including mental health) services and education. This process is ongoing and no memorandum of understanding, or any alternative form of agreement, has been reached between the Commonwealth Government and ACT Government at this time.
 - b) As previously stated in response to Part 2 of Question No.2312, the Commonwealth Government does not provide any funding to the ACT Government to provide support services and community based accommodation for asylum seekers. The Commonwealth Government funds the Red Cross to provide support services to asylum seekers in the ACT.
2. a) The ACT Government is unable to provide an average level of expenditure by the ACT Government to assist asylum seekers as a number of the government services which they are entitled to, such as Health and legal services, are not considered an expenditure, but rather the ACT Government foregoes revenue.
 - b) The ACT Government has introduced the ACT Access Services Card to help provided smooth access to government services and to centrally gather information on the number of services accessed and how often. Collation of usage will begin at completion of the first year of the program.

As previously stated in response to Part 1 of Question No. 2312, the ACT Government funds support programs for asylum seekers through a number of community organisations including the Multicultural Youth Service Inc and the Migrant and Refugee Settlement Service Inc. De-identified usage information is available.

3. a) The Refugee Transitional Housing Program provides short term accommodation (approximately six months) for newly arrived refugees to the ACT. The program operates under a tripartite agreement. MARSS provide tenancy management, Companion House provides medical services, including torture and trauma counselling and Housing ACT provides the dwelling. Once again the ACT Government does not count this as expenditure but rather as revenue forgone.
4. Regarding the expanded Refugee Transitional Housing Program (from eight to sixteen properties) which delivered 4,285 bed nights in 2010.
 - a) Please advise the total number of Housing ACT properties utilised to assist refugee families for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;

The total number of properties utilised for the 2011-12 financial year was 19 properties. There are no properties budgeted to be utilised in the three forward estimates years. The Refugee Transitional Housing Program utilises up to 16 properties at a time, when available, for short term on arrival accommodation. Properties used are either awaiting re-development or sale. This number up to 16 is expected to remain the same in the three forward estimate years.

- b) Please advise the total number of bed nights that were provided to refugees for this financial year and the total number budgeted to be provided for the 2012-13 financial year and three forward estimates years;

The number of bed nights for the 2011-12 financial year was 3,968. There is no number budgeted for the 2012-13 or forward estimate years but the number is expected to be similar to previous years.

- c) Please advise the total costs to government in providing Housing ACT properties for refugees during this financial year and the total costs budgeted in providing these services for 2012-13 and the three forward estimates years.

The total cost for repairs and ongoing maintenance on properties used for the program in 2011-12 was \$25,920.52. There are no budgeted costs for 2012-13 and the forward estimate years for this program. Repairs and maintenance costs cannot be predicted in advance.

- d) Please advise why Service Funding Agreement Contract No: 2010.12671.210 between the Territory and Migrant and Refugee Settlement Services of the ACT Inc. (MARSS) does not include any reference to the requirement to allocate properties under the Refugee Transitional Housing Program.

The services covered under this funding include:

- Case work;
- Referrals; and
- Provision of information and cultural assistance

There is a separate tripartite agree between Housing ACT, MARSS and Companion House to deliver the Refugee Transitional Housing Program.

- e) Please advise whether there is a separate agreement between MARSS and the Territory for the allocation of properties under the Refugee Transitional Housing Program and if such an agreement exists please provide a copy of the agreement.

Yes there is a separate tripartite agree between Housing ACT, MARSS and Companion House to deliver the program. The agreement is attached.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:



Date:

By the Minister for Multicultural Affairs, Ms Joy Burch MLA

8812



ACT
Government
Community Services

Refugee Transitional Housing Program (RTHP)

Agreement between Companion House Assisting Survivors of Torture and Trauma Inc (Companion House), Migrant and Refugee Settlement Services of the ACT Inc (MARSS) and Housing and Community Services for the provision of support, tenancy management and accommodation assistance to Refugee Transitional Housing Program clients.

INTRODUCTION

This agreement sets out the parameters of the collaborative partnership between Migrant and Refugee Settlement Services of the ACT Inc, Housing and Community Services (HCS) and Companion House to provide supported housing services to the Refugee Transitional Housing Program. This agreement will be reviewed annually to ensure it is meeting objectives, but may be reviewed at any time on the request of any partner.

OBJECTIVE

The Refugee Transitional Housing Program is available for:

i) people eligible for a permanent visa under the Commonwealth's Humanitarian Settlement Strategy (HSS) which includes:

- Refugees – visa subclass (200, 201, 203 and 204);
- Special Humanitarian Program entrants – (visa subclass 202);
- Protection Visa holders– (visa subclass 866, and 851); and

ii) on shore Asylum Seekers who are granted a bridging visa of any class.

Clients will, in the main, be accommodated for up to six months. This period of transitional housing is designed to enable clients to settle themselves in the ACT and to give them time to secure more permanent and appropriate accommodation.

CLIENTS

Potential clients for the RTHP will be prioritised and allocated housing in accordance with the following assessment criteria.

Target Groups

People are eligible for housing assistance under the program within their first six months of arrival in the ACT.

The allocation prioritisation set out below is a guide only. Where any family from any group has significant greater risk and vulnerability factors they may be allocated from either group.

Mainstream Refugee visa holders and Protection visa holders are to be given priority in allocation unless other eligible clients demonstrate greater risk or vulnerability factors. As a guide, 70% of allocations are expected to be made to this group.

Asylum Seekers will be prioritised based on the assessment carried out by Companion House and by the criteria below. As a guide 10% of allocations are expected from this group. Asylum seekers need not be clients of any specific service to be assessed.

Special Humanitarian Program visa holders are expected to be around 20% of allocations.

CRITERIA

In considering and prioritising applicants for the program, people with a combination of vulnerability factors will receive higher priority. These factors include:

- ill health (physical and /or psychological);
- disability;
- pregnant mothers or single parents with small children;
- age (elderly or very young);
- private rental barriers such as extreme affordability barriers and ongoing discrimination;
- overcrowding where this places children at risk, however, overcrowding in a proposers home will not necessarily be an overarching consideration; and
- other exceptional circumstances (eg: complex family issues).

In prioritising applicants, consideration will also be given to the following factors:

- strength of evidence against criteria;
- family most suited to property size and design;
- geographic suitability; and
- safety needs.

DECISION-MAKING

A representative each from Companion House and Migrant and Refugee Settlement Services of the ACT Inc will be jointly responsible for allocation decisions to all properties except for two "On Arrival" properties which will be utilised for short-term accommodation for HSS clients. Allocation decisions of the two "On Arrival" properties will be solely made by Migrant and Migrant and Refugee Settlement Services of the ACT Inc.

Decision makers should be from management positions in order to create some distance from everyday case management roles. This is to ensure that decisions are made as objectively as possible, whilst protecting the case management and counselor/advocate roles.

To assist in these decision making processes and to maintain open communication channels, Companion House and Migrant and Refugee Settlement Services of the ACT Inc representatives will meet at least monthly to discuss client and program management issues. Decisions should be recorded for transparency.

PROPERTIES

Properties utilised for this program may be obtained by Migrant and Refugee Settlement Services of the ACT Inc under the following arrangements:

- i) Short-term properties provided by HCS identified by HCS for disposal or redevelopment. These will generally be provided for a maximum of 6 months; and
- ii) A Head Tenant, Tenancy Agreement will be signed by MARSS and the Commissioner for Social Housing for each property available under the program.

TENANCY MANAGEMENT AND RENT

Migrant and Refugee Settlement Services of the ACT Inc will sign all clients to an appropriate leasing agreement, which will reflect the short term or transitional nature of the Program. Migrant and Refugee Settlement Services of the ACT Inc will manage all aspects of the leasing agreement including notification of rent levels, tenancy obligations and legal rights.

Rent will be charged on the basis that Migrant and Refugee Settlement Services of the ACT Inc will pay 33.3% of the market rent. Rent is payable on a fortnightly basis and is due from the commencement of the lease. Rent will be paid to Housing and Community Services in accordance with the Tenancy Agreement.

Where a client is not in receipt of ANY income, such as Asylum Seekers, a reduced rent will be charged at a rate of \$5.00 per week.

Where a property is vacant for a period of up to three weeks a reduced rent of \$5.00 per week will also apply. After the three week period of vacancy the property should be handed back to Housing ACT. A new rebate application form will be required to be completed in both of the above cases.

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times agreeable to clients, with reasonable notice given. Migrant and Refugee Settlement Services will complete a property condition report at these visits and provide a copy to Housing and Community Services upon request.

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INSURANCE

Migrant and Refugee Settlement Services of the ACT Inc will provide insurances in accordance with and as set out in clause 8.2 of the Tenancy Agreement.

GRIEVANCE PROCEDURES

In the event of a formal disagreement between their organizations, Directors of Migrant and Refugee Settlement Services of the ACT Inc and Companion House will attempt to resolve this in the first month of it being formally raised in writing. If disagreements cannot be resolved at this level, mediation will be provided by HCS at an appropriate level.

In the event of a dispute between MARSS or Companion House and HCS, or a dispute surrounding all parties, or where a disagreement cannot be resolved, an external facilitator will bring the parties together to resolve the issue.

EXIT PLANS

A clear exit plan with identified exit points will be negotiated for all clients within their first month of accepting accommodation under this program.

Companion House will complete exit plans for all non-HSS clients Migrant and Refugee Settlement Services of the ACT Inc will complete exit plans for all HSS clients. Exit plans should seek to exit all clients from the program by the end of their leasing period.

A sample exit plan will be developed by Migrant and Refugee Settlement Services of the ACT Inc and Companion House and will be provided to Housing ACT within one month of the signing of this agreement.

Clients will be housed for a period of time dependant upon the type of property offered. In the event that housing continues for more than 6 months, Migrant and Refugee Settlement Services will:

- liaise with Housing ACT in regard to any possible extension;
- continue to provide tenancy management services;
- continue to exit the clients from the property as per exit plans; and
- Apply to DIAC to extend the provision of HSS services for up to 12 months, or,

where an extension is not possible, transition clients through the Settlement Grants Program.

Where clients exit this program to private rental accommodation and they are registered for public housing, Housing ACT will ensure that these clients will not lose their place on the waiting list for public housing unless they no longer meet the Housing ACT eligibility criteria.

FINANCIAL MANAGEMENT

Migrant and Refugee Settlement Services of the ACT Inc will provide a rent setting policy stating how it intends to charge clients for rent within this program. This policy will be provided to Housing and Community Services within one month of signing this agreement and should be consistent with Social and Community Housing rent policies.

Use of funds

Any Commonwealth Rent Assistance (CRA) payments that are collected may be managed by Migrant and Refugee Settlement Services and used as tenancy management fees and expended as follows:

- Migrant and Refugee Settlement Services of the ACT Inc may collect Commonwealth Rent Assistance (CRA) payments where appropriate to fund its RTHP tenancy management; and
- 10% of the profit will be provided to Companion House for administrative support costs associated with running the program.

REPORTING

Statistical reporting and data collection

Data collection will be in the format of and recorded in the attached spreadsheet which enables tenancy details to be linked to dwelling details by the dwelling identifier. The spreadsheet will be available electronically and is Attachment A.

To ensure accurate reporting, the success of the program and identify areas for improvement the following will also be collected:

- Migrant and Refugee Settlement Services of the ACT Inc will collect all data required by their HSS contracts;
- all assessment and exit forms will be retained for the purposes of reporting and accountability;
- all property condition reports will be retained for the purposes of reporting and accountability; and
- data will be made available to Housing ACT on request and otherwise will be reported bi annually.



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Mr Hanson MLA : To ask the Minister for Health

Ref: Budget paper 4, page number 63, output class 1.1

In relation to : EDIS passwords

1. Have the passwords for the following EDIS usernames been changed since the release of the Auditor General's Report;
 - (i) DOCTOR
 - (ii) NURSE
 - (iii) BEDMAN
 - (iv) CLERK
2. If they have been changed, on what date were they changed?

Ms Gallagher MLA : The answer to the Member's question is as follows:-

- 1 & 2. DOCTOR – Changed 6 July 2012
NURSE – Changed 6 July 2012
BEDMAN/CLERK – For operational reasons, BEDMAN and CLERK were not changed until 20 July 2012. The Health Directorate continues to monitor to ensure there is no inappropriate use.

These changes were undertaken following the completion of the PWC Audit process and review of the possible impact on the operational requirements of the system as a working tool in the ED. This required notification to all users prior to any changes.

Approved for circulation to the Standing Committee on Estimates 2012-2013

Signature *Katy Gallagher*
By the Minister for Health, Katy Gallagher MLA

Date: 9.8.12

SUMMARY OF RESPONSIBILITIES

Companion House will:

For non HSS clients:-

- provide exit planning;
- assist clients with completion of public housing and/or private market rental applications; and
- assist with household goods and furnishings, and with utilities connections

Migrant and Refugee Settlement Services of the ACT will:

For all clients:-

- sign appropriate leasing agreements with all clients;
- undertake tenancy and property management functions appropriate to the leasing arrangement for the property;
- liaise with Housing ACT as the housing provider regarding repairs and maintenance on HCS properties; and
- maintain a record of all required data as required within this agreement and any attachments.

For HSS clients:

- ensure a clearly identified support plan is in place;
- commit to ongoing settlement support of clients during transition placement;
- assist tenants with completion of public housing and/or private market rental applications;
- provide household goods and furnishings and assist with utilities connections;
- carry out exit planning with clearly identified exit plans;
- develop relationships with the private sector providers and explore alternative exit options other than social housing
- be able to provide alternatives to the original exit plan as appropriate; and
- Provide ongoing HSS support services to clients in transitional housing, or, in the event that a client is to be exited from HSS, transition clients through the Settlement Grants Program at the Migrant and Refugee Settlement Services Inc or Woden Community Services.

HCS will:

- provide up to 16 properties if and when they become available made up of two (2) "On Arrival" properties for HSS clients and fourteen (14) transitional properties;
- provide properties for a period of six months;
- take into consideration preferred size and location, with the majority of

- properties being 2 – 3 bedroom dwellings;
- offer properties across the ACT; and
 - provide health, safety and security property maintenance for properties to be sold or re-developed. Normal maintenance processes will apply to stairwell or common areas of properties.

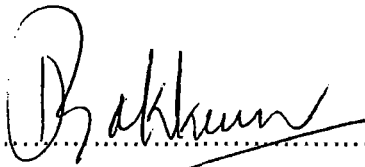
CONTACTS

The contact officer at HCS is Andrew Roylance Ph: 62071306

The Companion House contact is Glenn Flanagan 6251 4550

The Migrant and Refugee Settlement Services of The ACT inc. contact is Myf McKenna 62488577.

Signed:.....



On behalf of Migrant and Refugee Settlement Services of the ACT Inc.

Date:

Signed:.....



On behalf of Companion House

Date

13/9/11

Signed:.....



Executive Director, Housing and Community Services ACT

On behalf of Housing ACT

Date

18 October 2011.



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE

Meredith Hunter: To ask the Minister for Community Services

[Ref: Budget paper 4, page number 344/349, Output 2.1]

In relation to: Child and Family Centre Program

1. This output class refers to intervention and prevention services, although it is noted there are no specific accountability indicators relating to these services listed at page 349 of Budget Paper 4.

How will the Directorate measure the longitudinal success or otherwise of these programs?

MINISTER BURCH: The answer to the Member's question is as follows:—

The Child and Family Centres provide a range of integrated early intervention and prevention services to children and their families in the communities in which they are located. The Child and Family Centres seek to evaluate the success of these services in a range of ways. For example:

- For families who receive a case management service for three months or longer, pre and post questionnaires are used to assess any change in a parent's confidence and competence in their parenting role as a result of their contact with the service. This method of evaluation was implemented approximately 12 months ago and the first analysis of results will occur within the 2012-2013 financial year.
- Each group program has an evaluation plan which includes methods for evaluating the effectiveness of group programs. The findings of these evaluations inform ongoing group planning in a continuous cycle of improvement.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

A handwritten signature in black ink, appearing to be 'Joy Burch'.

9.7.12

Date:

By the Minister for Community Services, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Meredith Hunter: To ask the Minister for Community Services

[Ref: Budget paper 3, page number 128, Output 4.2]

In relation to: Strengthening Care and Protection Services

1. Could you please provide an update with respect to the CHYPS system and whether the Directorate has decided that its primary record keeping function will be a paper file or an electronic system?

Minister Burch: The answer to the Member's question is as follows:-

As indicated in the Government response to the Public Advocate's Stage 2 Review of the Emergency Response Strategy for Children in Crisis in the ACT released on 1 June 2012 paper files at present are still considered the official record.

Preliminary assessments of the capacity for the CHYPS data system to be a complete electronic record system have occurred. A number of improvements would need to be made (for example improved disposal functionality) to achieve this.

Further work is required to inform the scope of changes required, appropriate technological solutions and a business case.

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Signature:

By the Minister for Community Services, Ms Joy Burch MLA

Date:

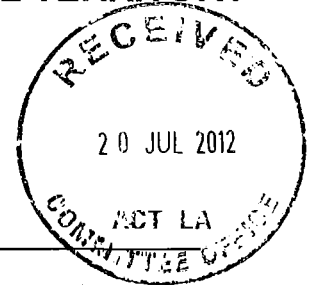
Joy Burch 19/7/12



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Caroline Le Couteur: To ask the Minister for the Arts

[Ref: Budget paper 4, page number 587, Cultural Facilities Corporation, Statement of Intent, Operating Statement & Page 13]

In relation to: Employee Expenses

1. I note that employee expenses increased from the original 2011-12 Budget to the 2011-12 Estimated Outcome by 6 full time equivalent staff (FTE), or \$.711M and that this increase is attributed to higher than budgeted activity at the Canberra Theatre Centre. I also note that the number of days venue usage at the Canberra Theatre Centre increased from its original 2011-12 Budget of 620 days to 635 days in terms of the 2011-12 Estimated Outcome.
 - a) Could you please advise why 6 additional FTE staff were required to manage an increase in days venue usage at the Canberra Theatre Centre of 15 days?

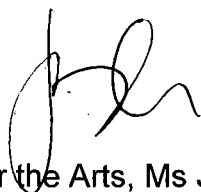
Minister Burch: The answer to the Member's question is as follows:—

1. a) The Estimated Outcomes for employee expenses, FTE, and number of days of venue usage at the Canberra Theatre Centre (CTC) are three separate projections that do not directly relate to each other.
 - The Estimated Outcome for employee expenses incorporates all projected staff-related expenses for the year across the Cultural Facilities Corporation (CFC). While, as stated on page 508 of Budget Paper 4, higher than budgeted activity at the CTC is the main reason for the increase in the Estimated Outcome from the original budget, other reasons include salary increases as a result of enterprise bargaining outcomes, and upwards movements in leave liabilities.
 - The Estimated Outcome for FTE is an estimation of staffing levels across the Cultural Facilities Corporation (CFC), not just the CTC. It is an estimation of FTE at a certain point in time, which is affected by the anticipated level of activity across the CFC at that time. As noted at page 498 of Budget Paper 4, the high number of casuals employed and the variations in patterns of casual employment make a definitive FTE difficult to estimate.

- The Estimated Outcome for number of days of venue usage is a numerical projection of the usage of all CTC venues, including the Canberra Theatre, The Playhouse and the Courtyard Studio. Usage of each of these venues has different staffing impacts and this may lead to a significant variation in staffing despite a relatively small variation in venue usage numbers. For example, the CTC's main venue, the Canberra Theatre, was in use more often in 2011-12 than anticipated, which had a major impact on staffing costs, as well as on associated revenues.

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Signature:



19/7/12

Date:

By the Minister for the Arts, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Caroline Le Couteur: To ask the Minister for the Arts

[Ref: Cultural Facilities Corporation, Statement of Intent, Operating Statement]

In relation to: Income and Expenditure

1. I note that the revenue expected for "User Charges – ACT Government", "Resources Received Free of Charge", "Borrowing Costs" and "Other Expenses" are exactly the same in the 2011-12 Estimated Outcome, the 2012-13 Budget and the three forward estimate years.
 - a) Could you please advise the reasons for the above and what these revenue and expenditure items comprise?

Minister Burch: The answer to the Member's question is as follows:–

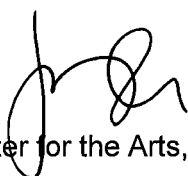
1. a) The figures included in these revenue and expenditure projections are exactly the same due to the fact that, since these are estimated amounts and there are no specific factors at this point in time to suggest an upwards or downwards movement, retention at the same level is considered appropriate.

These revenue and expenditure items comprise the following.

- User Charges – ACT Government : payment received for the Civic Library's occupation of premises in the Civic Library and Link building, and payment for ACT Government Service hires of facilities managed by the Cultural Facilities Corporation (CFC).
- Resources received Free of Charge : legal services and human resources services provided to the CFC at no cost by other areas of the ACT Government Service.
- Borrowing Costs : finance costs on motor vehicle leases.
- Other expenses : land tax and rates paid on certain CFC properties.

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Signature:

 13-7-12

Date:

By the Minister for the Arts, Ms Joy Burch MLA

QON-12/90



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE



Caroline Le Couteur: To ask the Minister for the Arts

[Ref: Cultural Facilities Corporation, Statement of Intent, Operating Statement & Balance Sheet]

In relation to: Asset Revaluations


1. Paragraph 31 of *AASB 116 Property, Plant and Equipment* states that, "After recognition as an asset, an item of property, plant and equipment whose fair value can be measured reliably shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period."
- a) Could you please advise why there do not appear to have any asset revaluation's undertaken during the 2012-13 financial year and three forward estimate years?

Minister Burch: The answer to the Member's question is as follows:—

1. a) While certain asset revaluations will be undertaken during these years, it is not possible to predict the outcome of these revaluations. Accordingly, as there are no specific factors at this point in time to suggest an upwards or downwards revaluation, retention at the current valuation levels is considered appropriate.

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Signature:

 13.7.12

Date:

By the Minister for the Arts, Ms Joy Burch MLA



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
SELECT COMMITTEE ON ESTIMATES 2012-2013

ANSWER TO QUESTION ON NOTICE

Caroline Le Couteur: To ask the Minister for the Arts

[Ref: Cultural Facilities Corporation, Statement of Intent, Attachment 2]

In relation to: Asset Management Plan

1. I note that Attachment 2 to the Statement of Intent refers to the Corporation's Strategic Asset Management Plan and at this Attachment there is discussion with respect to the public facilities that are held. I also note that the detailed Strategic Asset Management Plan is not included with the Statement of Intent.
 - a) Could you please provide a copy of the Strategic Asset Management Plan?

Minister Burch: The answer to the Member's question is as follows:-

1. a) Yes. A copy of the Strategic Asset Management Plan is attached herewith.

Approved for circulation to the Select Committee on Estimates 2012-2013

Signature:

A handwritten signature in black ink, appearing to read "Joy Burch", written over the printed name.

Date:

By the Minister for the Arts, Ms Joy Burch MLA



Graeme O'Neill
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ACT Cultural Facilities

Asset Management Planning

Assessment, Report & Plan

Report Issue 2 (First Update), May, 2010

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Important Application Note

The included Asset Management Plan has been developed as an update of a continuing lifecycle assessment and planning process that began with an initial Asset Management Plan produced in 2004 and covering the period from 2005 - 2024.

The initial Asset Management Plan recommended that planning reviews should retain a long-term perspective by projecting the 20-year planning window ahead with each review. This recommendation has been retained (see section 10.2) and implemented in this update. Consequently, this update covers a 20-year timeframe from 2011 - 2030.

Note in particular:

- ❑ The included cost estimates are at the 'indicative cost' level. A number of the scheduled element costs are subject to further detailed scoping or feasibility studies.
- ❑ All costs in this plan have been updated to 2011 dollars. They will require further adjustment for inflation as time progresses.
- ❑ The timeframes for allocating costs are also estimates and will need to be updated to account for observed aging and other considerations as time progresses.

The Asset Management Plan and the associated cost estimates can be expected to vary, over time, as better information on the scope and cost of refurbishment work becomes available and as the circumstances or objectives vary.

When using the Plan for budgetary purposes, be aware of the uncertainties of long-term planning and the likelihood of cost variations with progressive updating. Where available, use updated cost estimates from the detailed assessments or engineering investigations subsequent to this report.

The planning presented here assumes that further detailed assessments will be undertaken for most of the significant work packages, particularly the complex packages involving system design issues. This report recommends such assessments as packages of work become imminent, ie within, say, 2 – 5 years of implementation.

Introduction

1.1 Overview

The Cultural Facilities Corporation (CFC) is the custodian and manager of a number of public building assets in the ACT. The assets are culturally significant to the ACT community, and include venues of historical importance, a public library, public theatres and galleries. The building portfolio is quite diverse including income generating, non-commercial and heritage assets. The managed premises range from domestic housing to major civic buildings.

There has been significant capital expenditure on construction and refurbishment of these assets, over more than a half century, by both Commonwealth and ACT Governments. When systematic lifecycle planning commenced in 2004, it proved impossible to outline the timing or scope of preceding lifecycle expenditure on the various facilities. This resulted from the various administrative arrangements, funding sources and project management regimes that had been in place up until that time. The situation was compromising long term management of the assets, as it was difficult to trace their development over time as a means to assess their current status, establish benchmarks and predict major future expenditure.

The asset management plan presented here was first developed in 2004 as a project to improve the facility life cycle management tools available to the Corporation. The intention was to identify the most relevant historical building development threads and map the major replacement and refurbishment cycles into coherent lifecycle models. This process provides a method for identifying likely future financial commitments and making more informed operational and development decisions.

The history of the existing assets has shown that the major development, renewal and refurbishment cycles continue in the absence of coherent asset management planning. However, an asset management plan provides the opportunity to direct investment and renewal processes to meet corporate goals and to optimise outcomes. In the absence of a formal planning process, facility development or preservation can be compromised by the lack of an overview and historical perspective.

Before 2004 the Corporation undertook some limited asset replacement planning. This planning was short term, mainly focused on operational needs and expenditure for short lifetime components (eg special light fittings, seating, scenery ropes etc). The current asset management plan broadens the scope and time-scale to make the asset management planning more comprehensive, while continuing to have relevance in the short term. The plan identifies expenditure needed for long-life elements requiring investment within the medium and long-term periods out to year 2030.

1.2 Corporate Objectives

Organisation

The Cultural Facilities Corporation was established under the *Cultural Facilities Corporation Act 1997*. Its major functions include:

- promotion and management of cultural activities at designated locations and other places in the ACT;
- establishing, maintaining, conserving and researching collections;
- exhibiting collections in the possession or under the control of the Corporation;
- managing and developing the Civic Square precinct as a cultural focus of the ACT.

Asset Management Planning

The corporate objective for this study is to review and update the initial Asset Management Plan prepared in 2004 for major facilities including the Canberra Theatre, The Playhouse, galleries and offices in leased accommodation and three historic sites. The updated plan is also to incorporate the Library / Link building completed in 2006. The asset management plan will continue to assist the Corporation to identify the future financial commitments latent in its primary assets.

The commitment to this review indicates the Corporation's desire to sustain its asset management planning. The techniques and planning described in this report should be viewed as part of a continuing planning process, as discussed in Part 2 of this document.

Facility Objectives

The corporate objectives for individual building assets are key inputs for development of each facility's Asset Management Plan. Such objectives are addressed in Part 3 of this report.

1.3 Asset Lifecycle

Initial Asset Management Plan, 2004

The initial Asset Management Plan, developed in 2004, covered the Corporation's major facilities including the Canberra Theatre, The Playhouse, leased accommodation and three historic properties. The then existing Link building was excluded from the initial Asset Management Plan as it was to be supplanted by the new Library / Link development. The planning covered a 20-year lifecycle period from 2005 – 2024.

Updated Plan, 2010

The updated Asset Management Plan, described herein, is built around the 2004 plan. However, it has been updated to incorporate the Corporation's portfolio changes, ongoing development at the various facilities and planning changes arising from various investigations and assessments related to the facilities. The circumstance and items that have had a major impact on this update include,

- A major new Library / Link development was completed in 2006;
- Detailed condition audits for the Historic Places were developed in 2007 to supplement the previously available conservation plans;
- Significant refurbishment, remedial and development work for individual facilities has occurred over the period 2005 - 2010;
- The Nolan Gallery has been downgraded due to the relocation of its collection into the Canberra Museum and Gallery in 2007;
- Significant leasing and functional changes have occurred in the North building;

- The community and Government have become increasingly conscious of sustainability and energy efficiency issues in relation to building assets.

When the original version of this report was published in November 2004, the authors made a recommendation that future updates of the Asset Management Plan should "retain a long-term perspective by projecting the 20-year planning window ahead with each review." This recommendation is repeated in section 10.2 herein. The recommended approach has been followed with this 2010 update. This update uses the 5-year and 20-year planning timeframes adopted for the initial Asset Management Plan but applies them to the financial years between 2011 and 2030. Prior works are retained in works lists for record keeping purposes but do not contribute to projected costs.

Lifecycle Investment 2005 - 2010

The Cultural Facilities Corporation has undertaken considerable development and lifecycle investment in the reviewed facilities over the period from 2005 –2010 when the initial asset management planning was implemented. The major capital expenditure item was for development of a new Library / Link building at an overall cost of approximately \$18 million.

The Corporation's lifecycle and development works for other facilities are summarised in Appendix 3. Costs for the tabulated refurbishment or development items are included in the summary only where they were available from readily accessible sources.

The 2004 Asset Management Plan envisaged a total lifecycle investment of \$7.2 million to maintain the capital value of the Corporation's facilities over the 2005 - 2010 period, excluding capital investment in the new Library / Link building. The report authors were not able to establish the actual capital expenditure over the 2005 – 2010 period because of the difficulty of delineating projects and associated costs from the readily accessible sources.

Asset Management Regime

The Corporations asset management regime is now much more professional than it was in 2004 when the initial asset management planning commenced. Over time the planning regime has become established as part of the normal facilities management. There is little doubt that the Corporation's asset management personnel have become increasingly conscious of lifecycle planning issues and are more pro-active in addressing degradation, deficiencies and needed development in the facilities. This is reflected in the progressively increasing capital refurbishment and development works, recorded in Appendix 3. In general, the facilities are travelling well and significant improvements have been made over the last six years. For example,

- The Canberra Theatre Centre has much better presentation and patron amenities with the new Link developed as part of the Library / Link project;
- Disabled access throughout the Canberra Theatre Centre is vastly improved;
- There have been major improvements in integrated services for the Canberra Theatre Centre (eg telephone, HVAC automation, data services);
- Sub-standard emergency lighting in the Canberra Theatre has been developed to provide an adequate standard of patron safety;
- Safety equipment to support maintenance, stage services and performances has steadily improved;
- Audio systems in The Playhouse and Theatre have been brought up to the standard expected by performance companies;
- Most of the structural concerns and cracking in Historic places have been remediated;
- Significant improvements in weather protection, drainage and fire protection have been made for the Historic places;
- The presentation of Historic places is significantly improved;

- The North building lease has been rationalised with significant savings;
- The CMAG galleries and amenities are being steadily developed for a better visitor experience.

The above is a representative sample of the improvements in asset status over the 2005-2010 period.

Adequacy of Investment

Despite the improvements and resolution of major problems over the past six years, it is questionable whether the lifecycle investment is keeping pace with the accumulating underlying risks and liabilities as the assets age. The answer to this question will likely be resolved over the next five-year period. In updating the planning, a number of high value replacement and refurbishment works have been postponed from 2005 – 2010 into the coming five-year period, 2011-2015. There are other liabilities arising from a future role for the former Nolan Gallery. In addition, there is an increasing demand for capital investment to improve amenities and marketability of the various venues.

Some refurbishment elements have been postponed because it proved feasible to extend the service life of systems or components and thereby save scarce capital resources. However, constraints on capital have been influential in postponing scheduled refurbishment. On the balance of probabilities, it seems likely that the investment level has not kept pace with the liabilities arising from aging assets. The impact of this is not immediately noticeable over a six-year time-span. However, it has implications for the long term. When needed lifecycle renewal is postponed beyond a critical point, the long term viability and reliability of assets will eventually be compromised. The risk of an unplanned failure with high dislocation and remedial costs is significantly increased.

The next five years will see some major liabilities fall due. For example, the Canberra Theatre, now 45 years old, will need a new chiller and boiler plant and refurbishment of aged lighting. The Theatre Centre will need continued investment to maintain its commercial viability. Major liabilities are set out in the updated asset management plan.

Cost Adjustments

The updated asset management plans now reference all estimated costs to 2011 prices. Costs have been re-appraised as part of the planning review and update. The following table indicates the building cost indices and year-on-year price escalation that allows comparison between costs referenced to different years. Building cost indices to 2008 are from industry references. Beyond that, the indices are derived by non-linear extrapolation.

Financial Year Ending	Building Cost Index	Year-on-Year Escalation
2005	155.63	6.56%
2006	164.17	5.49%
2007	171.52	4.48%
2008	180.12	5.01%
2009	187.57	4.13%
2010	195.87	4.42%
Cumulative Escalation		34%

Asset Management

2.1 Planning

In general, buildings and their infrastructure are very long-lived assets. The recurrent expenditures for their upkeep, routine maintenance, energy usage and operational needs are general fairly consistent from year to year and therefore, relatively predictable from the perspective of financial management. By contrast, the major capital expenditures, needed for renewal and refurbishment of depreciating or wearing components are not smoothly distributed over time. They are predictable in a broad sense, but not with sufficient accuracy to precisely identify future financial commitments or their exact timing.

Asset management planning seeks to reduce the uncertainty of financial provisioning and direct the cyclical refurbishment and development works towards broader corporate goals. The management process includes:

- a) Determining corporative objectives for particular facilities;
- b) Developing a lifecycle model of the assets in which required capital expenditures are broadly predicted based on anticipated lives and other technical or common sense considerations;
- c) Recording, from year to year, information on refurbishment, development and building condition to update and progressively improve the lifecycle model;
- d) Incorporating, progressively, changes which impact on the planning process (eg business or functional changes, major redevelopment, refurbishment, adjustments in financial priorities and funding prospects);
- e) Adapting and using the lifecycle planning as an input to determine, acquire and allocate corporate and other relevant resources to meet the overall objectives for particular facilities.

The 2004 Asset Management Plan covered items (a) and (b) above, with the bulk of assessment and analysis falling within the scope of item (b). These are just two important, initial steps in an overall, long-term, management process that needs to be fully implemented to function effectively and deliver value to the Corporation. This update in 2010 provides the opportunity to incorporate some of the elements listed as (c), (d) and (e) above. These provide the feedback loop for the complete asset management cycle.

2.2 Assessments

Probability & Uncertainty

It should be understood that the assessments underlying the asset plan are estimates of likely outcomes using professional judgement and based on the balance of probabilities. They are targeted at providing information of decision-making quality by summarising the elements of lifecycle work, their timing and their indicative costs. While the assessments use rational schemes for preserving the utility and value of assets, the evaluation process must accommodate uncertainty at a variety of levels.

The assessments should not be interpreted as assured outcomes or as certifications of current or future status. As with most predictive tools, utility and accuracy can be improved, over time, by feedback. This requires routine review and stocktaking processes that account for ongoing development and refurbishment and regularly update condition assessments and other issues that affect the life or utility of the capital assets. Specific recommendations for such review processes are included in Part 10. They take account of the circumstances encountered in preparing this updated report.

Rationale & Descriptions

Parts 5-9 and Part 10 of this report provide relevant descriptions of the facilities and the rationale for the scope, timing and costs of works listed in the asset management plan. The building fabric items included in the asset management plan refer to comparatively simple systems and processes (surfaces to be repainted, carpet to be replaced, joinery to be renewed and the like). Their listings in the plan are generally self explanatory and only minimal interpretive comment is warranted. More extensive descriptions are given for building services items, which are inherently more complex and variable in the reasons for replacement or upgrading.

Inspections of Building Fabric

The building fabric has been inspected to identify the types of materials involved and obvious circumstances that might deflect their lifecycles from usual expectations. A detailed condition survey is not feasible or warranted for strategic planning purposes. However, as refurbishment works fall due, it will be desirable to increase the resolution of assessments by specific, detailed inspections aimed at defining suitable packages of works.

Some items of urgently needed work or recent replacements and renewals may not be specifically identified in the works lists because of the grouping of replacement works. Provisional or progressive allowance for some work has been included where conditions are uncertain or there is a need for a spread of investment into the future. The purpose of the plan is to provide a framework where the impacts of replacement and refurbishment items can be consolidated and understood in the wider lifecycle context. The adjustment and refinement of work schedules over time is expected as better information becomes available, as actual degradation is observable or as circumstances change.

2.3 Asset Costs

For most institutions, the long term cost of building assets is normally an order of magnitude less than other major operational costs such as staffing costs. This rule of thumb may not apply strictly to the Cultural Facilities Corporation, which is relatively "asset rich". However, it explains why asset planning has been generally neglected, until recent times.

The hazard in neglecting asset planning arises from the fact that asset costs are moderated only by the very long life of building assets. When a major cyclic renewal falls due, a one line item of infrastructure renewal can represent a major expenditure. Frequently the expenditure will not fit readily into an organisation's recurrent budget. Thus there is a need to predict and plan for lifecycle expenditure and this planning is needed regardless of the particular financial delivery system.

These considerations are of particular relevance for the Cultural Facilities Corporation because of the advanced age of the Canberra Theatre and demands of maintaining the Historic Places sites.

2.4 Data Gathering

A data gathering process is needed to establish the lifecycle models for asset management planning. The data gathering process identifies and classifies the assets into broad groupings of

building elements, plant systems and equipment items to facilitate analysis in terms of function, current condition, remaining life, eventual replacement costs etc. Lifetimes are generally allocated to components or systems on the basis of prevailing industry expectations. However, non-standard lifetimes are allocated where this is warranted.

Replacement costs are assigned as reasonable budget allocations for work that may cover several related building elements or plant components. Cost rates are based on typical unit costs for similar work but may not reflect synergistic savings available through packaging of works or substantial setup costs for works undertaken in isolation. The emphasis is on mapping how expenditure accumulates over time rather than individual accuracy in each works listing since these should be reviewed as the need approaches.

In addition, a broad assessment is made of other issues that influence the strategy of asset replacement and refurbishment, for example:

- Deficiencies and amenity / functionality issues;
- Energy efficiency and system design issues;
- Design or construction defects and deficiencies;
- OH&S issues;
- Building code (BCA) and other code compliance issues.

2.5 Assessment Timeframes

Timeframes

The timeframes for this assessment update and the presentation of future asset management works are as follows:

- 1)** Short term: Assessment over a 5 year period (2011-2015) at 1 year intervals;
- 2)** Long term: Assessment over a 20 year period (2011-2030) at 2 year intervals.

The years referred to are financial years to suit the Corporation's funding calendar. Each financial year is referenced by the calendar year in which the financial year ends. For example 2011 signifies the 2010-2011 financial year. Note that any reference to building lifecycle in the context of the selected timeframes refers only to the part of the building lifecycle within the timeframe. Most of the facilities have potential lives well beyond the assessment timeframes.

The 5 and 20 year timeframes were originally selected to provide the immediate utility of a short-term assessment and the overall lifecycle perspective that can be gained only by assessment over the longer term. The start and end points for cost projections should be advanced each time the planning is reviewed, in order to preserve these alternative views.

Works completed between 2005 and 2010 remain in the works lists as part of the record keeping recommended for asset management planning. They are distinctively formatted and their costs do not affect forward projections. Some of these prior works may not have been identified in the original report. Others may consolidate formerly separate listings or use different descriptions. Where works were originally listed but not carried out, they have been rescheduled, usually with high priority.

Run-down Period

The end of the analysis timeframe in 2030 does not mark any particular milestone in the lives of the buildings. Although they vary widely in age and expected life spans, there are no current plans to demolish or replace any of the assets. The Nolan Gallery has been temporarily decommissioned and its future remains under review. It has been assessed only for physical condition without regard to its originally intended usage as a gallery. It is very likely to find a new role though its

usage is expected to be less critical and demanding than its former gallery role. The asset management analysis assumes all buildings will remain in service beyond 2030.

An asset plan covering the economic lifetime of a single building would typically have a run-down period in the last few years of its expected life, when the normally scheduled lifecycle works would be tailed off. For example, extensive repainting, theoretically due, might not be undertaken just before a building is permanently decommissioned.

Currently no run-down period has been applied in scheduling the works. At some time in the future, one or more of the buildings may be assigned a date for planned decommissioning. If this occurs, the lifecycle planning should be adjusted to run down the lifecycle investment as the building end date approaches to minimise unproductive investment.

2.6 Focus

Depreciating Assets

The asset management planning concentrates on depreciating capital assets, their longevity, their potential for life extension, probable need for replacement etc. A key characteristic for inclusion in the asset planning is a need for larger scale capital expenditure at low frequency. Essentially, this is the expenditure that is not consistent from year to year and not predictable by extrapolating recurrent budgets.

In general, the planning excludes recurrent yearly expenditure such as for maintenance, unless it might be better classified as a capital replacement work. Examples of this are the expenditure for replacement of theatre equipment such as scenery ropes and mechanisms and larger-scale painting. Some of these items actually appear in the plan as annual expenditures. The annual allowances are, however, provisional amounts resulting from a portion of the equipment or surface finishes reaching life expiry each year. The capital expenditure on such items is usually labelled as “progressive”.

Heritage Properties

Heritage properties have conservation issues superimposed over the normal lifecycle planning applicable for mainstream, depreciating building assets. These properties have, effectively, an indefinite life, as they usually become more valued by the community as they age. This assessment considers conservation and depreciation issues as equivalent. It treats almost all needed conservation works as lifecycle works for the purposes of asset management planning.

2.7 Capital Works Funding

Constraints

Once lifecycle works have been assembled, analysed and collated, the asset management plan provides a framework for recording relevant information for ongoing management of facilities. Choices made in meeting lifecycle needs will be influenced by the availability of funding. However, the planning framework remains relevant over a range of funding models.

The Cultural Facilities Corporation is constrained by ACT Government capital works funding arrangements which may change significantly over the lifecycle of many of the assets. However, the asset management process can provide a means of identifying and prioritising capital works and recording information on progressive renewal and development works as they are undertaken. The asset plan operates as a management tool, regardless of the sources of funding to implement needed works. In fact, it provides management with the means to identify funding needs, before they become urgent, and to build a sound case for committing to particular works.

Where major new assets are being considered, the asset planning will often allow the new works to contribute to lifecycle improvements as well as providing the extra amenities that are their primary purpose. The Library/Link development provided an illustration of this as it proved a catalyst and enabler of service and other rationalisation across the Theatre precinct. It also greatly improved the amenities available to both The Playhouse and Theatre.

Investment Level

This update provides an opportunity to assess the rate of deterioration of various assets and the level of investment in lifecycle works over the first six years of the planning cycle. Six years is a relatively short period in the context of building lifecycles and it is difficult to obtain an accurate picture of lifecycle changes over this interval. However, the investigation carried out as part of this update, suggest that capital expenditure on lifecycle works is generally below that necessary to prevent a slow accumulation of risks from deteriorating system or a slow long-term decline in the assets.

In practice, a number of high priority asset replacement items in the original plan have needed rescheduling as future works due to non-implementation before this review. The scheduling of asset replacement items has considerable uncertainty because of the need to make judgements on future deterioration or obsolescence. That some items might be rescheduled in the plan is unremarkable and expected. However, the general need for this as part of this update, suggests that refurbishment decisions are being made in the context of too little capital funding to maintain the portfolio of assets. This is not obvious at present, but it may become so if the Corporation is unable to fund some of the major replacement and refurbishment items needing implementation in the next five-years.

A probable exception to the above comments occurs in the Historic Places portfolio. This portfolio has benefited from some special funding, allowing needed conservation and protective measures to proceed against a four-year plan. It is probable that lifecycle investment in this area has been adequate and possibly ahead of the curve. However, there will be a continuing demand for capital funding in future.

The limits on capital funding are problematical and a challenge to the Corporation. However, scarce capital is a fact of life that many organisations must deal with in a positive fashion. From an asset management perspective there are several methods for restraining the demands on investment capital to keep facilities up to standard. These include,

- a) Life extension (keeping reliable systems in service beyond notional life limits significantly reduces life cycle costs and the need for investment capital);
- b) Prioritisation of refurbishment (scarce capital should be directed to the highest risk areas or those with the highest potential for return on investment, eg by slowing degradation or improving patronage or visitation);
- c) Exploiting development synergies (some development projects can be expanded to pick up lifecycle components more economically than implementing the latter as stand-alone projects);
- d) Exploiting opportunities for energy efficiency (this reduces cost by providing a tangible payback for some lifecycle works).

Application of above techniques can moderate the need for capital funding. However, there will be a certain minimum investment needed to avoid an accumulation of risks for the long term.

2.8 Condition & Life Assessment

Normal lifespans for building and service elements are available from various building industry publications such as the Australian Institute of Air Conditioning Refrigeration and Heating

(AIRAH) Handbook. This gives typical economic lives for components of air conditioning plants. Other reference sources include, for example, the Australian Tax Office depreciation lifetimes for tax purposes.

Economic life predictions are generally set at the high end of standard industry expectations because industry standards are usually conservative. In addition, other factors identified during building inspections are factored into the assessments to estimate the optimum time and strategy for refurbishment or replacement. Observed changes in condition between the initial inspections and those for this review have also informed life predictions. Factors that impact on these assessment include:

- in-built quality and durability of existing building elements and systems;
- current condition in relation to age (as a guide to rate of degradation);
- usage and exposure to degradation or damage;
- rate of obsolescence;
- defects and deficiencies;
- statutory and code compliance;
- amenity, aesthetic, performance and efficiency considerations;
- serviceability and availability of spare parts.

2.9 Scope & Timing of Replacement Works

The asset plan lists specific packages of work to the building fabric and fit-out or to building services. It assigns them to a particular year in the planning timeframe, with an indication of their cost (in 2011 dollars). Such work is summarised year-by-year in the initial five-year period to 2015 and over two-year intervals for the longer view. These listings are statements of probability rather than definitive forecasts. They are best applied by reviewing listed works packages as they become imminent, assessing needs at the time and then refining the scope and timing of works packages accordingly.

Some works will be found to be deferrable, others in need of earlier implementation. The plan provides an overview for understanding the cumulative impact of such individual decisions. Over time replacement and refurbishment works will be able to be defined more accurately (in terms of their scope, timing and cost). Their lifecycles and indicative costs in the plan can then be adjusted to improve the accuracy of projections.

2.10 Management Process

Implementation

This report and the updated asset management plan represent the second iteration of an ongoing review process that can be refined through accumulating experience. The updated planning has benefited from feedback on the outcomes between 2005 and 2010 but still includes significant uncertainty due to mismatching between the listed works and those actually funded. More frequent updating, based on ongoing inspections, detailed investigations, feasibility studies, cumulative data and feedback from completed works will provide the means to improve the predictive accuracy of the planning. Without systematic review and updating, the planning will become progressively less relevant as it is overtaken by events not factored into the plan.

Investigations

As major elements of work approach their implementation date, it will be desirable to undertake engineering or other investigations to establish or confirm feasibility, detail the scope of refurbishment, refine estimates and identify impacts of the lifecycle work. Ideally, works planned

within the immediate five-year period should be assessed in this fashion. In the updated plan included with this report, some of the major engineering studies that are needed have been identified and allocated costs for implementation.

Routine Review

Planning needs also to be routinely updated to accommodate business changes and the other high level factors which influence the direction and objectives of planning. The planning update associated with this report has accommodated a number of such changes as summarised in section 1.3. The high level changes are usually obvious and readily accessible. However, the plan also needs to be updated at the operating level to reflect progress, constraints, acquired knowledge, setbacks, environment changes, development, usage etc. What is desirable here is to record refurbishment and development issues as they arise, or at least annually when information is readily available. Over longer timeframes, information is lost or becomes inaccessible due to the overburden of information in any modern Corporation.

Financial Constraints

Obtaining funding for essential lifecycle works may be a major constraint with dramatic effect on the overall planning. The planning may need to be adapted or redirected to compensate for lack of funding, as this is one of the most common limitations to be dealt with, in practice. In general, the asset management plan assumes that funding for lifecycle measures will be adequate but somewhat less than optimum. This approach places replacements generally near the high end of theoretical lifespans. However, if funding cannot meet the scheduled requirements, the plan will need to account for this by a variety of adjustments. These will typically involve deferring lifecycle works. Most lifecycle plans can accommodate economies to a certain level, after which risks of failure and other adverse consequences begin to escalate significantly.

Decision Making

Asset management planning is essentially a tool to enhance management decision making. It highlights the extent and timing of refurbishment needed to maintain the value and function of capital assets. It can provide a window into lifecycle processes that will need to be considered when unexpected issues arise in the operation and development of major assets. This type of planning is especially relevant to the Cultural Facilities Corporation because,

- The Corporation is entrusted with major public building assets;
- The assets play multiple roles and have major utilisation pressures;
- Many assets are quite old in lifecycle terms.

Facilities

3.1 Included/Excluded Assets

The Cultural Facilities Corporation manages a number of major public assets, as listed in the table below. Assets included in the asset management plan or excluded from it are shown in the table.

Canberra Theatre Centre	The Canberra Theatre	whole building	included
	The Playhouse	whole building	included
	Library / Link Building	whole building	included
	Forecourt	paving & fountain	Excluded
	Roads & Landscaping	all sides	Excluded
Galleries & Leased Premises	Former Nolan Gallery	buildings	included
		paving & landscaping	included
	Canberra Museum and Gallery	exhibition spaces	included
		support facilities	included
education facilities		included	
CFC office accommodation	fit-out	included	
Historic Places	Lanyon	Homestead (Building 10)	included
		outbuildings (Buildings 1-8)	included
		farm buildings	included
		cottages	included
		80 hectare grounds	included
	Mugga Mugga	Cottage precinct	included
		Education Centre	included
		grazing paddocks	included
Calthorpes' House	residence, outbuildings & grounds	included	

The few assets shown as excluded in the table above are the responsibility of other managing authorities.

The Library/Link building, which connects the Canberra Theatre and Playhouse, is a new Cultural Facilities Corporation asset. Its predecessor was excluded from the initial plan because its replacement had been designed but not constructed. Completed in 2006, the new building has been incorporated within the scope of this first revision to the Corporation's asset management planning.

The Nolan Gallery was included in the original report and remains part of this update. However, the building role is uncertain now that its gallery function has been transferred to CMAG. It appears that there are a number of potential uses for the building and it seems to be considered as too valuable to abandon. This report therefore assumes that the building will have a continuing role, but without some of the critical aspects that characterised its former function as a gallery.

3.2 Classification

The Corporation's facilities can be characterised broadly as:

- a) Income generating assets (eg theatres, studios & venues for hire or lease);
- b) Custodial assets (eg library, galleries & heritage properties);
- c) Support facilities (eg office accommodation and interpretive facilities).

The classifications are generalisations as there is some crossover between categories for most of the assets. For example, the custodial assets generate income. However, the different classifications suggest that corporate objectives will vary for the different facilities.

3.3 Corporate Objectives

A central corporate objective for the managed portfolio is to maximise cost effectiveness and the return to the public from its investment in the cultural facilities. With the building portfolio, this central objective can be achieved by a number of means, including:

- a) Avoiding unproductive investment (eg investment in system or components that do not have the residual life to provide an adequate return);
- b) Lowering the risk of unplanned expenditure (eg breakdowns, business or performance dislocations, high cost temporary or emergency measures);
- c) Lowering operational costs by system efficiency improvements;
- d) Extending the economic life of assets (eg by maintenance or usage measures, by adaptation or selective refurbishment);
- e) Adding value (eg enhancing the utility, marketability or durability of assets, providing additional revenue generating features).

The detailed corporate objectives will vary across the range of facilities. For the Historic Places site, effective conservation of assets is a major objective. For income generating assets, availability, attractiveness to customers and commercial characteristics have priority. For support facilities, amenity and low lifecycle costs are a priority.

Corporate objectives are reflected in the character of the asset management plan for each facility and the particular lifecycle requirements and predictions developed.

Lifecycle Costs

4.1 General

This part of the report outlines the manner in which costs are classified and reported and provides information on the lifecycle cost summaries, the estimates of refurbishment costs for the entities and chosen assessment periods. The summary data and illustrating charts are included in parts 5-9 of this report. These parts cover the individual facilities that make up the Corporation's portfolio.

The asset management plan allows the predicted expenditure for replacement and refurbishment of capital assets to be assessed and analysed over the chosen 20-year timeframe. In the following parts 5-9, the report provides assessments in terms of cumulative, periodic and lifetime costs. It also provides break-ups by various groupings and comparisons with estimated replacement values of assets.

The assessments are derived directly from the asset management plan and do not attempt to smooth or equalise year-to-year expenditures. Avoiding manipulation of the predicted expenditure provides greater insight into the building lifecycles and the critical phases for forward planning. Ultimately, there is scope for some smoothing of expenditure in planning and managing the actual refurbishment programs.

4.2 Cost Sources for Reporting

Costs reported in summaries and detailed works lists have been grouped according to sources that cover the various elements, systems and components in the facilities. The following terms have been used to identify cost sources:

Substructure	<i>Structural base of the building, drainage and waterproofing</i>
Superstructure	<i>Roofing, external walls, windows, doors, internal partitions and screens, internal doors</i>
Finishes (*)	<i>Wall, floor and ceiling finishes</i>
Fittings	<i>Office, storage and process area fitments, sanitary fixtures, signage and special equipment</i>
Fire Protection	<i>Fire warning and control systems including smoke and thermal detectors, VESDA and fire sprinklers</i>
Electrical	<i>Electric light and power, security, communications and, audio-visual systems</i>
Mechanical	<i>Chillers, boilers, cooling towers, distribution systems for heat transfer fluids, air conditioning, gas services, special services and equipment</i>
Hydraulics	<i>Sanitary and trade waste plumbing, water supply</i>
Siteworks	<i>Roads, footpaths and paved areas, soft landscaping, external services and outbuildings</i>

* Internal and external painting are conventionally listed under Finishes but are included with their related building elements in this plan for easier interpretation.

4.3 Costs Excluded

The estimates and assessments exclude certain cost elements as follows:

GST

All costs are reported without GST added.

Escalation and GST

All cost estimates are expressed in dollar values at year 2011 prices to allow ready comparison of figures generated at different stages of the facility lifecycle.

Breakdowns etc

No attempt is made to account for unplanned events such as storm damage, breakdowns, vandalism, fire etc. which may have substantial cost impacts if they occur.

Fit-Out

The allocation of accommodation to different activities and personnel, resulting in changes to layouts, construction or finishes will generate costs. These costs have not been included in this analysis because they are highly variable, depending more on the dynamics of the business than the physical assets in the buildings.

Business Disruption

The analysis does not allow for the cost of disruptions to work, loss of productivity, lost income or the direct costs of providing alternative accommodation when refurbishment works are being carried out

Changed Business Needs

In general, the report does not try to predict the cost or timing of asset development or changes driven by future needs or alterations in CFC's mandated role or business activities. The organisation will determine the nature and cost of these changes within the financial constraints applying at the time. Major business changes or development will have an impact on the asset management plan, which can be expected to need revision whenever such changes are implemented.

Furniture & Equipment

The asset plan generally includes built-in furniture and equipment. In addition, items of special or high cost loose furniture and equipment are included where their character seems to fit within the scope of asset planning. Normally the replacement costs for such items are non-uniform and significant. Examples of such items include the theatre seating, theatre or workshops plant and equipment, display cases, cafe equipment and the like.

In general, the report does not cover the repair or replacement of loose office furniture and equipment since these items would not normally be considered part of the major assets. The distribution of replacement costs for such items is normally fairly uniform and predictable. Decisions on when and how they are replaced or upgraded are likely to depend on business needs and possible technical obsolescence.

IT Services

The asset management planning does not account for Information Technology (IT) services except for infrastructure such as data cabling. IT services are specialised and normally very closely related to business operations. At present the Corporation leases its IT services from InTACT.

The leasing costs should be identifiable year-by-year. However, it is understood that the long-term costs for IT are as difficult to predict as other lifecycle costs.

Facility Management Services

Facility management services are the routine services needed to maintain the integrity, operation, performance and value of the facility and to realise component design lives. Services within this category include:

- housekeeping activities (eg. cleaning, waste removal, pest control);
- routine servicing and maintenance;
- replacement of consumables;
- small-scale component replacement for items subject to local wear or damage (eg. replacement of worn seals, drive mechanisms, synthetic rubber flashings to roof penetrations etc.);
- breakdown or crisis repairs (ie. to prevent consequential damage or to restore facilities to operation as soon as possible after a specific emergency).

Costs for facility management services are not included in this report. Operational records for the facilities would be a good guide to the level of these costs in future. It should be appreciated that there is some interaction between facility management costs and asset replacement cost. Expenditure on facility management can extend component lives. With good planning, some of the component replacement expenditure needed for facility management can reduce refurbishment requirements at replacement milestones. In turn, the quality of replacement works will affect servicing and maintenance costs.

Energy Efficiency Investment

The costs for refurbishment works assume that systems would be upgraded to improve energy efficiency, where practical. Some of the potential lifecycle replacements offer significant scope for such improvements. However, the assessment does not allow for investment that is purely targeted at improving energy efficiency. It is assumed that, over the medium to long term, such expenditure would be recovered by savings in energy costs.

Pace-BS Pty Ltd has just completed an energy audit of the Canberra Theatre Centre (ie The Playhouse, Theatre and Library / Link). The report indicates that it is possible to achieve a total energy saving of around 20% for the Canberra Theatre Centre. As expected, the audit has identified major efficiency gains achievable by improved systems design and replacement of Theatre lighting and Theatre/ Playhouse chiller / boiler plant. There are clear synergies between lifecycle works and energy efficiency upgrades. In general, the services and plant approaching the end of their economic life are those with highest potential for energy efficiency improvement. These synergies reinforce the benefits of undertaking the programmed plant replacements.

4.4 Asset Replacement Works

The cost analysis of this report covers work that is separate, as far as practical, from the activities described in section 4.3 above. This work is best thought of as capital replacement work – the systematic renewal of components installed under the original construction contract and reaching the end of their economic lives at major refurbishment milestones during the facility design lifespan. In general, an individual work item will be repeated at intervals of no less than 5 years.

To identify elements that are likely to generate capital replacement costs, particular attention has been paid to:

- elements whose failure could pose risks to health or safety;
- elements essential to the maintaining the weather tightness of the buildings;

- elements whose appearance may affect the marketability of income earning facilities;
- systems that maintain the comfortable conditions or specific process environments in the buildings;
- energy consuming systems with potential for efficiency improvement;
- systems supplying essential services to work processes.

4.5 Asset Replacement Costs

Asset replacement cost projections are based on estimates of the scope and cost of works needed to the various building and services elements and how often the works will recur during the planning timeframe. Summaries of projected costs for each portfolio are set out in table form in Parts 5 - 9 of this report. The summaries are based on detailed listings of building elements, cost estimates and allowances for the lifecycles of the components and systems involved. The detailed listings for each summary table appear in full in Appendix 1.

Costs are reported over two timeframes; the first for 5 years (financial years 2011 – 2015) at one year intervals and the second for 20 years (financial years 2011 – 2030) in two year periods. The summaries presented here are also illustrated in chart form in Parts 5 - 9.

4.6 Cost Summaries in Parts 5 - 9

The following parts 5 - 9 of this report address the lifecycle issues relevant to individual assets. Lifecycle cost summaries relevant to each asset are included for the period covered by this report. Each cost summary in Parts 5 - 9 is interpreted in chart form. A set of four charts for each asset summary illustrates the implications of the asset management plan from different perspectives, as follows.

Cumulative Costs

The first chart in each set shows the accumulation of asset replacement costs from the start of the plan to the end of each period reported. Projected expenditure up to the end of any given period can be read from the line, using the data labels at each period or, for intermediate points, values on the vertical axis. The varying slope of the line highlights changes in the rate of expenditure during the planning period. The steeper the slope between two points, the greater is the demand for funds during that period. The chart provides a quick indication of what costs are projected up to a certain year and when the need will be most intense during the planning timeframe.

The summary tables report costs in thousands of dollars but, because of the cumulative figures, this chart uses units of millions.

Total Costs in Each Period

While the first chart in each set highlights the relative demands during each period, the second focuses on the absolute values of total costs from all sources in each period. This allows funding needs in each 2-year period to be compared with all others. In periods indicated as having higher demands, opportunities to reschedule or avoid costs might be explored. Periods with lower demands may represent opportunities to undertake works rescheduled from other periods.

Periodic Costs from Each Source

The three dimensional chart appearing third in each set shows the total periodic costs from the second chart broken down to identify the elemental components generating the costs in each period. The truncated pyramidal forms of the columns highlight relative costs. The sharpest spikes are the tallest and indicate the highest costs recorded in the plan. Lower costs appear as blunter peaks (some are zero values). The columns can be compared along or across the timeline

(the axis to the left). Comparing along the timeline for any one component (named on the axis to the right) shows when costs peaks from that source can be expected during the planning timeframe. The sharpness of a peak can be compared with others anywhere on the chart to see its relative significance. Comparing across the timeline, within a single period, shows which components are creating the greatest demands during that period. The particular contributors to periodic costs from a given source can be identified through the detailed listings in Appendix 1.

Sources of Total Replacement Costs

The last chart in each set shows (in pie chart form) the relative contribution that each elemental component makes to the total costs projected in the plan. The sizes of each slice of the pie are determined by the total costs along the timeline for each component and their percentage contributions are labelled on the chart. Building services costs (Fire Protection, Electrical, Mechanical and Hydraulics) are pulled out from the pie to distinguish them from the building fabric and site works components.

Canberra Theatre

5.1 General Information

Description

The Canberra Theatre is the primary theatre building for the ACT and is, by virtue of its history and role, a significant community asset. It is also one of the principal income earning assets of the Corporation.

The Theatre was opened in 1965 as a 1200 seat lyric theatre intended for touring companies. It was the larger of two venues linked by a covered walkway to form the Canberra Theatre Centre. A series of developments transformed the smaller 310 seat drama theatre (Little Theatre) into The Playhouse and the walkway, eventually, into the Library / Link building. Parts 6 and 7 present the details of these buildings.

The Canberra Theatre building itself grew with the addition, in 1982, of a two-storey building that formed an enclosed courtyard on the south side of the Theatre dressing rooms. The 1,300 square metre extension contains a large scenery workshop and a small Courtyard Studio on the ground floor and administration offices on the upper storey. Subsequent smaller additions include plant spaces at the Theatre roof level and an excavated plant room across the laneway on the western side of the building. The expanded Theatre building now contains some 5,300 square metres (gross) floor area.

The previous Link building was excluded from the initial asset management plan as a new Library / Link was under development at the time. The Library / Link completion, in 2006, has added extra front of house facilities in the form of a modern bar and toilets, both shared with The Playhouse. Their availability has enhanced the spaciousness of the Canberra Theatre foyer, which also benefited from extensive refurbishment as part of the Library / Link building project.

Long standing access difficulties were addressed in a package of works in 2007 that covered The Playhouse as well as the Canberra Theatre. These works provided a more accessible entrance to the Theatre Stage Door and the Courtyard Studio and a lift to the first floor and the second storey administration offices. Relocation of the Courtyard Studio dressing rooms improved accessibility and allowed provision of new front of house toilet facilities. The Theatre gained a wheelchair hoist to stage level.

Substantial parts of planned signage improvements have been completed, including the banner hoist on the north face of the fly tower. Follow up works are still needed and are included in the revised asset management plan.

The Canberra Theatre building structure is of reinforced concrete clad primarily in manganese face brickwork. The walls are punctuated by window openings containing steel framed windows in the original building and aluminium framed windows in the extension. At foyer level, window and door openings are embellished by white marble reveal linings, in high contrast with the dominant dark brown brickwork. The original copper sheet roofing was replaced, in 1996, by coated steel decking laid over the original, underlying concrete slab. Above the roof, the fly tower enclosure

has concrete walls finished in white painted render. There is little to wear, rot or decay and the building envelope is potentially long lived. The areas needing greatest attention in managing the external fabric seem to have been the potential for leaks through the roof, particularly due to overflowing gutters, and stormwater incursion from ground level pavements.

Inside the building, the traditions of theatrical make-up come into play with the foyer and auditorium interior making extensive use of paintwork to transform the structural surfaces of the building which have little other embellishment. Painting and carpet replacement will be the main areas for attention in the foyer areas along with maintaining foyer amenities. Back of house facilities present greater challenges due to their more extensive fit-out and intensive use. Paintwork will need regular attention as will floor and wall tiling, sanitary fixtures, tapware and joinery. Commercial considerations and the theatre's bookings program will affect the timing and quality of the replacement works applied to the backstage facilities.

The auditorium and stage are at the core of the Theatre building, literally and functionally. They contain some of the higher cost, low frequency items that characterise asset replacement works. Among building work items, these include replacement of special floor surfaces, auditorium carpeting and seating, cyclorama, scenery roping and tools and appliances for theatrical use.

Although significant, these costs are unlikely to dominate asset replacement budgets. Works to the building structure and finishes are projected to be less than a quarter of overall costs. Fittings, including seating and specialist theatrical equipment, might account for up to a quarter but more than half of total costs are likely to derive from the less visible but still essential building services.

Building Services

The Canberra Theatre is a highly serviced building. It is almost fully air conditioned via a variety of both centralised and localised air conditioning systems. It has extensive electrical services including power distribution, general and theatre lighting systems, security, audio-visual, communications and data services. It has sophisticated fire protection, smoke clearance and emergency warning systems. It has the normal range of hydraulic services including domestic hot and cold water services, sewer and storm water drainage and sanitary plumbing. The building also has major equipment and mechanisms that are unique to the theatre environment such as stage lights, an orchestra pit lift, stage scenery mechanisms and a hoist platform in the workshop for painting scenery.

Lifecycle

The Canberra Theatre illustrates how a building lifecycle may evolve in practice. The building is now forty-five years old. However, it has had extensive investment in development and refurbishment over its current lifecycle and its character and facilities are now quite different from the original 1965 theatre. The development and extension work undertaken indicate the changing functional requirements and user expectations that need to be accounted for in asset management planning.

It is understood that the Theatre has some limitations from a theatrical and performance perspective. These factors and its overall viability as a cultural and business asset are beyond the scope of this study, which concentrates on physical attributes. As a physical asset, the Theatre remains very viable, despite its age. The building is robust and has been sufficiently well maintained and developed to provide a considerable future life. However, it is approaching a 50-year, lifecycle milestone where the economic life of major components will expire. If the building has a long-term future, it will need substantial investment in the medium term to replace or refurbish life-expired systems around the 50-year milestone.

Because the Theatre is approaching major lifecycle expenditures, it would be desirable to review the facility from a broad business and cultural perspective to assess its ongoing viability. The Theatre's theatrical limitations and its age give rise to speculation on a replacement. Obviously, a

known or likely replacement date would be a key determinant for a rational lifecycle strategy in what would normally be a rundown period for a building nearing the end of its predicted lifetime.

It would also be useful to assess the level of investment that the facility could realistically attract over the next 10 - 20 years. A clearer view of the long-term strategy for the Theatre building obviously provides a better framework for planning and decision making. The planning in this assessment is based on the Theatre continuing in service to and beyond 2030 and the investment for adequate lifecycle refurbishment being obtainable.

5.2 Lifecycle Strategy

Options

Assessment of the Theatre's future needs has been made in the knowledge that cultural or commercial considerations may warrant wholesale replacement of the facility before the limits of its durability have been tested. From a strategic perspective, replacement of the Theatre around a 60-year milestone can be examined as an alternative strategy. However, this option requires very high capital investment in the medium term and would need significant cultural or commercial advantages to compete with a life extension strategy over the term of the current assessment. For the purposes of this assessment, the assumption continues that the existing Theatre will remain in service to and beyond the year 2030, as indicated above.

Life Extension

The Theatre is quite old but has experienced considerable development over its lifecycle, to date. In this facility there are systems approaching and, in instances, well beyond their theoretical economic life. In addition, the progressive development of the Theatre has created a great variety of building components and services of varying age, varying quality and varying longevity throughout the facility.

Using a purely conventional life cycle model, based on industry standard life expectations, would suggest an impractical and unrealistic level of lifecycle investment required in the immediate future. As Government infrastructure investment has to compete with more prominent health and education priorities for funding, there is understandably great pressure on lifecycle funding for building assets. It is unlikely that the large investment required for conventional renewal cycles would be made available in the current climate for infrastructure investment. For this reason, the assessment of the Theatre is based on a life extension strategy.

A life extension strategy seeks to extract the maximum feasible life from components and systems and push working lifetimes out to practical extremes for some of the major, high cost elements. Because of the construction and quality of the Theatre building and services, it is likely that a life extension strategy will provide the lowest lifecycle costs for this facility. Major systems in the Theatre currently perform satisfactorily well beyond their expected economic life. This suggests that a life extension strategy remains quite viable. The risks in this type of strategy can be managed by being selective in the components and systems kept in service and carefully monitoring the systems that have been extended beyond their normal lifespan.

The asset replacement plan has been developed on the life extension premise. The planning provides an indication of the long-term cost for sustaining the Theatre. This also establishes a basis against which other life alternatives such as Theatre replacement can be assessed. Not all systems or components in the building are suitable for life extension. However, there are sufficient components in this category to realise quite significant life cycle savings over the assessment period. The asset management plan gives priority to items essential to the effective functioning of the Theatre and maintaining amenity at contemporary standards. Such items include virtually all of the building services and the periodic renewal of finishes and fittings in front of house, auditorium, stage and backstage areas as well as offices and workshops

5.3 Building Issues

Durability

Many elements of the Theatre have been in service for years longer than their “normal” lifetimes and appear to remain viable. In light of this experience and the life-extension strategy, the life estimates for their replacements have been set generally to the upper end of typical ranges.

Original internal and external construction materials were evidently selected with an emphasis on longevity. If the resulting appearance is unglamorous, the offsetting benefit, from an asset management perspective, is long life at low cost.

Cladding & Glazing

Walls to the Auditorium above Foyer roof level and three walls of the Fly Tower enclosure are rendered concrete, painted white. The north wall of the Fly Tower is in face brickwork of the same type used on lower level walls of the Theatre. It serves as the backdrop for banners advertising theatre programs. The 2004 report included provision for improving banner handling arrangements, which were inconvenient and dangerous. Some of the listed works were completed under a Signage package implemented in 2009 but follow up work is needed to remove residual functional issues in the banner hoist operation.

A rooftop plant room, added to the south side of the Fly Tower in 1994, has steel framed walls clad in compressed fibre cement sheets with a heavy, textured paint finish. These surfaces are inherently durable but will require repainting at about 10-year intervals to maintain appearance. There is evidence of graffiti removal on the west face of the upper Auditorium walls. The new Walkway component of the Link building might have made access to the Canberra Theatre rooftop easier (for those so inclined). Assuming this presents some risk to the building, the plan continues to allow for application of an anti-graffiti coating at each painting cycle.

The lower level external walls are clad in brown manganese face brickwork embellished at window and door openings to the Foyer by white marble jamb linings and precast concrete sills. Other window openings to backstage areas have tiled sills projecting beyond the face of the wall to shed water without staining the building face. Similar treatment has been adopted for the Administration wing extension of the original building. The walls are articulated into separate panels by control joints and can, therefore, tolerate minor movements in the building structure. The current good condition of these walls after some 45 years of service indicates their ability to see out the extended asset planning timeframe without major remedial work.

The marble jamb linings to windows and doors around the Foyer remain virtually unmarked but a few panels have significant chipping or cracking near eye height. Obtaining matching stone to partially replace these is likely to be difficult and the plan makes provisional allowance for eventual repair rather than replacement. This work was considered for inclusion in the Library/Link project but this did not eventuate. Two of the window openings on the north east corner of the foyer were, however, transformed into doorways as part of interfacing the Link building with the Theatre. Doorways along the north face of the original Theatre Foyer are now infilled with glazed pivot doors that contribute to the fire separation between parts of the expanded complex.

Foyer window and door frames are fabricated from anodised aluminium and continue to remain functional after their already long service. They have single glazed sashes that do not present the risk of cavity seal aging and breakdown that comes with double glazed units. Provided their aging appearance is not considered to detract from the perceived quality of the front of house spaces, they could remain in service throughout the asset planning period. Taking note, however, of the pressure to maintain contemporary standards, the plan allows provisionally for complete replacement of these windows and doors as at the same time as renewal of their jamb linings.

Windows in the backstage area are also single glazed and have painted steel frames, which seem to be weathering well. They should be able to remain in service throughout the asset planning timeframe, provided glazing compounds and hardware are maintained and they are periodically repainted. Administration block windows are aluminium framed and will require minimal attention during the renewed planning period.

Two large steel roller shutters at the Stage loading bay and the Workshop and timber or steel-faced external doors will need periodic repainting. Steel door jamb linings and freestanding bollards would be repainted at the same time. The motor drives will need to be replaced within the planning period.

Roofing

The original roof of the auditorium is shown on drawings as copper trays with copper gutters (The fly tower roof had "galvanised iron" trays and gutters). When the material was specified, there would have been a reasonable expectation that it would prove at least as long-lived as the other external surfaces. Its actual service life of about 30 years, before replacement in 1996, was well short of potential. The installation of the new pre-painted steel roof decking at steeper pitch than the original suggests there may have been problems with slow run-off and local detailing issues.

The Canberra atmosphere is sufficiently non-corrosive to allow the coated steel roofing to serve for 30 years service before substantial rust penetration of the base material. Paint film cracking and flaking will, however, start to occur during this period, before which the coating will lose its lustre, chalk, stain and discolour irregularly. These effects were seen in the portions of the roof sighted from the Library/Link building in 2010. Site repainting could be considered but replacement is proposed for planning purposes. Site repainting would lack the durability of factory applied coatings and require more frequent attention. That alternative approach is applied to The Playhouse roofs where access for replacement may be less convenient.

The pre-painted steel roof of the Administration wing dates from construction of the courtyard extension in 1982. Its appearance after 28 years of service indicates what can be expected for the Theatre roof at a similar age. The courtyard extension (or Administration/Workshop block) roof will also need replacement during the planning period. Since the various roof planes are generally not seen at close quarters, there can be considerable flexibility in programming re-roofing works to suit the operational needs of the Canberra Theatre.

The projecting eaves and gutters installed as part of the 1996 Theatre roof replacement may break down (from inside the gutters) earlier than the roof decking and their prominence will warrant replacement with equivalent materials during the asset planning period. The eaves gutters and downpipes on the courtyard extension are copper. This premium material was, presumably, used to match the copper gutters still present at the time on the Canberra Theatre. Although they are potentially long lived, they are listed for replacement in (pre-painted steel) at the same time as the roof cladding. This is a provisional allowance that may not be needed since vertical, fast flowing downpipes are at lower risk than low pitched roof surfaces where water may pool.

Sellick Consultants' assessment of the Canberra Theatre and The Playhouse roof plumbing systems in August 2009 (*Roof Assessment Report Canberra Theatre and Playhouse*, Sellick Consultants, 2009) noted that:

"... all gutters are sufficiently sized; however 50% of the catchment areas have undersized downpipes or require an additional downpipe to comply with AS3500 design requirements.

Nevertheless, although upgrading the system may bring it up to code requirements, the current arrangement is unlikely to cause flood damage to the building.

... the only recommended work to be carried out to the rainwater plumbing system is the installation of suitable hail guards over box gutter outlets and the installation of overflows within the box gutters between the administration and main theatre facilities. ...”

The report contained other concerns about stormwater surcharge from pavements at the lower level of the courtyard building. These are addressed by provisions under the Substructure element of the asset management plan.

A restraint system for safe rooftop access was substantially completed while the initial asset management report was being prepared. Similar work was also undertaken for The Playhouse and has been extended to the Library/Link roof surfaces. Parts of the tether systems will have specified safe working lives and the plan makes provisional allowances for their periodic replacement. These allowances should be reviewed in light of the manufacturer's specific recommendations. A second stage of the rooftop safety project covered the installation of motorised banner handling systems for both theatre buildings. These works are now substantially complete but the plan includes estimated costs for residual work needed to overcome some limitations in the initial hoisting installation.

Entry canopies

The roof canopies over the Vice Regal entrance to the Theatre and the Administration block foyer door were noticeably aging when the initial asset management plan was prepared. That version of the plan allowed for their complete replacement, early in the planning period, to avoid their detracting from the presentation of the theatre complex after completion of the Library/Link building. In the event, the 2007 Access works package involved the widening and refurbishment of the Courtyard entry canopy and enhanced signage. The new canopy and entry treatment will require periodic repainting. Automatic sliding glass doors at the entrance will need at least one overhaul of the operating mechanism during the planning period.

The Vice Regal canopy, which appears to be a surviving remnant of the original copper roof, remains untouched. Water leaks through the canopy cladding are evident in the water staining of its white painted soffit lining. The revised plan allows for its refurbishment in the near future but the actual timing will depend on resolution of the ACT Government's intentions for the redevelopment of Knowles Place.

Interior walls & ceilings

Inside the building, wall and ceiling finishes are mainly paintwork on concrete or brickwork which is bagged or rendered. The foyer has a structural concrete slab below the metal deck roof. The off-form underside of the concrete slab is exposed and painted to form the high level ceiling of the foyer spaces. Both the foyer and auditorium ceilings are dark toned for “blackout” effect. Plasterboard “clouds” are suspended below the auditorium ceiling to moderate acoustics. Their suspension systems are checked annually for safety and they will need little other attention. The reflector baffle above the proscenium opening is listed for replacement during the planning period due to what are understood to be functional concerns.

The 2004 plan categorised repainting cycles according to likely wear and tear and paint tones. High use areas with light tones (such as the Dressing Rooms and backstage corridors) were listed for repainting at short intervals. Dark finished surfaces at high level, or subject to limited contact, were assigned longer lifespans. A similar approach has been adopted for the 2010 plan with frequency adjusted in light of recent experience.

Ceramic tiling is used sparingly in wet areas of the building, being confined mainly to shower enclosures, splashbacks and skirtings. These finishes are tested most intensively in dressing rooms and backstage showers and toilets. Since the 2004 plan, the need to refurbish these areas has become urgent and related works items have been advanced by a few years in the revised plan.

The work will comprise a full upgrade of the backstage facilities, including new sanitary ware, fittings and finishes.

Floor finishes

Public spaces in the Theatre are mainly carpeted but there are limited areas of inset sheet flooring for functional reasons. Sheet vinyl flooring is used in the small lounge area below the projecting upper level of the auditorium floor. Studded rubber flooring was laid between the foyer and auditorium doors at Door 6 to alleviate the effects of storm water issues at this door. The flooring was retained after recarpeting of the whole foyer as part of the Library/Link project.

Some rooms in the backstage areas, such as production offices, the Green Room and dressing rooms at Stage level, also have carpeting, as do foyers, offices and meeting rooms in the Courtyard/Administration block. Carpet in the Administration foyer was replaced as part of the Access project. Carpet elsewhere was generally replaced in about 2000, making the next replacement imminent for backstage production offices, lower level dressing rooms and the Theatre auditorium. For the Auditorium, replacement is coordinated with the installation of new seats, when seat bases will also be removed.

Backstage areas are mainly finished with sheet vinyl flooring, which is capable of long lifecycles where it is subject only to foot traffic. The replacement interval shown in the plan is at the upper end of conventional allowances but still shorter than the age of the current installation (understood to date from the first dressing rooms refurbishment in 1988). Vinyl flooring is to be replaced as part of the general refurbishment of backstage facilities.

The Stage has a sprung floor with a hardboard wearing-surface that is replaced at about five year intervals and repainted twice yearly. These cycles are maintained in the asset management plan, with provision for eventual renewal of the sprung floor itself.

The hardwood parquet flooring used in the Courtyard Studio and Workshop is scheduled for refinishing in 2011 and relatively frequently after that. Although this may be considered futile in the case of the Workshop, where heavy traffic has almost entirely stripped the coating, the floor is evidently wetted from time to time and the lack of a topcoat will risk swelling and lifting of the parquet.

Concrete treads and risers of the backstage stairs are finished with paving paint and this is listed for annual renewal. Painting includes the hardboard surfacing of the stage, which is replaced every two years.

The limited areas of ceramic floor tiles in toilets and showers will be replaced at the same time as wall tiles during each major refurbishment cycle for the backstage wet areas. The 2010 plan adopts a sequence of 6, 12 and 24 year cycles to coordinate repainting, partition replacements and renewing of tiling and sanitary ware in these locations.

Fittings

Among the various fittings listed in the plan, the most expensive item is the replacement of theatre seats. These are progressively refurbished using parts held in stock, as far as possible, but must eventually be replaced entirely. Seating is purchased complete with bases for installation in a single operation. There are some 1,300 seats in the body of the Auditorium and additional portable units are used on the Orchestra Lift when it is in its raised position. The asset plan allows extra units to provide the necessary stock of spares. Replacement of the seating is overdue in terms of the 2004 plan's projections.

The other notable items among fittings needing renewal are the cyclorama and curtains, masking and drapery, which have high costs and limited working lifetimes. The 2004 report projected refurbishment of the Green Room fittings in 2014. A hard working life and commercial

imperatives suggest that this work needs to be brought forward to the early years of the revised planning period.

5.4 HVAC Services

Description

Most occupied areas in the Canberra Theatre are air-conditioned. The courtyard workshop is the only major area not air-conditioned. It has heating and ventilation only. The main heat transfer media are piped chilled water (7°C) and heating water (80°C). These are reticulated to air handling units throughout the building.

Two separate chiller plants provide most of the space cooling for the building. A large central chiller plant is located in an external plant room on the southwest side of the Theatre. The courtyard extension has its own, dedicated chiller located in a level 2 plant room within the extension.

The Theatre has a central boiler plant for space heating throughout the building, including the courtyard extension. The boiler plant is located in an external plant room adjacent the central chiller plant.

Most major air handling units throughout the Theatre are connected to the reticulated chilled water and heating water services. However, some small, localised areas within the facility use packaged, direct expansion (ie refrigerant based) air conditioning units which are not linked to the reticulated heat transfer services.

Development

A brief history of the Theatre HVAC system follows:

- | | |
|------|--|
| 1963 | Theatre construction commenced. Initially only heating and ventilation was proposed for the Theatre via large air handling systems integrated into the building structure. The boiler plant was oil-fired and located in the old Playhouse (also called the Little Theatre – now demolished and replaced). |
| 1965 | The Theatre opened. During the latter phase of construction, cooling coils were added to the existing air handlers to provide refrigerated cooling in the auditorium. A new chiller plant and external plant room was added. |
| 1982 | The HVAC plant was expanded to accommodate a (courtyard) extension to the southeast of the original Theatre. |
| 1982 | The original chiller plant was replaced and upgraded to meet an increased loading. |
| 1992 | A new gas fired boiler plant was installed in an external plant room adjacent the chiller plant. The new boiler plant replaced the original plant incorporated in the old Playhouse. |
| 1994 | A major air handler was added for stage area air conditioning. New fan coil units were added for air conditioning dressing rooms and backstage areas. Existing air distribution systems were extended and the evaporative condensers for the main chiller plant were replaced. |
| 2000 | A dedicated boiler plant was added to the Playhouse to allow the heating water service from the Canberra Theatre via the Link to be severed. This was undertaken in preparation for the Library / Link development. |
| 2006 | A new Library / Link building was developed with impacts on the adjoining Theatre HVAC services. The Library / Link building is served by the Theatre boiler plant. |

Chiller Plant

The main chiller plant for the Theatre has two evaporatively cooled, 435 kW_r reciprocating chillers. Most components of this plant date from 1982. However, the evaporative condensers were renewed in 1994. A smaller single air-cooled chiller of approximately 160 kW_r capacity provides space cooling for the courtyard extension. This plant also dates from 1982.

For planning purposes, it is assumed the chiller plants could be kept in service for around 30 years. This life exceeds the notional 25-year life for a central chiller plant. It may be possible to extend the chiller life further. However, there are several reasons why the life of these plants should not be pushed too far. In particular,

- The plants do not have redundancy or spare capacity, so the reliability of all the equipment is critical to the Theatre's operation through the summer period;
- There is an opportunity for major energy efficiency improvements by replacing the existing chiller plants using the best modern equipment and design practice;
- The chiller plants could be rationalised to lower owning and operating costs over the long term;
- The existing chillers are no longer well supported as their manufacturer was taken over some years ago and the product line has effectively disappeared from the market;
- The existing chillers have ozone-depleting refrigerants.

The asset management plan anticipates the replacement of the chiller plant by 2014, at the latest. Note also that the replacement of the Theatre chiller plant provides an opportunity for major energy efficiency improvement, and possibly, the rationalisation of the chilled water service and chiller plants for the Theatre. These issues are canvassed in section 10.4 of this report. The asset management plan includes an allowance for an engineering assessment in advance of the chiller plant replacement.

Boiler Plant

The central boiler plant has two 900 kW natural gas fired boilers and two 11.0 kW circulating pumps. It is located in the external plant room adjacent the main chiller plant. The boiler plant was installed in 1992 to replace the original boiler plant in the old Playhouse. The boilers were fitted with new burners and the electronic combustion controls were upgraded in 2007. The plant is functional and reasonably efficient and uses a low cost energy source.

The normally expected economic life of this plant is 25 years. Hence it is programmed for replacement around 2017. There is scope for improving the energy efficiency of the boiler plant when it is replaced. This factor may make it attractive for the Corporation to replace the plant earlier than 2017, depending on the energy cost saving that are achievable. These savings have been assessed as part of a separate energy efficiency study completed in March this year (2010).

Air Handlers

The original (1965) building air handlers serving the Auditorium and Foyer are still in service at almost double the normal economic life for air handlers. There is evidence that the cooling coils in these air handlers were replaced, most likely with the major HVAC development work in 1994. These original air handlers are very robust with almost Victorian era engineering. With proper care and maintenance they could last for 70 – 100 years. It appears essential that these components be kept in reliable service because they are so large and so intimately integrated into the building structure, that their replacement would create major dislocation for the Theatre operation. The asset plan for the Theatre includes costs for some refurbishment to these air handlers for life extension purposes. It also allows for procurement of some critical spares to lower the risk of maintaining these air handlers in service. Part 10 of this report makes recommendations for monitoring and maintaining these air handlers to maximise their service life.

There are four major air handlers that were not part of the original 1965 theatre. Three of these serve the courtyard extension and date from 1982. The other air handler is a major air handler added in 1994 to condition the Theatre stage area. This air handler has a very high outside air ventilation rate and air-to-air heat recovery to recycle waste heat from air exhausted from the stage area. For planning purposes these air handlers have been assigned economic lives around 30 years, ie the planning assumes that these air handlers can achieve better than average economic life.

There are a number of small air handlers (called fan coil units). These mostly serve backstage dressing rooms. In addition, there are a number of split packaged air conditioning units serving areas such as the Board Room, Bio box, Green room and Workshops offices. These smaller systems normally have a maximum economic life around 20 years. However, many of these systems have lower than normal utilisation and are therefore incorporated in the asset planning with a 25-year life estimate. The dressing room air conditioning installations are fairly crude and perform poorly. A funding bid for HVAC refurbishment of one dressing room (No 7) was placed in 2009. However, improvements to HVAC services for other dressing room are needed in the short term. An allowance in the asset plan covers short-term remedial work for the most deficient installations in the dressing room areas.

Heat Transfer Services

The piped heat transfer services (chilled water and heating water) are an important element to consider in the context of asset management, because their replacement is potentially high cost and quite disruptive. The normal economic life of piped heat transfer services is around 40 – 60 years. However, their life can vary quite significantly because it is strongly influenced by the rate of corrosion in the service piping.

For planning purposes, a life of 60 years has been assumed. However, better than normal care will be required in water treatment and system monitoring to extend the life of these services to the assumed limit. With a 60-year life, the heat transfer services forming part of the original building construction would be due for replacement around 2023. Recommendations for preserving the heat transfer services are provided in section 10.4 of this report.

Building Automation System

The Canberra Theatre was retrofitted in 1995 with a Siemens Insight direct digital control (DDC) and building automation system (BAS). The system had a firmware upgrade to Insight Version 2.8 in 1999, to make it Y2K compliant. The direct digital controllers are networked and monitored via a personal computer workstations within the Canberra Theatre precinct. Originally the Theatre and Playhouse had incompatible HVAC control systems. Although both buildings had Siemens HVAC control systems, they were different generations and not inter-operable. However, a major controls upgrade project was undertaken in 2006 simultaneously with the construction of the new Library / Link. This work resulted in full inter-operability across all the HVAC control systems in the precinct (ie Theatre, The Playhouse & Library / Link).

The Theatre's HVAC control and automation system is modern, adaptable and expandable. Normally control and automation systems have a 15 – 20 year life. The rate of development in controls and automation systems is quite ferocious. Quite often the lifespan of these systems is limited by obsolescence, rather than by deterioration or functional limitations. However, the Siemens systems have an excellent history of adaptability for backward compatibility and inter-operability between different generations of equipment. With this product line, the manufacturer seems to make a concerted effort to provide backward and forward compatibility add-ons, as each new generation of equipment is developed. For this reason it seems reasonable to assign an expected life beyond the upper limit of the normal range. The asset management plan envisages a system replacement in 2018. The asset management also includes an allowance for a bi-annual BAS software upgrade. The BAS system uses proprietary, software. It has been found necessary to keep within two versions of latest (annual) software upgrade. Otherwise, the commercial

arrangement entails the purchase of a "new" software licence at higher overall cost than the regular upgrade.

Other HVAC Services

As indicated, the Theatre has a number of packaged, direct expansion (ie refrigerant based) air conditioning units that are not linked to the reticulated heat transfer services. These systems have a range of ages and are scheduled for replacement after 20 – 25 years service.

Other HVAC services include supply and exhaust ventilation systems and smoke venting systems. In general, larger ventilation systems have very long life, exceeding 25 years. Smaller systems normally have lower quality fans that require replacement after 15 – 20 years of service. For planning purposes, the replacement costs for ventilation fans are included with the associated air handling systems.

Smoke venting systems are addressed later in this report as part of the building fire protection.

5.5 Electrical Services

Description

The Theatre can be characterised as ‘highly serviced’ in an electrical sense. The electrical services include:

- Electrical power distribution systems;
- Fire detection and evacuation warning systems;
- Telephone system;
- Data cabling;
- Security system;
- CCTV distribution system (Backstage & Foyer);
- General and theatre lighting and lighting control systems;
- Audio-visual systems.

The electrical services are of widely divergent ages. Some services retain large components that were fitted when the building commenced service in 1965. Other services are quite recent. Like the HVAC services, the electrical installations in the building have been subjected to considerable development and refurbishment over the 45-year life of the Theatre. This factor complicates the life cycle assessment associated with these services.

Power Distribution

An electrical high voltage substation is located at sub-stage level within the Theatre building. It has a 1,000 kVA oil filled transformer and associated switchgear. The substation equipment is owned and maintained by ACTEW Corporation and the Theatre is metered for a low voltage tariff. Costs for refurbishment or replacement of the substation are fully funded by the tariff charges.

The building main switchboard is located adjacent to the substation at sub-stage level. The main switchboard largely dates from the original building construction around 1963-5. However, there has been some expansion and refitting to accommodate developments over the building life, to date. The electrical distribution systems, throughout the building, reflect this development. The core of services and a major portion of the distribution boards are original 1965 vintage. However, there are distribution boards and mechanical motor control centres of various ages installed as progressive expansion and development occurred within the building.

From an asset management perspective, the major area of concern is the original 1965 switchgear as this equipment is now getting quite old. It is expected that the main switchboard and critical distribution boards of 1965 vintage would need to be replaced at around a 50-60 year life, as their reliability and fault tolerance would be suspect if they are pushed much beyond this limit. Other major lifecycle renewals for power services are likely to fall beyond the selected time frame for asset management planning.

A complication arises with the planned replacement of original switchgear because of the significant changes to fire and electrical codes since their original installation. It is likely that some systems changes will need to be incorporated when original switchgear is refurbished. This will increase the complexity and cost of the refurbishment. The needed refurbishment will also provide a one time opportunity to incorporate desirable system improvements such as modern energy metering and sub-metering.

The refurbishment of electrical power system needs careful consideration and planning in advance of the work. Therefore, the asset management plan includes for an engineering feasibility study to assess the implications of this refurbishment.

Lighting

There is a great variety of lighting in the Canberra Theatre and many of the lighting systems are critical for rehearsals and performances. Light fittings include incandescent and fluorescent types, special stage and spot lighting and fittings such as mercury vapour lamps. There is a considerable spread in the ages of light fittings.

Currently, maintenance staff renew a percentage of stage and spot lights annually, as fittings become damaged, worn or obsolescent. In addition, special colour filters are procured annually to replace worn and damaged components. Estimates for these annual expenditures are included in the asset management plan.

For asset planning purposes, the most significant observation is that the Theatre has large numbers of light fittings that are quite old. Some fittings in the Theatre date from 1965 and the bulk of fittings in the courtyard extension date from 1982. It is difficult to precisely identify the age of particular fittings, as there is no accessible record of installations or replacements. However, the major stock of permanent, light fittings are likely aged from 25 – 45 years which is quite advanced in lifecycle terms. Many fittings remain in good, serviceable condition. However, the Theatre maintenance personnel have advised that they are now seeing consistent degradation in some fittings such as embrittlement of plastic components. This implies that some installations are approaching the limit of their economic life, as would be expected.

An allowance has been made in the asset management plan for replacement of outdated and worn out luminaires and for associated technology improvements including intelligent light fittings and controls. At present the quantum and timing of this allowance is speculative. The lighting component of lifecycle work needs a more extensive investigation than possible within the scope of this study. There is a need to identify which fittings need replacement, their timing and the optimum strategy for replacement, whether progressive, on failure or bulk replacement, as currently planned. In addition, energy efficiency issues must be considered. A bulk replacement strategy offers the opportunity to move to more efficient fittings, controls and layout, and offset the capital investment by lower operating costs. Once a better understanding of the strategy for lighting renewal emerges, the allowances in the asset plan can be updated to improve the quality of asset management planning.

Supplementary Lighting

The need for some supplementary lighting and lighting safety modifications have been identified and proposed in current funding bids. These items include:

- Tower lighting adjacent the plant room for the truck loading area at the Theatre;

- Lighting on swing-out booms on the Theatre wall to illuminate the rear of trucks;
- Safety covers for dressing room mirror lights (or replacement with improved fittings).

An allowance to cover the above supplementary lighting and modifications is included in the asset management plan.

Emergency Lighting

In 2005 the Theatre's emergency lighting system was sub-standard and in need of upgrading. Originally the Theatre was provided with a 24 Volt, battery supported, emergency and aisle lighting system. This system was retained up to 2006 without the automatic switchgear and battery support. Self-contained emergency light fittings were progressively substituted for the legacy systems from around 1988. A major system upgrade was completed in 2006. The system requires some further development so an allowance for further progressive improvement of the emergency lighting system is included in the asset management plan. The system has now been highly developed around self-sustained emergency light fittings. In addition, consideration has been given to reinstating battery back for the aisle lighting. However, this is not regarded as a priority. Overall, the emergency lighting system is now significantly improved from its status in 2005 and quite acceptable in terms of patron safety.

Light Dimming Systems

The Rank / Strand light dimmers located in the under stage area are approaching the limit of their economic life as they were installed around 1980 and are now approaching 30 years service. The Theatre has other, more modern solid-state dimmers. The old dimmers have given good service but are now quite obsolete and difficult to maintain. The asset management plan includes for replacement of the old dimmers with modern solid-state type and the networking of dimmers into the lighting control system for their operation and automation.

From experience, the service life of solid state dimming systems has been much shorter than might be expected, probably because the demands of theatre lighting are quite arduous, and it is important for performances that the systems operate reliably. The average life expectancy for solid state dimmers is estimated at 12 - 15 years. From this assessment it is likely that replacement solid state dimmers will, in turn, need to be renewed before the expiry date for asset management planning. The Theatre lighting control panel was refurbished around 2004 and should have a life of 20 years.

Communications & Data

The Theatre's communication systems include a modern (Ericsson) digital telephone system that was installed in 2003. This system serves both the Theatre and Playhouse, and operates via an optical fibre to the service provider. A further PABX system was installed in the Library / Link basement in 2008 to integrate Administration and Canberra Ticketing PABX systems. In 2009 each PABX was fitted with an Uninterruptible Power Supply (UPS) to maintain operation in event of a power failure.

The telephone systems are critical to the operation of the Theatres, particularly for bookings and coordination of performances. In the Theatre environment, these systems are likely to suffer from obsolescence before they become physically degraded. Because of this, the Theatre system is allocated a 12-year life for planning purposes. Thus a replacement cost for this system is planned around 2015. Costs for replacing the Canberra Ticketing PABX are allocated under the schedule for the Library / Link building.

Before the Library / Link was developed, the Theatre relied on a radio LAN for its ticketing system. However, this became redundant following construction of the Library/Link and comprehensive cabled data services. A data cabling system is now provided throughout the Theatre precinct.

Replacement and upgrading of the data cabling around 2018 is included in the asset plan. Apart from data cabling, IT services are not covered by this assessment.

The Theatre also has a cabled TV system for backstage and foyer areas. The cable infrastructure for this system could have a very long physical life, if required. Its wholesale replacement is not currently envisaged within the planning limits. Minor cable refurbishment and modification costs are incorporated in the progressive allowance for audio-visual systems.

Security System

The Theatre security system is a modern Sielox Threshold 3600 system installed around 1995. It incorporates a multitude of devices such as alarm panels, keypads, electric locks, card readers, reed switches, passive IR detectors, CCTV cameras, intercom, video splitter/switcher, UPS, vibrations sensors, audio force detectors and duress buttons. Some of the devices and wiring may be residuals from older systems. However, replacements at component level would be covered by the routine maintenance budget, and are not incorporated in the asset management plan.

Replacement of the major system elements is included in the asset plan, at the life estimate for the security system. The life of security systems tends to be set by operational and obsolescence issues, rather than by the actual physical life potential of the hardware. Major components of these systems tend to be replaced at intervals around 15 years. However, the current system is functional and reliable and it is safe to extend its life out to 20 years for planning purposes. This would see a replacement around 2015.

Audio-visual Systems

The Theatre has quite sophisticated audio-visual systems including:

- Video monitoring of the Auditorium;
- Public address paging and audience bells;
- Mixing console & Theatre audio system;
- Monitoring and paging for dressing rooms;
- Stage view camera / monitor system;
- Hearing impaired services;
- Video monitoring and voice transmission for audio describers.

The stage view monitoring system has been identified as needing upgrading in the short term. Currently 27 existing stage view monitors in the Theatre and Playhouse need to be replaced by new flat screen monitors. In addition approximately 30 new monitors are needed to provide adequate coverage for the two venues. For planning purposes, the number of monitors required are evenly split between the venues and costs are included in the asset management plan in 2012.

The audio-visual systems have a diversity of components with installation dates from around 1980 to the present. The life of components is also fairly diverse. Because of this, it is expected that these systems will require a spread of investment into the future to replace malfunctioning, degraded, or obsolete components and services. For planning purposes an investment allowance at two-year intervals is included in the asset management plan.

5.6 Hydraulic Services

Description

The Canberra Theatre has quite extensive hydraulic services including:

- Underground sewer and stormwater drainage systems;
- Above ground sanitary plumbing and waste systems;

- Cold water reticulation;
- Domestic hot water systems and reticulation;
- Fire fighting water services.

Hydraulic fire fighting services include fire sprinklers, hose reel and hydrant installations. These are covered in section 4.8 following.

Underground Drainage Systems

Generally the expected life span for sewer and stormwater drainage systems is at least 80 years and often much longer. The most common problems with these systems are tree root ingress and blockages caused by solids catching on misaligned pipe joints. At some sites, ground movement may cause pipe breakages.

The drainage systems for the Theatre are known to have problems with blockages and handling some of the severe peak flows. However, the problems appear to be manageable. In addition, the amenities and drainage for the new Library/Link development should reduce demand on the older infrastructure.

There would be great difficulty in replacing or upgrading underground conduits so this is not likely to be cost effective, given the manageable level of problems encountered to date. No costs for replacement or refurbishment of underground conduits are included in the asset management plan. However, a provision is made for internal inspection of these systems around mid-life (2015) as this is likely to reveal any premature degradation that would have an impact on the asset management plan.

The Theatre has a pumped sewerage system, because the low point for sewer drains is below the town sewer. The system has duty and stand-by sewer pumps that were replaced around 2007. The system includes a sump wash-down system to flush the sump and avoid fermenting and odour generation. The service conditions are arduous and reliability is essential. For this reason the asset plan includes for further replacement of the pumps and controls after 15 years service.

Cold Water System

The Theatre cold water supply extends from a 100 mm cast iron town main. The cold water supply feeds fire services and domestic reticulation. The domestic cold water system is constructed of copper tube and fittings, with silver soldered joints. Its expected life span would run beyond the limits of the asset planning, so no replacement cost are allocated for this system. There is provision in the asset plan for replacement of tap ware as this has a lesser lifespan than the reticulation.

Domestic Hot Water Systems

The domestic hot water systems are reticulated using copper tube and fittings with silver soldered joints. Like the cold water services, the reticulation systems have a very long life, beyond the limits of the asset planning. However, tap ware, hot water vessels and circulating pumps would have a lesser life and replacement costs for these items are included in the asset planning. The major hot water vessels include a single 315 litre electric unit that serves the courtyard extension and 3 × 275 litre gas units that serve the backstage dressing areas. The former electric unit dates from 1982 and the latter gas units were installed in 1988. There are also some small electric units of various ages distributed around the building.

The gas domestic hot water system for the backstage dressing areas has been problematical. The gas line needs to be upgraded to alleviate gas starvation problems. In addition, the gas fired hot water vessels have degraded and need to be replaced in the short term. This work is scheduled in the asset plan for 2011. The gas fired hot water vessels have degraded prematurely. Hence, it is

intended to separate heat exchange and storage vessels in the replacement hot water system, as this approach should provide longer service life and lower lifecycle costs.

Normally, the existing electric hot water vessels can be kept in service until they begin to leak, at which time they can normally be quickly replaced. For current planning purposes the replacement cost are incorporated in the asset planning around 2015.

Sanitary Plumbing Systems

The sanitary plumbing and waste systems are constructed of long life materials, mostly copper and cast iron with some UPVC reticulation. Like other reticulated plumbing services, their expected life span would run beyond the limits of the asset planning, so no replacement cost are allocated for these systems.

Compliance Issues

Plumbing codes and regulations have changed considerably over the last twenty years in response to concerns about pollution and increasing community safety standards. Requirements to prevent backflow from potentially contaminated water sources to potable water supplies are now much tighter than applied when most of the Theatre's hydraulic systems were constructed. Likewise drainage standards are much higher and trade waste licences are required for discharge of contaminants such as water treatment chemicals.

The safety standards for domestic hot water systems have also been raised considerably, to reduce the potential for scalding. In particular, domestic hot water supplies for ablution systems must now be temperature limited to 50°C for general application and 42°C for disabled facilities.

In general, the Theatre has a number of areas where its hydraulic system would not meet the requirements of the current National Plumbing and Drainage Code (AS 3500). The upgrading of systems to current standards is not necessarily required in a strictly legal sense. However, over time there will be pressure to conform, arising from concerns with liability and the desire to be a good corporate citizen. Whenever systems are significantly modified (eg during fit-out changes or plant refurbishment) they will need to conform to AS 3500.

Because of the above reasoning, allowances for progressive, code conformance measures are included in the asset management plan for cold water, hot water and drainage services. Some compliance work has already been undertaken (eg for plant room drainage). The allowances account for other compliance issues to be addressed over time when modifications or fit-out measures make it desirable or necessary.

5.7 Fire Protection Services

Description

The Theatre has a high standard of fire protection. The fire detection, protection and warning systems include:

- Fire resistant compartmentation;
- Fire curtain & drenching system in the proscenium opening;
- A fire sprinkler service;
- A smoke detection system;
- Fire hose reels, hydrants and extinguishers;
- Smoke venting systems;
- An emergency warning and evacuation system.

Fire Protection Systems

The building is equipped with fire sprinkler protection generally in accordance with the requirements of the fire sprinkler code, AS 2118. The proscenium opening has a drencher system that acts in conjunction with a safety curtain to fire separate the stage and auditorium. Fire sprinkler coverage does not extend into the auditorium. The main alarm valve is located on the western side of the building where it is accessible to the Fire Brigade.

Hydrants and hose reels are provided generally in accordance with AS 2419. Fire extinguishers are also provided. The fire protection systems are largely original installations dating from 1963. However, they were expanded to serve the courtyard extension around 1982. In addition, a large-scale replacement of old sprinkler heads was undertaken in 2004.

Fire Detection and Alarm Systems

The Theatre has a fire detection system to provide early fire warning. The system is a modern digital, addressable system. The fire indicator panel and detectors were replaced in 1994. The new fire indicator panel is a Vigilant F4000 system located at the stage door and Administration entry in the courtyard extension.

Emergency Evacuation System

The Theatre is fitted with an emergency warning and intercommunication system (EWIS) in accordance with AS 2220. The Inertia 2000 EWIS was installed in 1994.

Smoke Venting Systems

The Theatre is equipped with dedicated smoke venting systems and smoke purging forming part of the HVAC services installation. The auditorium is equipped with roof mounted, natural draft smoke vents, actuated by a compressed air system. In addition, there are smoke exhaust fans provided for the foyer and stage areas. The auditorium smoke vents appear to have been installed around 1994. Some of the smoke exhaust fans were installed originally in 1963 and further fans added around 1994.

Lifecycles

For asset planning purposes it is assumed that the Theatre and its associated fire services sustain no major fire damage during the planning timeframe. Obviously a significant fire incident would have a major impact on any asset planning.

The Theatre's fire systems have components with a variety of installation dates from 1963 to 2004. The expected lives of the various fire systems vary considerably. In addition, there is substantial uncertainty in predicting the life of some high cost elements such as fire sprinkler reticulation. Over time, as decision points or life expiry dates approach, further detailed inspections and invasive testing can be undertaken to reduce the level of uncertainty.

The sprinkler, hose reel and hydrant systems are largely static systems with very long lives. The reticulation systems associated with these services would have lives in the range 50 – 70 years, largely depending on the rate of corrosion in steel piping. For asset planning purposes, it is assumed that the systems would last 60 years, so that significant replacement costs occur largely around the expiry date for asset planning. Some smaller costs are likely to be incurred around 30-40 years life, for the replacement of less durable elements such as hoses. For planning purposes, these costs are lumped into provisions for replacement of fire fighting appliances.

The life of the smoke control systems will generally exceed the planning timeframe because the run time (eg during testing) of smoke venting systems is minuscule in relation to the duty for which ventilation systems are designed. Some small component replacements will be necessary. However, these can also be characterised as routine maintenance.

Fire detection systems and EWIS normally have 20-year lifespans. However, the current planning envisages both of these systems remaining in service for 25 years implying replacement around the middle of the period used for asset planning. The asset plan includes allowance for progressive replacement of fire fighting appliances, which have a spread of ages throughout the building.

As time progresses, most fire systems tend to accumulate non-conformances to then current safety standards. These arise from significant changes to fire codes, or from functional or fit-out changes for which the systems are not fully adapted. Therefore it is prudent to plan for fire service auditing and allow for some conformance work at around five-year intervals over the building life cycle.

5.8 Lifts & Hoists

Description

When inspected for the initial Asset Management Plan in 2004, the Theatre had no personnel lifts. However, a major access upgrade project in 2007 fitted a new hydraulic personnel lift and a wheel chair platform hoist in the Foyer to the Administration / Stage entry.

Other major lifting systems in the Theatre comprise a large platform gantry and an orchestra pit lift. The Wardrobe room has a small (1 tonne) gantry hoist for lifting laundry. There are also two hoists external to the auditorium that are used for raising audio desks into the Biobox. The Theatre stage area is also fitted with extensive scenery lifting mechanisms.

Personnel Lift

The Theatre now has an 8 person hydraulic lift in the Administration / Stage entry foyer, installed in 2007. Lifts generally require major refurbishment including car finishes, door operating, safety equipment and controls at 20 year intervals. This is allowed for in the asset management plan. The lift machinery itself, including motors, pumps, pulleys, guide rails, buffers, hydraulic caissons and other shaft equipment should have a life of at least 40 years before replacement needs to be considered. Hence the lift replacement is outside the current time frame for asset management planning.

Wheel Chair Platform Hoist

A wheel chair platform hoist and ancillary equipment was fitted to the Theatre as part of the 2007 access upgrade project. The components and mechanisms for this system are quite robust. In addition, utilisation is low because of the small proportion of patrons needing this facility. For this reason, the hoist equipment should have a low rate of wear and a very long life. No refurbishment or replacement provision is needed in the current asset management plan as the equipment life will extend well beyond the current time limit for lifecycle planning.

Gantry Assemblies

A large platform gantry is provided in the workshops for painting hoardings. This gantry was installed around 1982 and is around 23 years old. It should have a very long life because its usage is moderate, in relation to the duty cycle for which such equipment is designed. With good maintenance and inspections its life should be sufficient to avoid replacement within the time frame of the asset management plan. However, it is likely to need a major overhaul and replacement of worn components at some time in the 30-40 year timeframe. For planning purposes the cost of this overhaul is scheduled at 35 years service.

A small gantry hoist of 1 tonne capacity is provided for lifting laundry into the Wardrobe room. This hoist was installed around 1982. It should have a very long life because its usage is moderate, in relation to the duty cycle for it is designed. For planning purposes it is also expected to need an overhaul at 35 years service.

Orchestra Pit Lift Assembly

The orchestra pit is fitted with a platform lift for raising and lowering the entire orchestra floor. The lift mechanism is hydraulic and appears to be very robust. It was originally installed in 1965 so it is now approximately 40 years old. The mechanism is likely to last to the limit of the asset planning timeframe. However, it will need at least one major overhaul for seal replacement and refurbishment of the hydraulic pump assembly and controls. For asset planning purposes, this overhaul is scheduled at 50 years service.

The platform lift is a very old mechanism so it would be desirable to have it assessed by a lift specialist to ensure it meets current safety standards. It appears that some supplementary safety equipment has already been fitted. However, it does not have the equivalent standard of safety interlocks provided on the more modern lift in The Playhouse.

Superficially, the lift does not appear to be fail-safe. If a pipe or seal bursts it appears that the platform would descend without control. This may be relatively safe if the rate of descent is very slow due to the inherent characteristics of the rams. However, it would be desirable to establish failure modes and the need for modifications. Further safety modifications are considered probable and a provisional allowance is included in the asset planning for this purpose. The allowance will need to be adjusted when the extent of work needed is identified.

Scenery Lifting, Flying & Other Mechanisms

Extensive pulley lifting mechanisms are provided on both sides of the Theatre stage for raising and lowering scenery, props and performers. These mechanisms are quite robust and would be expected to have a high factor of safety. The mechanisms are manually operated and service conditions are not arduous. Overall, the life of the mechanisms could be expected to extend beyond the timescale for asset planning. However, there are significant wearing elements in these mechanisms, mainly ropes and, to a lesser extent, pulleys. An annual allowance for wearing part replacements in these mechanisms is included in the asset management plan. Individual ropes last for several years, however, a portion of the ropes are replaced each year.

There are two hoists external to the auditorium that are used for raising audio desks into the Biobox. These hoists were installed in 2008. They are in excellent condition and are unlikely to need any refurbishment within the current time limit for the asset management plan.

In 2007, a new lift mechanism for program advertising banners was fitted externally on the north wall of the fly tower. This mechanism is exposed to the elements and will eventually need refurbishment or replacement. Costs for this are included using an expected life of 15 years.

5.9 Equipment & Appliances

In general, small-scale equipment and appliances are not included in the asset management plan. Their replacement costs will normally show up in maintenance or other budgets such as office supplies. However, where there are significant groups of appliances or major equipment, it is desirable that its lifecycle cost be reflected in the asset management plan. Elements in this category, which have been identified include:

- Air compressors;
- Workshop equipment, personnel lifts & tools;
- Toyota model 5FB25 fork lift;
- Costume washing & drying appliances;
- Boiling water units;
- Food preparation equipment such as microwaves, pie warmers, refrigerators etc.

The forklift was procured second hand in 2002. It has an anticipated life of 15 years at which time the planning allows for replacement with a new item. Batteries for the forklift need renewal at around five year intervals and this cost is allowed in the plan.

Individually, the most of the listed items are not very significant. However, collectively they represent a significant lifecycle cost. The refurbishment or replacement costs for the less significant items are therefore covered by a lumped, annual allowance in the asset management plan.

5.10 Lifecycle Cost Summary

The following five pages provide a lifecycle cost summary for the Canberra Theatre in tabular and graphic format. Refer to section 4.6 for further description of the tables and illustrations following.

CANBERRA THEATRE

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	100	56	0	44	0	0
SUPERSTRUCTURE	723	245	209	79	184	6
FINISHES	340	254	11	21	33	21
FITTINGS	1,067	687	103	143	44	90
FIRE PROTECTION	41	25	4	4	4	4
ELECTRICAL	941	38	375	345	30	153
MECHANICAL	1,823	0	139	0	1,628	56
HYDRAULICS	95	38	2	2	2	51
SITE WORKS	0	0	0	0	0	0
<i>totals</i>	5,130	1,343	843	638	1,925	381

annual costs % of total 26.2% 16.4% 12.4% 37.5% 7.4%

maximum annual cost **1,925**

average annual cost **513**

cumulative costs **1,343 2,186 2,824 4,749 5,130**

CANBERRA THEATRE

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	100	56	44	0	0	0	0	0	0	0	0
SUPERSTRUCTURE	1,628	454	263	21	116	82	125	104	319	18	126
FINISHES	1,413	265	54	258	101	88	103	157	139	127	121
FITTINGS	2,511	790	187	184	180	128	85	99	667	75	116
FIRE PROTECTION	651	29	8	29	8	279	29	8	245	8	8
ELECTRICAL	2,718	413	375	183	382	559	75	386	39	123	183
MECHANICAL	3,815	139	1,628	274	1,072	11	22	232	415	11	11
HYDRAULICS	201	40	4	53	4	20	32	4	20	4	20
SITE WORKS	0	0	0	0	0	0	0	0	0	0	0
<i>totals</i>	13,037	2,186	2,563	1,002	1,863	1,167	471	990	1,844	366	585

periodic costs % of total 16.8% 19.7% 7.7% 14.3% 9.0% 3.6% 7.6% 14.1% 2.8% 4.5%

maximum periodic cost **2,563**

average periodic cost **1,304**

average annual cost **652**

cumulative costs **2,186 4,749 5,751 7,614 8,781 9,252 10,242 12,086 12,452 13,037**

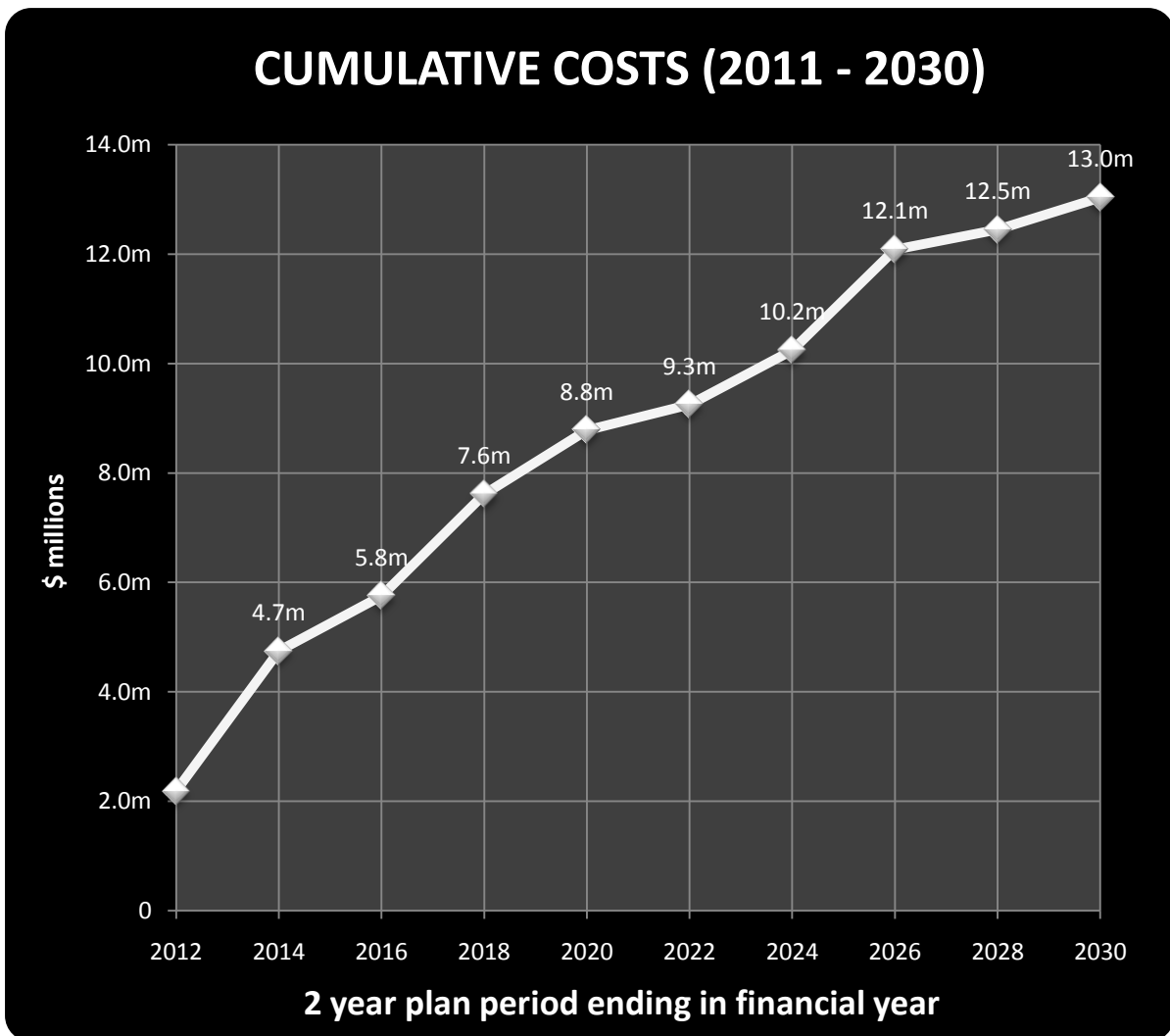


Figure 5.1: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

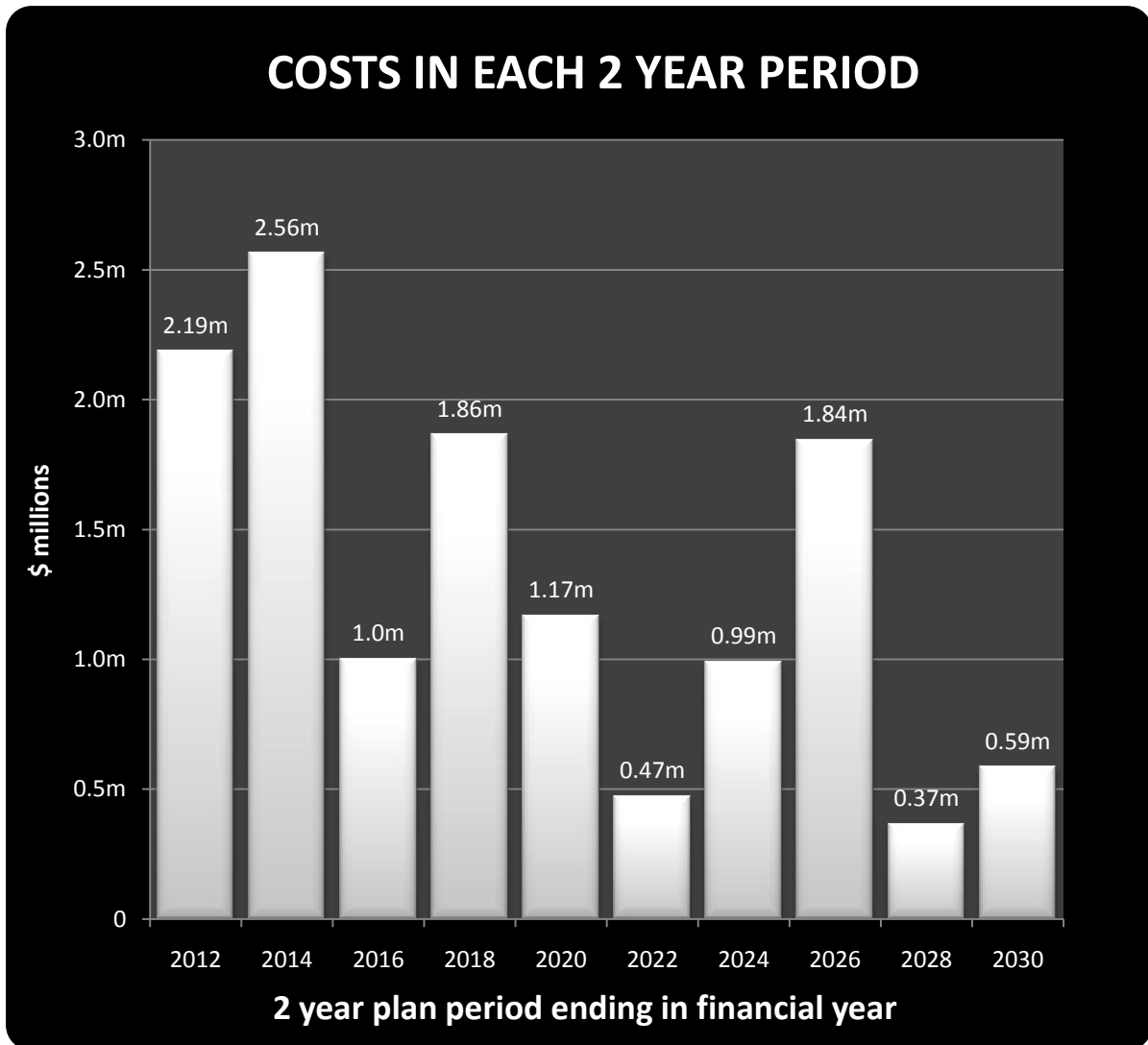


Figure 5.2: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

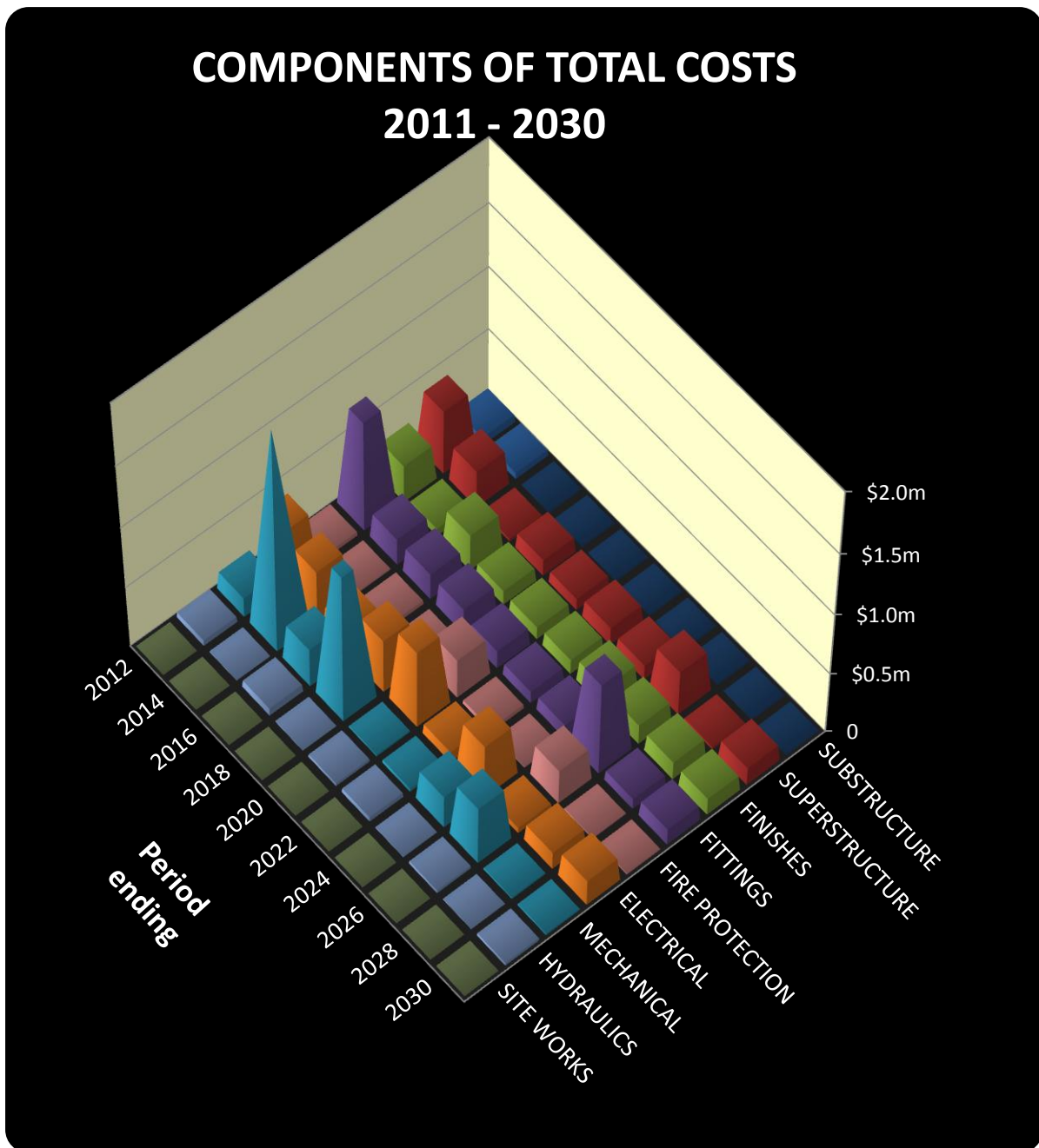


Figure 5.3: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

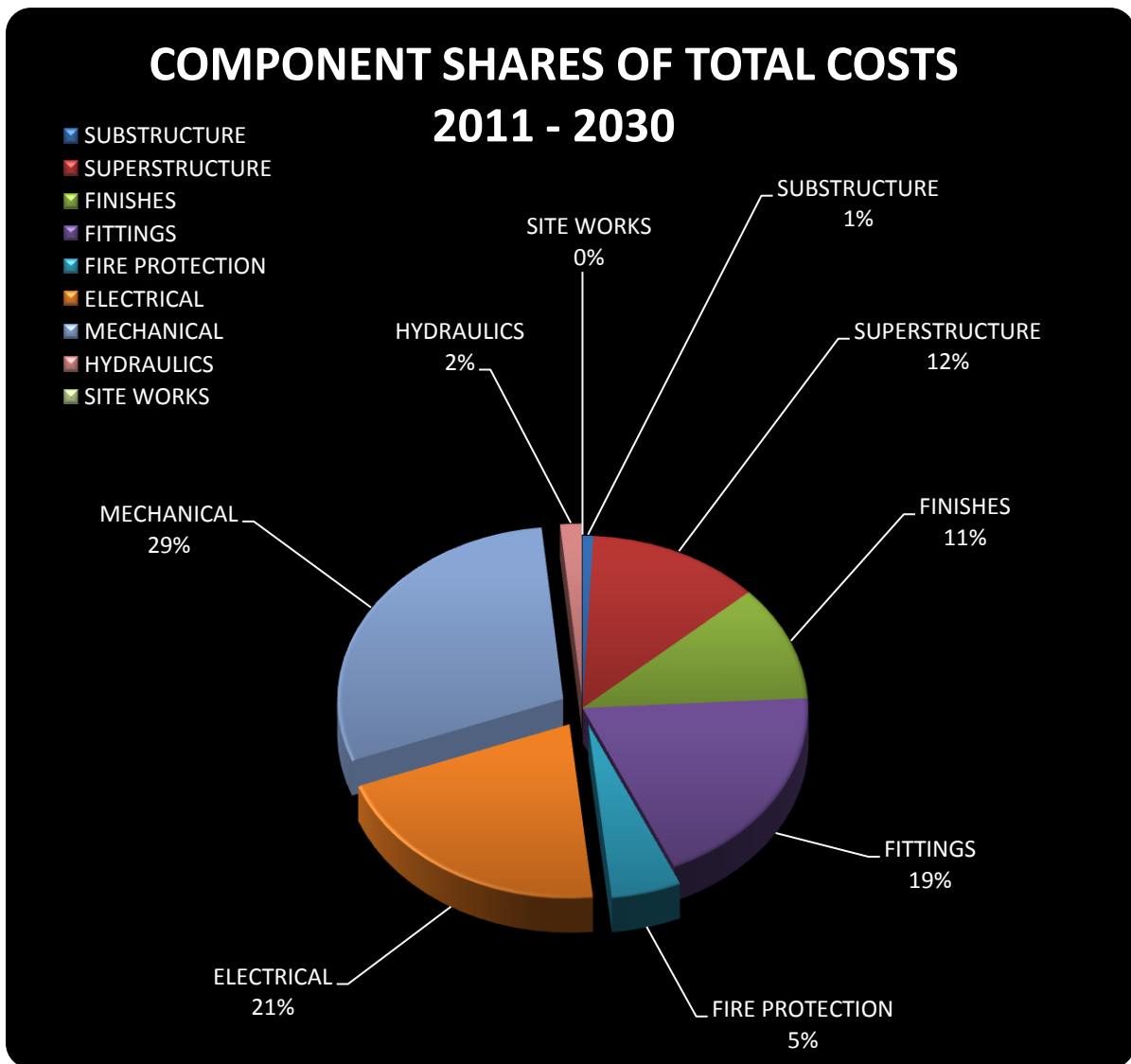


Figure 5.4: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

The Playhouse

6.1 General Information

The Playhouse was completed in 1998 as a replacement for the Little Theatre that formed part of the original Canberra Theatre complex. The Playhouse has approximately 2,600 square metres of internal floor area (excluding plant rooms) and provides some 620 seats in a comparatively intimate theatre environment. Like the Theatre, The Playhouse is a major income generating facility for the Corporation. The building differs from the Theatre in both building fabric and services by having adopted commercial, rather than institutional, quality standards.

With its greater complexity of form and a broader palette of colours and textures, the Playhouse is a more interesting and attractive building than its older neighbour. However, keeping up appearances will require more frequent and more extensive intervention than in the Canberra Theatre, even if the work will mainly involve superficial, low cost finishes. The 2004 asset planning report suggested that likely future needs could be anticipated by comparing the condition of the Playhouse and Theatre exteriors after six and forty years of service, respectively. Six years on, the accelerating deterioration of The Playhouse's applied external finishes provides further evidence to assess future needs.

6.2 Lifecycle Strategy

Being a relatively new venue, The Playhouse has standards of construction and fit-out which reflect contemporary practice for commercial buildings. As a consequence, its fabric components and services systems are less robust and long lived than the equivalent elements in the Theatre. They are likely to have economic lives aligned with current industry expectations. The optimum life cycle approach for this facility will rely more on conventional replacement cycles with reduced scope for life extension. This does not mean that The Playhouse building cannot be quite long lived. The building construction, finishes and services are of good quality for their types, considering the budgetary constraints that applied during construction. However, its appearance and effective operation will be less forgiving of missed or delayed refurbishment cycles.

The lifecycle model for The Playhouse is constructed around system replacements towards the upper end of conventional life expectations, thereby gaining the benefit of modest life extension. Despite its relative youth within the Canberra Theatre complex, the building is entering a period of its lifecycle where cost savings during construction may accelerate the need for asset replacement expenditures. Some service elements in The Playhouse (eg hot water systems, chiller & boiler plants) have deteriorated prematurely when assessed against conventional life expectations.

6.3 Building Issues

Cladding & Glazing

The lower levels of the original building were enclosed by masonry finished with a quartzite render and by floor to ceiling glazed walls around the public foyer. Merging of the foyer with the new Library / Link building has virtually removed the south facing length of these walls, reducing

the extent of attention that will be needed. The 2004 plan allowed for eventual refurbishment of the powder coated elements of the glazing, taking account of some evident degradation to window sill cappings around the Dressing Room wing. That deterioration is more clearly apparent in 2010. The rendered walls are inherently durable and expected to need little more than cleaning during the asset planning period.

Upper level walls to the Auditorium drum are masonry, rendered and painted. Some chalking of the paint was already visible in 2004 and has now advanced to the point where repainting should be a priority. Painting cycles in the asset plan assume that the external finish used in the first recoating will be a heavy body, durable texture finish.

The prominent fly tower walls are clad in prepainted ribbed steel sheet, which has the advantage of being factory painted and coloured white, helping to conceal chalking as it occurs. To extend the intervals between repainting of this material, the plan allows for mid-cycle cleaning (It should be noted, however, that the first repainting is scheduled some 20 years after construction. Shorter cycles will be needed once the material has been site painted.). Painting of external metalwork has been set to similar intervals but cycles might need to be shortened for these darker toned elements.

Roofing

There are several distinct roof surfaces to the various wings of The Playhouse. All are clad in white factory painted metal decking, similar in type to the roofing of the Theatre. Although as durable as the Theatre roof, the Playhouse surfaces will be more prone to showing marking and weathering. Some planes of the roof are visible from the upper levels inside the building and are overlooked by people crossing the Link bridge and walkway. The plan allows for painting at mid life in order to maintain acceptable appearance. This approach differs from the replacement (at longer intervals) adopted for the Canberra Theatre because rooftop plant on the Playhouse might make replacement disruptive. Exposed perimeter gutters are also listed for replacement as access should be straightforward.

Interior Finishes and Fittings

The availability of expanded foyer space and amenities in the Link building has allowed important improvements to the sound isolation of The Playhouse auditorium. New sound lock enclosures have been formed around each of the ground floor doors in the former crush space of the original foyer. Like other foyer wall surfaces in The Playhouse, they are lined in painted plasterboard. While these surfaces are less robust than the masonry of the Canberra Theatre walls, they are easily patched and locally painted when needed. Allowances for internal repainting have increased in the 2010 plan to include the new surfaces. Walls inside the Auditorium are predominantly lined with plywood acoustic control panels with a clear finish, overlaid on the painted masonry walls of the drum. These surfaces do not seem in need of frequent refinishing. Walls around the stage and the upper level ceilings are blackout painted and will require attention only at extended intervals.

Backstage areas in both the Canberra Theatre and The Playhouse have extensive areas of painted masonry walls. The Playhouse, however relies on paving paint throughout corridors in the Dressing Room wing where vinyl is used in the Theatre. The Foyer and access balconies are carpeted, as are the newly refurbished VIP Function Room and the upper level dressing rooms.

Fittings in The Playhouse are comparable to those in the Theatre and both buildings share a need for refurbishment of the back of house areas. These works are identified in the Capital Works bids for 2009/10 and listed for the early years of the 2010 asset plan. Replacement of seating will also generate significant costs in the short term. The asset plan allows for the separation of supply air inlets from the seat pedestals during the first replacement so that more economical seating units can be purchased. Other significant fittings and equipment costs include the replacement of the cyclorama, curtains and masking.

6.4 HVAC Services

Description

The building heating, ventilation and air conditioning services are almost completely original and therefore commenced service in 1998. The Playhouse is fully air-conditioned. Like the Theatre, the main heat transfer media are piped chilled water (7°C) and heating water (80°C). These services are reticulated to air handling units throughout the building.

A single air-cooled chiller provides space cooling for the building. Space heating is provided via a central boiler plant with two natural gas fired boilers and distribution pumps.

There are ten major and minor air handling units distributed in plant rooms throughout the building. Most of the air handlers are located in a large plant room above the highest tier of seating in the auditorium. The air handlers are factory fabricated. They are premium quality units and should have a long service life.

Chiller Plant

The chiller plant for The Playhouse has a single Carrier air-cooled chiller of 370 kW capacity that commenced service in 1998. There is a single 15 kW circulating pump that replaced the original circulating pump in 2004. The original pump was poorly selected. Its unsuitability for the duty caused it to suffer from severe turbulence and vibration.

Normally central chiller plants have a 25-year life. However, there is evidence that packaged, air-cooled chillers have a somewhat lesser life, primarily because:

- a) they are exposed to the weather; and
- b) components are mounted on a common chassis and therefore exposed to significant vibration.

In the 2004 plan the life of the existing chiller plant was assessed at 20 years. However, facilities personnel now consider that this chiller needs to be replaced around 2012 (ie after only 14 years service). The major reasons for this assessment, in order of priority, are:

- The chiller has suffered a compressor failure and has a poor record of reliability;
- There is no redundancy in the chiller plant. A single chiller provides virtually all the space cooling in The Playhouse;
- The maintenance provider considers the equipment in need of replacement in the short term;
- The chiller has poor efficiency and uses an ozone-depleting refrigerant (R22), for which the 90% production phase out date is 2015.

An allowance for replacement of the chiller plant in 2012 is included in the asset management plan. The plant replacement offers an opportunity to improve the systems design and energy efficiency. The allowance therefore includes for professional engineering advice and design work for this purpose.

Boiler Plant

Originally The Playhouse was heated from the central boiler plant serving the Theatre. However, a new boiler plant was added to The Playhouse in 2000 because the Library/Link development required removal of connections to the central heat transfer services.

The Playhouse boiler plant has two natural gas fired boilers of approximately 200 kW capacity and two 8.0 kW circulating pumps. The plant is located in an internal plant room below the building chiller plant. The boiler plant is reasonably efficient and uses a low cost energy source. The plant is of commercial quality with lightweight boilers and pumps which would not be expected to have an exceptionally long life. Its likely economic life is around 18 years.

In 2004 there were problems with the rate of warm up of The Playhouse during cold weather. However, these problems were fully resolved in 2007 when burners and electronic controls were replaced on one boiler. A similar replacement of burners and electronic controls on the other boiler is programmed around 2012. The current asset management plan envisages boiler plant replacement being needed around 2016.

Air Handlers

The Playhouse has ten air handling units which range in size from 1000 – 5000 litres /second, airflow capacity. The air handlers are mostly factory manufactured and are efficient, premium quality units. The larger air handling units are fitted with economy cycles, allowing them to use outside air for cooling when climatic conditions are suitable. For planning purposes, these air handlers have been assigned economic lives of 25 years and their current condition, after 12 years service, suggests that they will realise at least this lifespan. Their replacement costs are registered in the latter years of the asset plan. It is likely that these air handlers will achieve much better than average economic life, if they continue to be well maintained. As time progresses it may be practical to reassign their life as 30 years if their condition justifies this.

Displacement Diffusers

The Playhouse auditorium has a special air distribution system termed “displacement ventilation”. This is an air movement technique where clean, conditioned supply air is introduced at low level and very low velocity into an occupied zone. The supplied air displaces warm contaminated air towards the ceiling where it is extracted (See figure 5.1 following). The displacement technique is well suited for conditioning an auditorium, and appears to work very well in The Playhouse.

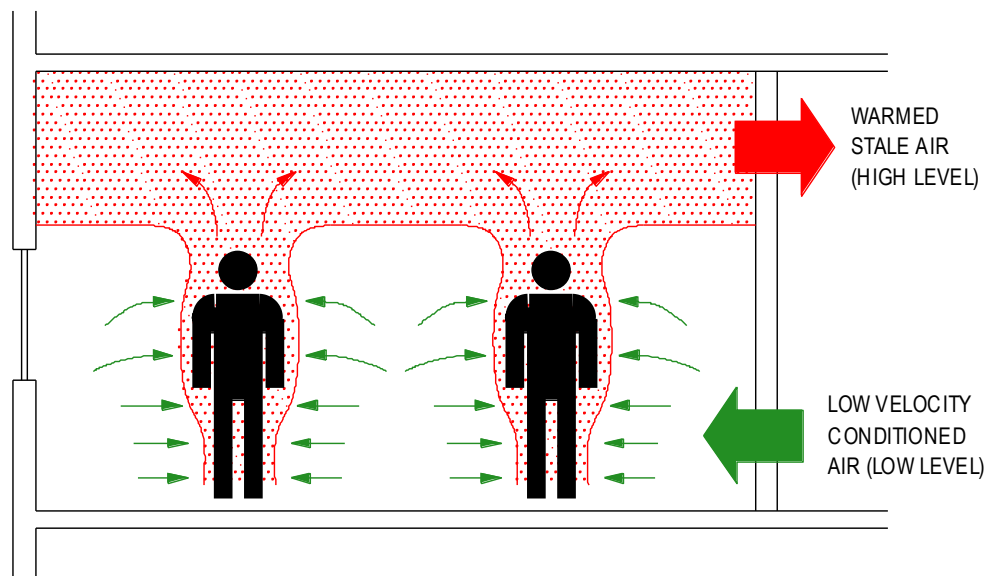


Figure 6.1. Principle of Displacement Ventilation

In The Playhouse the supply air is introduced through special perforated diffusers built into the base of the auditorium seating. As the auditorium seating is anticipated to need replacement around 2014, consideration must be given to the impact on displacement diffusers. Three alternative approaches are available, as follows,

- a) Recycle the seat frames and in-built diffusers and replace the furnishings;
- b) Procure new seats with in-built diffusers similar to the existing;
- c) Procure new conventional seats and replace in-built diffusers with separate diffusers.

The planning at this stage does not seek to close off any of the above alternatives, except to observe that approach (b) above is unlikely to be cost effective. For planning purposes, an allowance for separate diffusers is included in the asset management plan to complement the expected seating replacement item in 2014.

Heat Transfer Services

As indicated for the Canberra Theatre, the normal economic life of piped heat transfer services is around 40 – 60 years. This means that the replacement or refurbishment of these services will not be at issue until well beyond the present cut-off date for asset planning purposes.

Control and Automation Systems

The Playhouse has Siemens Apogee 600 direct digital control (DDC) systems. These direct digital controllers are networked to HVAC automation workstations. These are located in the Administration area and in the stage door offices in both The Playhouse and Theatre. The HVAC control and automation systems for The Playhouse, Canberra Theatre and new Library/Link building are networked and fully integrated, significantly assisting the monitoring and management of the HVAC services throughout the precinct.

The control and automation systems for The Playhouse are modern, adaptable and expandable. The commonality of manufacturer between The Playhouse, Canberra Theatre and the Library / Link is a major advantage of the existing HVAC automation system. It will be important that this commonality be preserved and maintained for future development.

Normally control and automation systems have a 15 – 25 year life. The rate of development in controls and automation systems is quite ferocious. Quite often the lifespan of these systems is limited by obsolescence, rather than by wear or functional limitations. However, the Siemens systems have an excellent history of backward compatibility and inter-operability between different generations of equipment. For planning purposes, proposed replacement of the system synchronised with equivalent work in the Theatre in 2018.

Other HVAC Services

Other HVAC services include supply and exhaust ventilation systems and smoke venting systems. In general, the ventilation systems are of a reasonable scale and would have a long life, around 25 years. Allowance for replacement of fans in these systems is included with the replacement allowance for associated air handlers.

Smoke venting systems are addressed later in this report as part of the building fire protection.

6.5 Electrical Services

Description

The electrical services in The Playhouse are quite diverse and sophisticated. In general, the facility can be characterised as ‘highly serviced’ in an electrical sense. The electrical services include:

- Electrical power distribution system;
- Fire detection and evacuation warning systems;
- Telephone system;
- Security and access control system;
- CCTV distribution system (Backstage & Foyer);
- General and theatre lighting and lighting control systems;
- Audio-visual systems.

At present, the electrical services remain largely as originally fitted when the building commenced service in 1998. Note that the fire detection and evacuation warning systems are covered in section 5.7 following.

Power Distribution

A kiosk style, electrical, high voltage substation is located externally on the western side of The Playhouse at street level. It has a 750 kVA oil-filled transformer and associated switchgear. This sub station now serves both The Playhouse and the new Library / Link building. The substation equipment is owned and maintained by ACTEW Corporation. The Playhouse and Library / Link are metered for a low voltage tariff. Costs for refurbishment or replacement of the substation are fully funded by the tariff charges.

The building main switchboard is located at the rear of the building at ground level. The power distribution is segregated into a number of different supplies. The distribution for plant and services is segregated into essential and non-essential supplies, the former being for fire and emergency systems. The general power is segregated into general purpose and stage supplies. In addition there are filtered (or green) power supplies for audio systems.

The power distribution systems are long-life assets. Most of the major lifecycle renewals for these services are likely to fall beyond the currently selected time frame for asset management planning.

Lighting

There is a great variety of lighting in The Playhouse and, like the Theatre, many of the lighting systems are critical for rehearsals and performances. Light fittings include incandescent and fluorescent types, battery sustained fittings and special stage and spot lighting. Most of the light fittings are of uniform age.

Currently, maintenance staff renew a percentage of stage and spot lights annually, as fittings become damaged, worn or obsolescent. In addition, special colour filters are procured annually to replace worn and damaged components. Estimates for these annual expenditures are included in the asset management plan. The planning for stage lighting envisages replacement of like fittings in groups as they reach the limit of their economic life.

The Playhouse has semi-automated blue – white light system that is unreliable and in need of an upgrade. An allowance for this upgrade is planned around 2015. The other permanent lighting installations in The Playhouse could be expected to have a long life of the order 20 – 25 years, depending on the quality of particular fittings. For asset planning purposes, allowance for lighting system refurbishment has been made in the long-term. The refurbishment is spread across several years with the replacement of emergency fittings planned in advance of other lighting installations.

Light Dimming Systems

The Playhouse has rack-mounted, Dynalite Dimtek 910 house lighting dimmers and modular, Bytesize stage lighting dimmers. The dimmers are digital, solid-state type and operate via an addressable network. From experience, the service life of dimming systems has been much shorter than might be expected, probably because the demands of theatre lighting are quite arduous, and it is important for performances that the system operate reliably. The average life expectancy of dimmer systems is 12 - 15 years. However, the existing systems are in good condition and likely to slightly exceed the average lifespan. For planning purposes replacement of the dimmer modules is envisaged around 2015. The lighting control system is programmed for replacement at the same time, because of interconnections and synergies between these systems.

Communications

The Playhouse shares a modern (Ericsson) digital telephone system with the Canberra Theatre. This system was installed in 2003. The telephone system is likely to have a 20-year life. The

replacement cost for this system is largely covered in the planning provisions for the Canberra Theatre. A smaller allowance for wiring refurbishment and peripheral elements is included for The Playhouse.

The Playhouse has a cabled TV system for backstage and foyer areas. The cable infrastructure for this system could have a very long physical life, if required. Its wholesale replacement is not currently envisaged within the planning limits. Minor cable refurbishment and modification costs are incorporated in the progressive allowance for audio-visual systems.

Security System

The Playhouse security system is an extension of the Sielox Threshold 3600 system serving the Canberra Theatre. The system incorporates a multitude of devices such as alarm panels, keypads, electric locks, card readers, reed switches, passive IR, CCTV cameras, intercom, video splitter/switcher, vibrations sensors, audio force detectors, duress buttons.

The life of security systems tends to be set by operational and obsolescence issues rather than by the actual physical life potential of the hardware. From experience, these systems tend to be replaced at intervals around 15 years. For asset management purposes the replacement or refurbishment of the system is synchronised with equivalent work in the Theatre in 2015. The allowance for The Playhouse covers only security wiring and peripherals as the main panel replacement is incorporated in planning for the theatre.

Audio-visual Systems

The Playhouse has sophisticated audio-visual systems, equivalent to those in the Theatre. They include:

- Video monitoring of the Auditorium;
- Public address paging and audience bells;
- Theatre audio system;
- Monitoring and paging for dressing rooms;
- Hearing impaired services;
- Video monitoring and voice transmission for audio describers.
- Stage view video monitoring system;

The stage view monitoring system has been identified as needing upgrading in the short term. Currently 27 existing stage view monitors in the Playhouse and Theatre need to be replaced by new flat screen monitors. In addition approximately 30 new monitors are needed to provide adequate coverage for the two venues. For planning purposes, the number of monitors required are evenly split between the venues and costs are included in the asset management plan in 2012.

A total refurbishment of The Playhouse audio system was completed in 2009 with the replacement of speakers. This system is effectively new and a lifespan in the range of 10-15 years can be anticipated.

In general, other audio-visual systems are original with a variable level of development since their initial installation. The scope and life of audio-visual components is quite diverse. Historically, there has been a steady investment in these systems to keep them current and adapt to changing organisational and performance demands. Because of this, it is expected that these systems will require a spread of investment into the future to replace malfunctioning, degraded, or obsolete components and services. For planning purposes an allowance at two-year intervals is included in the asset management plan. The allowance is intended to cover routine replacement items and to cumulatively account for non-routine, high cost items like the recently completed audio system refurbishment.

6.6 Hydraulic Services

Description

Like the Canberra Theatre, The Playhouse has quite extensive hydraulic services including:

- Underground sewer and stormwater drainage systems;
- Above ground sanitary plumbing and waste systems;
- Cold water reticulation;
- Domestic hot water systems and reticulation;
- Fire fighting water services.

Hydraulic fire fighting services include fire sprinklers, hose reel and hydrant installations. These are covered in section 6.7 following.

Underground Drainage Systems

Generally the expected life span for sewer and stormwater drainage systems is at least 80 years. For this reason, no costs for replacement or refurbishment of underground conduits are included in the asset management plan. An allowance for inspection of underground conduits is planned around 2015 to complement equivalent work at the Canberra Theatre.

The Playhouse has a pumped sewerage system because the low point for sewer drains is below the town sewer. The sewer pump system has duplex pumps located in a sump below the under-stage area. The pumps were recently replaced. Although the annual run-times for these pumps are low, the service conditions are quite aggressive and arduous and reliability is essential. For this reason, the asset planning allows for replacement of the pumps and control system after 10 years service.

Cold Water System

The building cold water supply extends from the 100 mm cast iron town main which also serves the Theatre and Library / Link. The cold water supply feeds fire services and domestic reticulation. The domestic cold water system is constructed of copper tube and fittings, with silver soldered joints. Its expected life span would run beyond the limits of the asset planning, so no replacement cost are allocated for this system. There is provision in the asset plan for replacement of some tap sets as these have a lesser lifespan than the reticulation. For assessment of the fire services, refer to section 6.7 following.

Domestic Hot Water Systems

The major hot water vessels comprise 3 × 275 litre gas units that serve a hot water circulation system. Like its counterpart in the Theatre, the gas domestic hot water system has been problematical. The gas line needs to be upgraded to avoid gas starvation problems. The gas fired hot water vessels are degraded and need to be replaced. This work is scheduled in the asset plan for 2011. The gas fired hot water vessels have degraded prematurely. Hence, it is intended to separate heat exchange and storage vessels in the replacement hot water system, as this approach should provide longer service life and lower lifecycle costs.

Domestic hot water is reticulated using copper tube and fittings with silver solder joints. Like the cold water services, the reticulation systems have a very long life, beyond the limits of the asset planning. However, tap ware, would have a lesser life and progressive replacement costs for these items are included in the asset planning.

Sanitary Plumbing Systems

The sanitary plumbing and waste systems are constructed of long life materials, mostly copper and cast iron and UPVC reticulation. Like other reticulated plumbing services, their expected life span

would run beyond the limits of the asset planning, so no replacement cost are allocated for these systems.

Compliance Issues

The Playhouse hydraulic services were designed to conform to the National Plumbing and Drainage Code (AS 3500) as constituted around 1997. The systems would largely comply with current plumbing requirements. However the domestic hot water services for ablution systems are not temperature limited as required by current code requirements.

The upgrading of systems to current standards is not necessarily required in a strictly legal sense. Many of the outlets for domestic hot water are fitted with thermostatic mixing taps. These could be considered safer than unregulated outlets. However, it seems likely, on the balance of probabilities, that concerns with liability will ultimately provide a strong incentive to improve the safety of the domestic hot water service. Because of this reasoning, allowances for medium-term, code conformance measures are included in the asset management plan.

6.7 Fire Protection Services

Description

The Playhouse has a high standard of fire protection. The fire detection, protection and warning systems include:

- Fire resistant compartmentation;
- A fire sprinkler service;
- Drencher system for the proscenium opening;
- A smoke detection system;
- Fire hose reels, hydrants and extinguishers;
- Smoke venting systems;
- An emergency warning and evacuation system.

Fire Protection Systems

The building is equipped with fire sprinkler protection in accordance with the requirements of the fire sprinkler code, AS 2118. The main alarm valve is located on the western side of the building where it is accessible to the Fire Brigade. Hydrants and hose reels are provided, generally in accordance with AS 2419. Fire extinguishers are also provided.

Fire Detection and Alarm Systems

The Playhouse has a fire detection system to provide early fire warning. The system is a digital addressable system.

Emergency Evacuation System

The Playhouse is fitted with an emergency warning and intercommunication system (EWIS) in accordance with AS 2220.

Smoke Venting System

The Playhouse is equipped with smoke venting systems as part of the HVAC services installation. The smoke venting systems were designed to conform to the BCA and AS 1668.1 requirements applicable around 1997.

Lifecycles

For asset planning purposes it is assumed that The Playhouse and its associated fire services sustain no major fire damage during the planning timeframe. Obviously a significant fire incident would have a major impact on any asset planning.

The fire systems are all original, commencing service in 1998. The expected lives of the various fire systems vary. The sprinkler, hose reel and hydrant systems are largely static systems with very long lives exceeding the current time frame for asset planning purposes. The life of the smoke control systems will also exceed the planning timeframe because the run time (eg during testing) of smoke venting systems is minuscule in relation to the duty for which ventilation systems are designed.

Fire detection systems and EWIS normally have a 20-year life. Hence, their replacement or refurbishment is planned around 2018. As time progresses, most fire systems tend to accumulate non-conformances to then current safety standards. These arise from significant changes to fire codes, or from functional or fit-out changes for which the systems are not fully adapted. Therefore it is prudent to plan for fire service auditing and allow for some conformance work at around five-year intervals over the building life cycle. The asset management plan also includes a progressive allowance to cover replacement or refurbishment of fittings and fire appliances such as extinguishers and blankets.

6.8 Lifts & Hoists

Description

Like the Theatre, The Playhouse has an orchestra pit lift and its stage area is fitted with extensive scenery lifting mechanisms.

Prior to 2007, the Playhouse was equipped with an unreliable and deficient hydraulic disabled lift designed for a single wheel chair. This lift was replaced as part of the CTC Access Upgrade project in 2007. The project provided a new hydraulic personnel lift for The Playhouse.

Personnel Lift

The new personnel lift is a high quality, modern hydraulic lift. It provides ready access to all public levels for patrons, particularly those that are mobility impaired.

Normally hydraulic lifts have very long lifespans of at least 40 years. There are usually some refurbishment costs at mid-life for cab and controls reconditioning. These costs are incorporated in the asset management plan. They fall around the expiry date of the current plan.

Orchestra Pit Lift Assembly

Like the Canberra Theatre, the Playhouse orchestra pit is fitted with a platform lift for raising and lowering the orchestra seating. While the Theatre lift mechanism is hydraulic, The Playhouse has a mechanical mechanism using geared screws. The mechanism appears less robust than that for the Theatre and is slower and noisier when operating. However, it is still, of necessity, very solid and ruggedly engineered to provide a very long potential life.

The lift mechanism has more extensive safety interlocks than the equivalent mechanism for the Theatre. Brake mechanisms are provided and it is likely that the geared screw would limit any uncontrolled decent, even if the braking malfunctioned. A programmed safety upgrade to improved door interlocking has been completed and remedial work for guide wear is currently in progress.

The platform lift can be expected to last beyond the limit of the asset planning timeframe. It is probable that the system would require a major overhaul of the screw jack mechanism around the mid-life point. For planning purposes, this overhaul is anticipated around 2016.

Scenery Lifting & Flying Mechanisms

Extensive pulley lifting mechanisms are provided on both sides and above the Playhouse stage for raising and lowering scenery, props and performers. These mechanisms include the roping safety mechanisms added after the opening of the building. All are quite robust and would be expected to have a high factor of safety. The mechanisms are manually operated and service conditions are not arduous. Overall, the life of the mechanisms could be expected to extend beyond the timescale for asset planning. However, there are significant wearing elements in these mechanisms, mainly ropes and, to a lesser extent, pulleys. An annual allowance for wearing part replacements in these mechanisms is included in the asset management plan. Individual ropes last for several years, however, a portion of the ropes are replaced each year.

6.9 Equipment & Appliances

In general, small-scale equipment and appliances are not included in the asset management plan. Their replacement costs will normally show up in maintenance or other budgets such as office supplies. However, where there are significant groups of appliances or major equipment, it is desirable that its lifecycle cost be reflected in the asset management plan. Elements in this category, which have been identified include:

- Costume washing & drying appliances;
- Food preparation equipment such as microwaves, pie warmers, refrigerators etc;
- Boiling water units.

The above items are covered by a lumped, annual allowance in the asset management plan. The allowance reflects the need to refurbish or replace a portion of the assets each year.

6.10 Lifecycle Cost Summary

The following five pages provide a lifecycle cost summary for The Playhouse in tabular and graphic format. Refer to section 4.6 for further description of the tables and illustrations following.

THE PLAYHOUSE

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	0	0	0	0	0	0
SUPERSTRUCTURE	305	54	137	99	6	9
FINISHES	291	4	123	4	43	117
FITTINGS	815	134	198	142	288	53
FIRE PROTECTION	36	24	3	3	3	3
ELECTRICAL	707	61	56	61	342	187
MECHANICAL	583	0	325	0	258	0
HYDRAULICS	92	33	0	0	0	59
SITE WORKS	45	0	45	0	0	0
<i>totals</i>	2,874	310	887	309	940	428

annual costs % of total 10.8% 30.9% 10.8% 32.7% 14.9%

maximum annual cost **940**

average annual cost **287**

cumulative costs **310 1,197 1,506 2,446 2,874**

THE PLAYHOUSE

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	0	0	0	0	0	0	0	0	0	0	0
SUPERSTRUCTURE	685	191	105	11	89	18	32	81	14	126	18
FINISHES	899	127	47	139	98	14	103	99	47	133	92
FITTINGS	2,785	332	430	120	246	76	447	451	82	275	326
FIRE PROTECTION	372	27	6	27	234	6	27	6	27	6	6
ELECTRICAL	2,189	117	403	197	256	71	71	401	71	117	485
MECHANICAL	1,480	325	258	220	216	0	0	461	0	0	0
HYDRAULICS	218	33	0	59	6	48	6	6	6	6	48
SITE WORKS	45	45	0	0	0	0	0	0	0	0	0
<i>totals</i>	8,673	1,197	1,249	773	1,145	233	686	1,505	247	663	975

periodic costs % of total 13.8% 14.4% 8.9% 13.2% 2.7% 7.9% 17.4% 2.8% 7.6% 11.2%

maximum periodic cost **1,505**

average periodic cost **867**

average annual cost **434**

cumulative costs **1,197 2,446 3,219 4,364 4,597 5,283 6,788 7,035 7,698 8,673**

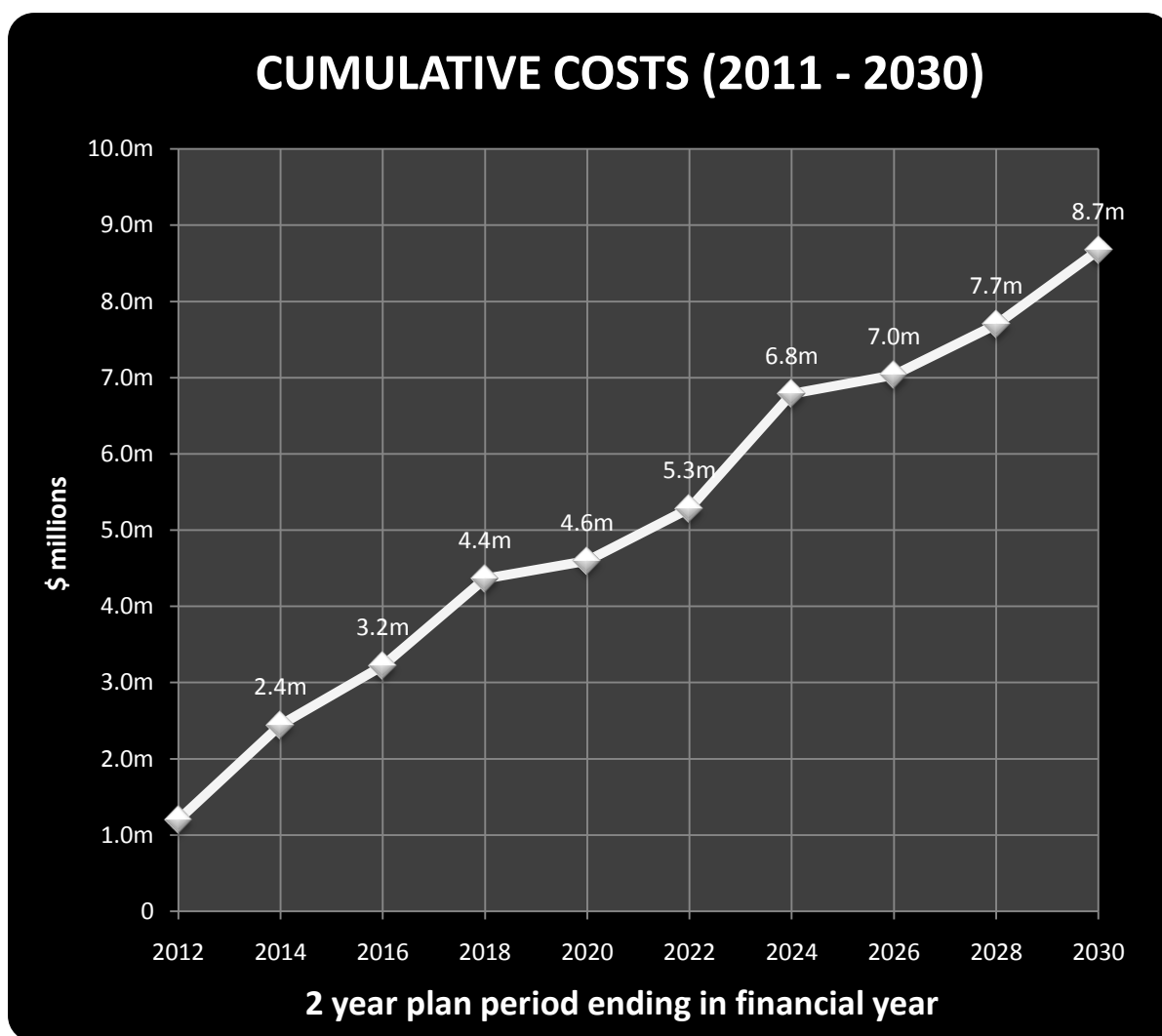


Figure 6.2: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

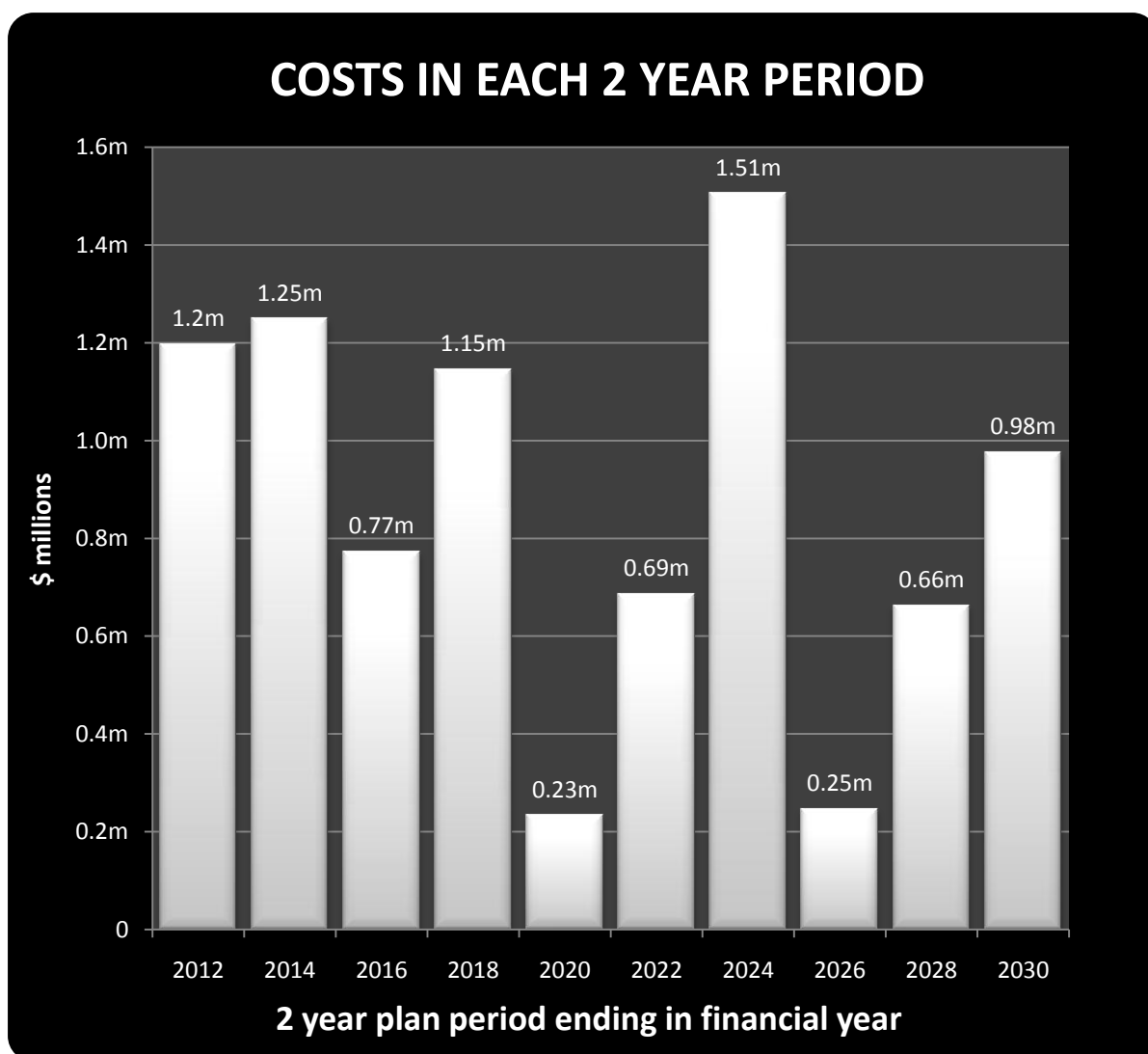


Figure 6.3: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

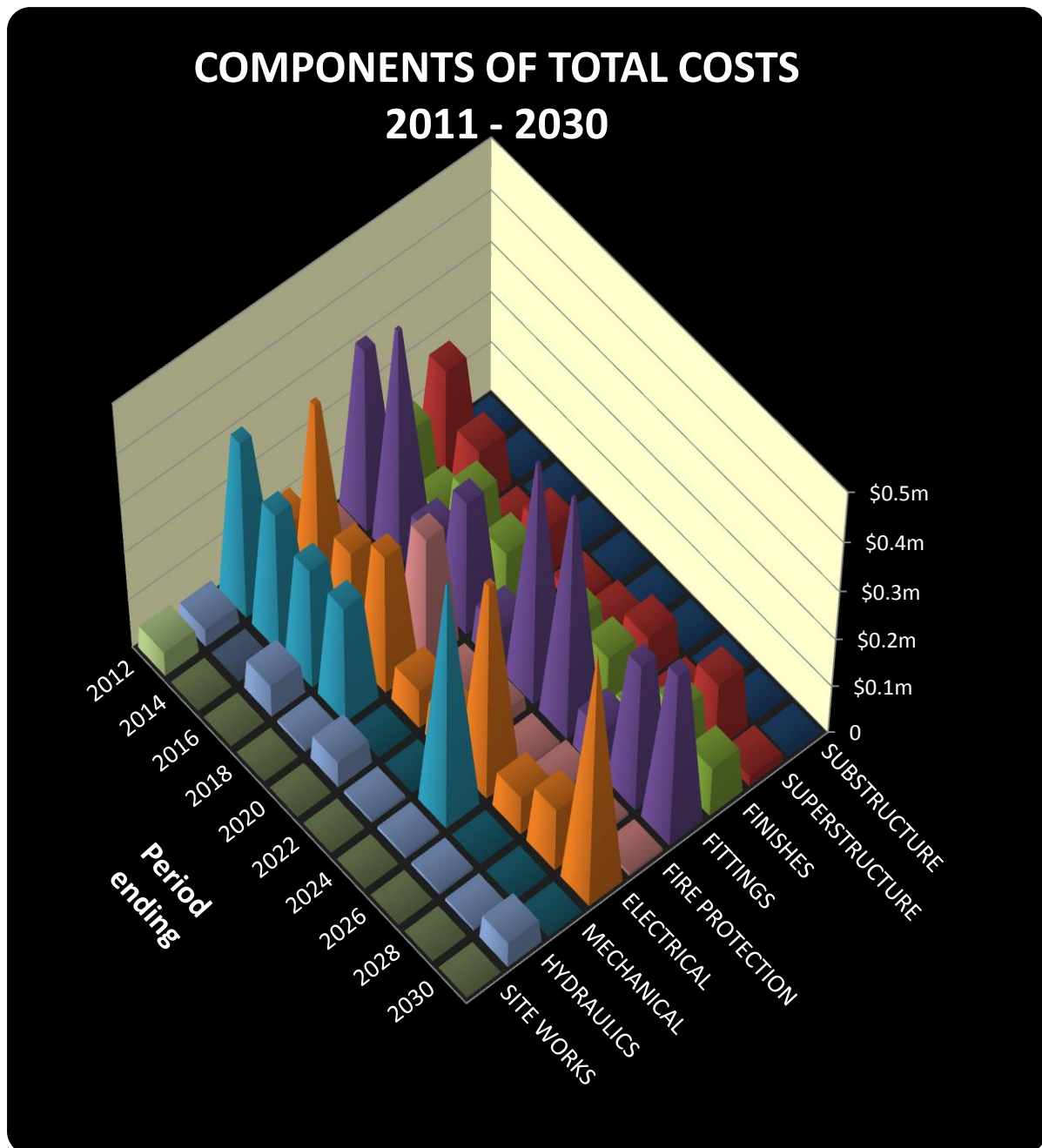


Figure 6.4: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

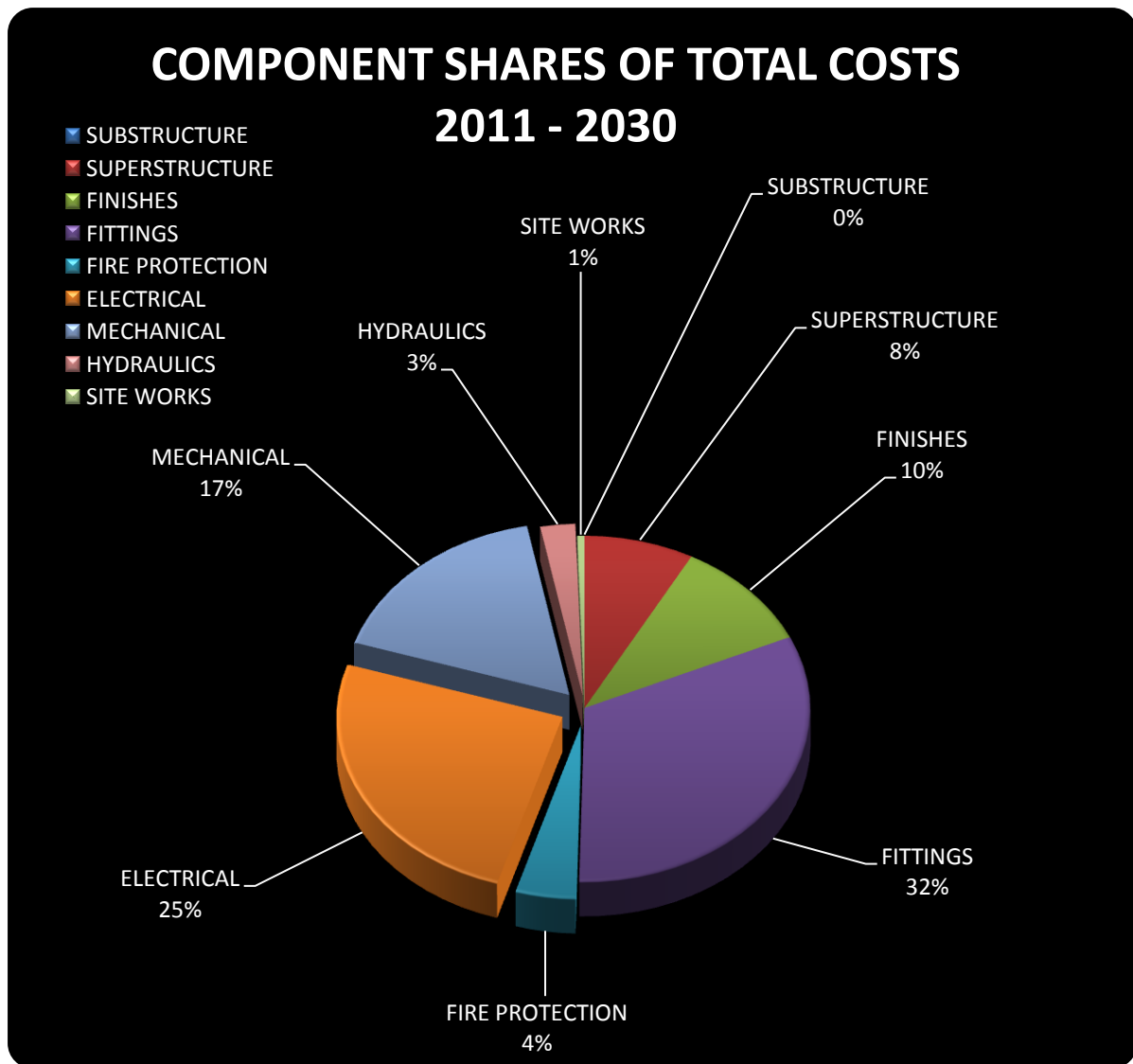


Figure 6.5: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

Library / Link Building

7.1 General Information

The Library / Link building was completed in 2006, replacing a structure that had evolved from the covered walkway originally connecting the Canberra Theatre and the Little Theatre. The new building has about 2,500 square metres, accommodating amenities for the two theatrical venues and the city branch of the ACT Library and Information Service. Functional areas of the Library occupy 1,200 square metres of the total, most of it in public use areas. The remainder is in offices, staff amenities and plant rooms. One of the office spaces provides an outlet for the issuing of ACT Driver Licences. The portion of the building serving the theatres contains 1,100 square metres with 80% of the floor area in front of house spaces. These include the box office counter, foyer spaces, bar and amenities for patrons. Back of house spaces include a commercial kitchen, staff amenities and office spaces for Canberra Ticketing and the House Manager. A high level plant room is also located above the daytime foyer. This foyer runs from east to west across the building. For daytime operations, including ticket sales, operable walls separate the transverse foyer from the bar and extended crush spaces of the theatres. The Thespis sculpture, long time resident in Civic Square has been relocated under shelter on the western side of the foyer.

Distinctive elements of the building are the highly glazed foyer facades presented to Civic Square and the sweeping curve of the double storey Library facade shaded by coloured glass fins. Equally prominent are the stairs and walkway that allow foot traffic between City Hill and Civic Square to pass over the building at roof level. The transparent and lustrous materials chosen to clad the building permit a somewhat ephemeral impression that highlights the more substantial presence of the two performance venues.

7.2 Lifecycle Strategy

The Library / Link building was completed in 2006 at a cost of approximately \$18 million. It is the newest facility under CFC custodianship. Despite its modest size, the building is quite complex with a multitude of purposes and quite extensive and sophisticated building services. Like the Playhouse, the building has conventional, modern services and systems built to a quality commercial standard. As a consequence, its plant items and services are likely to have economic lives that are consistent with normal industry expectations for this standard of construction. However, the building has some compromises in its construction. It needs to retain a very high standard of presentation because of its role as the entry point and booking centre for the major theatres and the central (Civic) library in Canberra. The facility can be expected to have high public access and accelerated wear in some components and finishes.

The life cycle approach for this facility is based on conventional refurbishment timing with some modifications to account for factors outlined in the section above. Because the building is so recently constructed, a number of its major lifecycle expenditures will fall around or beyond the 2030 time limit of the current asset management plan.

7.3 Building Issues

Cladding & Glazing

External walls are clad in zinc panels or fully glazed. Glazing in painted steel framing dominates the eastern faces of the building. The western side is mainly zinc panelled.

The framed glazing should require little attention beyond maintenance during the current planning period. The coloured, ceramic printed sunshading fins on the Library facade are also assumed to be long lived and the plan makes no particular provision for their upkeep. They are made up, however, of two sheets of glass apparently laminated with their perimeter junctions protected by sealants. The sealing may prove to be a vulnerability and should be monitored for signs of breakdown. Moisture entering the interstitial surfaces of the fins would be detrimental and, if not detected, could require early replacement of the expensive and essential components.

The opaque cladding panels appear to have a natural zinc finish which, in theory, should be long lived. This assumption has been carried through for asset planning. There remains a suspicion, however, that the panel finish may rely on a clear surface coating to avoid the self protective, white oxidation that is usually associated with zinc. Such oxidation need not detract from the longevity of the zinc sheeting but would change the appearance from its presently pleasing uniform state.

Another cautionary note concerns the lowest level of the building. Walls surrounding the Library on three sides are backfilled by soil and rely on tanking membranes for waterproofing. Breakdown of this system within the planning period would represent a gross failure of expected performance. No allowance, therefore, is made in the plan but the long term risk should not be overlooked.

The plan does accommodate evident difficulties with the balustrades of the Walkway. Powder coated steel balustrades were substituted, during construction, for the glass balustrades shown on construction documents. The uprights in these balustrades are too slender for their situation. Many are bent, cracking the powder coat and allowing rust to form on the steel. Their replacement is suggested early in the planning period. This work could be done in conjunction with other remedial works needed to reduce the cascading of rainwater from the Walkway and stairs onto the paved surfaces outside the Link and Library entries. The plan incorporates remedies recommended in the Sellick Consultants report on water ingress issues that present risks to both the Library entrance and the Link foyer.

Provision is also made for works identified in the 2009 / 2010 Capital Works bids to improve the weatherproofing and air locking of the Link transverse foyer on both the eastern and western sides. These will involve additional enclosure at the foyer main entrance and sliding doors to infill the openings of the western portico.

Roofing

Belying its apparently simple form, the Link building has five separate roofs set at several levels. They cover about 1,300 square metres in total. The most complex of the roofs is a segmented installation over the curved portion of the building at the Library entry level. It involves multiple roof panels separated by capped upstands. The upstands unavoidably increase the extent of side flashings and the scope for leakage. Related risks arise from the use of inboard box gutters which cannot surcharge freely to the outside of the building. The gutters, and, in particular, their hail guards were instrumental in the flooding which occurred during the intense hailstorm of February 2007. Many of the defects in construction and detailing that were identified both before and after that event have been rectified. The asset plan includes in its first year a remaining recommendation from Sellick Consultants report for the replacement of the hail guards that are prone to blocking in their current form.

Construction documents label the roofs as zinc but unpainted steel appears to have been substituted during construction. The installation feels noticeably strong underfoot and the unpainted roof surfaces have the advantage of reducing the cosmetic concerns that arise with aging colour coated surfaces. The latter issue has become more relevant for the Theatre complex with the introduction of the Link Walkway. Pedestrians can now see the roof surfaces of The Playhouse foyer and the Link building itself from the bridge and roof level walkway.

There is some rooftop plan in louvred enclosures whose regular repainting is included in the plan. Attention will also be needed to the glazed skylights that penetrate the many of the roof planes to ensure that seals remain intact and the flashings do not leak.

Interior Finishes and Fittings

Floor finishes in the Library / Link include carpet, timber parquetry, ceramic tiles and sheet flooring. Carpet and timber flooring were damaged by flooding during the 2007 event and were replaced shortly afterwards. The asset plan clock for these surfaces consequently starts in that year. Carpets in high use areas are listed for replacement on a 7 year cycle, reflecting the wear already evident. The same cycle is applied to resurfacing the parquetry flooring at the foyer bar. In areas with lighter duty, a 10 year cycle is used for replacement of carpets and sheet flooring or the refinishing of timber surfaces. No attention is expected for the ceramic tiles used in the toilets and bar kitchen.

Painting of walls and ceilings are programmed on similar 7 or 10 year cycles, according to their exposure to wear and tear and their contribution to the presentation of the facility. Special provision is made for the graphic murals in the Library and for its fabric faced wall panels.

The major sources of projected costs for the building interior are its high quality and specialised fittings. The largest of these is the refurbishment of the foyer bar towards the middle of the planning period. Actual timing will, of course, depend on commercial assessments and finding opportunities within performance schedules. The plan also makes an allowance for replacement of furniture in the bar area and for refurbishing the Box Office sales counter, the Library circulations desk and the ACT Licensing outlet.

7.4 HVAC Services

Description

The Library / Link building is fully air-conditioned. Like the Theatre and Playhouse, the main heat transfer media for space heating and cooling are piped chilled water (7°C) and heating water (80°C). These services are reticulated to air handling units throughout the building.

A single air-cooled chiller and circulating pump provide space cooling for the Library / Link building. Space heating is provided via the central boiler plant that serves the Canberra Theatre.

There are eight air handling units and three fan coil units distributed in plant rooms throughout the building. Most of the air handlers are located in plant rooms at roof level and level one. Air handlers and fan coil units are factory fabricated units. They are high quality units and should have a long service life.

The building has a small air-cooled split air conditioning unit to provide equipment cooling for the UPS serving the ticketing system. In addition, parts of the building have in-floor heating via hot water circuits embedded in the floor slab.

Chiller Plant

The chiller plant for Library / Link is located in a ground level enclosure across the service road at the rear of the Library / Link building. The plant has a single Carrier 30GX-112 air-cooled chiller

of approximately 370 kW capacity. The chiller uses a modern refrigerant (R134A). There is a single, chilled water, circulating pump located in the level 1 plant room.

Normally central chiller plants have a 25-year life. However, there is evidence that packaged, air-cooled chillers have a somewhat lesser life, primarily because:

- a) they are exposed to the weather; and
- b) components are mounted on a common chassis and therefore exposed to significant vibration.

For planning purposes, the life of the existing chiller plant is assessed at 18 years. This means that the chiller plant replacement is likely to occur around the time horizon for the current asset management plan.

Boiler Plant

Space heating in the Library / Link is provided by connection of new Library / Link heating pipework to the existing heating mains from the Canberra Theatre boiler plant. The heating pipework is run through the new building to the air handler plant rooms. The lifecycle issues associated with the Theatre boiler plant are covered in Part 5 of this report.

Air Handlers

The Library / Link building has eight air handling units which range in size from 700 – 3000 litres per second, airflow capacity. There are three fan coil units with airflow capacities from 450 to 850 litres per second. The air handlers and fan/coil units are factory manufactured and are efficient, premium quality units. The larger air handling units are fitted with economy cycles, allowing them to use outside air for cooling when climatic conditions are suitable. In addition, they are fitted with air quality control so that the fresh air supply is optimised for building occupancy.

For planning purposes, the air handlers and fan coil units have been assigned economic lives of 25 years. Thus their replacement costs are expected to occur beyond the current 2030 time limit of the asset plan. As the air handlers are premium quality, their life may be extended beyond 25 years if the units are well maintained.

The small split, direct expansion cooling unit for UPS cooling would normally need replacement after 15-20 years. For asset planning purposes the lesser interval is selected because of the need to maintain high reliability with this system.

Floor Heating

An area within the Library at the base of the high curved glazing has in-floor heating to offset the cold radiation from the glazing. The main entry foyer also has in-floor heating for similar reasons. The floor heating systems use hot water circuits of high density polyethylene piping embedded in the level one slab. Each system has a dedicated circulating pump.

The in-floor heating coils should have a long life, in the order of 40 – 50 years, if the water temperature is well regulated and kept with the design limits for the piping. They are unlikely to be replaced, as they cannot be removed from the slab without demolition. Circulating pumps will require replacement at approximately 20 years life. This puts their replacement almost at the limit of the current planning period.

Heat Transfer Services

As indicated for the Canberra Theatre and Playhouse, the normal economic life of piped heat transfer services is around 40 – 60 years. This means that the replacement or refurbishment of these services will not be at issue until well beyond the present cut-off date for asset planning purposes.

Control & Automation Systems

The Library / Link has Siemens Apogee 600 direct digital control (DDC) systems. These direct digital controllers are networked to HVAC automation workstations located in several areas of the Canberra Theatre Centre. The HVAC control and automation systems for The Playhouse, Canberra Theatre and new Library/Link building are networked and fully integrated.

The control and automation systems for the Library / Link are modern, adaptable and expandable. The commonality of manufacturer between the Playhouse, Canberra theatre is a major advantage allowing the systems to be fully integrated and simplifying support and servicing. It is very important that this commonality be preserved in any future development to the premises.

Normally control and automation systems have a 15 – 25 year life. The rate of development in controls and automation systems is quite ferocious. Quite often the lifespan of these systems is limited by obsolescence, rather than by wear or functional limitations. However, the Siemens systems have an excellent history of backward compatibility and inter-operability between different generations of equipment. For planning purposes, the systems have been assigned a 20 year life.

The HVAC controls and automation systems in the Theatre and Playhouse are older than those in the Library / Link building and this may have an impact on the timing of any lifecycle upgrade or replacement. It is likely that upgrading or replacement would be viewed in the context of a whole system so that this upgrade might occur earlier than planned for the Library / Link. However, because it is impossible to predict such considerations, the normal life for the systems is used for current planning purposes.

Other HVAC Services

Other HVAC services include exhaust ventilation systems for toilets, kitchen, electrical switch room, garbage and control room. A filtered supply ventilation system is provided for the server room. In general, the ventilation systems are of a reasonable scale and would have a long life, around 25 years. Like several other major components of the HVAC services, the likely lifecycle replacement of these components will fall beyond the present cut-off date for asset planning purposes.

7.5 Electrical Services

Description

The electrical services in Library / Link are diverse and sophisticated. The facility can be characterised as ‘highly serviced’ in an electrical sense. The electrical services include:

- Electrical power distribution system;
- Fire detection and evacuation warning systems;
- Telephone system;
- Building security system;
- Book security system;
- Booking and Ticketing System;
- TV distribution system;
- Library queuing system;
- Lighting and lighting control systems;
- Audio-visual and data systems.

The book security and Library queuing systems are not included in the asset management planning as these systems belong to the ACT Library service and are maintained by them. The booking and ticketing system is classified as a business system rather than an infrastructure asset so it is not included in the asset management plan. However, it is a high cost system requiring capital investment of the order of \$100,000. It has life limits that are associated with functional requirements and contracted services.

Power Distribution

The Library / Link draws its power from a kiosk style, electrical, high voltage substation located externally on the western side of The Playhouse at street level. This substation also serves The Playhouse. It has a 750 kVA oil-filled transformer and associated switchgear. The substation equipment is owned and maintained by ACTEW Corporation and the Theatre is metered for a low voltage tariff. Costs for refurbishment or replacement of the substation are fully funded by the tariff charges.

The building main switchboard is located in a switch room adjacent the lift lobby at level one. The power distribution is segregated into three major supplies for House Services, Theatre and Library. The supplies are all non-essential. There are seven major power distribution boards and four switchboards for mechanical services, including the external chiller plant. In addition to the general power distribution, there are filtered (or green) power supplies for audio systems.

The power distribution systems are long-life assets. The major lifecycle renewals for these services are likely to fall beyond the selected time frame for asset management planning.

Lighting

There is a variety of lighting in Library / Link, including:

- Timer and photoelectric controlled floodlights;
- High efficiency fluorescent lights;
- Compact fluorescent downlights;
- Dimmer controlled incandescent lights;
- Sustained emergency lights;
- Track mounted spotlights and other specialty fittings,

The permanent lighting installations in the Library / Link could be expected to have a long life of the order 20 – 25 years. For asset planning purposes, allowance for lighting system refurbishment has been made in the long-term. The refurbishment is spread across several years with the replacement of emergency fittings planned in advance of other lighting installations.

Light Dimming Systems

The Link has Dynalite lighting controls and dimmers. The dimmers are digital, solid-state type and operate via an addressable network. From experience, the service life of dimming systems has been much shorter than might be expected, probably because the demands of theatre and performance lighting are quite arduous, and it is important that the system operate reliably. For planning purposes an average life expectancy of 15 years has been allowed for the dimmer modules.

Communications

The Link area shares a modern (Ericsson) digital telephone system with the Canberra Theatre. This system was installed in 2003 and expanded to serve the Library / Link building in 2006. A further PABX system serving the ticketing system was installed in level 1 of the Library / Link building in 2009. The Library has telephone services delivered via their INTACT networked systems. This network is not a CFC asset.

The asset management planning has only a small cost allocated for refurbishment of the telephone infrastructure in the long term. Replacement of the main PABX is covered in the planning for the Canberra Theatre. The lifecycle of the PABX for ticketing functions is closely associated with the delivery mode for this service. It is not possible to predict the needs associated with this. A likely PABX replacement would fall due in the long term (beyond 2020) when the requirement could be overtaken by service delivery changes.

The Library Link has a cabled TV system. The cable infrastructure for this system could have a very long physical life, if required. The TV sets are consumer durables and their replacement can be undertaken on failure. Replacement cost for these items forms part of the allowance for audio-visual systems.

Security System

The Library / Link security system is an extension of the Sielox Threshold 3600 system serving the Canberra Theatre. The system incorporates a multitude of devices such as alarm panels, keypads, electric locks, card readers, reed switches, passive IR, CCTV cameras, intercom, video splitter/switcher, vibrations sensors, audio force detectors, duress buttons.

The life of security systems tends to be set by operational and obsolescence issues rather than by the actual physical life potential of the hardware. From experience, these systems tend to be replaced at intervals around 15 years. The Library / Link only has wiring and peripherals for the security system. These items are relatively new and likely to be retained when the security panel in the Theatre is replaced. For asset management purposes the replacement or refurbishment of the security infrastructure is planned at a 20-year life interval. However, it is likely that some limited work on the Library / Link security system will be synchronised with the earlier refurbishment of the main system in the Theatre.

Audio-visual Systems

The Library / Link has sophisticated audio-visual systems. They include:

- Video monitoring;
- Computerised colour information display screen (at entrance);
- Audio, video and data networking.
- Televisions and monitors.

The LED display screen is a high cost item and a prominent public information system. Given its high tech nature and prominence it has been scheduled for replacement after an anticipated 10 year service life.

The scope and life of other audio-visual components is quite diverse. Because of this, it is expected that these systems will require a spread of investment into the future to replace malfunctioning, degraded, or obsolete components and services. For planning purposes an allowance at five-year intervals is included in the asset management plan beginning in 2017.

7.6 Hydraulic Services

Description

The Library / Link has quite extensive hydraulic services including:

- Underground sewer and stormwater drainage systems;
- Above ground sanitary plumbing and waste systems;
- Sub-soil drainage;
- Rainwater harvesting system;

- Cold water reticulation;
- Domestic hot water systems and reticulation;
- Fire fighting water services.

Hydraulic fire fighting services include fire sprinklers, hose reel and hydrant installations. These are covered in section 7.7 following.

Sanitary & Stormwater Drainage Systems

The Library / Link has stormwater and sewerage systems that connect to the site drainage infrastructure. The sanitary plumbing and waste systems are constructed of long life materials, mostly UPVC reticulation. Stormwater is generally reticulated in HDPE piping. Generally the expected life span for these sewer and stormwater drainage systems is 50 - 80 years. For this reason, no costs for replacement or refurbishment of storm water and sanitary drainage conduits are included in the asset management plan. An allowance for inspection of underground conduits is planned around 2027 after 20 years service.

Rain Water Harvesting Systems

The stormwater drainage system incorporates a system for rainwater harvesting and reuse. The system has four 9,000 litre PVC storage tanks, high density polyethylene rainwater piping and a pressure pump system located in a level 1 basement. It supplies non-potable water for flushing toilets.

As they are not exposed to the weather, the rainwater tanks and piping are likely to have service lives beyond the current time limit for asst planning. However, the pressure pump unit would have a shorter life. Its replacement is planed on the basis of an anticipated 20-year life.

Cold Water System

The building cold water supply extends from the 100 mm cast iron town main which also serves The Playhouse and Theatre. The cold water supply feeds fire services and domestic reticulation. The domestic cold water system is constructed of copper tube and fittings, with silver soldered joints. Its expected life span would run beyond the limits of the asset planning, so no replacement cost are allocated for this system. There is provision in the asset plan for replacement of some tap sets as these have a lesser lifespan than the reticulation. For assessment of the fire services, refer to section 7.7 following.

Domestic Hot Water Systems

The building has a single electric hot water vessel and a domestic hot water circulation system. The vessel and circulating pump are located in the level 1 air handler plant room. Domestic hot water is reticulated using copper tube and fittings with silver solder joints. Like the cold water services, the reticulation system has a very long life, beyond the limits of the asset planning. However, tap ware, the hot water vessel and circulating pump would have a lesser life and replacement costs for these items are included in the asset planning.

The hot water units and circulating pump commenced service in 2007 and have an expected life of 15 – 20 years. Normally, hot water vessels can be kept in service until they begin to leak, at which time they can normally be quickly replaced. For planning purposes the vessel and circulating pump replacement cost is incorporated in the asset planning at an expected life span of 20 years. Allowances some progressive tap ware replacements are also included in the asset management plan.

7.7 Fire Protection Services

Description

The Library Link has a high standard of fire protection. The fire detection, protection and warning systems include:

- Fire resistant and smoke compartmentation;
- A fire sprinkler service;
- A smoke detection system;
- Fire hose reels, hydrants and extinguishers;
- Smoke control system;
- An emergency warning and evacuation system.

Fire Protection Systems

The building is equipped with fire sprinkler protection in accordance with the requirements of the fire sprinkler code, AS 2118. Hydrants and hose reels are provided, generally in accordance with AS 2419. Fire extinguishers are also provided.

Fire Detection & Alarm Systems

The Library / Link has a fire detection system and alarm system to provide early fire warning. The system is a digital addressable system and is served by the Fire Indicator Panel (FIP) located in The Playhouse.

Emergency Evacuation System

The Library / Link is fitted with an emergency warning and intercommunication system (EWIS) in accordance with AS 2220.

Smoke Control System

The Library / Link has no smoke venting. On receipt of a fire alarm signal, the major building air handlers shut down to prevent unwanted smoke migration. The smoke control system is designed to conform to current BCA and AS 1668.1 requirements.

Lifecycles

For asset planning purposes it is assumed that Library / Link building and its associated fire services sustain no major fire damage during the planning timeframe. Obviously a significant fire incident would have a major impact on any asset planning.

The fire systems commenced service in 2007. The expected lives of the various fire systems vary. The sprinkler, hose reel and hydrant systems are largely static systems with very long lives exceeding the current time frame for asset planning purposes.

Fire extinguishers, detection systems and EWIS normally have a 20-year life. Hence, their replacement or refurbishment is planned around 2018. As time progresses, most fire systems tend to accumulate non-conformances to then current safety standards. These arise from significant changes to fire codes, or from functional or fit-out changes for which the systems are not fully adapted. Therefore it is prudent to plan for fire service auditing and allow for some conformance work over the building life cycle.

7.8 Lifts

Personnel Lifts

The Library / Link has two hydraulic personnel lifts. Lifts generally require major refurbishment including car finishes, door operating and safety equipment and controls at 20 year intervals. The lift machinery itself, including motors, pumps, pulleys, guide rails, buffers, hydraulic caissons and other shaft equipment should have a life of at least 40 years before replacement needs to be considered.

Book Lift

The Playhouse has a book lift between the entry level 2 and the lower level 1. The book lift is appears to be relatively simple mechanism. However, it has been very unreliable in service and is regarded as unsatisfactory. It has low utilisation because of its ongoing problems. At this stage the future for this system is not clear, as the problems are ongoing.

For planning purposes, it is assumed that the system will be restored to reliable operation by some means. Once in use, it is likely to become obsolescent before it wears out. On this basis it has an anticipated life of 20 years.

7.9 Equipment & Appliances

In general, small-scale equipment and appliances are not included in the asset management plan. Their replacement costs will normally show up in maintenance or other budgets such as library or office supplies. However, where there are significant groups of appliances or major equipment, it is desirable that its lifecycle cost be reflected in the asset management plan.

The Library / Link building has some significant equipment items because of the presence of bar and commercial kitchen facilities in the Link area. Elements in this equipment and appliance category include:

- Food preparation equipment such as a range, microwaves, coffee makers etc;
- Refrigerators and freezers;
- A walk-in cool room;
- Air Curtain units;
- Bar and point of sale equipment;
- Boiling water units;
- Washers and dryers.

The cool room is a high cost but long life component. It has a planned refurbishment after 20 years service. The remaining equipment and appliance items are covered by a lumped, annual allowance in the asset management plan. The allowance commences after 10 years service life and reflects the need to refurbish or replace or refurbish a portion of the assets progressively as they wear out or degrade.

7.10 Lifecycle Cost Summary

The following five pages provide a lifecycle cost summary for the Library / Link in tabular and graphic format. Refer to section 4.6 for further description of the tables and illustrations following.

LIBRARY / LINK BUILDING

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	53	0	53	0	0	0
SUPERSTRUCTURE	164	3	127	30	0	4
FINISHES	116	0	0	43	73	0
FITTINGS	0	0	0	0	0	0
FIRE PROTECTION	0	0	0	0	0	0
ELECTRICAL	0	0	0	0	0	0
MECHANICAL	0	0	0	0	0	0
HYDRAULICS	0	0	0	0	0	0
SITE WORKS	0	0	0	0	0	0
<i>totals</i>	333	3	180	73	73	4

annual costs % of total 0.9% 54.1% 21.9% 21.9% 1.2%

maximum annual cost **180**

average annual cost **33**

cumulative costs **3 183 256 329 333**

LIBRARY / LINK BUILDING

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	53	53	0	0	0	0	0	0	0	0	0
SUPERSTRUCTURE	336	130	30	49	5	4	16	0	93	5	4
FINISHES	662	0	116	61	82	43	97	0	65	198	0
FITTINGS	639	0	0	0	0	17	269	34	89	196	34
FIRE PROTECTION	107	0	0	0	19	0	12	0	0	76	0
ELECTRICAL	734	0	0	0	36	110	108	0	88	192	200
MECHANICAL	546	0	0	0	0	0	5	0	356	185	0
HYDRAULICS	79	0	0	0	0	2	49	2	2	22	2
SITE WORKS	0	0	0	0	0	0	0	0	0	0	0
<i>totals</i>	3,156	183	146	110	142	176	556	36	693	874	240

periodic costs % of total 5.8% 4.6% 3.5% 4.5% 5.6% 17.6% 1.1% 22.0% 27.7% 7.6%

maximum periodic cost **874**

average periodic cost **316**

average annual cost **158**

cumulative costs **183 329 439 581 757 1,313 1,349 2,042 2,916 3,156**

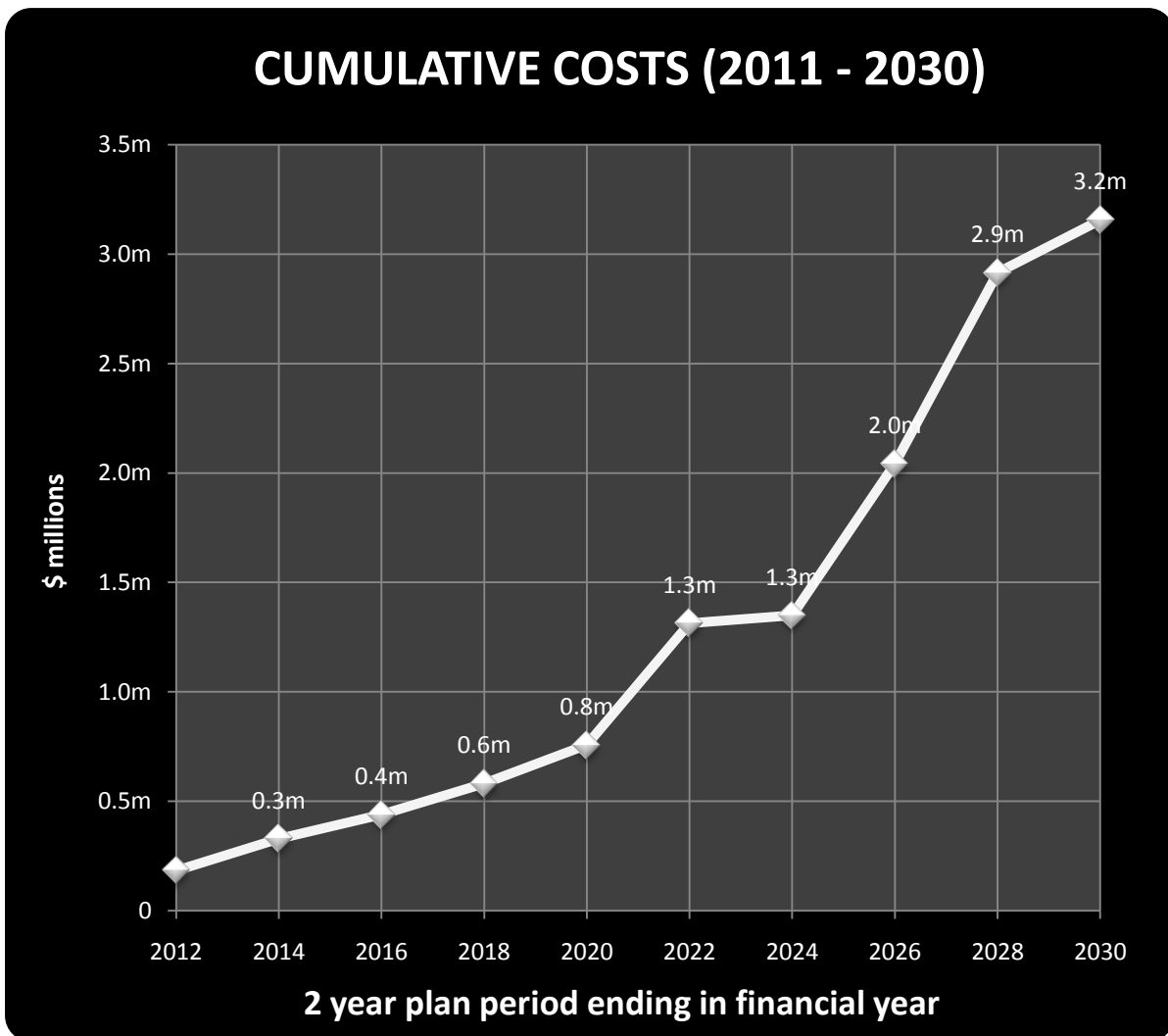


Figure 7.1: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

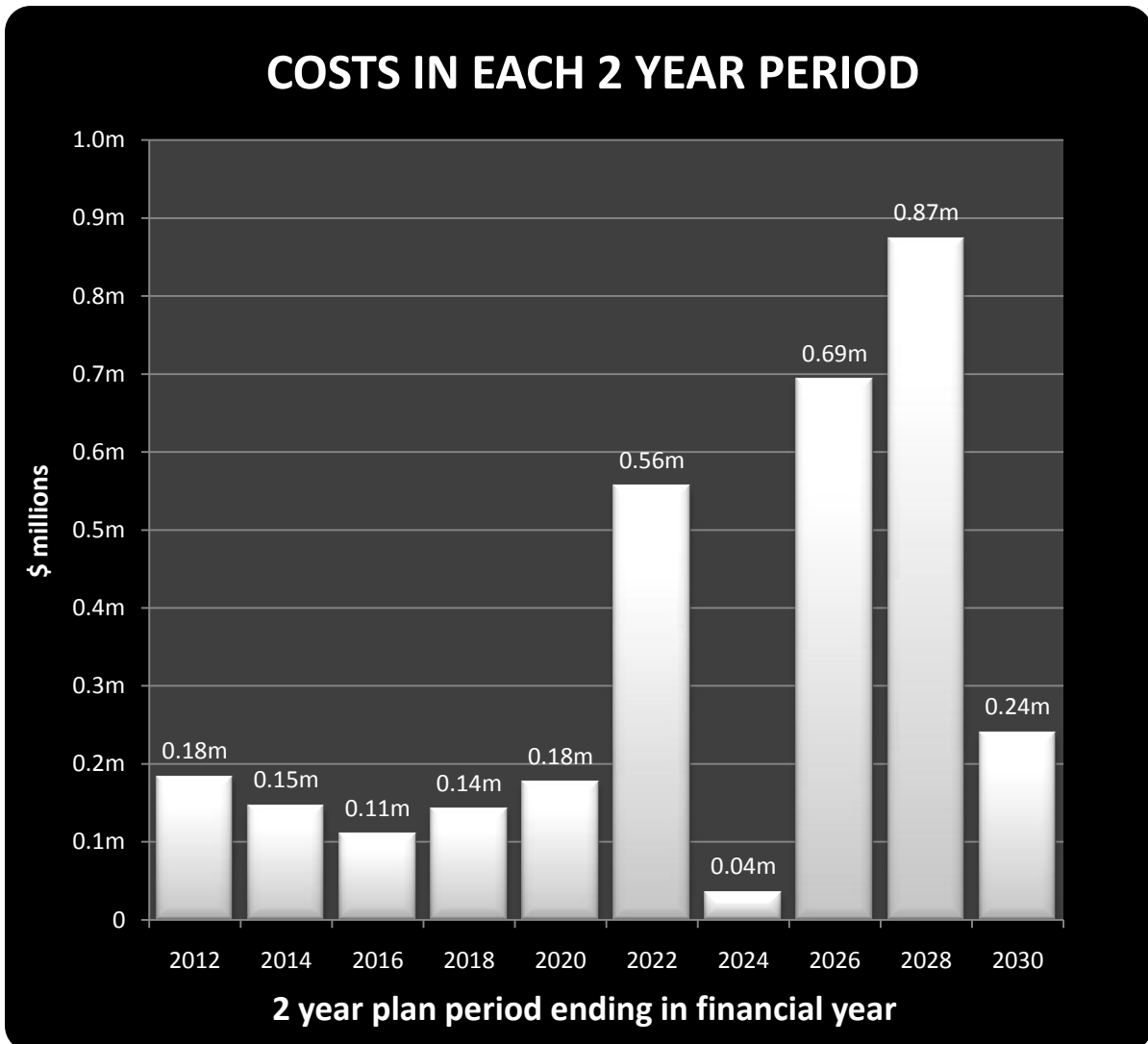


Figure 7.2: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

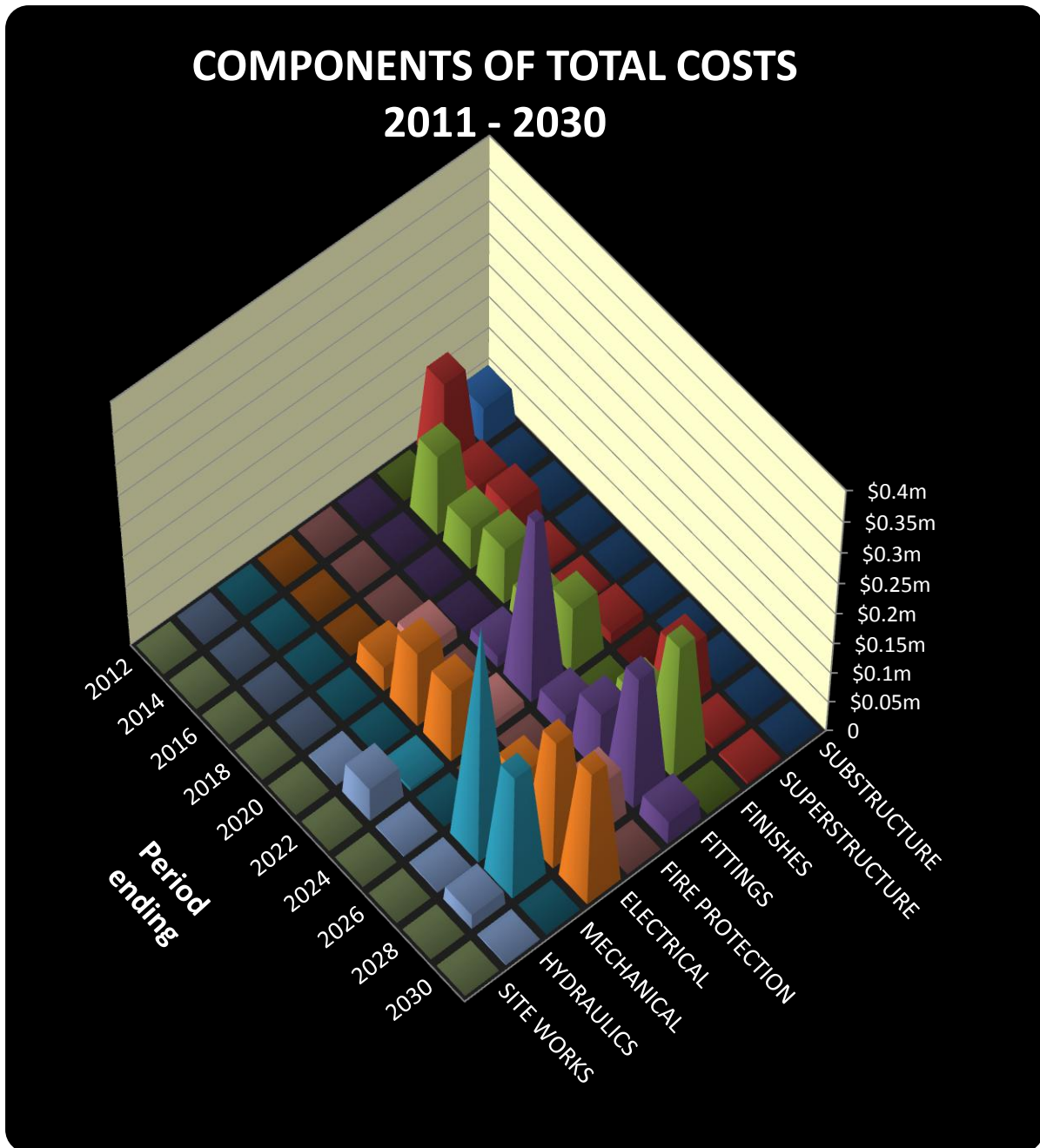


Figure 7.3: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

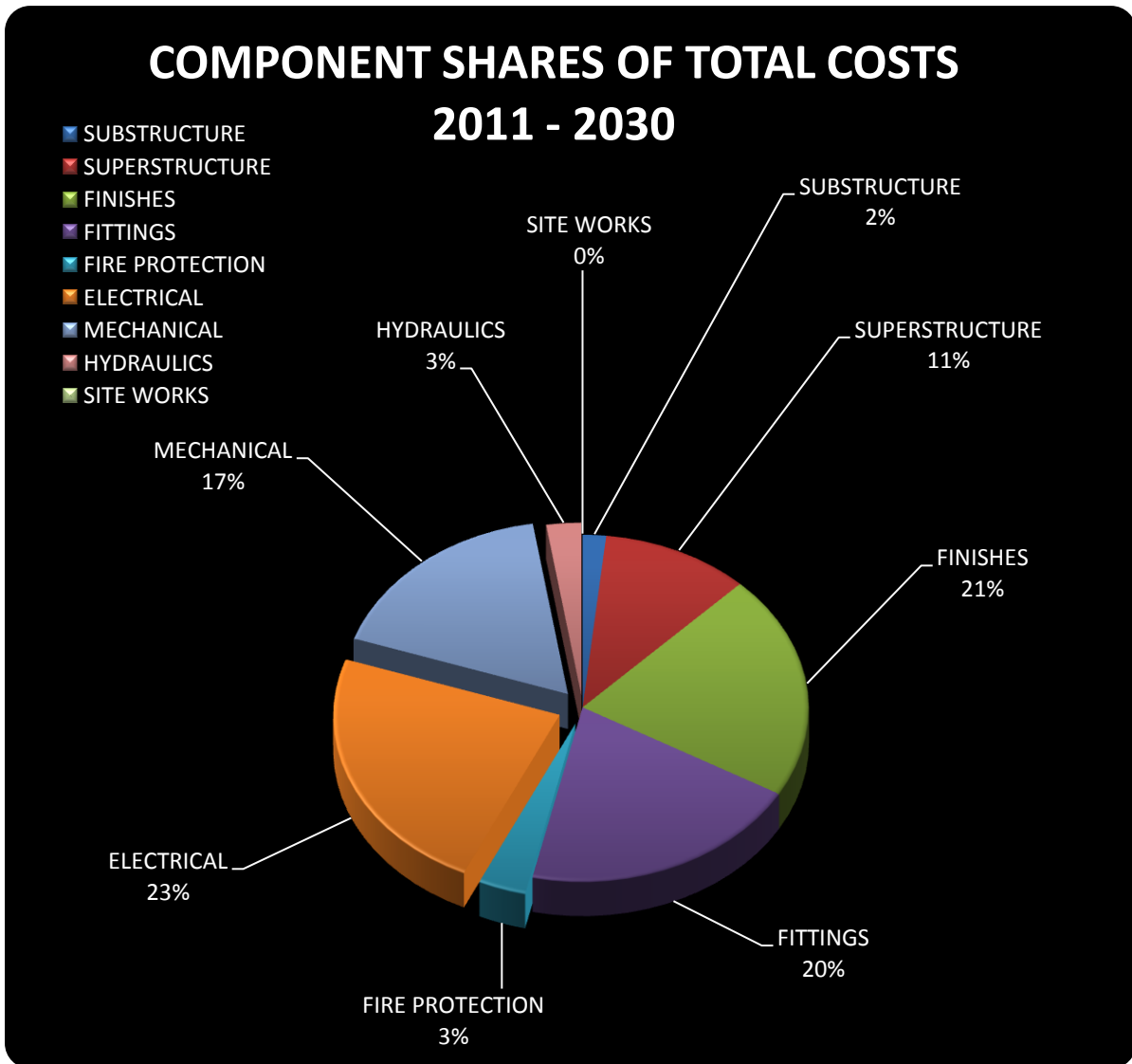


Figure 7.4: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

Galleries & Leased Premises

8.1 Scope

This part of the report covers the present and former galleries for which the Corporation is the custodian or manager. It also covers the leased premises occupied by the Corporation. The assets included in this category comprise:

- a) The former Nolan Gallery (on the Lanyon estate);
- b) The Canberra Museum and Gallery (CMAG - in the North Building, Civic);
- c) Public facilities and workshops associated with the CMAG venue; and;
- d) Leased office accommodation (in the North Building) for the Cultural Facilities Corporation.

The former Nolan Gallery, on the Lanyon Homestead site, is no longer operated for its intended purpose due to concerns about protecting the important works endowed by Sir Sydney Nolan and the steady decline in visitors over a long period. The asset management plan assesses the facility only in terms of what is needed to maintain it as a conventional building asset.

The Canberra Museum and Gallery, its associated technical and educational facilities and the Corporation's office accommodation are currently in leased space in the North Building on Civic Square. The ACT Government owns the North Building. However, for this building, a lease contract with Territory and Municipal Services (TAMS) limits the Corporation's asset responsibilities to those applicable to a commercial tenancy.

8.2 Operational Issues

Former Nolan Gallery

The Nolan Gallery operated on the Lanyon Homestead site until 2007, housing and displaying works by Sir Sydney Nolan. He donated its foundation collection of 24 paintings to the people of Australia in 1974 and opened the purpose designed building in March 1980. The building and its later additions were designed to be unobtrusive in the Lanyon Homestead precinct, with the specific aim of not being visible from the homestead verandah.

At the time of the 2004 asset management plan, visitor numbers were falling. Of some 100,000 annual visits to the Lanyon site, only about 7,000 included the Nolan Gallery. The number had been declining since the mid 1990s when the city based gallery venues became available.

The Gallery was closed in 2007 due to unacceptable environmental conditions for preservation of the paintings. At that time, the Nolan collection was moved into storage at the CMAG facility while the future of the Lanyon centre was reviewed. The former Nolan gallery remains unoccupied at the time this report was prepared.

North Building (leased premises)

The Cultural Facilities Corporation has occupied leased premises in the North Building on London Circuit since 1998. The total floor area in 2004 was about 3,600m², distributed over the ground and first floor levels. Since then, space formerly occupied by a Resource Centre has been relinquished to the ACT Government (for use by ACTION), reducing the total to some 3,200m².

Completion of the Library / Link building in 2006 provided a permanent home for Canberra Ticketing, allowing the temporary premises it had occupied on the ground floor to be converted for the ACT Electoral Office. This space was not included in the floor area measured for the 2004 asset management plan, but the plan allowed for some refurbishment if it passed to the Corporation.

About 25% of the total leased area is occupied by the Corporation's offices and facilities, which share the first floor with Exhibition Space 5 of the Canberra Museum and Gallery and a Members' Room.

The ground floor contains purpose-designed fit-outs for four more exhibition spaces, their support spaces and educational facilities and amenities. These include a teaching workshop (the Art Studio), a photographic dark room, small Performance Theatre and other support facilities including a loading dock, exhibitions workshop and collection storage and repair areas.

The ground floor foyer formerly accommodated a small cafe (Cafe on the Square) whose future was still under consideration as the 2004 report was being completed. At that time, the cafe's operation had been suspended due to shortcomings of the food services facilities available. The cafe area has since operated for a considerable time as a self-service catering area for beverages. However, recently a coffee cart operator 'Coffee Matters' has taken over a concession as beverage service provider for the space. The new concession holder needs very little in food services equipment as the area operates as the equivalent of a coffee cart with a limited range of food produced off site. For planning purposes this type of space usage is projected into the future.

The asset management plan does not address the external fabric of the building housing the leased premises. Within the building, it considers those parts understood to be tenant's responsibilities.

8.3 Lifecycle Strategy

Former Nolan Gallery

The Nolan Gallery has been closed due to its functional limitations and declining patronage. In this assessment, the building is evaluated without regard for any specialised use and with emphasis on securing the building fabric and services from irretrievable deterioration until its future becomes clear. The type of usage envisaged for planning purposes is something like a visitors', resource or educational centre or, possibly, a meeting / convention space. The anticipated usage would not require the special indoor environment needed in its former gallery application.

This "maintenance" strategy will involve:

- a) rectifying defects causing continuing damage to the building fabric,
- b) making good decayed external timberwork,
- c) protecting the interior and fittings against decay, and
- d) maintaining the viability of building services.

This type of strategy implies replacement and refurbishment at or beyond the expiry of normal economic lifespans, assuming the premises are occupied in due course. The upgrading proposed in the 2004 report to correct some of the gallery's indoor environmental deficiencies is no longer warranted. However, the building's roof drainage needs early attention to arrest ongoing damage

to the timber framing. Improved water shedding at ground level will also be needed in any ongoing role for the building.

North Building (leased premises)

The lifecycle strategy for leased accommodation in the North building is strongly influenced by the terms and duration of the lease and the likelihood of lease renewals over the long term. The lease agreement largely delineates the landlord and tenant liabilities in regard to the building asset.

It seems likely that the Cultural Facilities Corporation will be a long-term tenant in the North building. The building is conveniently located adjacent to the Canberra Theatre Centre complex. The current Museum and Gallery locations are very desirable, being at the cultural heart of Civic. A stable and long-term location for the Museum and Gallery is almost essential for maintaining visitor numbers and providing suitable conditions for display and storage of valuable artefacts. In addition, the North building fit-out is strongly customised to suit CMAG's needs. It would require a major investment to provide an equivalent fit-out elsewhere.

The lease agreement effectively confines the Corporation's responsibilities to elements of the building fit-out. The lease agreement is quite strong in limiting lessee responsibilities. Even the special temperature and humidity conditions for Gallery and storage spaces form part of the landlord's responsibility.

The lifecycle strategy for Gallery, public and archival storage spaces within the North building implies replacement and refurbishment at or before the expiry of normal economic lifespans. For the office space, the strategy is based on preserving office conditions in line with normal ACT Government standards. This involves a less stringent approach than in gallery and other public areas.

8.4 Building Issues

Former Nolan Gallery

The former gallery's buildings have a domestic scale and are constructed in materials not uncommon in architect designed residences of the time. They comprise three linked pavilions recessed into an earth bermed landscape. A closely adjoining external toilet block was built at a later time. All external surfaces are painted, including the faces of masonry retaining walls for the surrounding earthworks. Masonry surfaces inside are also bagged and painted, while exposed timber is stained. The principal floor finish is timber parquetry with cork used in staff work areas. Both types of surfaces are clear finished.

The roof is clad in factory painted steel decking which was showing significant chalking of the paint surface in 2004, consistent with its then 20 years of exposure. Eaves gutters are concealed behind timber fascias and the eaves soffits are lined with shiplap boards similar to the raked ceilings inside the building. Outside, the eaves boarding is painted to match the external colour scheme but is dark stained inside the building. The roof drainage design dispenses with downpipes and allows the gutters to discharge through spigots onto the gravel surface around the building perimeter. A system of spoon drains at the base of berm retaining walls has grated outlets, evidently intended to collect the rainwater. In practice, surface falls at ground level are too slight and variable to allow effective run-off and the outlets are generally blocked by bark and leaf litter in any case. Splashing and pooling of rainwater appear to be contributing to the limited areas of rising damp in the external cavity brick walls and is detracting from the external appearance of the building.

The 2004 plan was intentionally low key about remedial works while the future of the building was under consideration. The intervening years have produced sufficient adverse consequences to require a rescue package to prevent further decay. This will involve replacement of the roof

decking and rectification of damage to roof level timber framing and supporting posts. At the same time, the gutter system should be reconfigured to flow into downpipes, which discharge into individual grated outlets. Where possible the outlets should be located in the higher surfaces of the earth berms to minimise the volume of rainwater flowing into the lowest portions of the site. The arrangement will require upgrading and extension of underground stormwater lines. Recognising that the future of the building might not be resolved in the short term, the asset plan schedules this work for 2015. An earlier start would, however, be highly desirable.

Due to further deterioration in the intervening years, the roof is listed in the 2010 plan for replacement. The preferred timing is delayed to allow for the necessary evaluation of the building's future.

External wall paintwork on building walls remains in better condition than the roof but should be repainted to harmonise with any new works for the re-purposing of the complex. Painted surfaces of retaining walls are in need of immediate attention but the work is cosmetic and, consequently, deferred while the building remains unchanged.

Even in possible new functions for the building, internal painting will be subject to little wear and tear and could be renewed on a ten-year cycle. Internal doors are veneer faced plywood, clear finished and could be refinished at the same time as walls. The timber and cork floors will require periodic sanding and refinishing but the plan indicates extended intervals that should be reviewed once the future occupancy is known.

With limited use, the staff kitchenette and toilet remain in good condition. This suggests they may need only minor refurbishment in the next 20 years to remain functional. The plan, however, makes a limited allowance for their upgrading along with the external toilet facilities at the same time as the major remedial works, if only for reasons of presentation to suit any new function. . The external toilet block has very basic finishes. The floor is unpainted concrete and the walls bagged masonry to 1.9m high, infilled to roof level with steel mesh and wire screens. There is limited use of wall tiling as splashbacks at urinals and behind vanity benches. The vanity benches and toilet partitions are laminate-faced particleboard. . A nominal allowance is also included in the plan for replacing, in unspecified form, the obsolete storage arrangements.

North Building (Leased Premises)

The asset plan excludes furniture and office equipment from consideration so that the principal assets listed for the leased office space used by the Cultural Facilities Corporation are specialised floor finishes, window treatments, office partitioning system, workstations and the small kitchenettes in the first floor Members' Room and Board Room.

The assets of Canberra Museum and Gallery in the exhibition and support areas include floor finishes, display lighting, display cases, relocatable partitions, workbenches, associated fittings and extensive storage racking and cabinets. The Art Studio and Performance Theatre have motor driven blackout curtains and the Performance Theatre also has retractable, banked seating. The small cafe area had a kitchen that will not be replaced in a forthcoming refurbishment of the ground floor foyer. Its serving counter is expected to be replaced by a simpler arrangement to suit the coffee service. The internal courtyard opening from that foyer is shaded by fabric sails, installed by CMAG.

Other assets include the purpose designed reception desk in the foyer, light reflectors and acoustic baffles in the upper level gallery, window blinds in function rooms and custom made door hardware fitted to principal doorways throughout the leased spaces. Due to the expense and difficulty of obtaining replacement parts, the customised hardware is being replaced by conventional components as the need arises. On the ground floor, the reception desk and cafe counter will both be included in the planned refurbishment.

An extreme storm event in February 2007 caused extensive flooding of the ground floor level. The damage accelerated carpet replacements projected by the 2004 plan. Carpet replacement in office areas has, however, been removed from the 2010 plan on advice that it is a landlord's responsibility. Other changes to scheduling or cost allowances result from discussion with the Historic Places Assistant Director etc and observed changes.

Upstairs, the small section of laminated floating floor between the bar and kitchenette in the CFC Board Room still needs immediate replacement to remove a safety risk and repairs are required to the carpet edge at the junction with the timber floor. Complete repainting of walls and ceilings in the exhibition spaces is not listed in the plan as substantial portions will usually be done to suit the need of changing exhibitions and more frequently than would be needed on the basis of usual wear and aging.

8.5 Services

Former Nolan Gallery

The former Nolan Gallery is a small, premium quality building, highly serviced in relation to its size. The building services include:

- Air conditioning designed for fine tolerance temperature and humidity control;
- Electrical power and lighting installations including special display lighting;
- Hydraulic and plumbing services;
- An electronic security system;
- A sophisticated fire detection system with sensitive (VESDA) detectors in galleries.

The service installations date from the building construction in 1980. When the building housed the Nolan collection, the services were generally considered to be sub-standard for the demanding application. As the building no longer performs its original role, the existing building services need to be reviewed from a different perspective.

The service installations now have approximately 30 years service, and most systems are approaching or at the end of their economic life. If and when any new role for the building is decided, it seems likely that a new service fit-out would need to be considered for the change of purpose.

For the purpose of the current asset plan, the building is assumed to continue in service in an uncritical application that would not demand the special environmental conditions, security etc needed as a gallery for the Nolan collection. The following commentary can be considered in this context.

The building's storm water drainage system is sub-standard. Rainwater runs to ground and drains away over a quite flat slope, causing ponding and the risk of water entry to the building. There are stormwater grates but the site is understood to have no proper underground stormwater reticulation. It is possible to remediate this system by improved ground contouring and a better engineered stormwater drainage system. As this is a chronic problem with the building, it will be desirable to correct it, regardless of what future role the building will play. An allowance for improved stormwater drainage and other measures are included in the asset management plan for implementation within the next five years. The drainage improvements allowed for are notional and would need to be developed with professional engineering input including a survey to identify the existing drainage provisions and site contours.

The existing plumbing installations are of long life materials. Only the domestic hot water unit and tapware would need replacement within the asset planning timescale. Assumptions on the timing of these replacements are made in the asset management plan. However, the domestic hot

water unit can be retained in service until it leaks or shows other serious deterioration. The tapware can also be replaced progressively when deterioration becomes obvious.

The Gallery's air conditioning systems have a normal life expectancy of around 20 years as they are largely developed from packaged air conditioning units. The expected service life has now been considerably exceeded. The air conditioning systems did not perform reliably when they were in service in the Gallery role. It would be desirable to refurbish the air conditioning systems at the time when any new role for the building is decided. For planning purposes this is assumed to occur within the next three years.

The fire detection and security systems have also been in service beyond their normal life expectancy. The security system had deficiencies in its former role but may be suitable to continue for an extended period for a less critical application. The fire system remains in good condition, despite its age. As this is a sophisticated and high cost system, it is likely to be an overkill for a less critical application. Therefore an allowance is included in the asset management plan for reconfiguring the system, most likely the removal of sensitive VESDA systems.

Most of the electrical power installations in the former gallery would have a life around 50-60 years. This places refurbishment of electrical services outside the timeframe for asset planning. However, the lighting installations are 30 years old and at the end of their economic life. They would likely be replaced as part of a new service fit-out for any change of purpose.

There is great uncertainty in how to plan for the future of this asset, as it has no clear role at present. Its retention seems likely to be based on a strategy of gaining maximum benefit at low cost from an unused asset. If this is the case there will be a reluctance to spend too much on refurbishment.

For current planning purposes, it is assumed that there would be some new role for the facility within the next three years and that the new role would involve replacement of life expired services and the modification of retained services to be fit for the new purpose. As outlined above, the service based asset replacement planning covers,

- Correcting stormwater drainage deficiencies;
- Replacement or refurbishment of the building HVAC systems;
- Replacement of lighting;
- Retention of fire detection and security systems with minor modifications;
- Replacement of some other components (eg DHW vessels, tapware) over time.

North Building

The North building had an extensive refurbishment in 1997-8 and most of its services were renewed at this time. Because of the refurbishment, most lifecycle costs for the North building services will occur in the medium to long term. As the lessor entity has responsibility for preservation of all base building services, this significantly limits the scope of the asset management plan for services in this facility.

As a tenant, CFC will only be responsible for preserving the fit-out and equipment in the North building. However, these components are significant in terms of capital cost. A summary of services and equipment considered the Corporation's responsibility is as follows:

- Special lighting installations for Galleries, Boardroom, Theatre etc.
- Audio visual equipment in Galleries, Board room and Theatre;
- Minimal kitchen equipment for the ground floor beverage concession;
- Darkroom services and equipment (no longer used and therefore not accommodated in the lifecycle planning);

- Indoor and outdoor heater units;
- 1.8 tonne pallet lifter in the loading dock;
- Security and access control system;
- CCTV monitoring system;
- Emergency warning & intercommunication system (EWIS).

The pallet lifter is unlikely to require major overhaul or renewal within the asset planning timeframe.

When the 2004 planning was undertaken there was a cafe fit-out in the ground floor foyer. However, there were issues with the cafe kitchen's quality and compliance to regulations as the facility was improvised from a former storeroom. The original cafe concession had been discontinued when the 2004 report was written. This area spent many years functioning as a self-serve beverage area. However, it has recently been upgraded with a concession holder providing effectively a 'coffee cart' service. Some minor refurbishment and provision of appliances such as bar refrigerator have already been undertaken to accommodate the new service. The new concession operates with minimal kitchen requirements. For planning purposes only a small allowance is needed for long term replacement of low cost kitchen appliances.

The special lighting installations will probably be adapted and changed over time as part of the display process. The display lighting needs to meet very high quality standards because of the application. It is most likely that display lighting will be renewed or replaced progressively. For planning purposes, an allowance for progressive replacement of fittings is allocated at 5-year intervals.

Audio-visual equipment tends to be replaced when it becomes obsolete. For planning purposes this is anticipated around 15 years life.

The security system for the CFC North building tenancy should have a service life of 15-20 years. It replacement is planned around 2018. The CCTV system was completely replaced in 2009. The system could be maintained in service to for the time frame of the asset management plan. Therefore no replacement is currently programmed.

The emergency warning system (EWIS) has a life expectancy around 20 years so allowance for its replacement is scheduled in 2018.

8.6 Lifecycle Cost Summary

The following ten pages provide a lifecycle cost summary for the Galleries and Leased Premises in tabular and graphic format. Refer to section 4.6 for further description of the tables and illustrations following.

GALLERIES AND LEASED PREMISES

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	0	0	0	0	0	0
SUPERSTRUCTURE	41	3	0	0	38	0
FINISHES	134	102	0	0	20	12
FITTINGS	300	140	113	8	35	4
FIRE PROTECTION	0	0	0	0	0	0
ELECTRICAL	20	0	0	0	0	20
MECHANICAL	0	0	0	0	0	0
HYDRAULICS	0	0	0	0	0	0
SITE WORKS	0	0	0	0	0	0
<i>totals</i>	495	245	113	8	93	36

annual costs % of total 49.5% 22.8% 1.6% 18.8% 7.3%

maximum annual cost **245**

average annual cost **50**

cumulative costs **245 358 366 459 495**

GALLERIES AND LEASED PREMISES

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	0	0	0	0	0	0	0	0	0	0	0
SUPERSTRUCTURE	88	3	38	3	0	0	3	0	3	0	38
FINISHES	385	102	20	12	12	10	178	10	0	9	32
FITTINGS	878	253	43	21	88	62	135	111	51	70	44
FIRE PROTECTION	83	0	0	0	83	0	0	0	0	0	0
ELECTRICAL	242	0	0	42	60	20	22	36	42	0	20
MECHANICAL	0	0	0	0	0	0	0	0	0	0	0
HYDRAULICS	0	0	0	0	0	0	0	0	0	0	0
SITE WORKS	0	0	0	0	0	0	0	0	0	0	0
<i>totals</i>	1,676	358	101	78	243	92	338	157	96	79	134

periodic costs % of total 21.4% 6.0% 4.7% 14.5% 5.5% 20.2% 9.4% 5.7% 4.7% 8.0%

maximum periodic cost **358**

average periodic cost **168**

average annual cost **84**

cumulative costs **358 459 537 780 872 1,210 1,367 1,463 1,542 1,676**

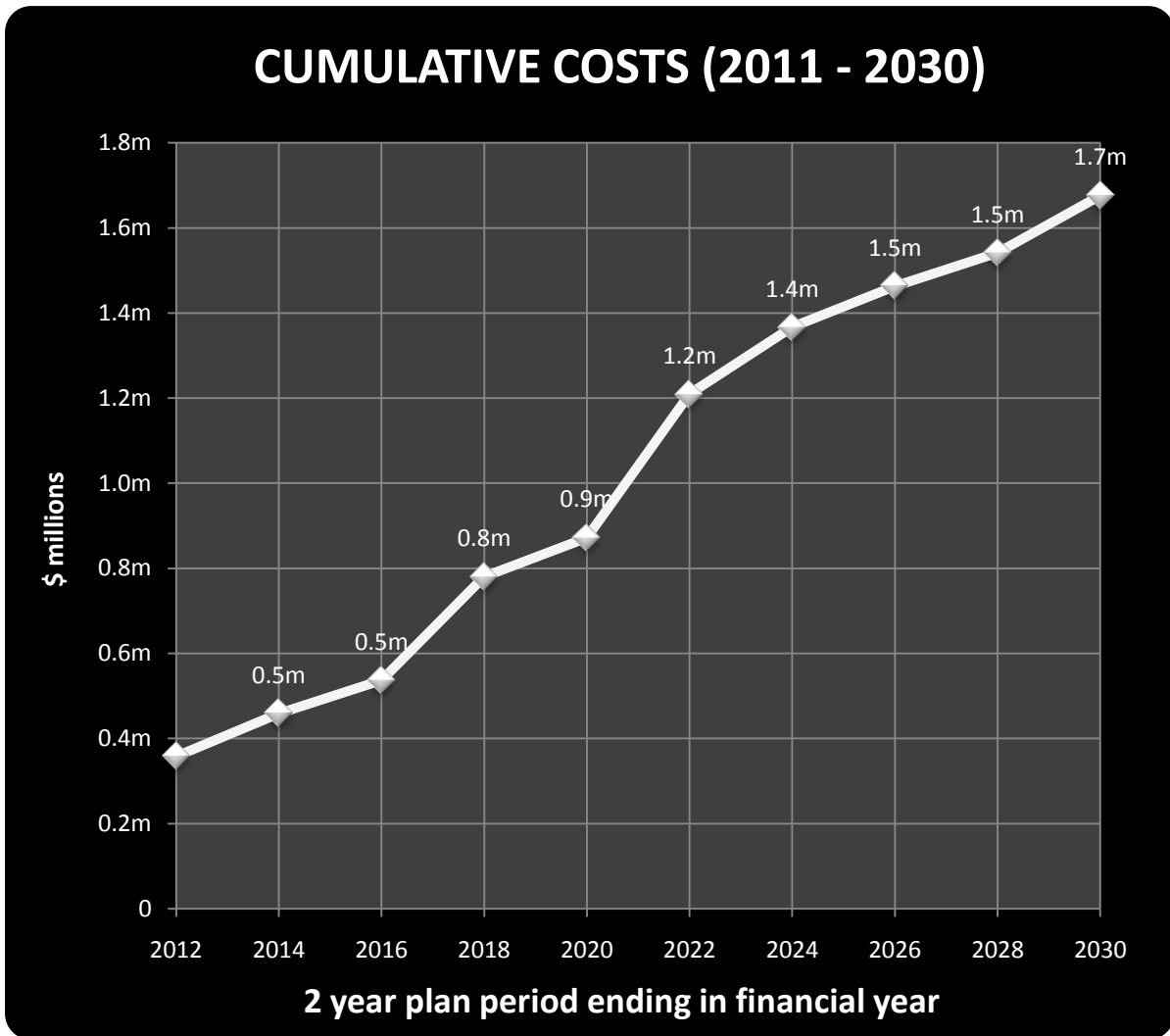


Figure 8.1: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

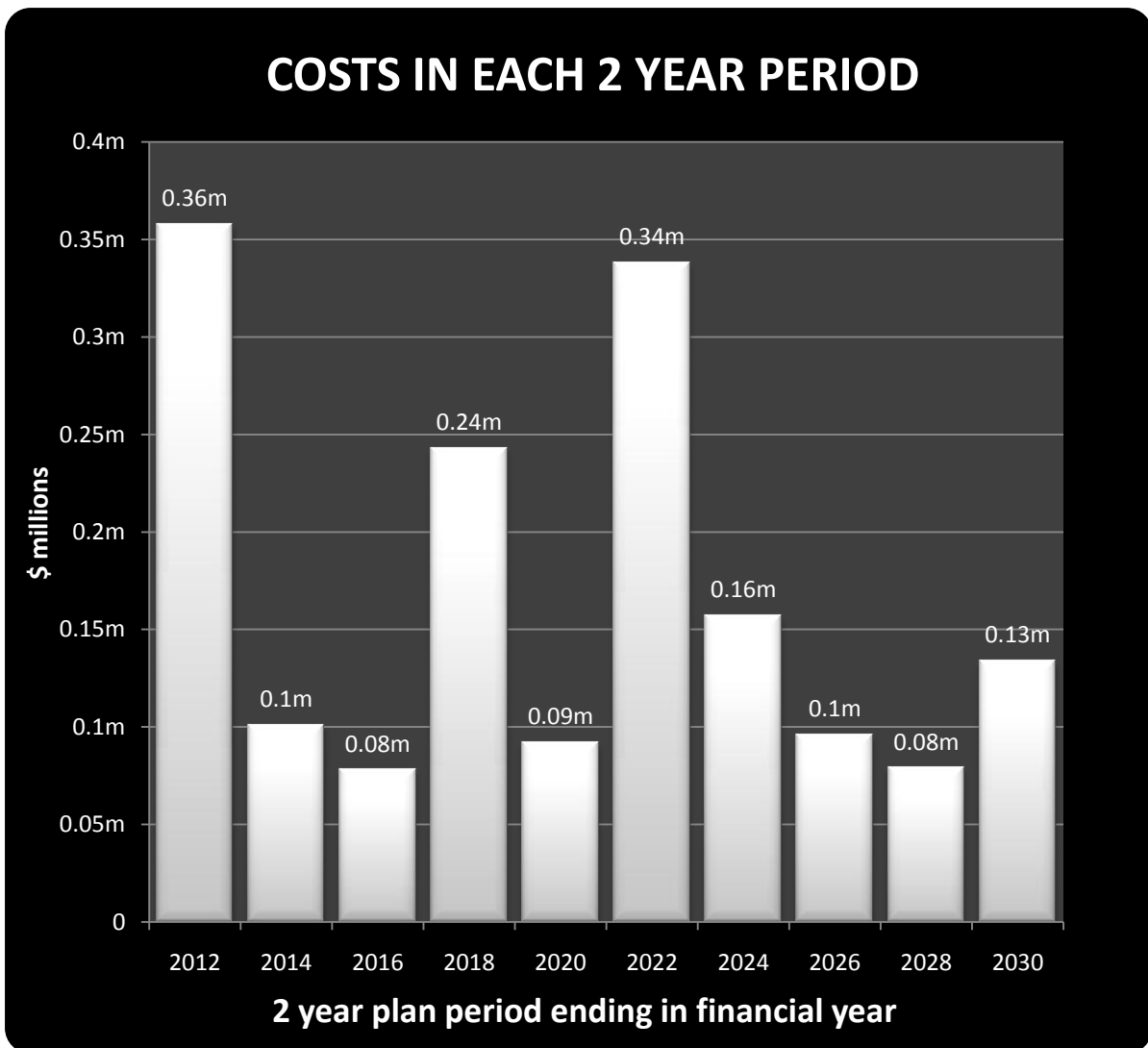


Figure 8.2: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

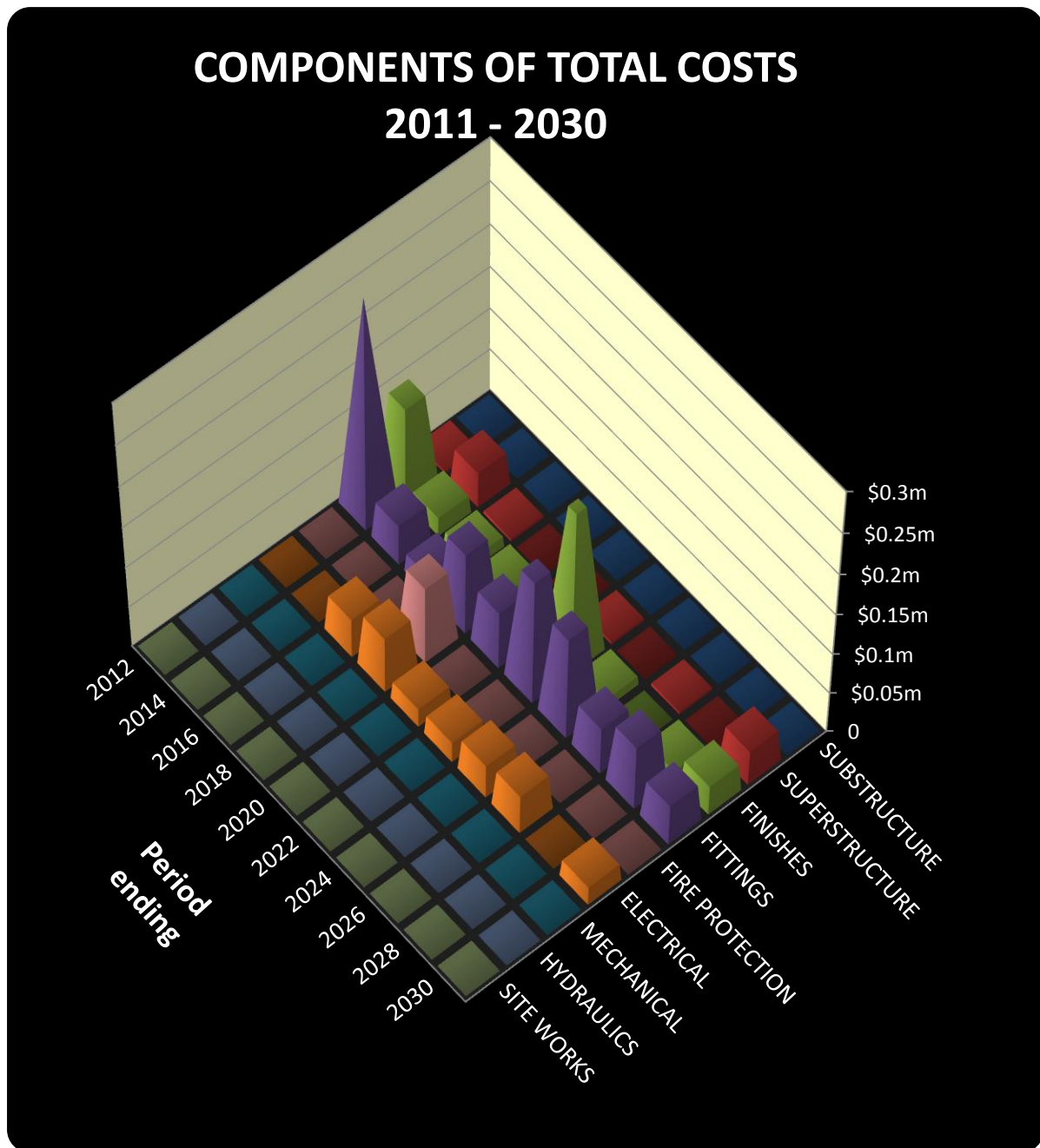


Figure 8.3: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

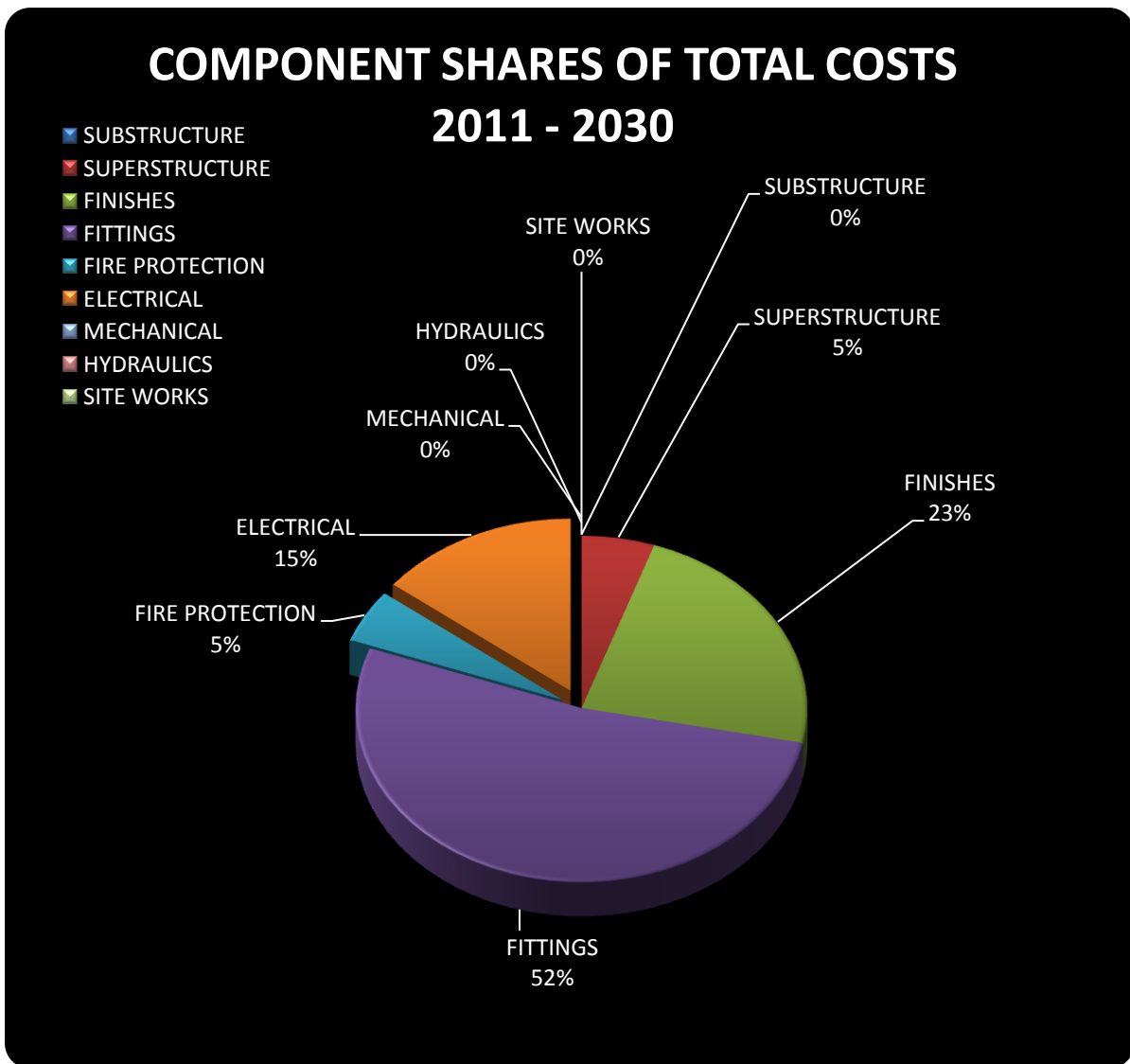


Figure 8.4: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

THE NOLAN GALLERY

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	10	0	0	0	0	10
SUPERSTRUCTURE	210	8	0	0	0	202
FINISHES	33	0	0	0	0	33
FITTINGS	62	0	0	0	0	62
FIRE PROTECTION	12	0	0	12	0	0
ELECTRICAL	41	0	0	41	0	0
MECHANICAL	173	0	0	173	0	0
HYDRAULICS	40	0	0	0	0	40
SITE WORKS	0	0	0	0	0	0
<i>totals</i>	581	8	0	226	0	347

annual costs % of total 1.4% 0.0% 38.9% 0.0% 59.7%

maximum annual cost **347**

average annual cost **58**

cumulative costs **8 8 234 234 581**

THE NOLAN GALLERY

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	10	0	0	10	0	0	0	0	0	0	0
SUPERSTRUCTURE	299	8	0	210	0	0	24	0	41	0	16
FINISHES	70	0	0	33	0	0	0	0	17	0	20
FITTINGS	102	0	0	62	0	10	0	0	1	0	29
FIRE PROTECTION	12	0	12	0	0	0	0	0	0	0	0
ELECTRICAL	41	0	41	0	0	0	0	0	0	0	0
MECHANICAL	173	0	173	0	0	0	0	0	0	0	0
HYDRAULICS	40	0	0	40	0	0	0	0	0	0	0
SITE WORKS	0	0	0	0	0	0	0	0	0	0	0
<i>totals</i>	747	8	226	355	0	10	24	0	59	0	65

periodic costs % of total 1.1% 30.3% 47.5% 0.0% 1.3% 3.2% 0.0% 7.9% 0.0% 8.7%

maximum periodic cost **355**

average periodic cost **75**

average annual cost **37**

cumulative costs **8 234 589 589 599 623 623 682 682 747**

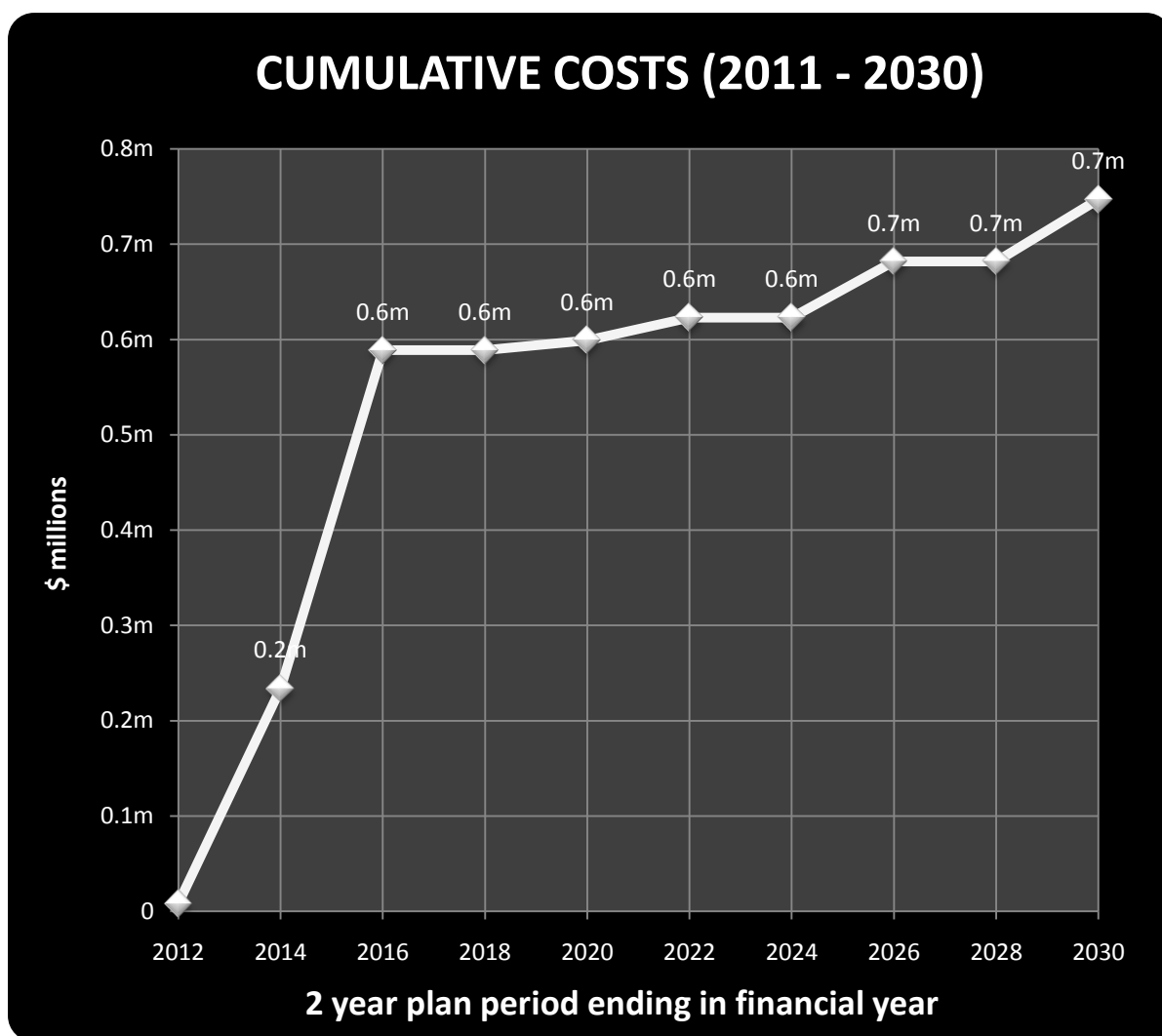


Figure 8.5: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

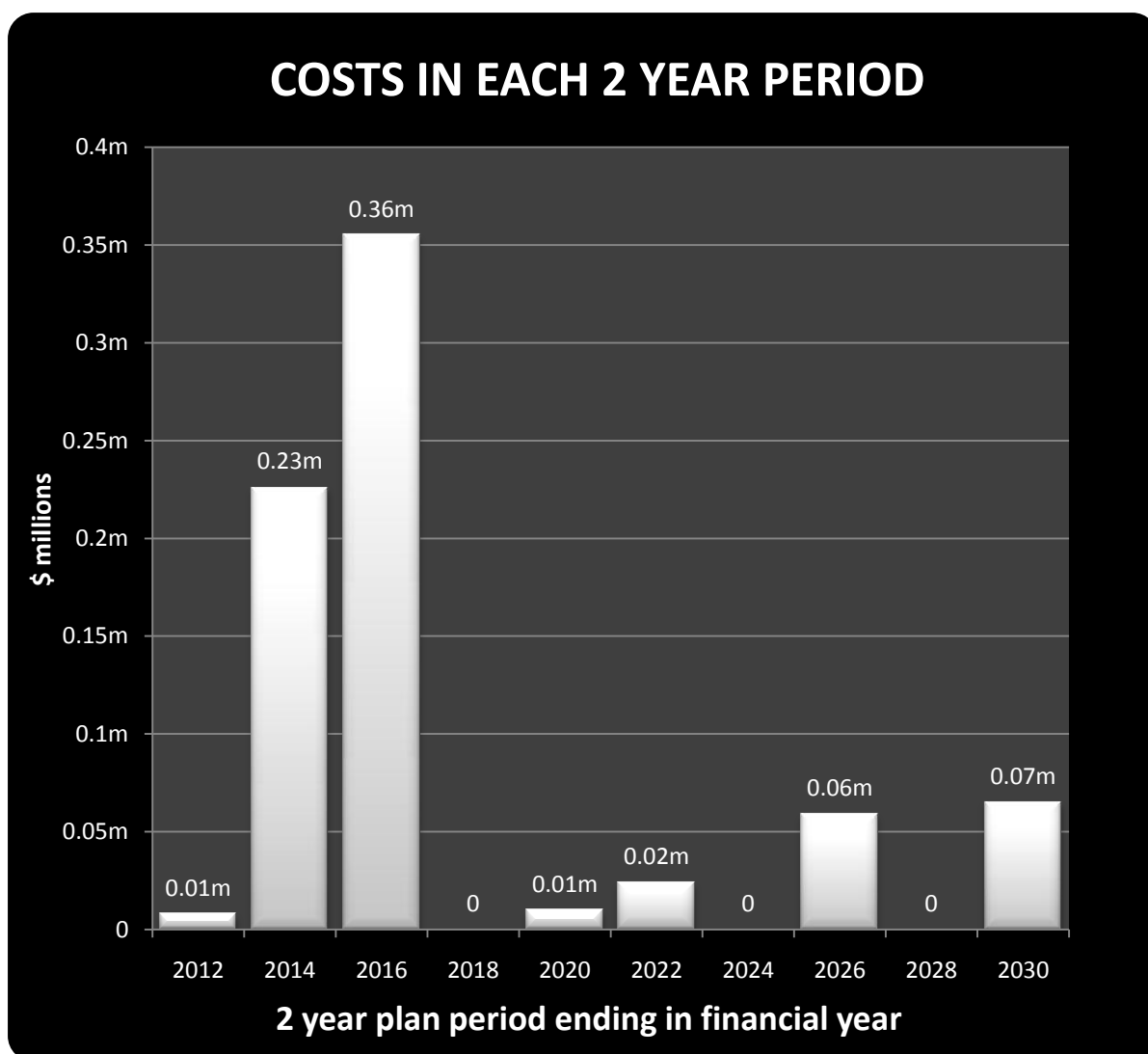


Figure 8.6: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

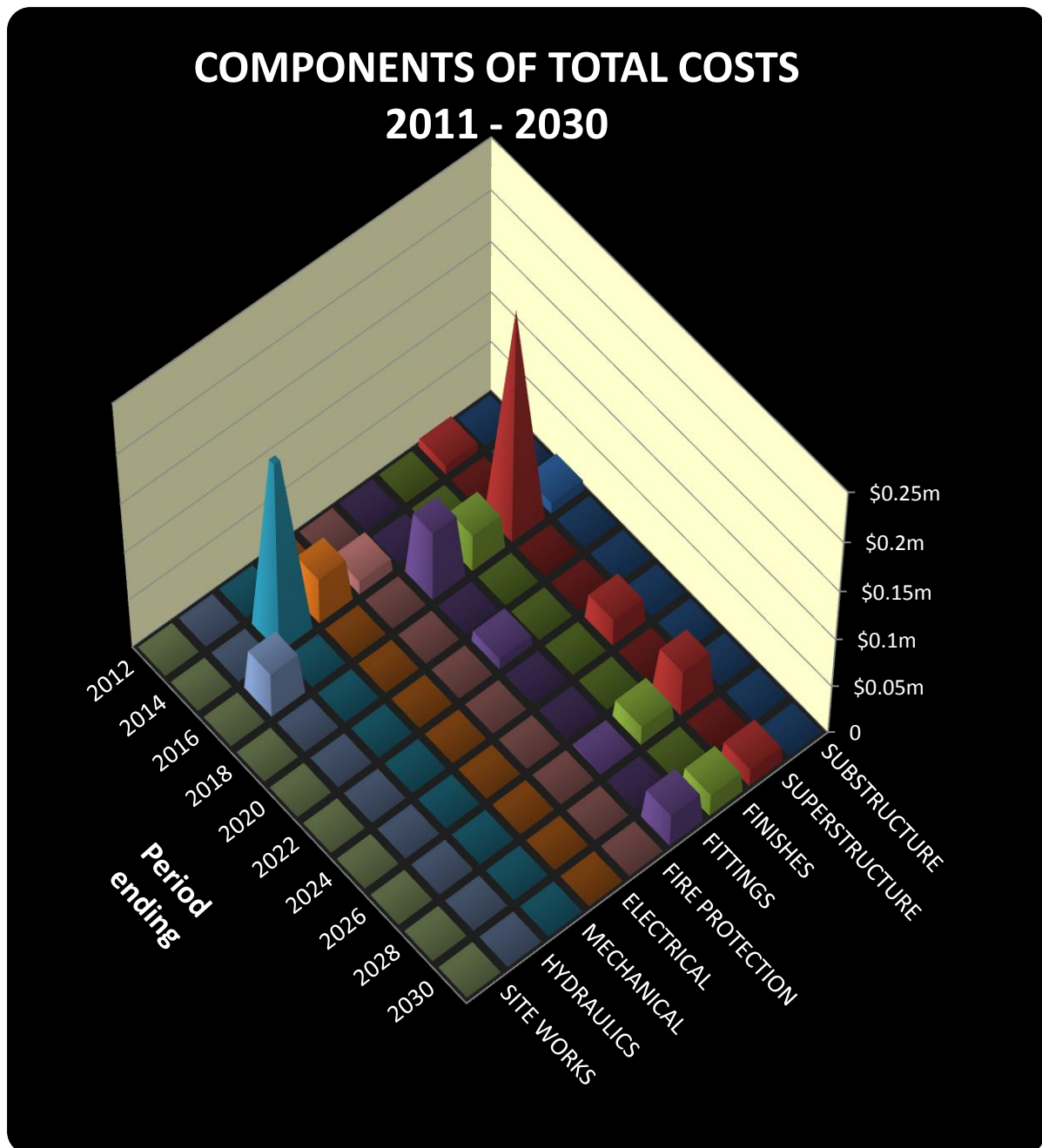


Figure 8.7: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

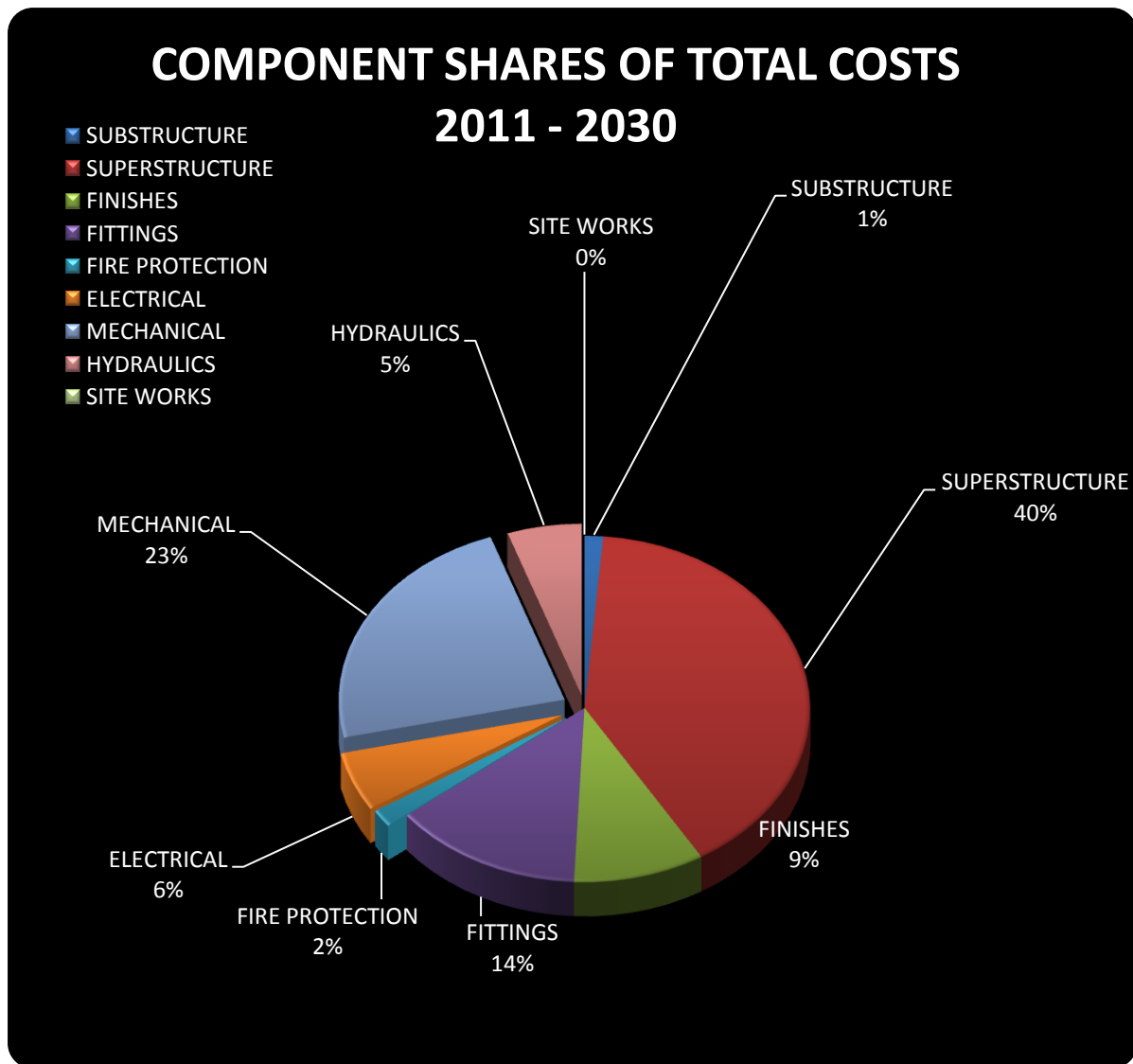


Figure 8.8: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

Historic Places

9.1 Scope

This section of the report covers the historic facilities for which the Corporation is the custodian. The assets included in this category are:

- a) Calthorpes' House and site;
- b) The Mugga Mugga site and buildings;
- c) The Lanyon Homestead historic precinct, non-listed buildings and site infrastructure.

For convenience, the support facilities at the historic places are included in this category. For Mugga Mugga, these include the education/interpretive centre, water tanks, roadways and fencing. The Lanyon Homestead assessment also covers the cottages and mid 20th century farm buildings that are not heritage listed, as well as water storages, roads and fencing. Imminent formalisation of an Executive Lease will transfer additional land and building assets from the rural leaseholder to the Cultural Facilities Corporation. These assets are not included in this issue of the asset management plan.

9.2 Conservation Planning & Implementation

Conservation Policies

In the initial 2004 Asset Management Plan, lifecycle strategies for heritage facilities were implied, rather than specified, by the conservation plans then available. Those documents could be characterised more accurately as conservation policies rather than definitive plans. The initial asset planning was informed by the then existing conservation documents but also included provisional allowances for undocumented works to assets considered at particular risk.

In 2008, a draft Conservation Management Plan (CMP) was completed for Lanyon. This provides general policies to guide conservation work to the fabric of the buildings and maintenance of the grounds. There is no current CMP for Calthorpes' House, and the CMP for Mugga Mugga lacks detail on the direction of physical conservation work.

Conservation policies for Calthorpes' House and Mugga Mugga are expected to be available for the next revision of the Asset Plan. This first revision has made use of Condition Audits completed in 2007 for all three historic sites and the works planning developed from them by the Corporation's Historic Places directorate.

Condition Audits

In the period since the original Asset Management Plan was developed in 2004, Corporation appointed consultants have prepared Condition Audits for the Historic Places. The Condition Audits identify the extent of work required to properly maintain the buildings (they do not extend to landscaping or infrastructure).

The audits were prepared by three consultants, who applied similar assessment criteria and reporting formats. Each element was evaluated for condition (Poor, Fair, Good) and for heritage integrity (Low, Moderate, High). The audits identify essential remedial or stabilisation works, characterising them as Routine, Urgent or Overdue. The works were also categorised as being maintenance, major repairs, adaptation or desirable (ie optional). Many of the works listed have subsequently been completed or are scheduled for completion in the next few years.

The condition audits have provided a framework for the Corporation to estimate costs and the scope of the conservation tasks. The Corporation has compiled a program of conservation work for a period of four years from 2008. This program addresses urgent works over the first two years, with overdue and routine works addressed in years three and four.

Recent Conservation Work

The last major upgrade and conservation program ended twenty-five years ago in 1985, when the National Capital Development Commission (NCDC) undertook a major program.

The Corporation secured special repairs and maintenance funding in 2008 and further funding under a Commonwealth economic stimulus package. At Lanyon, conservation work has proceeded with the support of the CMP. However, a tentative approach was required at Calthorpes' House and Mugga Mugga. The work proceeded in line with the Burra Charter and a cautious, professional approach. Specialist conservators have supervised work at all three sites. Particular attention has been given to the valuable collection of household effects and furnishings at Calthorpes' House. This required close coordination of collection management and conservation work. Handling the collection required special skills and care.

An understanding of the cultural significance of Historic Places is necessary to avoid conflict with the current or potential CMP. The removal of original material and finishes must be minimised. This approach is in line with sound conservation practice and reduces any impact on future conservation and interpretation of the sites.

Recent conservation work has been undertaken by small contractors as larger contractors generally lack specialist skills in heritage conservation. Some work has required the input of specialist professional services, included structural engineering (underpinning works), archaeology (excavation and drainage) and conservator services (various collection items, finishes and wallpaper).

9.3 Lifecycle Strategy

Context

The Historic Places assets are well presented and evidently in good care. The approach to their conservation has been summarised as “doing as little as possible but as much as is necessary”. Since the facilities have been in public custodianship for relatively short portions of their histories, what has been “necessary” has been limited compared to what may be required in future.

The initial asset plan observed that the historic assets could be seen to be drawing on the “capital” of the longevity they possessed when passing into public care. This approach was noted as consistent with the goal of minimal intervention and probably sustainable throughout the initial planning period. The report suggested, however, that significant remedial works would be unavoidable in later decades. Since 2008, the assets have benefited from significant expenditure and effort to stabilise their condition and to improve their future viability. The principal works are included in those listed in Appendix 3 Capital Works 2005-2010.

Character

There are a variety of lifecycle strategies operating across the range of assets at the historic sites. The presence of heritage and non-heritage listed components obviously, requires different lifecycle strategies. Even within the heritage-listed components there have been differences in conservation strategies, which influenced the lifecycle strategies adopted in the initial report. Since that time, the heritage listed assets have undergone condition audits, using similar criteria for all three sites. Planning of necessary works, including those recently done, has proceeded on a systematic basis, which has been incorporated into this issue of the Asset Plan.

Non Heritage Listed Components

These elements of the historic places need to be maintained to preserve their functional and economic benefits but do not require the detailed conservation effort applied to heritage listed assets. Physical degradation, technical obsolescence or the adverse economics of continued operation will largely determine their life spans.

Heritage Listed Components

These elements of the historic places are expected to have indefinite life and will generally be conserved as closely to their original form as practicable. They will need refurbishment at regular intervals, like the non-heritage elements, but this will generally involve stabilisation or restoration rather than replacement. If replacement occurs it will typically be done using identical components or materials. As time goes by, obtaining components or materials equivalent to the originals will attract an increasing cost premium.

For the heritage listed components, the concept of a lifespan is somewhat irrelevant. However, the need for conservation implies a refurbishment interval that is, in effect, a pseudo lifetime for these components.

Conservation

The general principle of intervening as little as practical favours stabilisation and arresting degradation over restoration work. However, Lanyon Homestead saw extensive intervention and restoration during the 1980s, before the property was passed to the Cultural Facilities Corporation. The nature of the works was not documented in detail, leading to uncertainty about the originality of certain materials and their future treatment. A current draft conservation policy when developed to final status should clarify the response to such issues. Similar uncertainty about the condition of subfloor spaces and the potential for rising damp has been largely dispelled by inspections completed before preparation of this issue of the Asset Plan. Better than expected conditions have allowed some projected costs for remedial works to be removed or reduced.

Asset Plan

Asset planning involves projecting into the future what can be learned from experience and refining the projections over time. For the historic properties, generalised observations from other buildings are of limited help because the issues that emerge are local and specific. Appropriate responses depend on each element's heritage integrity and its particular contribution to the premise's broader significance. They are best developed from a considered assessment of priorities, formulated as a conservation plan. The Assistant Director, ACT Historic Places, has developed work plans from the condition audits prepared for each site. The work plans show projected expenditures from 2008 to 2011, prioritising works according to available funding. Items in these work plans that have not so far been committed or completed have been incorporated into the Asset Plan as far as possible. Smaller works have been merged into larger packages of like works. The first iteration of recurring works shown in the Asset Plan Works List may already have been completed. Such works are generally identifiable by their later starting dates in the Asset Plan. Some items indicated for funding as Repairs and Maintenance works have

been included as asset replacement works due to their essential nature. Recurring maintenance, such as routine inspections, pest control and the like have not been listed.

The 2010 Asset Plan Works List also includes items identified in 2004 and not so far completed, as well as new works identified during preparation of this 2010 revision. Some works are recommendations for the safety or structural adequacy of the premises. Decisions on their adoption are likely to require balancing of conservation priorities against evaluation of external risks such as vandalism, fire or extreme weather.

9.4 Building Issues

Structures

Structural engineers Rogers + Jefferis inspected the buildings in the Historic Places portfolio in 2004 to identify critical structural issues or areas likely to need attention over the assessment timeframe. Many of the items of concern in that report have been addressed and resolved over the last five years. A 2010 review and update of the original structural report has been prepared by Northrop Engineers. The updated inspection report is attached as Appendix 2. Remaining concerns are indicated in section 10.10 and Appendix 2.

Calthorpes' House

Calthorpes' House is named for the family for whom it was constructed in 1927. It provides a window into the family life they shared there during the second quarter of the twentieth century. Located at 24 Mugga Way, Red Hill, the residence stands in grounds of more than 5,500m² which also accommodate the original garage, cubby house and wood shed and an air raid shelter constructed during the Second World War. Although the Calthorpes' two daughters had married and left the house by the end of the war and Mr Harry Calthorpe died in 1950, Mrs Della Calthorpe continued to live there until her death in 1979. The property passed into public custodianship in the early 1980s and has been operated since 1985 as a museum offering an insight to domestic life in Canberra's formative years.

The house interior and contents are remarkably intact and include extensive domestic records that document the history of the house and its family activities. The conservation analysis prepared in anticipation of its present use (Nigel Lewis and Associates, 1984) notes that "It is not a great house but it is a very significant one. This significance derives from its completeness".

The house is operated to show this to good effect, allowing visitors ready access while minimising their impact, with particular care taken for the delicate interior. Visitors move through in small groups and wear soft overshoes to protect floor surfaces and carpets. There has been a deliberate policy of leaving internal finishes, including accumulated marks and stains, undisturbed to the greatest extent possible. For the 2004 Asset Plan, this inhibited proposals for internal works to finishes other than unavoidable repairs to kitchen and bathroom tiles. No internal painting was proposed, consistent with the then current approach of leaving undisturbed the original surfaces and their accumulated patina. Cracking in upper levels of many walls appeared consistent with long term changes in soil moisture content (although Mrs Dawn Waterhouse - nee Calthorpe - had suggested that they originated from an earthquake in 1929, shortly after the house was occupied).

The structural engineering assessment for the report in 2004 concluded that no structural remedy for the cracking was necessary. It recommended that the extent of cracking be recorded and some of the wider cracks monitored for future reference. A renewed inspection for this plan notes the subsequent repair of cracking. It also suggests that that building will continue to move and cracks may reappear. This is not expected to effect the structural integrity of the building. The 2004 plan had included a provisional allowance for eventual underpinning of parts of the external walls. There was a similar allowance for improving underfloor ventilation should it emerge as a concern

in the future. Both of these allowances have been removed from the 2010 plan as a result of inspections and remedial works undertaken in the intervening years.

Water staining observed at the tops of internal walls and on ceilings in 2004 was considered likely to have arisen from occasional overflows from gutters and through leaking roof flashings. At the time, the roof was clad in its original glazed terra cotta tiles with timber shingles infilling the principal gable ends on the north and south sides. The timber shingles were being individually replaced as needed but a continuing need for attention was anticipated (the difference in exposure between the north and south faces was obvious in the colouration of the shingles). Although the roof is steeply pitched, it has multiple valley gutters at risk of overflowing in intense downpours and chimney penetration flashings with their own potential for leaks. The 2004 report noted the likelihood of the terra cotta roof tiles becoming brittle with age because they had already passed their conventional reliable life (about 60 years). The report noted that the need for their eventual replacement would call for careful consideration of conservation goals.

Since the initial report, substantial reroofing works have been completed. These included installation of roof sarking and insulation and replacement of the terra cotta tiles in 2009. Shingle claddings were also refurbished in association with these works. Reliable weatherproofing of the roof allowed sympathetic renewal of internal wall and ceiling finishes and rectification of cracking in walls. The ultraviolet filtering to all windows was also renewed. Another important internal work completed has been the replication of the original carpets with the intention of storing and preserving the originals.

Works to external walls have included rectification of salt damp problems on the south side of the residence, removal of unwanted paint finish from subfloor walls, replacing it with red wash, and touching up limewash and enamel finishes. An outline of works undertaken between 2005 and 2010 appears in Appendix 3.

Items from the 2004 Asset Plan still listed for 2010 are mainly for recurrent attention to external paint finishes, protection from roof leaks and the renewal of protective finishes to the four outbuildings on the site: the Garage, Woodshed, Cubby House and Air Raid Shelter (as they are dubbed in the plan). Earlier one-off work still to be completed is the inspection of the underground sanitary drainage system. Stormwater drainage lines were renewed in 2009 with UPVC pipework replacing the original terra cotta.

The 2010 plan includes many new items drawn from the work plans prepared by Assistant Director, ACT Historic Places. They do not necessarily involve previously unidentified works so much as the packaging and description of works to coordinate better with the work plans. Among these, the largest projected costs are for further repairs to cracking and the touching up of finishes and well as renewal of limewashing to internal walls and ceilings. Other major items include provisional allowance for repairs of timber framing to roof and floor after precautionary inspections scheduled for the later years of the planning period. More detail has been added to allowances for internal works now that their scope has been identified by the condition audits and conservation work plans.

The 2004 report noted that the premises face risks other than the predictable stress of weathering. The possibility of break-ins on an unattended site had already been addressed by the installation of an alarm system. This has been kept viable by the progressive replacement and augmentation of components but the 2010 plan includes allowance for its eventual technical obsolescence and periodic replacement. A suggestion that further attention to fire protection was warranted remains unresolved pending completion of a risk assessment for the site. Some form of automatic fire detection or suppression is highly recommended (Refer section 10.10).

The 2004 plan noted that some original garden structures lost to decay had been recreated and would probably need replacement within the planning timeframe. A new equipment shed subsequently added has not been listed for replacement in the 2010 plan although it may fall due

not so far beyond the planning horizon. It is a functional structure, not directly connected to the heritage values of the site and the continuing need for it might be reappraised in the future. Other siteworks completed since 2005 include improvement of stormwater run off around the Woodshed and Air Raid Shelter and rectification of the driveway drainage.

Mugga Mugga Cottage Precinct

The Mugga Mugga property is located in remnant rural landscape on the eastern slopes of Mount Mugga Mugga. The 17-hectare site is mainly grazing paddocks but contains the historic cottage precinct and an Education Centre constructed from transportable buildings. Access is along a right-of-way, through a single gateway on Narrabundah Lane with an unsurfaced road leading to the Education Centre carpark.

The 2004 Asset Management Plan drew on documentation and analysis of the cottage precinct in a three-volume conservation plan prepared by Freeman Collett and Partners (Freeman Collett, 1994). Volume 1 of the plan noted that 'Mugga Mugga Cottage and Surrounds' is classified by the National Trust of Australia (ACT) and had been entered in the Register of the National Estate. It also recorded the listing of 'Mugga Mugga, Symonston' in the Interim Heritage Places Register of the ACT on 27 April 1994.

The Freeman Collett conservation plan defined the precinct as the garden landscaped area of some 195m² fenced in 1985. The precinct buildings comprise a stone cottage with later additions, a timber slab kitchen, a timber garden shed, a metal garage, a toilet and a carport. The nucleus of the cottage is a simple stone building, provided for the head shepherd of Duntroon in the 1830s, with later timber slab additions. By the time the Curley family occupied the site in 1913, the building had a detached kitchen building connected by a breezeway. In about 1949, a modest flat was built onto the northern side. The timber garden shed was constructed in 1950, a few years before the farm property was finally destocked due to increasing attacks by domestic dogs. The dwellings were last used as a residence in the 1970s and were vacant when bushfires destroyed some of the outbuildings in 1985. The modern metal garage and carport were also constructed in 1985.

The 1994 conservation plan had assessed the conservation significance of elements of the site and building fabric, allocating ratings on a six level scale. The highest ratings were A (exceptional significance) and B (considerable significance), for which the appropriate treatment was "preservation, restoration, reconstruction, adaptation and supplementary new construction". For a rating of C (some significance), the suggested treatment was "retention in situ, but an option may be re-use on site and/or removal in whole or in part".

All components of the cottage structure were accorded significance A or B except for two minor elements. The kitchen and all its fabric, other than flooring completed in the early 1990s, were accorded significance A. All original fabric in the dining room was accorded significance A. Non-original elements, introduced in 1993, were a reconstructed slab wall on the west and a hessian tent ceiling used to support a similar (but painted) collapsed ceiling. The conservation plan noted that the flat attached to the cottage is "distinctly out of character with the stone cottage" but "has significant connections with the site and its occupation". Because of those connections, a rating (presumably low) was not assigned at the time. The flat is in 'fibro' construction typical of much rural dwelling construction in the 1940s and 50s.

The shed, constructed largely from fence palings, was rated C, along with the fibro clad freestanding toilet. The later metal clad garage was noted as having "some significance by virtue of the fact that it replicates the same function as the previous building that occupied this site" but it was not accorded a specific rating.

For purposes of the 2004 asset management plan, the significance ratings were interpreted as meaning that strenuous efforts should be made to preserve the cottage and kitchen buildings and any work should be carried out with the greatest sensitivity. For the other buildings, the lower

ratings indicated that future investment should depend on assessments of their continuing value as significant issues emerged. More specific support for decision making about asset replacement work at Mugga Mugga is provided by the Condition Audit completed for the property in 2007 by Pip Giovanelli and the work plan developed from it by Historic Places. The works list in the 2010 Asset Plan is, consequently, more detailed and less tentative.

The fabric of the cottage and kitchen buildings had been stabilised by works undertaken in 1992-3. Over a period of about 12 months, wallpapers were matched and touched up, timber wall slabs scarved and roofing and drainage defects rectified (the Freeman Collett Mugga Mugga Conservation Plan contains a detailed report by the builder). Further works, before completion of the 2007 condition audit, included internal and external detailed painting and conservation of the Sitting Room wallpaper and Slab Bedroom hessian ceiling. Works prioritised according to the 2007 condition audit and related work plans have dealt with site drainage issues, water control measures, roof repairs (including the installation of sarking), door repairs, continuing conservation of wallpaper and the hessian ceiling, as well as timber and flooring conservation. Many of the completed works will require periodic attention during the planning timeframe and are listed in the asset management plan. Other building works items in the plan are generally of a detailed nature and acknowledge the recommended responses and priorities of the 2007 condition audit.

The structural engineering report undertaken for the 2004 asset plan indicated that timber framed out-buildings lacked capacity to resist potential wind loads and recommended the bracing and tying down of the structures. This work had not been completed by the time of the 2010 report due to concerns about its potentially intrusive character. A renewed structural inspection in 2010 has highlighted the continuing risk (see Appendix 2) and the plan includes allowance for some form of rectification works.

Siteworks completed before the condition audit included bushfire preparedness works, repairs to garden railing and fences. Subsequent activities, undertaken before the 2010 Asset Plan, have involved the extension of fencing including fencing around the old well, removal of asbestos hazards from the driveway and improved signage.

Lanyon Estate

The Lanyon Estate covers more than 1,000 hectares. Most of this area is under rural leases, operating as working farms and not directly managed by the Corporation. Lease conditions constrain the use and development of the sites because the leased areas are listed on the ACT Heritage Register. In 2004, a brief was being prepared for completion of a Lanyon Conservation Management Plan, intended to include planning for the broader estate. The document was to include clear and practical policies for management of heritage values on the leased areas. The Lanyon Conservation Plan remains under development. In the meantime, arrangements are nearing completion to transfer parts of the Estate into the hands of the Corporation. This transfer will include some buildings not so far considered in asset planning. Since, the Executive Lease has not yet been formalised, these buildings do not appear in the 2010 plan.

The portion of the estate under the direct stewardship of the Historic Places portfolio occupies approximately 80 hectares and contains extensive and diverse assets. Its centrepiece is the historic homestead and the nearby farm outbuildings dating from the nineteenth century. The buildings are numbered 1 to 8 (without a Building 7) in the Lanyon Condition Audit prepared by John Armes and Associates in 2007. The Lanyon Homestead building is identified as Building 10. The same numbering is adopted in the 2010 asset plan. The earliest buildings are constructed in materials won from the site by convict labour and there are surviving elements of the pastoral landscape from this era. The homestead itself was built later, in 1859, and extended and modified during the twentieth century. On passing into public ownership in the 1980s, the homestead and immediate outbuildings (Buildings 1-8) were substantially refurbished. The interior of the homestead was “restored” and furnished to represent the time of its construction

Also present in the Historic Places domain are “modern” farm buildings and workers' accommodation constructed when the site remained a pastoral property. The farm buildings are no longer used for their intended purposes but the dwellings continue to be rented as residences. A windmill, water tanks, a stone cairn and original fencing are other items of significance (a draft citation for the Lanyon site noted that the “windmill is believed to be one of the largest of its kind in the Southern Hemisphere.”).

Given the diversity of the assets on the site and the continuing definition of conservation priorities for the overall estate, detailed assessment is beyond the scope of this report. Instead, buildings have been considered generically within four categories:

- The Homestead (the 1859 building and later additions – Building 10);
- Outbuildings (mainly 19th century buildings forming part of the current visitor circuit – Buildings 1-8);
- Farm buildings (farm buildings of the mid 20th century no longer in use and not regularly visited – These buildings are not numbered);
- Cottages (still used as residences - numbered in documents as Cottages 2, 3, 5 and 6).

The first two categories constitute the historic precinct of the Lanyon Estate.

The outbuildings in the historic precinct include the facilities open for regular access by visitors. They are generally nineteenth century constructions, mostly stone built and mainly with applied finishes. Some have been adapted to contemporary purposes, such as the Lanyon Cafe, but with limited disturbance to their appearance and contribution to the ambience of the precinct. A modern insertion into this area is a toilet block built during the 1980s for visitor use.

The farm buildings are mid twentieth century timber structures and interesting in their own right as examples of the production facilities on a well-kept farm of their time. Although they are easily accessible from the homestead, they are not part of the normal circuit for visitors. They remain in viable condition but are at risk from diminishing maintenance, rot and insect attack. The cottages are used as accommodation by staff and operatives at Lanyon. They provide modest amenity and there is an expectation that they will need substantial upgrading of facilities to remain in this role.

The 2004 asset management plan was informed by Elaine Lawson's statement of conservation principles set out in her contribution to the conservation plan then under development. Her approach favoured "stabilisation rather than intrusive restoration". The 2004 asset plan was consequently cautious about proposing intrusive works in the historic precinct unless they were considered unavoidable for the longevity of the assets. Such works included recommendations for structural underpinning of walls and repairs to roofs. Otherwise, the strategy of asset planning for the homestead and the outbuildings was to protect them against decay and to preserve their then current presentation values. This meant more frequent attention to exposed elements and allowances for remedial work where it appeared unavoidable. Remedial items listed were generally allowances against likely risks rather than responses to identified issues.

The plan nevertheless proposed regular works to non-heritage listed assets such as the cottages on a conventional basis and maintenance levels of attention to the farm buildings. The intention for the farm buildings was to stabilise them until their future role in the estate was defined. Listed works included rectification of evident termite damage but did not provide for the upgrading of the facilities to the extent needed to make them suitable for regular visitation.

Building works actually undertaken at Lanyon between 2005 and 2007 included improvements to the education centre and cafe (including a kitchen upgrade and provision of secure storage), limited internal but extensive external painting (including the roofs of the old and new stables, the water tower and tank and Cottage 2 and 3) and bathroom repairs to Cottages 2 and 6. Some of these works were included in the 2004 asset plan. Others originated from changed operational needs, which are generally outside the scope of this plan. Entirely unforeseen works were needed

in 2007 to repair damage caused by a major storm in December 2006. The convict barn, the entrance roadway, bridge and fences were all affected. Other works on the site included repairs to fences, including the horse yards.

The 2007 Condition Audit maintains the principles articulated by Elaine Lawson while translating them to specific actions and priorities. The work plans developed by the Historic Places Assistant Director, from the condition audit are incorporated into the 2010 asset planning descriptions and scheduling as a next step towards coordinating asset planning with other CFC management processes. With the Condition Audit's endorsement of the need for many of the preservative actions, projected costs for the historic precinct buildings have substantially increased in the 2010 plan. Overall lifecycle costs for the Lanyon site have increased by about 75% from \$3 million (in 2011 values) to \$4.3 million.

Some works identified in the condition audit were completed before preparation of this report. Some were one-time remedial works. Others were the first instance of recurring needs. The former included, for buildings in the historic precinct, external roughcast rendering attention to cracking and soil moisture issues and work to slabs and posts. The latter include repairs to roofing, eaves and barges, repointing of wall joints and prevention of decay in floorboards. Such works tend to recur late in the first decade of the asset plan.

A necessary item, not subject to the condition audit, but located within the historic precinct, is the public toilet facility. The asset plan allows for its extensive refurbishment and modification to meet DDA requirements.

Intentions for the farm buildings and the cottages remain similar to those in the 2004 plan. In fact, the works proposed in 2004 are mainly still to be done. Although this suggests an added urgency, general refurbishment of the cottages has not been given first priority in the 2010 plan due to major commitments for works in the historic precinct. Insulation and limited repair works do appear in year 1 of the plan but broader upgrades are deferred a few years.

The plan aims to maintain the four as viable residences with some enhancement to comfort and amenity but minimal change to appearance. The initial insulation of ceilings and timber floors will be supplemented by the installation of heaters in the form of energy efficient heat pumps. The works listed are otherwise typical for the upkeep of domestic properties (with the exception of installing foundation baffles to limit the damage caused to the subfloor structure by wombats burrowing). The projected costs assume that building works will be completed in the materials and finishes reasonably available at the time rather than reproducing what is already in place.

9.5 Services

Description

By modern building standards, the historic premises are not highly serviced. Despite this, there are a surprising number of services supporting these facilities. These services include:

- Storm water and sanitary drainage systems;
- Cold and hot water services;
- Heating and cooling systems (limited);
- Security systems;
- Fire protection;
- Equipment and appliances.

The following sections outline the major lifecycle issues associated with the building services at the historic places.

Calthorpes' House

Calthorpes' house has typical domestic plumbing services, including hot and cold water, sanitary and stormwater drainage. The plumbing is largely copper piping with some cast iron and steel piping. The original underground drainage piping is cement-jointed terracotta. However, the underground storm water drainage was recently replaced using modern UPVC piping.

Most of the plumbing services are long-life services, integral to the conserved entity. They would have minimum intervention over the asset planning period unless the deterioration reaches a point where intervention is needed in response to failure or to lower the risk of an impending failure. The recent upgrading of storm water drainage removes a major cause of concern and allows a relative modest services provision to be made for lifecycle works. An allowance is included in the asset plan for inspection of underground sanitary services so that problems can be anticipated as further ageing occurs.

Electrical wiring at Calthorpes' house was renewed in the mid 1980s for conversion of the house to its present display purpose. This wiring should last 40 – 60 years so there should be little need for work within the asset planning period. Any required remedial work would attract a cost premium to retain the appearance of switch plates and power outlets and to minimise intrusion on existing surfaces for wiring access.

The appliances at Calthorpe such as stove, refrigerator, hot water unit etc are in regular use. For this reason an allowance is made for restoration or replacement of equipment in the asset management plan. The asset plan also allows for eventual replacement of the building security system that is thought to date from around 1990.

The biggest single allowance for services at Calthorpes' house is for fitting a fire protection system. This is recommend within the next 2 years (refer section 10.10).

Mugga Mugga

No allowance is necessary for the minimal component of services within the conserved entity at Mugga. The site has a small Education Centre in a prefabricated building. This has some basic services such as electrical wiring, security, heating, plumbing and kitchen equipment for which a modest renewal allowance at 10-year intervals is made in the asset management plan. The security system was upgraded in 2009 and now protects both the education centre and cottage.

The fire protection at Mugga Mugga is currently (2010) being improved by installation of a large water storage tank, quick-fill point, and two fire hoses. This provides a fire fighting capability. However, it seems desirable to have some form of alarm or automatic fire protection for a unique historic building. The asset management plan includes an allowance for further fire protection measures. However, the feasibility and effectiveness of these measures may need to be assessed by an engineering study (refer section 11.10).

Lanyon

The conservation precinct at Lanyon has a number of service elements that need to be considered for asset management purposes. Most of the systems are basic and long lived so the overall cost impact for asset planning is quite modest.

Lanyon has an extensive river water system for non-potable water supply and irrigation purposes. The system incorporates a pumping station with an electrical pump, diesel pump and windmill. The electric pump is thought to date from around 1980. The windmill is a 1930 installation. However, it was refurbished around 1990 and recently upgraded to restore the windmill's function as a lift pump for the large concrete storage tanks. The diesel pump was installed in 2003 in response to concerns about fire fighting. The primary water supply system has galvanised steel piping and two large, heritage listed, concrete storage tanks, one constructed in 1910 and the other in 1930.

The Lanyon homestead has a fire sprinkler system installed around 1980. The estate was extensively refurbished around this period and the electrical and lighting systems were renewed as part of the development and restoration.

Lanyon has a public toilet with septic system for waste disposal. This was constructed around 1980. Near the public toilet and at the rear of the homestead is a large unused in-ground water storage tank. The tank has a sheet metal cover at ground level. The initial (2004) version of the asset plan envisaged the removal or filling in of the in-ground tank. However, the tank is now being retained for historical reasons and no further modifications are currently planned.

The potable water supply to Lanyon has been problematical. Currently, potable water is delivered by tanker and stored in an elevated galvanised steel tank adjacent the homestead. There are plans for upgraded storage and supply that should be implemented by 2011. This project will provide a better potable water supply to the property and improve its overall sustainability. Once installed, the lifespan of the potable water system should place the replacement of most of its components beyond the current time limit for the asset management plan.

The homestead area has underground drainage constructed of terracotta piping. The piping is breaking down and needs replacement, preferably in the short term. The existing toilet building needs to be upgraded to accommodate disabled patrons. This will likely require cold water and sanitary plumbing changes. However, the planned allowances for these service modifications are included in the allowance for the overall fit-out.

The heritage estate has a number of cottages with normal domestic services. The services in most cottages were refurbished around 1980. All of the cottages have poor heating services and may lack effective insulation. In the interests of improving energy efficiency and environmental sustainability, both aspects of the cottages could be improved. However, it is understood that the residents have adapted to the very basic amenities and probably do not have a high energy usage.

The 2004 asset planning included for upgrading of cottage heating systems to improve energy efficiency and environmental sustainability. The work remains desirable, if non-urgent. The allowance for upgraded heating system is based on provision of a split heat pump in each cottage. These would have approximately three times the energy efficiency of the electric resistance heaters that are commonly used in the cottages.

In addition to the basic services outlined above, the heritage precinct has a variety of miscellaneous equipment that will degrade over time and give rise to lifecycle costs. Among the miscellaneous items are kitchen and other equipment for the cafe, oil and electric heaters and domestic appliances. The heritage precinct also has a variety of special purpose (eg display) lighting.

Most of the services described above are expected to endure over the period of the asset planning. The heritage precinct has the character of an old farm. Because of their environment, components that might be considered aged and shabby can generally be patched and kept in service as long as they are reliable, functional and low maintenance. The services work to be accounted for in asset planning comprises the following:

- Limited refurbishment of the river water system, including lining and repairing of the concrete tanks for conservation purposes;
- A new system to store rain water and provide an improved potable water supply;
- Replacement of the degraded homestead drainage;
- Fitting a split heat pump to each cottage;
- Replacement of domestic hot water units when they begin to leak;
- Replacement of non-heritage light fittings at around 35 - 40 years life or before they become hazardous;

- Allowance for miscellaneous equipment replacement.

The allowance for replacement of light fittings envisages an inspection of all the non-heritage fittings around the replacement date. Any fittings that are degraded would then be replaced. Some of the fittings may remain serviceable, despite their age.

9.6 Lifecycle Cost Summary

The following ten pages provide a lifecycle cost summary for the Historic Places in tabular and graphic format. Refer to section 4.6 for further description of the tables and illustrations following.

CALTHORPES' HOUSE

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	0	0	0	0	0	0
SUPERSTRUCTURE	8	2	0	0	0	6
FINISHES	7	7	0	0	0	0
FITTINGS	32	5	0	0	12	15
FIRE PROTECTION	28	0	28	0	0	0
ELECTRICAL	14	3	0	0	0	11
MECHANICAL	0	0	0	0	0	0
HYDRAULICS	4	0	0	0	0	4
SITE WORKS	14	7	7	0	0	0
<i>totals</i>	107	24	35	0	12	36

annual costs % of total 22.4% 32.7% 0.0% 11.2% 33.6%

maximum annual cost **36**

average annual cost **11**

cumulative costs **24 59 59 71 107**

CALTHORPES' HOUSE

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	48	0	0	0	0	5	0	0	38	0	5
SUPERSTRUCTURE	208	2	0	6	14	86	0	0	19	14	67
FINISHES	148	7	0	0	0	14	0	0	0	0	127
FITTINGS	72	5	12	15	0	2	0	15	0	0	23
FIRE PROTECTION	30	28	0	0	0	0	0	0	2	0	0
ELECTRICAL	31	3	0	13	0	0	2	0	2	0	11
MECHANICAL	0	0	0	0	0	0	0	0	0	0	0
HYDRAULICS	4	0	0	4	0	0	0	0	0	0	0
SITE WORKS	29	14	0	0	0	0	7	0	8	0	0
<i>totals</i>	570	59	12	38	14	107	9	15	69	14	233

periodic costs % of total 10.4% 2.1% 6.7% 2.5% 18.8% 1.6% 2.6% 12.1% 2.5% 40.9%

maximum periodic cost **233**

average periodic cost **57**

average annual cost **29**

cumulative costs **59 71 109 123 230 239 254 323 337 570**

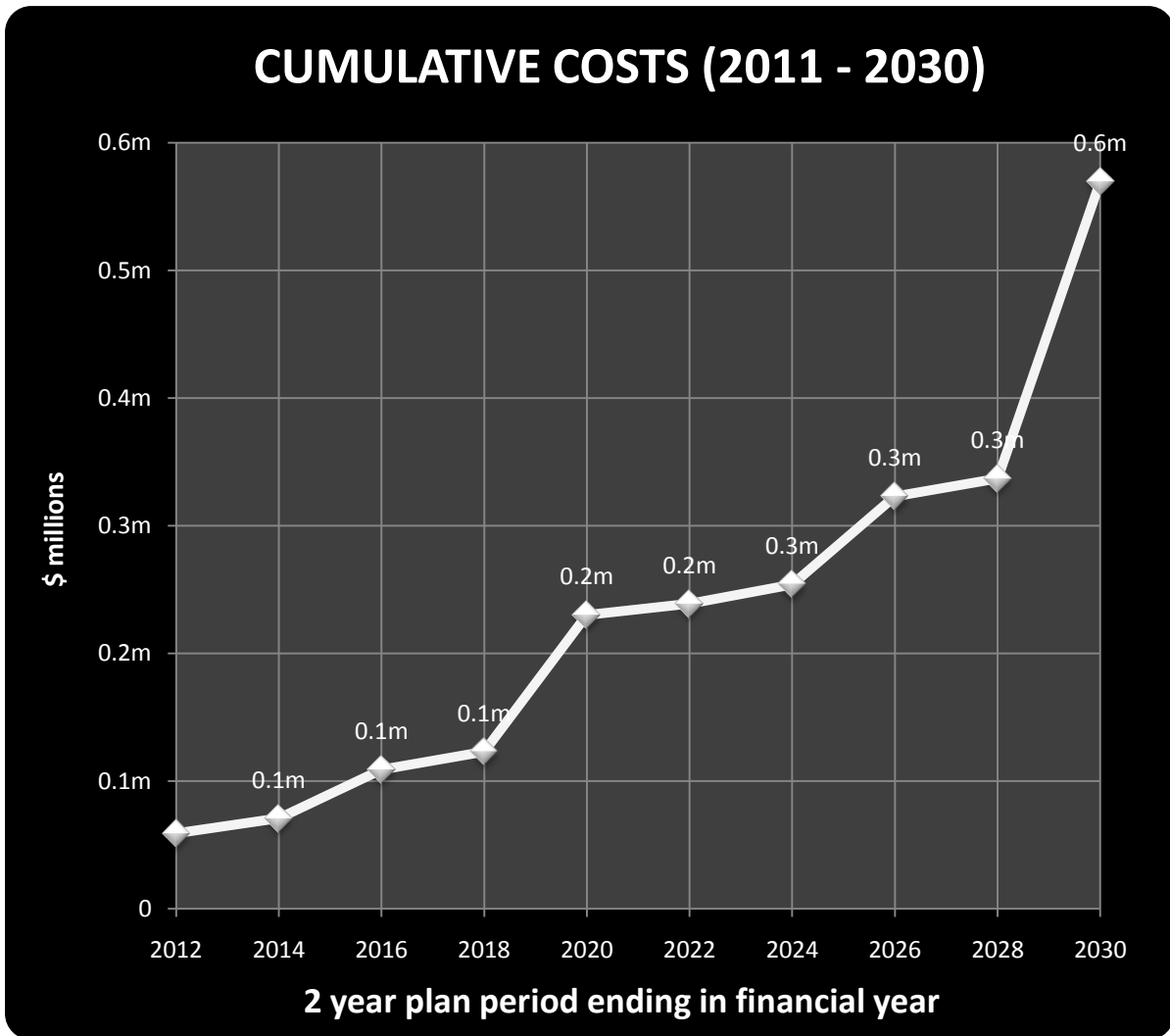


Figure 9.1: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

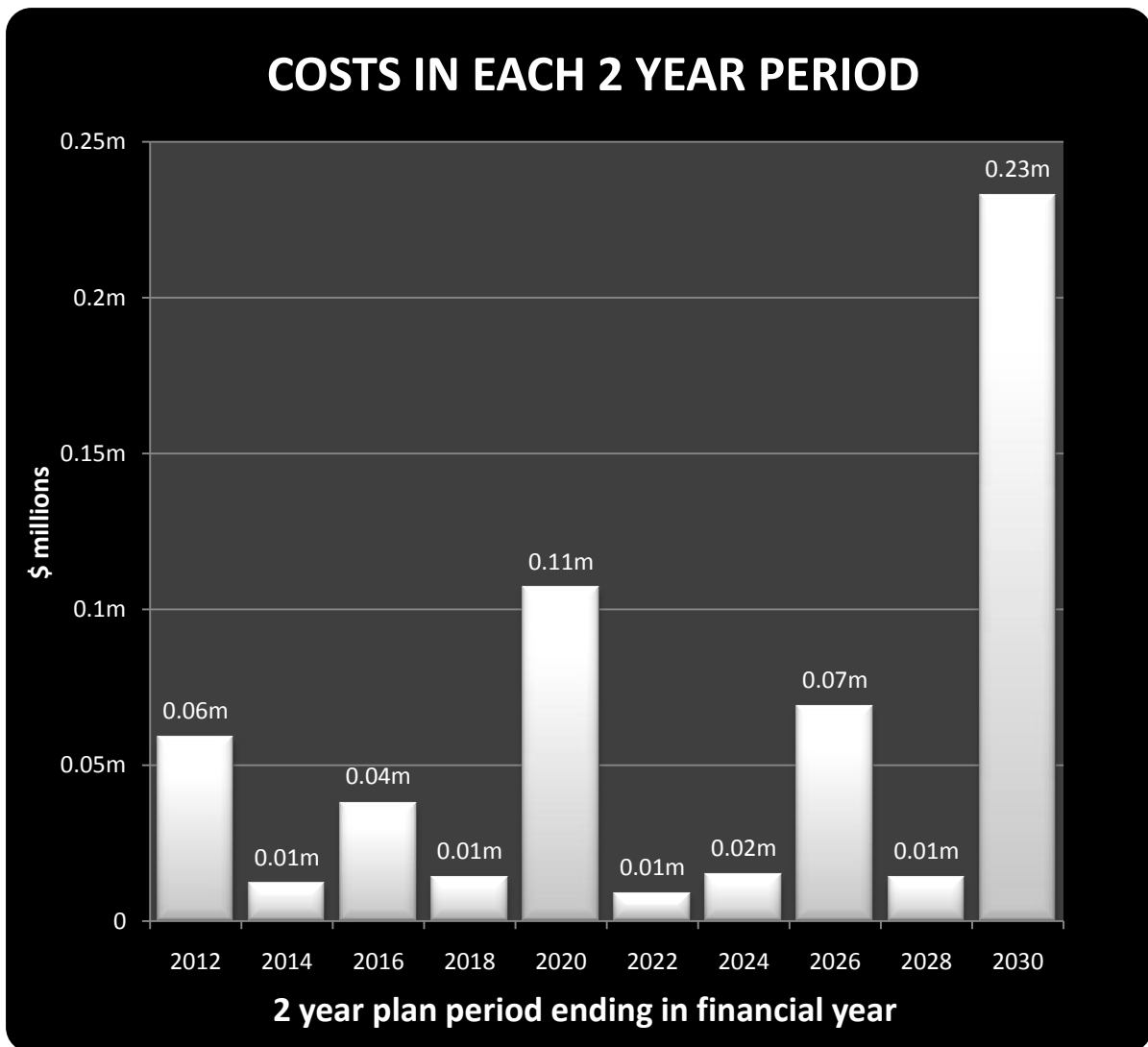


Figure 9.2: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

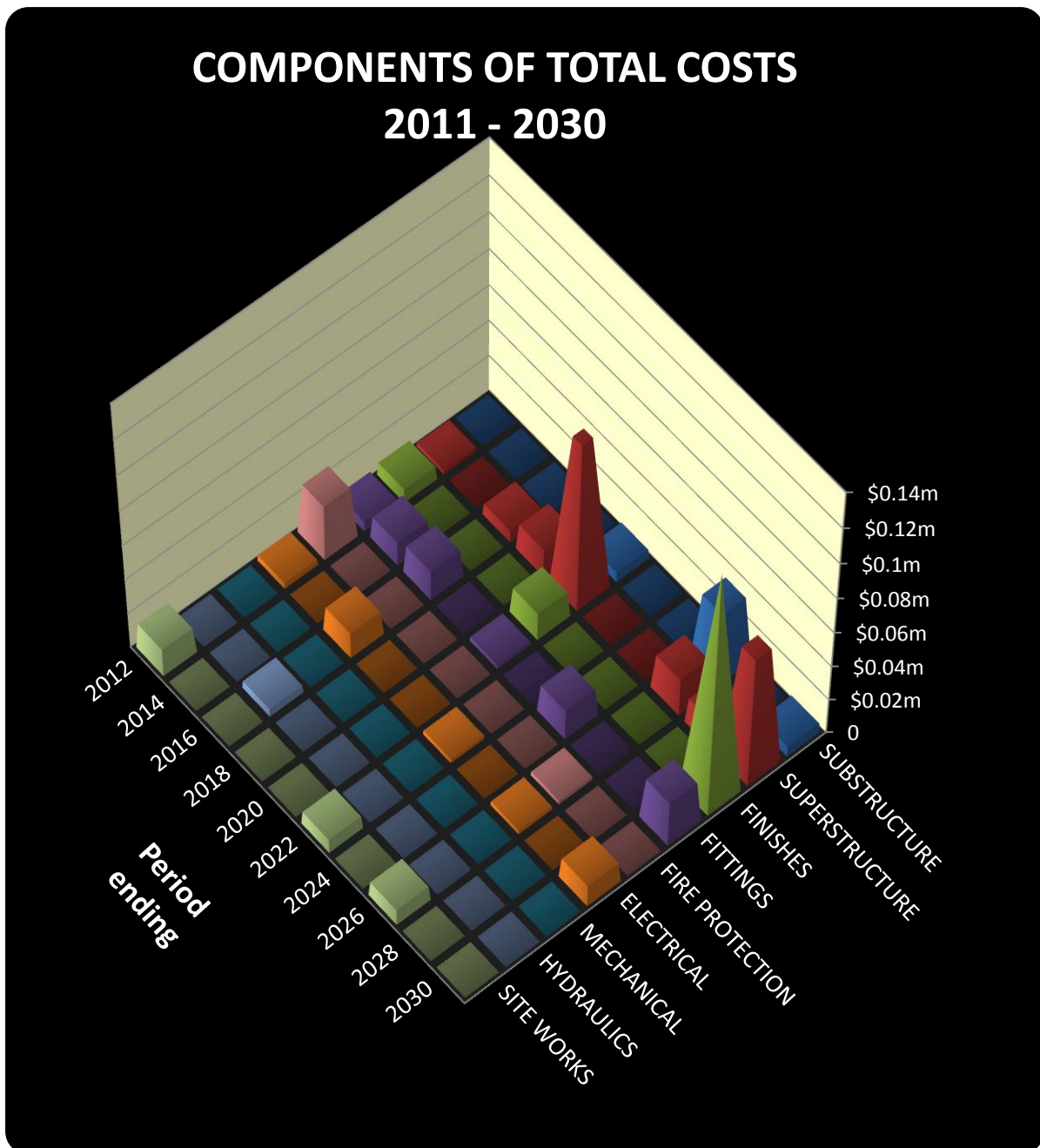


Figure 9.3: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

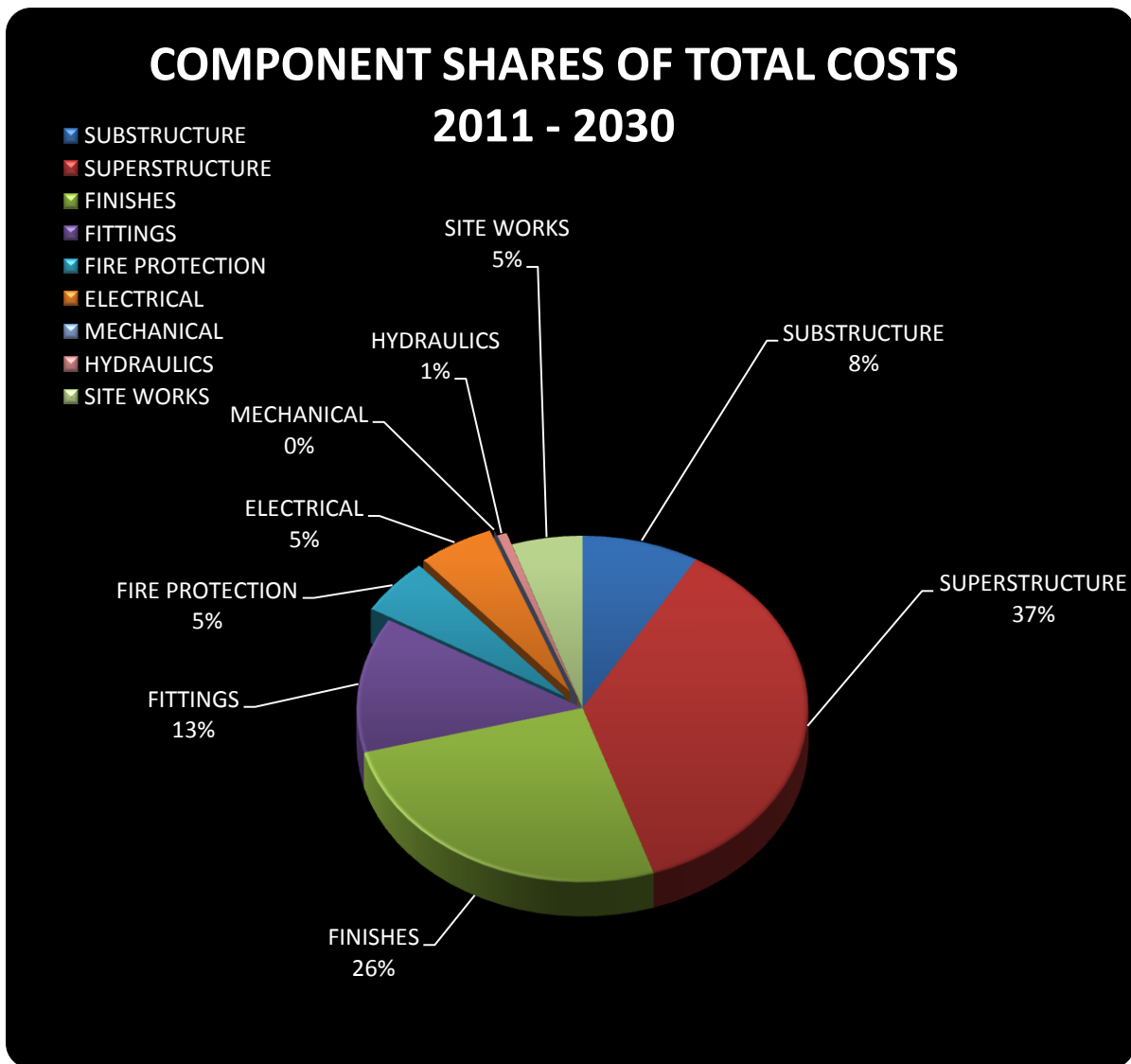


Figure 9.4: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building, services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

MUGGA MUGGA

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	4	4	0	0	0	0
SUPERSTRUCTURE	51	51	0	0	0	0
FINISHES	50	38	6	0	6	0
FITTINGS	13	8	0	0	0	5
FIRE PROTECTION	21	0	0	21	0	0
ELECTRICAL	6	6	0	0	0	0
MECHANICAL	0	0	0	0	0	0
HYDRAULICS	0	0	0	0	0	0
SITE WORKS	32	13	0	0	0	19
<i>totals</i>	177	120	6	21	6	24

annual costs % of total 67.8% 3.4% 11.9% 3.4% 13.6%

maximum annual cost **120**

average annual cost **18**

cumulative costs **120 126 147 153 177**

MUGGA MUGGA

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	4	4	0	0	0	0	0	0	0	0	0
SUPERSTRUCTURE	88	51	0	6	0	0	25	0	6	0	0
FINISHES	158	44	6	6	6	17	36	6	14	6	17
FITTINGS	39	8	0	5	0	8	0	5	5	0	8
FIRE PROTECTION	21	0	21	0	0	0	0	0	0	0	0
ELECTRICAL	8	6	0	0	0	0	2	0	0	0	0
MECHANICAL	0	0	0	0	0	0	0	0	0	0	0
HYDRAULICS	0	0	0	0	0	0	0	0	0	0	0
SITE WORKS	99	13	0	19	0	19	13	0	16	0	19
<i>totals</i>	417	126	27	36	6	44	76	11	41	6	44

periodic costs % of total 30.2% 6.5% 8.6% 1.4% 10.6% 18.2% 2.6% 9.8% 1.4% 10.6%

maximum periodic cost **126**

average periodic cost **42**

average annual cost **21**

cumulative costs **126 153 189 195 239 315 326 367 373 417**

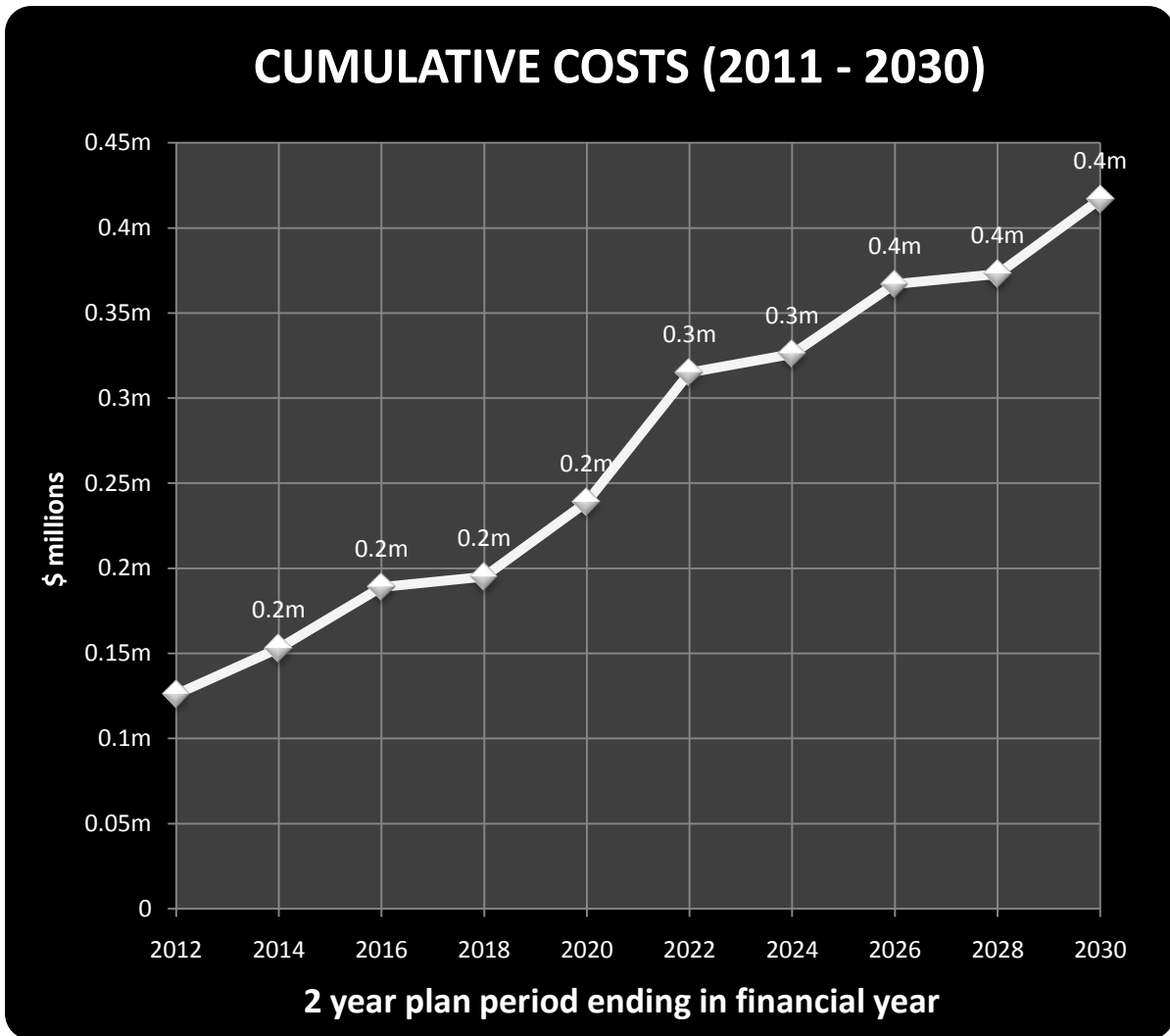


Figure 9.5: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

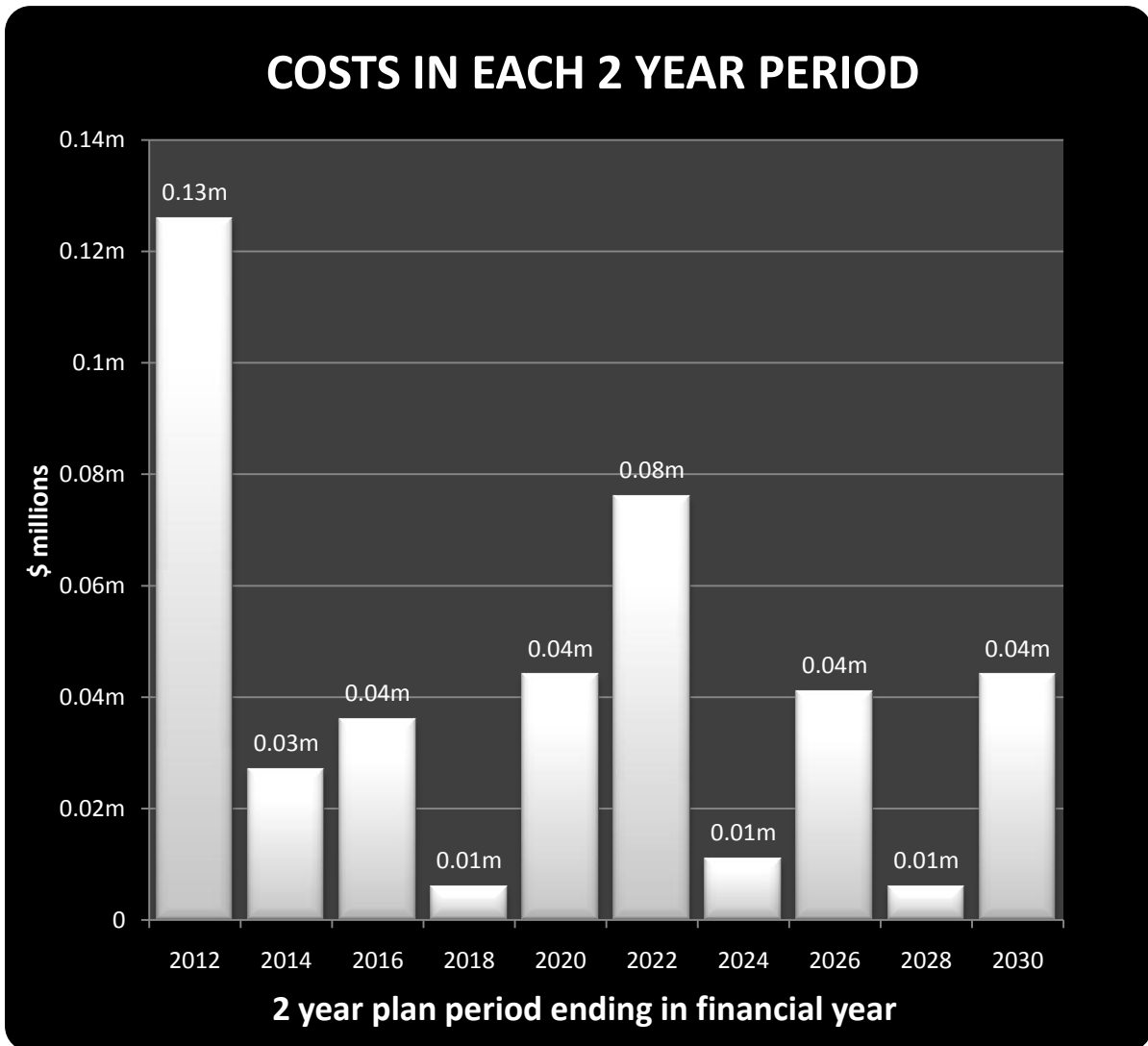


Figure 9.6: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

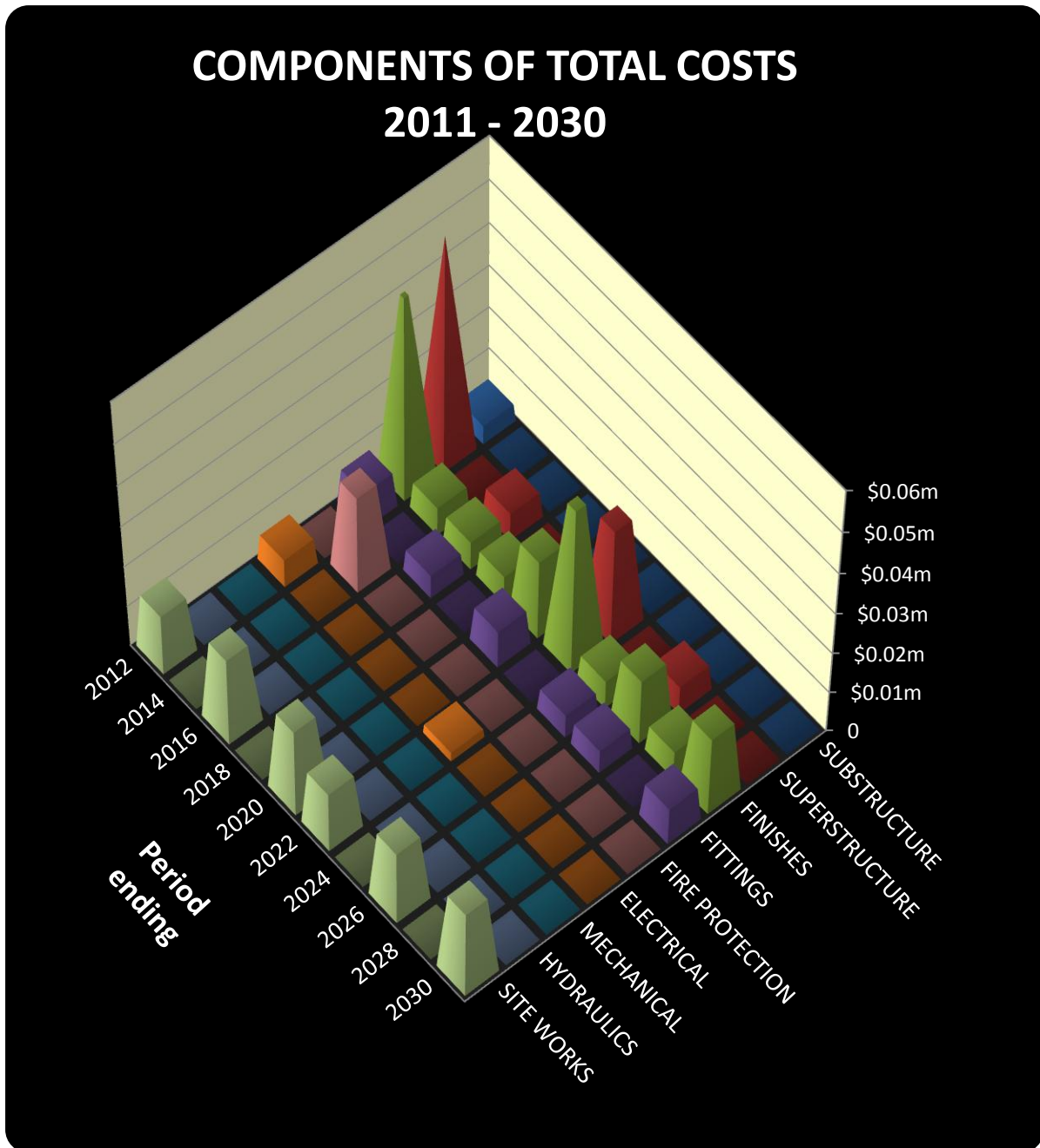


Figure 9.7: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

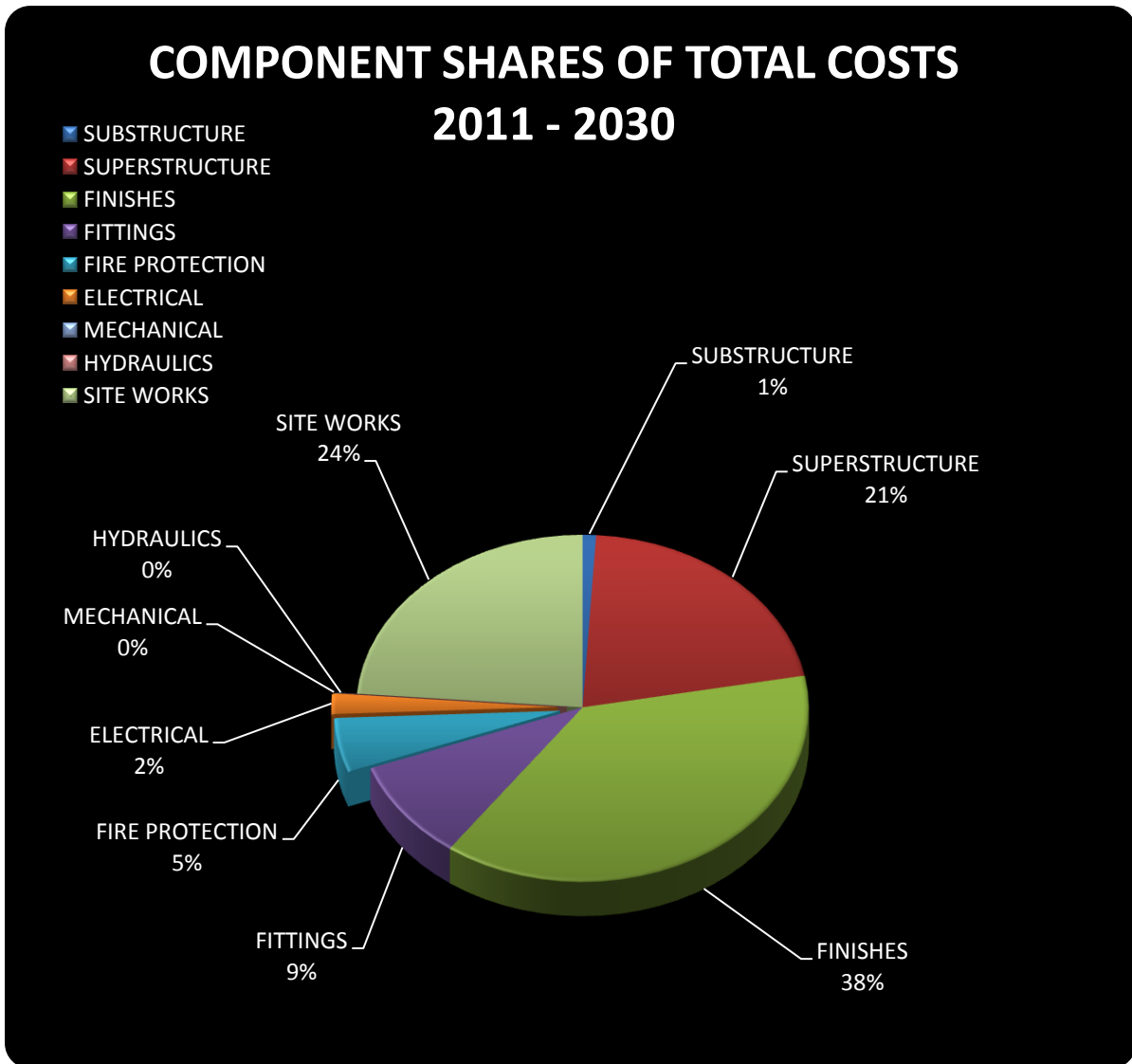


Figure 9.8: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

LANYON HOMESTEAD

Summary of component costs (Financial years 2011 - 2015 reported in 1 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for financial year ending in:				
		2011	2012	2013	2014	2015
SUBSTRUCTURE	67	58	0	9	0	0
SUPERSTRUCTURE	701	520	54	64	52	11
FINISHES	617	462	75	78	0	2
FITTINGS	341	120	34	173	11	3
FIRE PROTECTION	0	0	0	0	0	0
ELECTRICAL	0	0	0	0	0	0
MECHANICAL	36	0	0	36	0	0
HYDRAULICS	60	0	44	11	0	5
SITE WORKS	188	47	25	54	18	44
<i>totals</i>	2,010	1,207	232	425	81	65

annual costs % of total 60.0% 11.5% 21.1% 4.0% 3.2%

maximum annual cost **1,207**

average annual cost **201**

cumulative costs **1,207 1,439 1,864 1,945 2,010**

LANYON HOMESTEAD

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	107	58	9	0	0	0	0	0	40	0	0
SUPERSTRUCTURE	1,628	574	116	134	14	119	298	116	134	4	119
FINISHES	1,200	537	78	32	0	0	443	78	30	0	2
FITTINGS	512	154	184	6	12	6	100	6	6	32	6
FIRE PROTECTION	0	0	0	0	0	0	0	0	0	0	0
ELECTRICAL	71	0	0	0	18	27	8	0	0	18	0
MECHANICAL	36	0	36	0	0	0	0	0	0	0	0
HYDRAULICS	88	44	11	5	0	0	0	0	28	0	0
SITE WORKS	685	72	72	62	72	67	67	72	62	72	67
<i>totals</i>	4,327	1,439	506	239	116	219	916	272	300	126	194

periodic costs % of total 33.3% 11.7% 5.5% 2.7% 5.1% 21.2% 6.3% 6.9% 2.9% 4.5%

maximum periodic cost **1,439**

average periodic cost **433**

average annual cost **216**

cumulative costs **1,439 1,945 2,184 2,300 2,519 3,435 3,707 4,007 4,133 4,327**

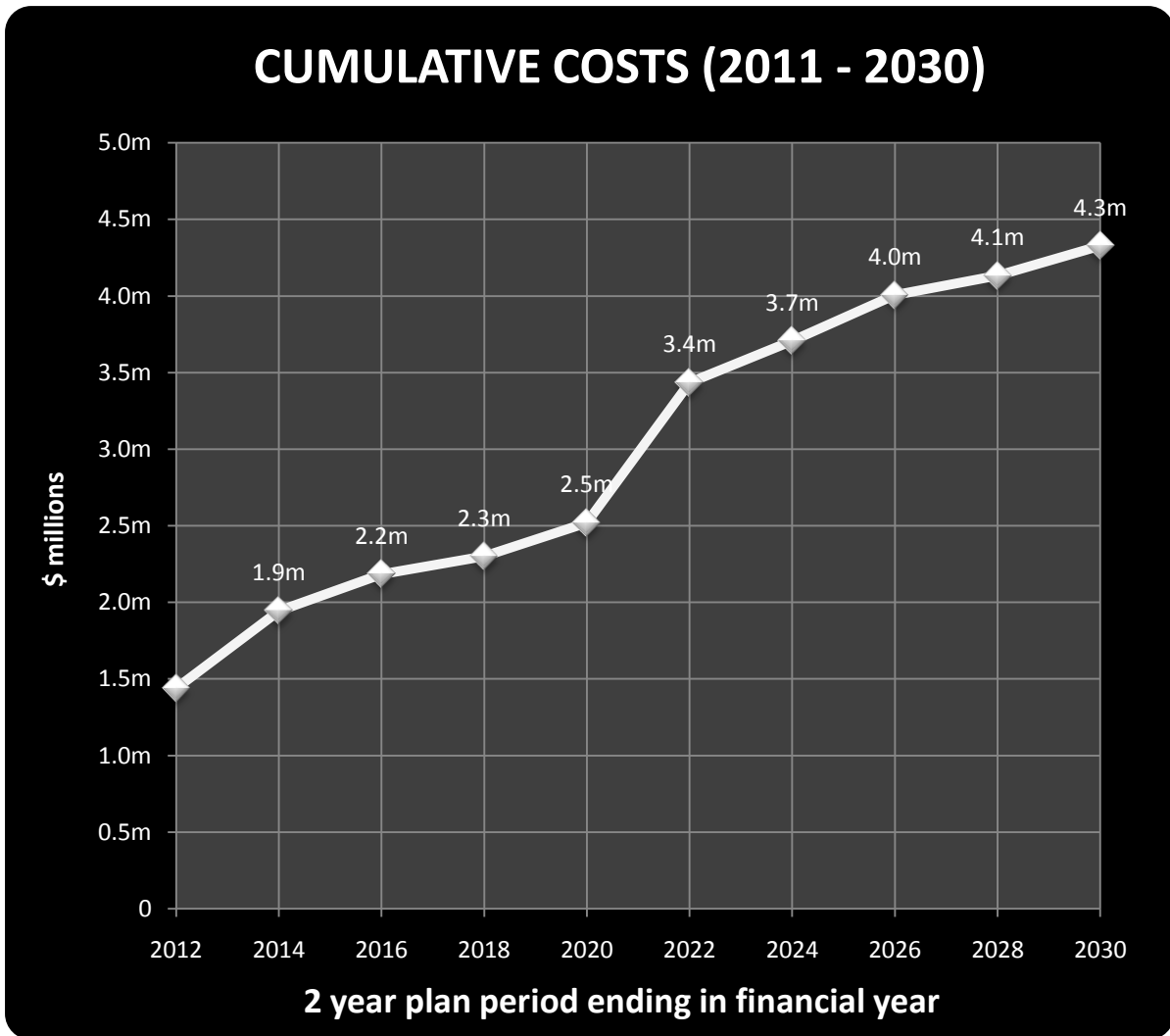


Figure 9.9: Accumulation of asset replacement costs during 20 year planning timeframe

This line chart shows the accumulation of costs over the 20 year planning timeframe.

The costs cover all elements of the building, services and siteworks. (Later charts indicate the separate contributions of elements over time and to the overall projected outcome.)

The line plot starts at the end of the first period reported. The costs shown there are for the first two years of the planning period. Costs for subsequent 2 year periods are indicated above the line at the end of each period.

The changing slope of line segments highlights variations in the projected expenditures. Steeper segments indicate periods projected to create greater funding demands.

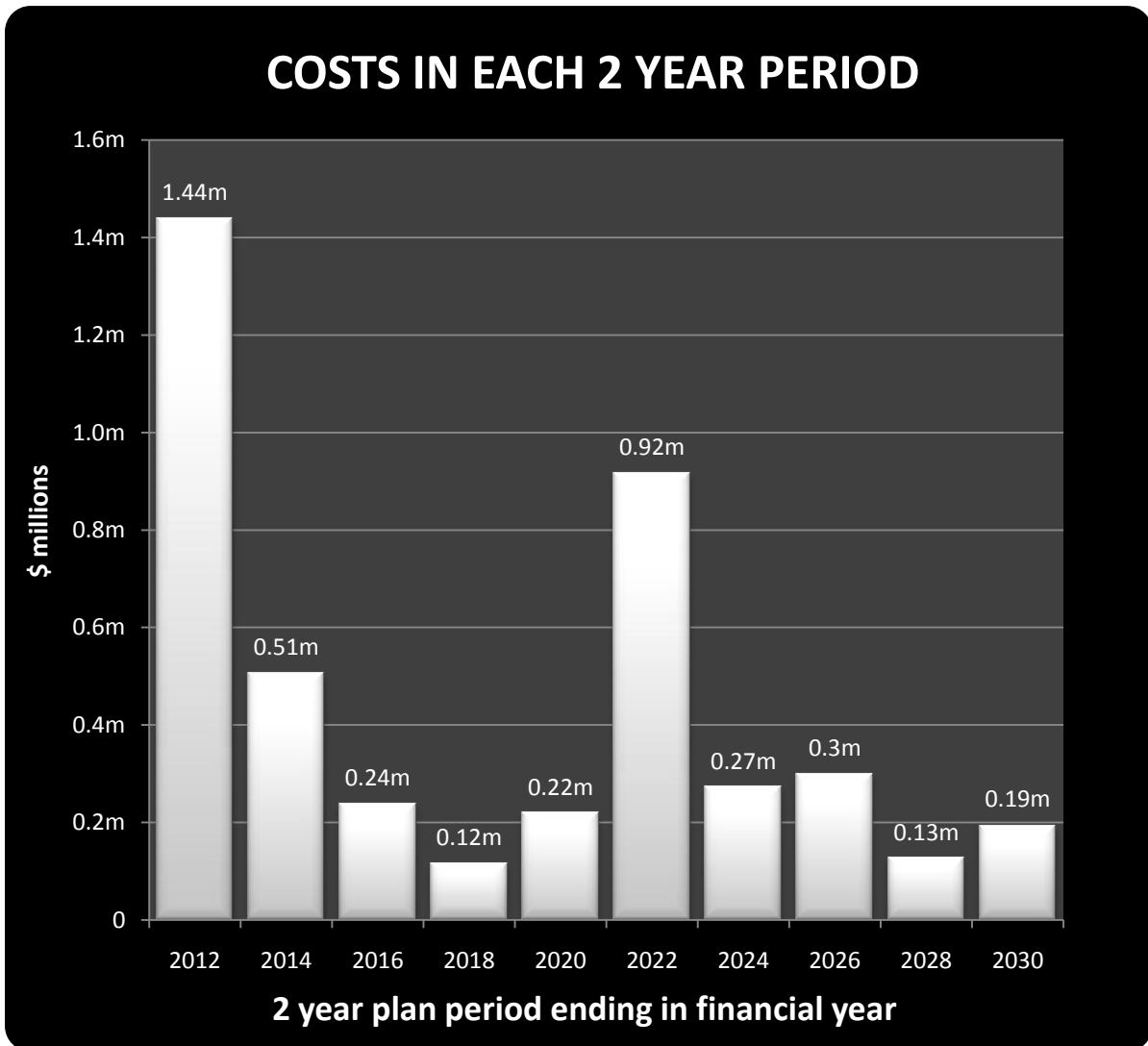


Figure 9.10: Costs (for all components) in each 2 year period of planning timeframe

The vertical bars in this chart show the projected asset replacement costs in each 2 year period over the 20 year planning timeframe.

As in the line chart above, the costs cover all elements of the building, services and siteworks.

The bars allow ready assessment of projected cost in absolute terms and the variations between periods. The plot highlights opportunities to spread expenditure by slipping or accelerating forecast works. The intention of the chart is to encourage active review of when works are programmed to occur. This will provide scope for matching work schedules to funding limits, although there will be practical constraints if assets are to be used to their potential.

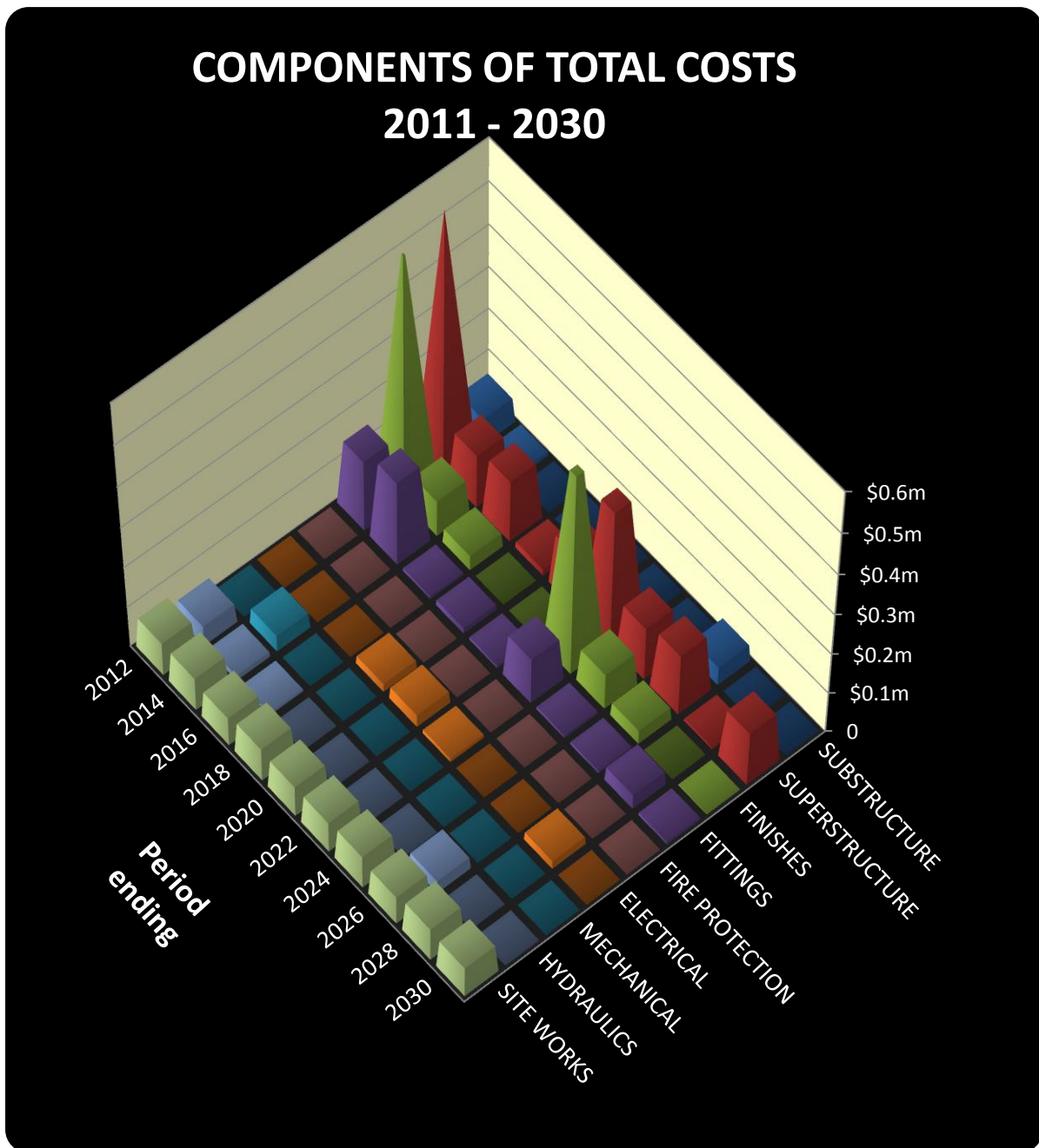


Figure 9.11: Costs in each 2 year period for each component (listed on right axis)

The pyramidal columns in this chart show periodic costs for each of the elemental components throughout the planning timeframe. The pyramidal forms allow comparison between elements across time periods or along the timeline of each element. Lower values appear as blunter peaks. Sharper spikes point to higher projected costs. The pyramid with no truncation at all is the single highest cost for any element in any 2 year period.

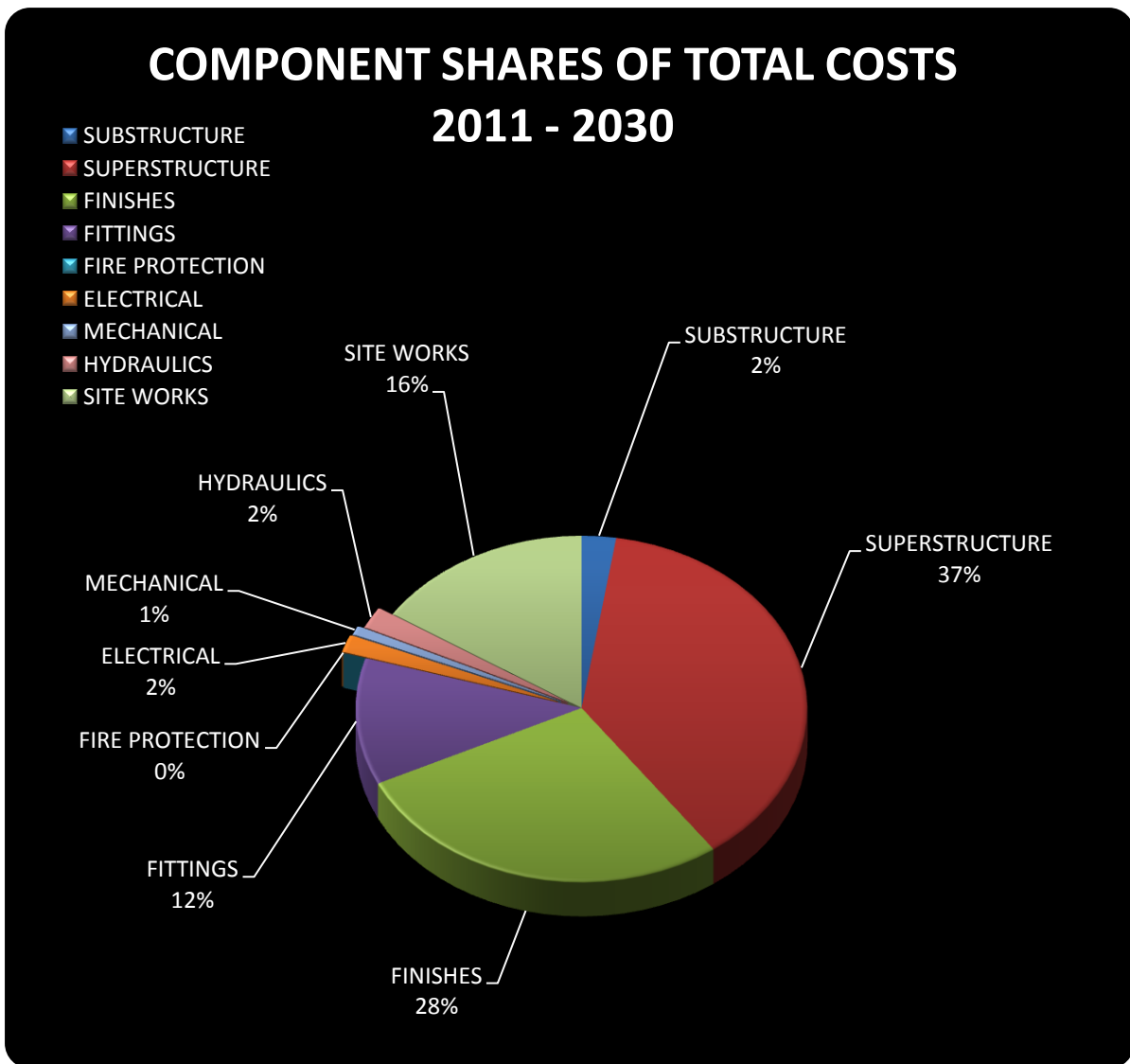


Figure 9.12: Component shares of asset replacement costs (percentages of 20 year total)

This pie chart shows total costs broken down into their principal elemental components.

The total comprises all lifecycle costs projected to fall within the 20 year asset planning timeframe. The components are the building , services and siteworks elements used as first level headings in the Works List of the Asset Management Plan (Appendix 1).

Services elements are distinguished from building and siteworks elements by slices pulled out from the pie. (Services elements are Fire Protection, Electrical, Mechanical and Hydraulics.)

Analysis & Recommendations

10.1 General

This asset planning report was originally developed in 2004 and has now been updated in 2010. The original report made recommendations for implementing the asset management plan. It also provided recommendations for improving the efficiency, safety and longevity the assets under assessment.

This updated report makes observations that flow from the five-year facility lifecycle under the original asset management plan. It updates the previous recommendations in the light of experience since the Corporation began assessing capital replacement requirements in a systematic way.

Since the original asset management plan was developed, there have been major changes to the Corporations portfolio that impact on the planning herein. These include:

- Construction of the new Library / Link Building;
- Downgrading and decommissioning of the Nolan Gallery due to the relocation of its collection into the Canberra Museum and Gallery.
- Development of conservation plans for the Historic Places.
- Reduction in the leased area and further development and functional changes in the North building.
- Significant remedial or development projects for individual facilities (eg the CTC Access Project enhancing normal and disabled access to the theatre complex).

10.2 Asset Management

Planning

Asset management planning uses the knowledge of building and service lifecycles to predict likely capital requirements to maintain assets as they age. The process segregates building components and attempts to predict future outcomes based on industry norms and professional judgement regarding durability, service conditions and risks of failure. The process involves uncertainty, but can be refined by routinely assessing the degradation of components and systems over time. The planning and management processes should be continued and developed over the life of the assets to fully realise the potential value of the process for management and decision making.

Ideally, the asset planning should be routinely reviewed and updated annually, or at least every two years. Well-structured reviews and updating will increase the relevance, refinement and accuracy of the planning. The current update to the plan is a major reassessment at the six-year interval. This provides an excellent opportunity to refine and retain the relevance of the planning. However, the process would also benefit from better recording of refurbishment issues, development work and costs using an additional, annual review process. To facilitate this, the current update plan has been prepared in a spreadsheet format that is amenable to routine amendment and updating. A simple annual review process would provide better data capture and

allow issues to be recorded when the associated information and intentions are most clearly understood.

Recommendations for continuing and developing the asset management process are outlined following:

- Routine reviews should retain a long-term perspective by projecting the 20-year planning window ahead with each review. In addition, the planning should aim for increased resolution and clarity for works planned in the 5-year period immediately ahead.
- Progressive works should be recorded systematically including technical details, costs, impacts and interfaces so that the planning process can maintain the historical threads into which future refurbishment or development works can be woven.
- Further engineering or architectural investigations or feasibility studies should be undertaken where the cost, extent or impacts of planned work are not easily defined. These studies should normally concentrate on work within the immediate 5-year timeframe.
- Management objectives should be reviewed along with the works. A change in business intentions could, in the extreme, require wholesale revision of an asset management plan.
- Better information for planning purposes will be gained progressively from observations, audits, works implementation and operational experience. It is important that this information is recorded and accessible for planning reviews. The information should be fed back into the planning to improve the quality and accuracy of assessments, predictions and estimates.
- The quality of asset planning is critically dependent on the quality of information and judgements based on the collected information. The planning and record keeping need to be systematic. For this reason it is desirable to establish some formal business structure and methodology for this purpose.
- Targeted inspections and physical testing will enhance the quality of life predictions. For example, pipe sections can be assessed for rate of corrosion to estimate lifespans of major reticulation systems with improved accuracy. Some refurbishment and maintenance activity will provide the opportunity to undertake physical testing without significantly increasing the cost or disruption to the Corporation.

Management

The value of the asset planning as a management tool is dependent on maintaining and progressively improving the relevance and accuracy of the planning. It should be understood that the asset management plan is only a plan. Experience over the last six years has confirmed that the environment in which decisions must be made will be dynamic, with changes in business environment, funding and asset status occurring continually. The planning needs to keep abreast of these changes. Ultimately, the quality of decision making will influence the lifecycle costs and the outcomes achievable with funds that are actually made available.

Data Maintenance

The data underlying this second iteration of the plan is available in electronic format. It has been compiled using spreadsheets for flexibility in analysis and presentation. This arrangement captures the elements essential for a continually updated plan. The electronic spreadsheet files have been provided to the Corporation to facilitate the revision and routine updating of the asset management plan.

Planning Enhancement

The updated planning, as recorded in this report, has been developed to be consistent with the recommendations under the 'Planning' section above. As expected, the recording of capital investment information has not been as systematic as envisaged in the original report recommendations. A major improvement to this aspect could significantly facilitate and enhance the planning process.

10.3 Facility Notional Values

Replacement Value for Each Portfolio

The total expenditures identified in the asset management plan for each portfolio may be better understood if they are compared with replacement values for the facilities to which they apply. A “replacement” value for the historic properties is, of course, entirely notional since these assets are defined by being “irreplaceable”. Nevertheless, even a theoretical figure can provide a useful basis to interpret the impact of asset replacement costs accumulating over time. Notional facility values are tabulated and illustrated following.

Facility	Gross Flr Area	Replacement Value	Comments
Canberra Theatre	4,275 m ²	\$50 million	<i>includes office/workshop accommodation</i>
The Playhouse	2,635 m ²	\$25 million	
Library / Link	2,500 m ²	\$18 million	
Leased premises fit-out	3,200 m ²	\$3 million	<i>includes CFC offices</i>
Former Nolan Gallery	320 m ²	\$1 million	
Historic Places	3,350 m ²	\$9 million	

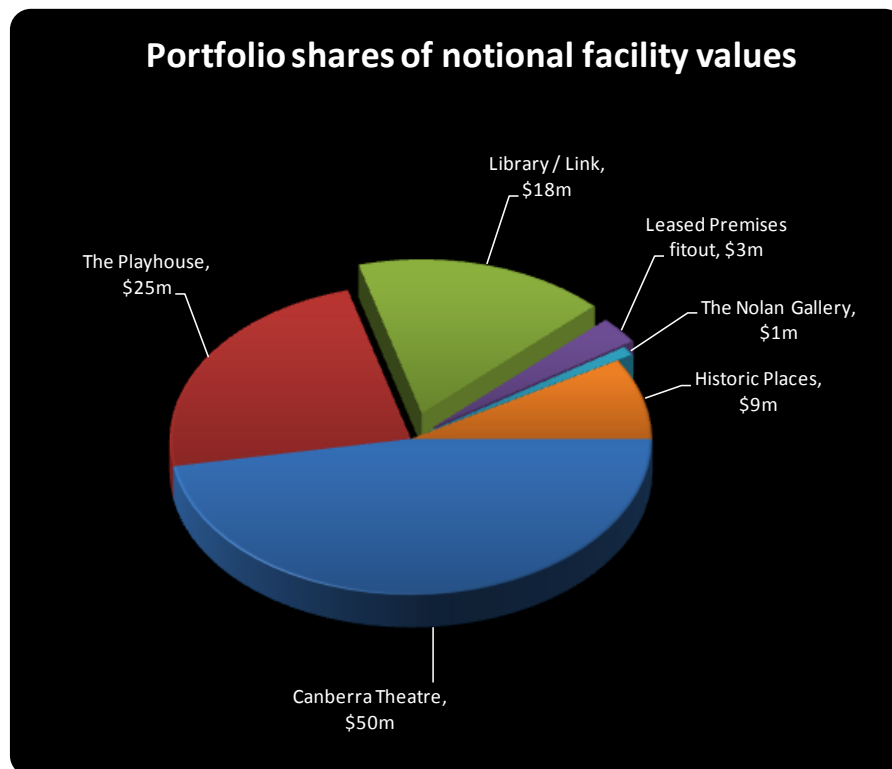


Figure 10.1 Notional replacement values for each portfolio

The notional replacement values shown for the theatres and galleries have been estimated from industry cost references on the basis of floor areas and unit rates for new construction of equivalent type. For the historic properties, new (high quality) residential and rural building rates have been adjusted by weighting factors that provide a basic allowance for the specialist traditional skills, effort in procuring materials and piecemeal construction likely to occur in the historic properties. Were a rigorous conservation approach applied, requiring the faithful reproduction of materials and techniques, greater loadings would be appropriate. No allowance has been made for the contents of any of the historic buildings since these are not covered by the plan but provision

has been made for specialist theatre and gallery equipment. The figures allow for basic siteworks such as parking, fencing and roads and include professional fees.

Fair Value for Corporation Assets

It should be noted that the Corporation reports the ‘Fair Value’ of its capital assets in its annual report. At 30 June 2009 the Corporation managed assets with a total fair value of \$48,818,919. The Corporation’s major assets and approximate fair values at that time were:

CFC Assets	Fair Value (\$)
Canberra Theatre Centre, and extensions at fair value	28,833,068
Land at fair value	9,250,000
Plant and Equipment at fair value	4,260,740
Historic Places and Nolan Gallery buildings at fair value	3,457,752
Art and Social History Collection	2,901,226
Capital Works in Progress	116,213

There is obviously a large disparity between the assessed replacement value and fair value of the Corporations assets. However, this is entirely normal and consistent with the definitions. Replacement value is the cost to replace an asset with an equivalent new facility. Fair value is a current market value for the existing asset.

Both value concepts have their uses. However, for asset management planning and for the Corporations current business model, the replacement value is likely to be more meaningful. Considering the Theatre, for example, the Corporation’s possible options are not to keep or sell the asset at fair value. The options are to have a high recurrent investment to maintain the viability of an aging asset or to lower recurrent costs via a large one-off investment in a new facility. For the latter options the replacement value of facilities is more meaningful in the context of decision making. Hence replacement costs are used to assess the notional value of facilities for this report.

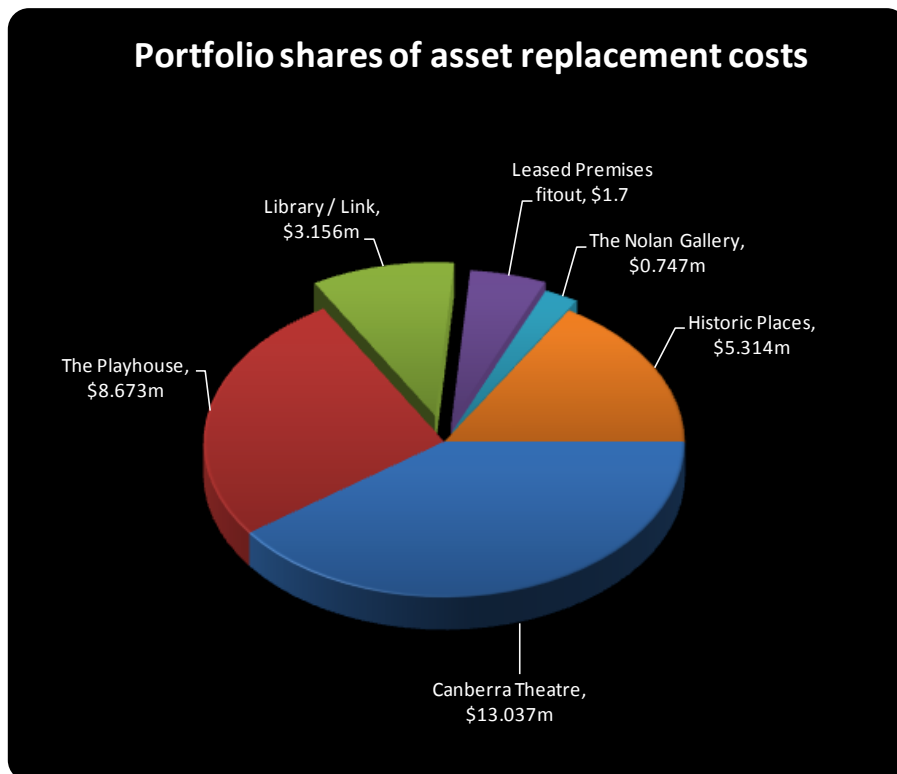


Figure 10.2. 20-year asset replacement costs predicted for each portfolio

Replacement Costs in Each Portfolio

Total asset replacement costs over the 20 year planning timeframe are illustrated in figure 9.2 above in the same form of pie chart form used for the notional values. Close examination will show that the CMAG and Historic Places portfolios account for a higher proportion of total asset replacement costs than they do of the total notional values.

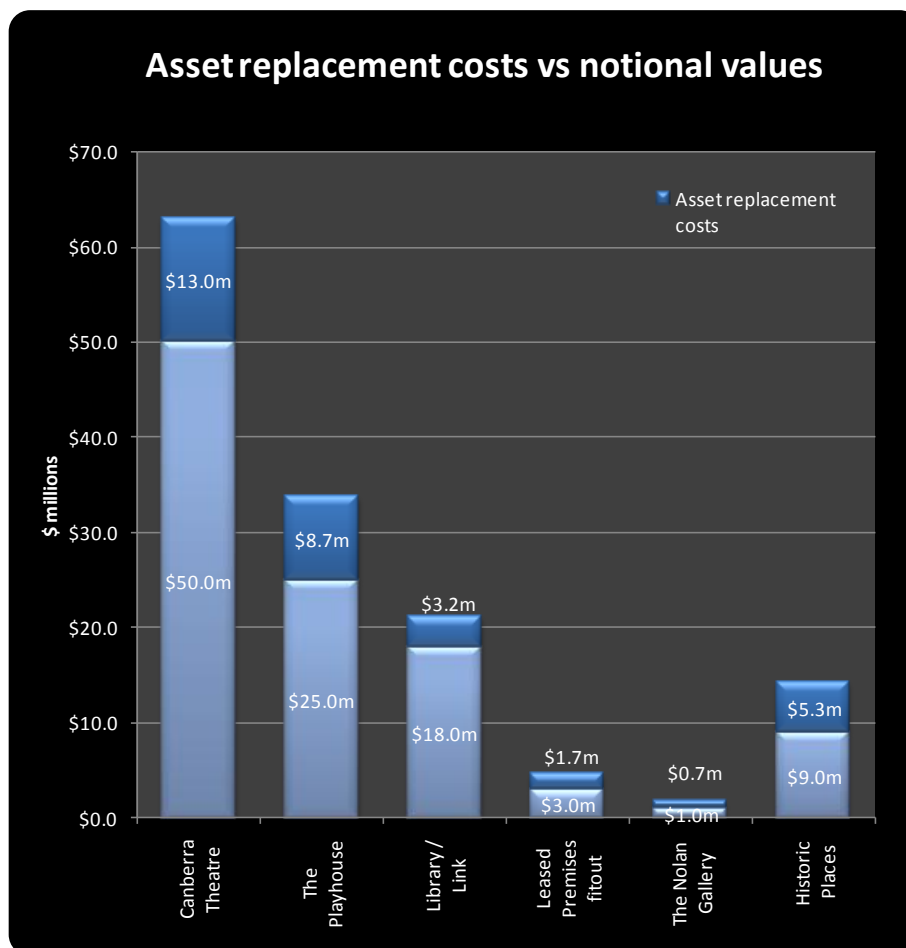


Figure 10.3 Replacement costs compared to notional values

Replacement Costs Compared to Notional Values

The bar chart figure 9.3 above shows total asset replacement costs (over the 20 year timeframe) stacked above the notional replacement values of the same facilities. In the case of the two theatre buildings, replacement costs are about one quarter of the notional values. For the other facilities the costs are proportionally higher, amounting to as much as 70% for the Nolan Gallery.

10.4 Total Portfolio Costs

Asset Replacement Costs 2011 - 2030

The table following provides a summary of the expected total 20-year asset replacement costs for the Corporation's entire portfolio. The costs are tabulated in the categories described in section 4.2 of this report. Overall the asset replacement costs over the assessment period are around 30% of the notional value of the Corporation's facilities.

CULTURAL FACILITIES CORPORATION OVERVIEW

Summary of component costs (Financial years 2011 - 2030 reported in 2 year periods)

(Costs are reported without GST)

COMPONENTS	COSTS \$,000s	for 2 year period ending in:									
		2012	2014	2016	2018	2020	2022	2024	2026	2028	2030
SUBSTRUCTURE	322	171	53	10	0	5	0	0	78	0	5
SUPERSTRUCTURE	4,960	1,413	552	440	238	309	523	301	629	167	388
FINISHES	4,935	1,082	321	541	299	186	960	350	312	473	411
FITTINGS	7,538	1,542	856	413	526	309	1,036	721	901	648	586
FIRE PROTECTION	1,276	84	47	56	344	285	68	14	274	90	14
ELECTRICAL	6,034	539	819	435	752	787	288	823	242	450	899
MECHANICAL	6,050	464	2,095	494	1,288	11	27	693	771	196	11
HYDRAULICS	630	117	15	161	10	70	87	12	56	32	70
SITE WORKS	858	144	72	81	72	86	87	72	86	72	86
<i>totals</i>	32,603	5,556	4,830	2,631	3,529	2,048	3,076	2,986	3,349	2,128	2,470

Lifecycle Investment 2005-2010

Appendix 3 provides a listing of the lifecycle works for the period 2005 – 2010. Items reported in the incomplete 2009 – 2010 financial year include works that are implemented and works proposed for the short term and likely flowing into future years.

The listing in Appendix 3 may not include all the asset replacement works undertaken in the period. The tabulation was developed from readily accessible information sources, primarily the Corporation's annual reports. Unfortunately it was not practical to assign costs to all listed items or compute the Corporation's total investment over the period.

The asset management planning would benefit from data collection that was more specifically targeted to this purpose. Recommendation for this are included in section 10.11 of this report. The unknown total for the Corporations asset replacement investment for the period makes it more difficult to assess the adequacy of that investment. However, in updating the planning, it has proved necessary to reschedule a portion of the asset replacement work that was not implemented in accordance with the original planning. This is not unusual or conclusive. However, it does suggest that the lifecycle investment in facilities may not be keeping pace with the accumulating liabilities caused by aging buildings.

10.5 Maintenance & Development

Large Scale Development

Buildings often have large-scale development over their lifecycle. For example, the Canberra Theatre had a major courtyard extension in 1982 and a new Library/Link development between the Theatre and Playhouse was completed in 2006. A major access upgrade was undertaken for the theatre complex in 2007.

With a structured asset management plan, it is often possible to use these developments to undertake desirable lifecycle work or remedial measures at a discounted cost because of the economies of scale. For example, the new Library/Link development provided opportunities to improve and integrate various systems (eg HVAC control systems, Security, Telephones) across the precinct.

Small Scale Development & Maintenance

Small-scale development and maintenance also have synergies with lifecycle measures. Small-scale developments and maintenance can offset some lifecycle measures. Intelligently targeted maintenance can be used as tool to extend system lifespans. The inspection and data collection regimes in routine maintenance can also provide useful data for asset management purposes.

The key factor is that none of these opportunities will be exploited unless there is system and personnel tasked to identify and promote these opportunities.

10.6 Theatre Improvements

Performance Safety Infrastructure

The commentary under this heading in section 10.7 for The Playhouse applies equally to the Theatre except that no further work is required on the Theatre to implement the recommendations of a report prepared by Colin Peet. Overall there has been a big improvement in the safety infrastructure for performances. However, this area needs regular review.

Services Potential

Of all the Corporation's assets, the Canberra Theatre will require the most refurbishment of services over the medium term. There is great potential to improve the Theatre by employing modern technology and design practices, in undertaking needed refurbishment work. The improvements recommended are listed under the sub-headings within this section.

Chiller Plant Rationalisation

At present the Theatre has two separate chiller plants. A small plant located in the courtyard extension serves this (minor) part of the building. A much larger plant, located in an external plant room serves the other (major) portion of the Theatre. Both plants have similar life expiry dates.

There are some operational advantages for the two separate plants because the courtyard extension and other theatre areas have divergent usage. However, even accounting for this factor, it is likely that a single rationalised chiller plant could achieve better energy efficiency and lower maintenance costs than separate plants, if it was appropriately designed.

The recommended approach would be to rationalise the chiller plants into a single plant as part of the life cycle refurbishment. The replacement plant should be designed to achieve a much high Coefficient of Performance (COP) than either existing plant. It should also be optimised for efficient light load operation.

While considering the chiller plant rationalisation for the Canberra Theatre, it should be noted that there are two other chiller plants in the theatre precinct. One plant serves The Playhouse and the other serves the new Library / Link building. These plants are less suitable for integration with the Theatre plant as they are more remote than the courtyard plant. The Library / Link plant also has a very different life expiry date from the Canberra Theatre plant. Nevertheless, it would be desirable to consider what opportunities for back-up or energy efficiency improvement might be achieved by plant rationalisation or interconnection across the precinct.

Heat Rejection Process

At present the Theatre's major chiller plant uses evaporative cooling for heat rejection. Evaporative cooling processes are much more energy efficient than dry heat rejection. However, evaporative condensers and cooling towers carry a risk to public health because of their potential to incubate the infectious, legionella bacterium. This risk is quite manageable by appropriate design, monitoring and water treatment so evaporative heat rejection may remain the best choice for energy efficiency reasons.

The evaporative condensers employed by the existing chiller plant are currently regarded as the style of evaporative equipment most prone to contamination by legionella. This is due to the small system water volume and consequent high surface area to water volume ratio (a known risk factor) in the heat exchanger. Cooling towers would be a better choice if water-cooling remain desirable. Alternatively heat exchangers such as the 'Muller 3C' range might be an appropriate compromise between efficiency improvement and lowering legionella risks. This equipment provides most of the efficiency advantage of evaporative cooling while virtually eliminating the risk of legionella incubation. Although it has a cost and space premium, it is recommended for consideration when the new chiller plant design is being assessed.

Preservation of Heat Transfer Services

The piped chilled water and heating water heat transfer systems will need consideration over the next five years as they approach 50 years service. It will be desirable to preserve these services and extend their life for as long as practical given the cost and potential disruption involved in their replacement. It may be practical to extend the life of these services beyond 60 years with a major saving in lifecycle costs. However, to manage the risks associated with this life extension it is recommended that,

- a) The service piping is inspected by removing and assessing pipe sections when the opportunity arises (eg when plant items are replaced or taken off line for particular reasons);
- b) The systems are kept leak free to avoid oxygenated make up water entering the piping and increasing rates of corrosion;
- c) Appropriate water treatment is provided and diligently maintained.

Switchboard Upgrading

The replacement of the building main switchboard and the original (1965) building distribution boards is likely to be necessary around 2015 after fifty years service. This replacement work will provide a unique opportunity to upgrade the power systems and bring them more in line with modern practice.

In particular, the provision of an essential supply for fire services (from the live side of the main switch) will be desirable, if this is practical. The overall segregation of power supplies should be reviewed as the replacement date approaches. It may be practical to improve segregation of stage and house supplies and to make other practical improvements to enhance the Theatre operation without significantly increasing switchboard replacement costs.

Consideration could be given to providing a portable generator interface at the main switchboard if it proves practical to support the essential functions of the Theatre in this manner. A further desirable improvement is enhanced energy sub-metering. This could be incorporated in the replacement switchboard at quite moderate cost.

Energy Efficiency Improvements

Part of the cost of needed refurbishment can be recouped, over time, by energy efficiency improvements. Chiller, boiler and lighting systems, in particular, have scope for significant energy efficiency gains if better equipment and design practices are employed when carrying out refurbishment work. A 25% or better energy efficiency gain in replacement of these systems is quite viable.

The incorporation of energy sub-metering on a replacement main switchboard could significantly improve energy management if the metering is monitored intelligently. Metering with pulse outputs could also be interfaced with the HVAC building automation system, thereby allowing access to metering data via the existing automation workstations.

Platform Lift Safety Assessment

From a superficial inspection, it appears that the Theatre's orchestra lift is single point critical, that is, a single failure such as a burst seal or hydraulic pipe failure could cause an uncontrolled decent of the platform. In general, lifts are designed with inherent characteristics or back-up systems to prevent uncontrolled decent.

It is possible that the hydraulic rams would prevent a rapid decent in the event of a failure or there may be other mitigating factors that provide acceptable lift safety. However, an expert safety assessment is recommended, if such an assessment has not already been carried out. There may be significant cost implications if the lift mechanism needs upgrading.

10.7 Playhouse Improvements

Performance Safety Infrastructure

The special needs of theatrical performance can require access arrangements that would be considered unsafe for use by other than trained and experienced personnel. Even so, the 2004 report recorded issues identified by management as unsatisfactory and under review for occupational health and safety. The 2004 plan included a provisional allowance for upgrading works pending completion of reviews. Since then, the recommendations of a report prepared by Colin Peet have largely been implemented. The two remaining items involve The Playhouse (safety railings at the base of auditorium balcony stairs and safety lines for access to balcony lighting positions). They are included in the 2009 / 10 capital works bids for The Playhouse and recorded in the asset plan for that facility. An additional item in the plan provides a contingency for any follow up needed to the 2008 upgrading of backstage access ladder safety. Overall there has been a big improvement in the safety infrastructure for performances. However, this area needs regular review.

Chiller & Boiler Efficiency Improvement

The recent energy efficiency audit has identified The Playhouse chiller and boiler plant as areas where significant energy efficiency improvements can be achieved. Both of these plants have disappointing performance, reliability and longevity. They are programmed for replacement within the short and medium terms, respectively. Their replacement provides a one-off opportunity for better equipment selection and better systems design and implementation. This opportunity needs to be fully exploited.

10.8 Life Extension

General

It has become clear over the initial six years of the asset management plan, that funding is likely to be less than necessary to fully implement the plan. One response to this situation, which may be unavoidable for the Corporation, is to extend the life of assets beyond their notional expectations. This has already occurred in many areas of the portfolio.

Life extension can be a very viable strategy for reducing life cycle costs where systems lend themselves to this strategy. Robust equipment and systems are frequently suitable for this management strategy. Less robust systems and systems or equipment subject to rapid technological development and obsolescence are generally poorer candidates for this strategy.

Where heritage assets are involved, life extension is the key strategy, regardless of inherent suitability. It is also likely that life extension will be an enforced strategy in many situations, due to limitations on funding, or to physical limitations or constraints on business disruption.

General Measures

It is difficult to generalise on methods for life enhancement, as these will vary significantly with the circumstances, the applicable systems and the vulnerability encountered in particular circumstances. Measures which can contribute to life-extension, in some circumstances, include,

- Procurement of robust systems and equipment;
- Preserving commonality across systems where practical;
- Procuring systems and equipment with stable manufacture and good local support;
- Cleaning and corrosion protection;
- Improved lubrication;
- Increased servicing;
- Rationalised usage;
- Selective refurbishment or component replacement;
- Stocking critical spares;
- Monitoring and early intervention against degradation.

Corrosion Control

Corrosion control is particularly important for extending the life of equipment exposed to weather and water handling services. The reticulated heat transfer services deserve special attention, because these services are very expensive and disruptive to replace. Normally these services are constructed in black steel piping and have a life from 40 – 60 years. The life is mostly determined by the internal rate of corrosion in the pipework.

The rate of corrosion in steel pipework can be reduced significantly by:

- excluding dissolved oxygen (ie minimising leakage and disturbance to closed systems); and
- providing and maintaining suitable water treatment.

It is desirable to monitor the rate of corrosion in major service piping by carefully examining and recording the condition of any pipework dismantled or removed during minor modifications. Attention to all the above measures can substantially increase the life of the heat transfer services and postpone very expensive refurbishment work.

Inspection & Monitoring

The inspection and monitoring component of routine maintenance can provide a very valuable input for asset planning, if the information is systematically collected, categorised and recorded in an accessible form. Unfortunately most maintenance record keeping is very limited. Even when there is good record keeping, it is usually based around service operations and work orders. These are generally only marginally useful for lifecycle planning. For lifecycle planning, the inspections need to provide condition reports, lifecycle assessments and recommendations for any action to achieve target lifespans. Service reports are quite commonly received from service operations, but the information is frequently discarded or buried in record files. The extra inspection and monitoring to provide information that is useful for lifecycle planning only marginally extends service operations and is not a major additional cost.

Maintenance inspections provide an opportunity to build up a database of lifecycle information resolved down to the component level. This is ideal for decision-making purposes and as a supplement to the high level asset management planning initiated in this report. However, this process needs to be undertaken deliberately and with commitment by service providers. The information will not flow through from a standard maintenance regime.

When it comes to recording and accessing lifecycle information, computerised maintenance management systems can be very useful as they provide excellent database and report structures. However, other record keeping tools such as office databases and spreadsheets can be used successfully. The most important factor is to develop a process and maintenance culture to provide and use the information in a rational manner.

Monitoring Major Air Handlers

The original air handlers in the Theatre remain in service after 40 years. This is exceptional. However, the air handlers are so robustly constructed, it is quite feasible to extend their life to sixty years and beyond. The life extension is highly desirable, because the air handlers are integrated with the building structure and would be very difficult and disruptive to replace. It follows that a major failure in the air handlers would also be highly disruptive having the capacity to put the Theatre out of service for at least a month and, possibly, longer.

The air handlers should be retained in service. However, they should have additional monitoring and servicing to minimise any risk of failure and correct any wear or degradation that might compromise the desired life extension.

The air handlers received some upgrading in 1994. Unfortunately, there is no accessible record of what work was undertaken. From inspection, it seems likely that the cooling coils were replaced. It appears from record drawings that the overhaul of motors and drives was intended. However, it is unlikely that any such work was actually carried out. On this basis there are a number of measures that should be considered, as follows:

- a) The fans would benefit from cleaning, descaling and repainting, particularly for the impellers. An inorganic zinc silicate or epoxy coating would be desirable. Electrostatic deposition may allow the items to be coated without disassembly. The impellers may also require rebalancing after treatment;
- b) It would be desirable to examine the fan shafts for cracking at this time to ensure a fatigue failure is not progressing;
- c) The fan motors could be readily replaced by off the shelf components. However, the gearboxes and bearings are not likely to be easily replaced or serviced. An engineering assessment of these components is desirable to determine the extent of wear, whether they need overhauling and how this would be accomplished. At the risk of pre-judging such an assessment, it appears desirable to procure critical spares such as gearbox and bearings to ensure that fan drives could be repaired at short notice in event of a fault or failure.
- d) Some pro-active monitoring of the fans is desirable. One possibility would be to take vibration signatures annually or bi-annually to warn of any impending failure. Another simpler measure would be to fit temperature sensors to main bearings and gearboxes and monitor and alarm via the existing HVAC building automation system.

Essentially these items are capable of quite amazing longevity. However, they need cossetting to ensure that the extra life is not achieved by living with a higher risk of a very disruptive failure. For asset management purposes, allowance for the recommended assessments and probable overhauls and spares procurement are incorporated in the Theatre plan.

Some air handler modifications have been recommended by as part of the Pace-BS Pty Ltd energy efficiency assessment. It would be desirable if the measures above could be considered in conjunction with the implementation of energy efficiency recommendations.

10.9 Controls & Building Automation

Commonality

As recommended in the 2004 asset management report, the building automation systems have been developed for commonality and interoperability across the CTC precinct. This is a significant achievement in the context of maximising the life of this now integrated system.

Development

The Siemens control and automation systems have a number of advantages that may soften the impact of rapid technical obsolescence typically experienced with these systems. In particular,

- The systems are supported by a major multinational manufacturer and should have stable support and assured development into the future;
- The manufacturer of this system has a good record of preserving backward compatibility in the controls / automation product line;
- The system is one of the better-supported systems in the local (ACT) market.

There will be further development of HVAC controls and automation products over the remaining life of The Playhouse, Theatre and Library / Link. In other facilities, this has led to rapid obsolescence and, frequently, lack of support for older systems. In addition, many product lines have been discontinued after amalgamations and takeovers between manufacturers.

Most of the manufacturers of these systems are now migrating into 'open systems' and the pace of development is unlikely to slow. However, ongoing investment in the existing system is warranted because the system should have better than normal life. In addition, there are good prospects that the Siemens product line will have a reasonably smooth upgrade path when refurbishment falls due.

There are good prospects for maximising the life of the existing HVAC control systems and this strategy will lower lifecycle costs significantly.

10.10 Conservation of Historic Places

Conservation Planning

The conservation plans available in 2004, were largely statements of principles, which stopped short of providing concrete proposals for dealing with identified or predicted conservation issues. This would not matter if conventional construction techniques were intended in response but the reasons for undertaking a painstaking assessment run counter to such an approach. Further analysis and decision making, informed by appreciation of conservation priorities, was needed in order to formulate specific actions for the asset plan.

This was achieved in 2007 when the condition audits, using standardised assessment criteria and similar reporting formats, were completed. Identified issues were matched with suitable responses and assigned priority rankings. Further effort within Historic Places has consolidated the recommendations into work plans with indicative budgets covering the years from 2008 to 2011. Works not so far completed appear in the early years of the 2010 asset plan and others are listed as recurrent works during the planning timeframe. The availability of such information for 2010 has considerably assisted the review of the asset plan and the projection of longer term needs.

It will also be beneficial to continue systematic condition monitoring for the historic buildings and their contents. Knowing how original construction and materials have changed over time increases the possibility of extending their lifetimes. Having early warning of anticipated works will allow development of considered responses that fully conform to the preferred conservation principles.

The approach that was suggested in 2004 involved routine (eg annual) inspection and reporting by a qualified in-house or contracted professional, preferably through an ongoing relationship to maximise familiarity with the buildings. Such an approach remains sensible for these assets and continues to be recommended.

Execution of conservation works

For works that affect elements of high conservation significance, it would be advantageous to have on-call tradespeople known to have sympathetic construction skills. There is considerable potential for unforeseen conditions to emerge as existing construction is exposed during the course of works and normal specification and tendering arrangements pose particular challenges for this portfolio.

Structural Works

In 2004 the historic buildings had considerable cracking as might be expected, given their age. The structures were then visually inspected by structural engineers, Rogers + Jefferis. The inspections were undertaken to identify any structural work needed, on the balance of probabilities, over the assessment timeframe.

As part of this update, a further structural inspection, covering essentially the same assets, was carried out by Northrop Engineers. This report has confirmed that most of the structural issues and cracking observed in 2004 has been remediated in the intervening six years. An updated summary inspection report is included in Appendix 2.

In general, the cracking appears to have little structural significance in any of the historic building. The structural engineer recommends monitoring and recording some of the cracking at five-year intervals. It would be desirable to maintain a complete photographic record of cracking in order to allow comparisons and detect any large changes that might be cause for concern. In addition, where the cracking begins to compromise weather protection this should be corrected as soon as observed.

The updated structural inspections have revealed two significant items of remedial work required as follows:

Lanyon – Meat House / Site Office	The northern wall should be underpinned and the cracks repaired – as has been done in the kitchen and the coach house. Note that this building was flagged, in 2004, as needing further inspection. The structural displacement has obviously progressed over the intervening years to the point where remediation is needed.
Mugga Mugga Homestead	The external timber framed structures at this site do not have capacity to resist potential wind loads. If the external structures are retained, they should be repaired and fixed securely to resist the wind loads specified in Australian Standards.

Fire Protection

Lanyon Homestead is well protected against fire as it is fitted with an automatic fire sprinkler system. Both Calthorpes’ House and Mugga Mugga appear to be vulnerable to bushfire and vandalism. At Mugga Mugga the capacity to fight a fire has recently been substantially upgraded, but there is no automatic fire detection or protection. Calthorpes’ House has no automatic fire detection or protection, though it has a reliable town water supply for fire fighting.

Calthorpes’ House could be readily fitted with a fire sprinkler system or a fire alarm system as it has a readily accessible ceiling space. A sprinkler system offers a much higher standard of protection than a fire alarm system. However, it is understood that a detection system is currently preferred because of its lower impact on the heritage aspect of the premises.

By using concealed sprinkler heads of the type used at Lanyon, the visual impact of a fire sprinkler system could be minimised. The system does not need to be developed as a commercial standard fire sprinkler service, as has been provided at Lanyon. Lanyon has a major sprinkler valve assembly, water storage and fire pumps. This arrangement is high cost and difficult to incorporate in a sensitive way at Calthorpes' House. However, there is now a well developed technology and Australian Standard (AS 2118.4-1995) for residential fire sprinkler systems. This approach would provide a moderate cost solution for protecting Calthorpes' House. A fire sprinkler system can be considered as an alternative to the currently favoured fire detection system when the means to upgrade the fire protection for Calthorpes' house become available.

The heritage buildings at Mugga Mugga do not lend themselves to fire protection in the same way as Calthorpes' House. Recently a major investment has upgraded the fire fighting capability at the site by provision of a large water storage with hydrants and hoses. However, some automatic fire detection or protection is still desirable for this site. One possible approach might be to provide pumped sprayers over the roofs from the existing storage tank. This could provide basic protection from bushfires at moderate cost. There are other possibilities, including a standard fire detection system. However, an engineering assessment would be the best way to identify the optimum approach.

Fire protection is one of the most basic conservation measures and a high priority for heritage residences. This was reflected by the provisions in the 2004 asset management plan. The improvement of fire protection for the Calthorpes' and Mugga residences remains highly desirable in the short term. For planning purposes, allowance for measures as described above are included in the period 2010-2012.

10.11 Record Keeping & Documentation

Record Keeping

The Corporation's record keeping for its assets is probably no worse than most organisations. This task has been complicated by the history of older assets. They have passed from Commonwealth to ACT Government and through various agencies. Various procurement and project management regimes and agency reorganisations have also diffused responsibility for records. Fortunately, Corporation staff have made an attempt to keep many useful records so there is a core of material available. However, overall, the asset record keeping remains marginally adequate to support an efficient asset planning and management process. It is probably the one aspect of the Corporation's asset management planning that has only marginally improved since 2004.

Drawings & Manuals

The Corporation does not have a completely reliable set of drawings for the Canberra Theatre. It has many old drawings that are highly valuable as they could provide a basic record of this asset given quite significant research through the old folios. However, the old drawings are in poor condition and in need of conservation and digitisation. The 2004 report suggested that consulting engineers Gutteridge Haskins & Davey were likely to have some Canberra Theatre drawings acquired when they purchased Commonwealth drawing records along with Works Australia in 1996. The Corporation has since acquired digitised Theatre drawings from this source.

The Corporation holds a complete set of pdf final issue drawing files for the 2008 CTC Access Upgrade Project.

The Corporation has a near complete set of drawings of The Playhouse on microfilm. It also has a number of paper drawings relating to this asset. There are no drawings of HVAC services for The Playhouse and procuring these may be problematic. When the original consulting engineer was approached about these drawings in 2004, they advised that even their own records were missing.

Drawings for the fit-out to the North building were held by Totalcare Industries and may have been transferred elsewhere with the dismantling of its business units. Based on past experience, these drawings were likely lost in the reorganisation of this agency. However, as TAMS carry the major responsibility for this asset, the drawings are of lesser importance to CFC.

The documentation held by the Corporations for the Library / Link development is sub-standard for such a recent development. Basic operation and maintenance manuals are held, generally, in hardcopy format. The Corporation holds hardcopy drawings for architectural, mechanical, hydraulics and fire protection works and the stainless steel work in the bar kitchen. They are not labelled "As Built" or "As Installed" and appear unlikely to warrant that status. The Corporation has CAD and pdf drawing files for mechanical and electrical services. No structural drawings in either electronic or hard copy format are held. For such a recent development, the Corporation should hold all drawings to 'As Installed' status in pdf and CAD drawing file formats.

The historic premises lack any coherent set of drawings, although there is significant information dispersed through various reports and conservation documents. Many documents have misleading or inaccurate drawings.

Only the Playhouse and Library / Link have a near adequate set of operation and maintenance manuals.

Conservation Documents

There appears to be a reasonable resource of conservation documents, though they may not be readily accessible. Understandably, these have not been developed through any consistent process so they require detective work to extract particular information of interest.

The photographic record compiled during the 2007 condition audits is helpful for the local view but records seem to be patchy for the wider view needed to assess, for example, the extent of fencing and roadways at the Lanyon Estate.

Recommendations

The limitations in record keeping and documentation will detract from efficient asset management planning and project design. Improvements are highly desirable. Measures to improve this situation should include:

- a) Physically conserving and archiving all existing drawings;
- b) Expanding records by hunting down missing or supplementary drawings and documentation;
- c) Digitising all primary drawings and microfilms so that electronic copies are available for issue to third parties;
- d) Developing a basic set of accurate CAD drawings for the major assets;
- e) Scanning and digitising key reports, particularly those that will need to be issued to third parties.
- f) Cataloguing all the documentation into a readily accessible database.

It would be desirable to obtain a complete set of North building fit-out drawings from TAMS, if this is still possible. Information available in 2004 was at the sketch plan level. It is also desirable to collate and rationalise the record drawings for the Canberra Theatre and The Playhouse and procure missing drawings where this is possible.

Architects, May-Flannery, produced a reasonable set of CAD drawings for the Canberra Theatre precinct, as part of the option studies for the new Library/Link building. The Corporation should obtain copies of these CAD files if they are still available. The Corporation should also insist on electronic copies of reports and record drawings for all future works of significant magnitude.

There has been some improvement in the storage and cataloguing of asset records since 2004. However, the Corporation relies on the knowledge of staff to access records, reports and historical information useful for future decision making. There has already been some loss of corporate memory, as personnel have left the organisation. This cannot be completely eliminated. However, the objective will be to move to more comprehensive and systematic record keeping, to support the asset management process.

The emphasis should be on making all key information available in catalogued, electronic form so that it is readily accessible. There will be many smaller investigations and design tasks that cannot accommodate the overhead of searching through poorly accessible records. In the past this has led to some repetition of previous work or a failure to build on prior knowledge. With some basic efforts, much better support for efficient asset management is achievable. Ideally the records system should pick up the data for refurbishment and other capital works covered by the following clause.

Recording Refurbishment & Other Capital Works

The Corporation does not appear to have a very efficient system of recording refurbishment and other capital works to make them readily accessible for asset management purposes. All the data is no doubt held by the Corporation. However, it needs to be in a suitable and readily accessible form for asset management purposes. At present the most accessible current data source is the Corporations annual reports. However, information from this source is in summary form and costs are not accurately delineated.

Ideally, to facilitate asset management planning, the Corporation should develop a process where information on all development, refurbishment, replacement and remediation projects is collated and recorded centrally or in portfolio areas in a readily accessible form. The typical detailed information should cover project scope, reasons for project, timing and well delineated cost.

10.12 General Conclusions:

Status of Facilities

Currently all of the Corporation's facilities appear to in better shape than they were in 2004. The improvements are significant and very creditable. It appears that the current asset management is effective and that a rational system of asset management planning has been absorbed into the Corporation's culture. Hopefully, the formal asset management planning undertaken in 2004 has contributed to this result.

Lifecycle Investment

In spite of the visible improvements to all facilities, there is evidence suggesting that current lifecycle investment is not keeping pace with the accumulation of risks in some of the aging systems and components in the facilities. The probable exception to this observation is the Historic Places portfolio where some special funding has been received and lifecycle investment appears to have largely kept pace with deterioration, and is likely ahead of the curve.

In the next five years there are major systems requiring replacement or refurbishment and significant capital expenditure is needed to lower the risk of failures that could significantly impact business operations and service delivery.

Priority Refurbishment

The following replacement or refurbishment items are considered a high priority for delivery over the next five years in accordance with the scheduling in the updated asset management plan. In other words, funding the following items so that they can be implemented largely on schedule (not necessarily immediately) is a priority.

- a) Scheduled external painting and surface treatment such as cleaning (one of the most cost effective measures for arresting deterioration, as well as improving the presentation of facilities);
- b) Replacement of The Playhouse chiller plant (Refer section 6.4 - this plant has a single chiller of declining reliability providing virtually all the space cooling in the facility);
- c) Replacement of the Canberra Theatre chiller plant (Refer section 5.4);
- d) Replacement of the aging Rank / Strand light dimmers in the Canberra Theatre (Refer section 5.5);
- e) Total or selective refurbishment of the aging lighting in the Canberra Theatre (Refer section 5.5 – works should incorporate a technology upgrade);
- f) Remedial measures proposed by the Sellick Consultants *Water Ingress Investigation*;
- g) Underpinning of the north wall at the Lanyon Meat House/Site Office (Refer Appendix 2);
- h) Remaining priority works from the Corporations four-year conservation work plan (Refer section 9.2);
- i) Stormwater drainage improvements and remediation of timber decay at the former Nolan Gallery (assuming the facility has ongoing value to the Corporation);
- j) Provision of automatic fire detection or protection at Calthorpes' House and Mugga Mugga (subject to the currently planned assessment of risks and appropriate solutions).

Note that the priority for the above items is primarily risk related. However, some of the priority works offer other synergistic benefits in improved energy efficiency, system rationalisation or performance improvement. In addition to the listed items above, a case can be made for prioritising the replacement of boiler plants at The Playhouse and Canberra Theatre. However, this priority would depend on further assessment of the associated potential for energy savings with improved equipment and systems design.

A further, high-cost item that needs to be considered in the context of priority work is the replacement of seating for The Playhouse and Theatre. This will fall due in the next five-year period. However, the funding priority will depend on the Corporation's judgement of amenity and marketability issues.

The Corporation will likely have other priority development items to improve amenities or service delivery or exploit other cultural opportunities available to it. There may, therefore, be considerable competition for scarce capital funding.

Appendix 1: Asset Management Plan

Replacement Works, Lifecycles and Costs

The following eight tables list all items of asset replacement work considered in cost projections and show how they are distributed over the planning period. Separate tables are provided for the separate facilities within each portfolio. These tables are the source data for the 5 and 20 year summaries in Part 5 – 9 of the report.

The original (2004) asset management plan covered the period 2005 – 2024. With this update, the period covered is 2011 – 2030. The original planning envisaged that reviews would project the 20 year planning window ahead with each update. This approach has been followed with the current update.

Tabulated Data

Headings on the left of each table highlight the designated cost sources and the building elements in them. Each item in the description column has an identification number for reference purposes.

The five columns following the descriptions set lifecycles (next two columns) and costs (next three columns). Items with a one time cost (such as BCA compliance works) have a figure only in the *First Occurrence* column. Other works recur at the intervals shown in the *Lifespan or Frequency* column. The *Net Trade Value* indicates the cost of completing one cycle of the work, excluding management and design fees, which are allowed for by the percentage figures in *On-Cost %*. The overall cost for each item is shown without GST added.

The GST exclusive figure is used in distributing costs over the overall planning timeframe. These periodic costs (in \$,000s) appear in the ten columns with headings that indicate the final year of the two year periods reported. The year headings refer to financial years (so that first two-year period reported ends at June 30, 2012). Costs over the 20 years of the plan are totalled in the last column.

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUBSTRUCTURE																		
Substructure	1	Rectify stormwater ingress at Knowles Place entry doors to Courtyard/Administration foyer (Sellick Roof Assessment Report - H4). Timing to depend on Knowles Place works program.		2013	17,000	25	22,000	.	22	.	.	.	.	.	.	.	22,000
	2	Rectify stormwater ingress at internal courtyard entry door to foyer (Sellick Roof Assessment Report - H3).		2011	17,000	25	22,000	22	.	.	.	.	.	.	.	.	22,000
	3	Rectify stormwater pooling at south side doors to Courtyard Studio (Sellick Roof Assessment Report - H7).		2011	13,000	25	17,000	17	.	.	.	.	.	.	.	.	17,000
	4	Upgrade paving, entrance steps and handrails at the Vice Regal entrance to the Theatre. Timing to depend on Knowles Place works program.	35	2013	17,000	25	22,000	.	22	.	.	.	.	.	.	.	22,000
	5	Install grated trenches at high points of steps and ramp adjoining set down to Theatre entry doors on western side (Sellick Roof Assessment Report - part of H6).		2011	13,000	25	17,000	17	.	.	.	.	.	.	.	.	17,000
SUPERSTRUCTURE																		
Staircases	6	Replace existing handrail in Theatre western dressing room staircase to duplicate rail in eastern stairwell	35	2013	8,000	25	10,000	.	10	.	.	.	.	.	.	.	10,000
	7	Provide additional handrail to outside walls of both Theatre dressing room staircases. (Deleted from Access package as not mandatory.)	35	2013	5,000	25	7,000	.	7	.	.	.	.	.	.	.	7,000
	8	Install compliant handrails to Stairs at Doors 2 & 5 (DDA requirements)	35	2012	5,000	25	7,000	7	.	.	.	.	.	.	.	.	7,000
	9	Install tactile indicators and nosings to Stairs at Doors 3 & 4 (DDA requirements)	15	2012	4,000	25	5,000	5	.	.	.	.	.	5	.	.	10,000
	10	Replace existing tactile indicators and nosings to Stairs at Doors 2 & 5 (DDA requirements)	15	2012	2,000	25	3,000	3	.	.	.	.	.	3	.	.	6,000
	11	Install nosings to Stairs at Doors 2 & 5 (DDA requirements)	15	2012	2,000	25	3,000	3	.	.	.	.	.	3	.	.	6,000
Roof	12	Replace roof cladding (including cappings, flashings and insulation) to Administration/Workshop block	30	2017	77,000	18	91,000	.	.	.	91	.	.	.	.	.	91,000
	13	Replace eaves gutter and downpipes to Administration/Workshop block (originally copper)	30	2017	14,000	25	18,000	.	.	.	18	.	.	.	.	.	18,000
	14	Install overflows to box gutters in Administration/Theatre roofs (Sellick Roof Assessment Report - H2).	30	2012	4,000	25	5,000	5	.	.	.	.	.	.	.	.	5,000
	15	Install hail guards to box gutter outlets in Administration/Theatre roofs (Sellick Roof Assessment Report - H1).	30	2012	6,000	25	8,000	8	.	.	.	.	.	.	.	.	8,000
	16	Replace roof cladding (including cappings, flashings and insulation) to Theatre (precoated steel)	30	2026	252,000	18	298,000	.	.	.	.	.	298	.	.	.	298,000
	17	Replace eaves gutter and downpipes to Theatre (precoated steel)	30	2031	19,000	25	24,000	.	.	.	.	.	.	.	.	.	0
	18	Repaint housings and cowlings to Theatre rooftop smoke vents and exhaust outlets	10	2017	2,000	18	3,000	.	.	.	3	.	.	.	3	.	6,000	
	19	Modify housing for rooftop hot water units		2011	4,000	25	5,000	5	.	.	.	.	.	.	.	.	5,000
	20	Install canopy over stage loading area for weather protection	35	2014	120,000	25	150,000	.	150	.	.	.	.	.	.	.	150,000
	21	Install canopy over western entry doors to Theatre (Sellick Roof Assessment Report - part of H6).	35	2011	40,000	25	50,000	50	.	.	.	.	.	.	.	.	50,000
	22	Replace roof canopy (including fascias and soffit linings) to Theatre Vice Regal entry. Timing depends on Knowles Place works program.	35	2013	48,000	25	60,000	.	60	.	.	.	.	.	.	.	60,000
	23	Replace roof canopy (including fascias and soffit linings) to Administration entry from Knowles Place - Original widened in 2007 Access works	35	2042	48,000	25	60,000	.	.	.	.	.	.	.	.	.	0
	24	Replace wearing components to rooftop safety system - progressive	5	2015	3,000	18	4,000	.	.	4	.	4	.	4	.	4	16,000	
	25	Replace motorised banner handling system (north face of Fly Tower) - originally installed in 2009	20	2029	80,000	18	95,000	.	.	.	.	.	.	.	.	95	95,000
	26	Modify travel of motorised banner handling system installed in 2009 (north face of Fly Tower)		2011	20,000	25	25,000	25	.	.	.	.	.	.	.	.	25,000
	27	Refurbish chain drive for motorised banner handling system at mid life	10	2019	10,000	18	12,000	.	.	.	.	12	.	.	.	12	24,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
External walls	28	Replace existing rooftop plantroom inlet louvres with weatherproof types (Sellick Roof Assessment Report - H8).	35	2012	18,000	18	22,000	22	.	.	.	.	.	.	.	.	22,000
	29	Repaint external walls to Auditorium above foyer roof level, Fly Tower and Fly Tower plant room, including anti-graffiti treatment to 3m high	10	2011	45,000	18	54,000	54	.	.	.	.	54	.	.	.	108,000
	30	Repair marble facing panels to jambs of Foyer external window and door openings - provisional	40	2012	6,000	25	8,000	8	.	.	.	.	.	.	.	.	8,000
	31	Install small banner frame on balustrade wall of laneway overbridge (facing Vernon Circle) of Link walkway	25	2011	6,000	25	8,000	8	.	.	.	.	.	.	.	.	8,000
Windows	32	Replace windows and sliding doors to Foyer (14 openings)	40	2012	65,000	25	82,000	82	.	.	.	.	.	.	.	.	82,000
	33	Ease, adjust and repaint steel framed windows to Theatre backstage areas (including windows overlooking internal courtyard)	10	2011	11,000	18	13,000	13	.	.	.	.	13	.	.	.	26,000
	34	Replace internal blinds to Theatre backstage areas and offices in Administration/Workshop block - progressive	1	2011	1,000	18	2,000	4	4	4	4	4	4	4	4	4	40,000
External doors	35	Overhaul sliding glass entry doors to Administration block foyer (2 door leaves) - last replaced 2007	15	2022	10,000	18	12,000	.	.	.	.	.	12	.	.	.	12,000
	36	Overhaul roller shutter to original Stage loading bay	10	2012	5,000	18	6,000	6	.	.	.	.	6	.	.	.	12,000
	37	Replace roller shutter to original Stage loading bay	40	2022	9,000	18	11,000	.	.	.	.	.	11	.	.	.	11,000
	38	Overhaul roller shutter to Workshop (installed 1990)	10	2012	5,000	18	6,000	6	.	.	.	.	6	.	.	.	12,000
	39	Replace roller shutter to Workshop	40	2030	9,000	18	11,000	.	.	.	.	.	.	.	.	11	11,000
	40	Repaint external (unglazed) doors, roller shutters and metalwork to Courtyard Studio, Workshop and Stage loading bay.	10	2012	1,000	18	2,000	2	.	.	.	.	2	.	.	.	4,000
	41	Replace external double door set to Courtyard Studio	30	2022	3,000	18	4,000	.	.	.	.	.	4	.	.	.	4,000
Internal screens	42	Refurbish Administration block office partitions and fittings (including doors, frames and hardware) - last refurbished 2009	20	2020	24,000	25	30,000	.	.	.	.	30	.	.	.	.	30,000
	43	Replace toilet partitions, mirrors and fittings in Male toilets to Theatre Foyer	12	2020	10,000	25	13,000	.	.	.	.	13	.	.	.	.	13,000
	44	Replace toilet partitions, mirrors and fittings in Female toilets to Theatre Foyer	12	2012	20,000	25	25,000	25	.	.	.	.	.	25	.	.	50,000
	45	Replace toilet and shower partitions in Theatre Dressing Rooms and Showers	12	2011	60,000	25	75,000	75	.	.	.	.	.	75	.	.	150,000
	46	Replace toilet and shower partitions in Courtyard Theatre Dressing Rooms and front of house toilets	12	2020	15,000	25	19,000	.	.	.	.	19	.	.	.	.	19,000
Internal doors	47	Replace damaged internal doors complete with hardware and painting - progressive	5	2011	4,000	18	5,000	5	.	5	.	.	5	.	5	.	20,000
	48	Refurbish door hardware (including hinges, upgraded locks, closers and seals) to Theatre and Administration/Workshop block - progressive	5	2011	6,000	18	8,000	8	.	8	.	.	8	.	8	.	32,000
	49	Replace accordion door across Theatre foyer at Vice Regal entrance by operable wall (similar to Link foyer operable walls)	25	2014	25,000	25	32,000	.	32	.	.	.	.	.	.	.	32,000
	50	Install sound attenuation measures to access hoist from Stage Door Lobby to Theatre backstage		2012	20,000	25	25,000	25	.	.	.	.	.	.	.	.	25,000
FINISHES																	
Wall finishes	51	Repaint Theatre foyer walls including Auditorium walls and columns within foyer and perimeter walls	12	2016	12,000	25	15,000	.	.	15	.	.	.	.	15	.	30,000
	52	Repaint walls inside Auditorium	12	2016	30,000	25	38,000	.	.	38	.	.	.	.	38	.	76,000
	53	Repaint walls in Stage wing and understage areas	12	2016	30,000	18	36,000	.	.	36	.	.	.	.	36	.	72,000
	54	Repaint walls in Administration offices	10	2019	8,000	18	10,000	.	.	.	10	.	.	.	.	10	20,000
	55	Repaint painted walls and ceilings in Theatre backstage toilets and showers	6	2011	16,000	18	19,000	19	.	.	19	.	.	19	.	19	76,000
	56	Repaint walls and ceilings in Theatre Dressing Rooms and Production Offices on Stage level and upper level	6	2011	8,000	18	10,000	10	.	.	10	.	.	10	.	10	40,000
	57	Repaint painted walls and ceilings in Courtyard Theatre Dressing Rooms and front of house toilets	6	2014	4,000	18	5,000	.	5	.	.	5	.	.	5	.	15,000
	58	Repaint painted walls and ceilings in Male toilets to Theatre Foyer	6	2014	3,000	18	4,000	.	4	.	.	4	.	.	4	.	12,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals	
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
Floor finishes	59	Repaint painted walls and ceilings in Female toilets to Theatre Foyer	6	2012	4,000	18	5,000	5	.	.	5	.	.	5	.	.	5	20,000
	60	Repaint walls in Courtyard Theatre Studio and Administration/Stage Door foyer.	6	2014	8,000	18	10,000	.	10	.	.	10	.	.	10	.	.	30,000
	61	Repaint walls in Courtyard Studio	6	2011	4,000	18	5,000	5	.	.	5	.	.	5	.	.	5	20,000
	62	Replace ceramic tiles (including floor tiles) in Male Toilets to Theatre Foyer	24	2020	7,000	25	9,000	.	.	.	.	9	.	.	.	.	.	9,000
	63	Replace ceramic tiles (including floor tiles) in Female Toilets to Theatre Foyer	24	2018	10,000	25	13,000	.	.	.	13	.	.	.	.	.	.	13,000
	64	Replace ceramic tiles (including floor tiles) to Theatre backstage toilets and showers	24	2011	25,000	25	32,000	32	.	.	.	.	.	.	.	.	.	32,000
	65	Replace fabric faced acoustic inserts to Auditorium walls	24	2028	9,000	18	11,000	.	.	.	.	.	.	.	11	.	.	11,000
	66	Replace carpet in Theatre foyer and sheet flooring insert for lounge area. (Last replacement after flooding in 2007).	10	2016	32,000	25	40,000	.	.	40	.	.	.	.	40	.	.	80,000
	67	Replace carpet inside Auditorium	10	2011	64,000	18	76,000	76	.	.	.	.	76	.	.	.	.	152,000
	68	Replace carpet in Theatre backstage areas (including Production Offices and lower level Dressing Rooms)	12	2011	10,000	18	12,000	12	.	.	.	.	12	.	.	.	.	24,000
	69	Replace carpet in Administration offices	10	2020	15,000	18	18,000	.	.	.	.	18	.	.	.	.	18	36,000
	70	Replace sheet vinyl flooring in backstage corridors and upper level Dressing Rooms	12	2011	27,000	18	32,000	32	.	.	.	.	32	.	.	.	.	64,000
	71	Refinish mosaic parquet flooring in Courtyard Studio	6	2011	7,000	18	9,000	9	.	.	9	.	.	9	.	.	9	36,000
	72	Refinish block parquet flooring in Workshop	6	2011	11,000	18	13,000	13	.	.	13	.	.	13	.	.	13	52,000
	73	Replace hardboard surface to Theatre Stage	2	2011	12,000	18	15,000	15	15	15	15	15	15	15	15	15	15	150,000
	74	Repaint hardboard surface to Theatre Stage and paving paint to backstage stairs	1	2011	5,000	3	6,000	12	12	12	12	12	12	12	12	12	12	120,000
	75	Replace sprung floor to Stage (with 2 layer airtight flooring system)	40	2016	81,000	25	102,000	.	.	102	.	.	.	.	.	.	.	102,000
76	Replace sheet vinyl flooring in Courtyard Studio dressing rooms and front of house toilets	10	2020	4,000	18	5,000	.	.	.	.	5	.	.	.	.	5	10,000	
Ceiling finishes	77	Repaint blackout ceilings to Theatre foyer and Auditorium (high level work)	20	2026	38,000	18	45,000	.	.	.	.	.	.	45	.	.	45,000	
	78	Repaint slab soffits and sheet ceilings in Theatre backstage areas other than dressing rooms and toilets (which are separately listed)	12	2011	20,000	25	25,000	25	.	.	.	.	25	.	.	.	50,000	
	79	Repaint sheet ceilings in Courtyard Studio, Administration/Stage Door foyer and Workshop	12	2014	6,000	18	8,000	.	8	.	.	.	.	8	.	.	16,000	
FITTINGS																		
Equipment/misc.	80	Refurbish wall mounted counters in Theatre foyer	20	2026	6,000	25	8,000	.	.	.	.	.	.	8	.	.	8,000	
	81	Replace joinery fittings and mirrors in Theatre Dressing Rooms	12	2011	28,000	25	35,000	35	.	.	.	.	35	.	.	.	70,000	
	82	Refurbish Green Room fitout including built in furniture and cupboards, kitchenette joinery, carpet, painting	20	2012	40,000	25	50,000	50	.	.	.	.	.	.	.	.	50,000	
	83	Replace joinery fittings and mirrors in Courtyard Theatre Dressing Rooms	24	2032	8,000	25	10,000	.	.	.	.	.	.	.	.	.	.	0
	84	Replace sanitaryware to backstage toilets and showers	24	2011	52,000	25	65,000	65	.	.	.	.	.	.	.	.	65,000	
	85	Replace sanitaryware in Male Toilets to Theatre Foyer	24	2020	10,000	25	13,000	.	.	.	.	13	.	.	.	.	13,000	
	86	Replace sanitaryware in Female Toilets to Theatre Foyer	24	2018	17,000	25	22,000	.	.	.	22	.	.	.	.	.	22,000	
	87	Replace kitchenette fittings in Workshops Staff Amenities	24	2014	9,000	25	12,000	.	12	.	.	.	.	.	.	.	12,000	
	88	Replace sanitaryware in Courtyard Theatre toilets and showers	24	2032	10,000	25	13,000	.	.	.	.	.	.	.	.	.	.	0
	89	Provide purpose built seat assemblies for Courtyard Studio	20	2013	8,000	25	10,000	.	10	.	.	.	.	.	.	.	10,000	
	90	Replace notice boards and signage - progressive	5	2011	8,000	25	10,000	10	.	10	.	.	10	.	10	.	.	40,000
	91	Replace theatre seats (including bases) and store spares	15	2011	428,000	25	535,000	535	.	.	.	.	.	.	535	.	.	1,070,000
	92	Install flip up usher seats (2) in Auditorium at Doors 2 & 5.	20	2011	1,000	18	2,000	2	.	.	.	.	.	.	.	.	.	2,000
	93	Replace proscenium acoustic baffle (allowance \$50,000)	50	2026	40,000	25	50,000	.	.	.	.	.	.	50	.	.	50,000	
	94	Bicycle racks/locker in secured, covered compound on Theatre basement ramp	25	2012	8,000	25	10,000	10	.	.	.	.	.	.	.	.	.	10,000
	95	Replace cyclorama (PC \$50,000)	15	2016	50,000	3	52,000	.	.	52	.	.	.	.	.	.	.	52,000
	96	Replace curtains, masking and drapery to Stage (PC \$50,000)	40	2030	50,000	3	52,000	.	.	.	.	.	.	.	.	.	52	52,000
97	Banner painting and laundry gantry overhauls	35	2017	16,000	20	20,000	.	.	.	20	.	.	.	.	.	.	20,000	

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
	98	Replace external advertising banner mount & mechanism	15	2017	54,000	15	63,000	.	.	.	63	.	.	.	.	.	63,000
	99	Orchestra pit lift safety assessment		2011	6,000	20	8,000	8	.	.	.	.	.	.	.	.	8,000
	100	Orchestra lift safety upgrade (provisional)		2013	84,000	20	101,000	.	101	.	.	.	.	.	.	.	101,000
	101	Orchestra pit lift overhaul	50	2015	48,000	20	58,000	.	.	58	.	.	.	.	.	.	58,000
	102	Scenery rope replacement - progressive	1	2011	9,000	12	11,000	22	22	22	22	22	22	22	22	22	220,000	
	103	Forklift battery replacement	5	2012	9,000	20	11,000	11	.	.	11	.	.	11	.	.	44,000	
	104	Forklift replacement	20	2020	42,000	20	51,000	.	.	.	.	51	.	.	.	.	51,000
	105	Replacement tools appliances (washing & drying machines, food prep, air compressors etc) - progressive	1	2011	18,000	12	21,000	42	42	42	42	42	42	42	42	42	420,000	
FIRE PROTECTION																		
Fire Services	106	Refurbish fire sprinkler system		2025	180,000	20	216,000	.	.	.	.	.	.	216	.	.	216,000
	107	Replace/Refurbish Fire Detection System	20	2019	168,000	20	202,000	.	.	.	.	202	.	.	.	.	202,000
	108	Replace/Refurbish EWIS system	20	2019	60,000	15	69,000	.	.	.	.	69	.	.	.	.	69,000
	109	Safety audit/conformance	5	2011	18,000	12	21,000	21	.	21	.	.	21	.	.	.	84,000	
	110	Fire Appliance replacement - progressive	1	2011	3,000	12	4,000	8	8	8	8	8	8	8	8	8	80,000	
ELECTRICAL																		
Electrical Services	111	Feasibility study for electrical power obsolescence & refurbishment		2017	24,000	20	29,000	.	.	.	29	.	.	.	.	.	29,000
	112	Replace main switchboard		2018	78,000	20	94,000	.	.	.	94	.	.	.	.	.	94,000
	113	Improved energy metering		2018	18,000	20	22,000	.	.	.	22	.	.	.	.	.	22,000
	114	Replace/refurbish original (1965) DBs		2020	216,000	20	260,000	.	.	.	.	260	.	.	.	.	260,000
	115	Electrical compliance measures		2020	96,000	20	116,000	.	.	.	.	116	.	.	.	.	116,000
	116	Feasibility study for lighting refurbishment & technology upgrade		2011	24,000	20	29,000	29	.	.	.	.	.	.	.	.	29,000
	117	Supplementary external lighting & mirror light safety modifications		2012	18,000	20	22,000	22	.	.	.	.	.	.	.	.	22,000
	118	Replace/upgrade emergency lighting (progressive)	5	2012	30,000	20	36,000	36	.	.	36	.	36	.	36	.	144,000	
	119	Theatre lighting refurbishment & technology upgrade	30	2013	300,000	12	336,000	.	336	.	.	.	.	.	.	.	336,000
	120	Replace courtyard extension general lighting	30	2017	54,000	12	61,000	.	.	.	61	.	.	.	.	.	61,000
	121	Replace portion of stage lighting - progressive	1	2011	8,000	12	9,000	18	18	18	18	18	18	18	18	18	180,000	
	122	Replace Rank dimmers with solid state	12	2012	216,000	20	260,000	260	.	.	.	.	260	.	.	.	520,000
	123	Replace lighting control system	15	2020	120,000	20	144,000	.	.	.	.	144	.	.	.	.	144,000
	124	Refurbish security (access/intruder) system	15	2015	120,000	20	144,000	.	.	144	.	.	.	.	.	144	288,000
	125	Refurbish digital telephone system	20	2024	72,000	20	87,000	.	.	.	.	.	87	.	.	.	87,000
	126	Replace stage view monitors & expand coverage (new flat screen monitors)	15	2012	41,000	15	48,000	48	.	.	.	.	.	.	48	.	96,000
	127	Audio-visual systems - component replacement (progressive)	2	2014	17,000	20	21,000	.	21	21	21	21	21	21	21	21	189,000	
	128	Replace data cabling	15	2017	84,000	20	101,000	.	.	.	101	.	.	.	.	.	101,000
MECHANICAL																		
HVAC Services	129	Feasibility study for chiller plant replacement & rationalisation		2012	24,000	20	29,000	29	.	.	.	.	.	.	.	.	29,000
	130	Replace & rationalise central chiller plant	25	2014	1,080,000	20	1,296,000	.	1,296	.	.	.	.	.	.	.	1,296,000
	131	Feasibility study for central boiler plant replacement & rationalisation		2015	12,000	20	15,000	.	.	15	.	.	.	.	.	.	15,000
	132	Replace central boiler plant	25	2017	540,000	15	621,000	.	.	.	621	.	.	.	.	.	621,000
	133	Convert courtyard extension to utilise central plant	25	2014	72,000	20	87,000	.	87	.	.	.	.	.	.	.	87,000
	134	Procure critical spares for original (1965) air handlers		2012	30,000	12	34,000	34	.	.	.	.	.	.	.	.	34,000
	135	Life extension works for original (1965) air handlers	50	2017	174,000	20	209,000	.	.	.	209	.	.	.	.	.	209,000
	136	Replace courtyard extension air handlers	30	2014	144,000	15	166,000	.	166	.	.	.	.	.	.	.	166,000
	137	Replace Green Room A/C unit	25	2015	24,000	15	28,000	.	.	28	.	.	.	.	.	.	28,000
	138	Replace Biobox A/C units	25	2012	33,000	12	37,000	37	.	.	.	.	.	.	.	.	37,000
	139	Replace Board Rm A/C unit	25	2015	11,000	12	13,000	.	.	13	.	.	.	.	.	.	13,000
	140	Replace Workshop Office A/C unit	20	2014	60,000	12	68,000	.	68	.	.	.	.	.	.	.	68,000
	141	Replace Admin/Stage Door A/C unit	20	2022	9,000	12	11,000	.	.	.	.	.	11	.	.	.	11,000
	142	Remedial A/C works for Chorus & other Dressing Rooms		2012	24,000	15	28,000	28	.	.	.	.	.	.	.	.	28,000
	143	Replace backstage air handling systems	25	2016	180,000	15	207,000	.	.	207	.	.	.	.	.	.	207,000
	144	Replace / refurbish stage air handler	30	2024	192,000	15	221,000	.	.	.	.	.	221	.	.	.	221,000
	145	BMS Software Bi-Annual Update	2	2012	10,000	10	11,000	11	11	11	11	11	11	11	11	11	110,000	
	146	Refurbish and expand DDC/BMS	18	2018	192,000	20	231,000	.	.	.	231	.	.	.	.	.	231,000
	147	Refurbish original (1965) heat transfer piping		2025	336,000	20	404,000	.	.	.	.	.	.	404	.	.	404,000
HYDRAULICS																		
Hydraulic Services	148	Internal inspection of U/G conduits		2015	24,000	15	28,000	.	.	28	.	.	.	.	.	.	28,000
	149	Replace sewage pumping system (completed 2007)	15	2022	24,000	15	28,000	.	.	.	.	.	28	.	.	.	28,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals	
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
	150	Cold water/drainage compliance measures - progressive	5	2015	8,000	20	10,000	.	.	10	.	10	.	.	10	.	10	40,000
	151	Replace DHW units - courtyard extn	20	2015	4,000	12	5,000	.	.	5	.	.	.	.	.	.	.	5,000
	152	Upgrade gas supply to DHW units to eliminate gas starvation		2011	10,000	12	12,000	12	.	.	.	.	.	.	.	.	.	12,000
	153	Replace Gas DHW system and ventilate housing	20	2011	21,000	12	24,000	24	.	.	.	.	.	.	.	.	.	24,000
	154	Cold water & DHW compliance measures - progressive	5	2015	5,000	12	6,000	.	.	6	.	6	.	.	6	.	6	24,000
	155	Tapware replacement - progressive	1	2011	1,000	12	2,000	4	4	4	4	4	4	4	4	4	4	40,000

lifetime total 13,037,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUPERSTRUCTURE																		
Staircases	1	Complete foyer access compliance works deleted from Access package (tactile indicators, contrast nosings, riser dimensions, handrails and wall)		2013	29,000	18	35,000	•	35	•	•	•	•	•	•	•	35,000	
	2	Install improved safety railings at base of stairs in Balconies (from Colin Peet report)		2011	8,000	25	10,000	10	•	•	•	•	•	•	•	•	10,000	
Roof	3	Repaint curved steel roofing to fly tower roof (including roof access hatch and gable wall segments on east and west sides)	20	2018	8,000	18	10,000	•	•	•	10	•	•	•	•	•	10,000	
	4	Replace prepainted steel eaves gutters on north and south sides of fly tower roof	20	2018	2,000	18	3,000	•	•	•	3	•	•	•	•	•	3,000	
	5	Repaint steel roofing to Auditorium drum, Foyer, Stage wing (over backstage areas), Dressing Rooms wing and Green Room wing	20	2018	21,000	18	25,000	•	•	•	25	•	•	•	•	•	25,000	
	6	Replace prepainted steel eaves gutter and fascia cladding around roof of Auditorium drum	20	2018	7,000	25	9,000	•	•	•	9	•	•	•	•	•	9,000	
	7	Install hail guards to box gutter outlets in Administration/Theatre roofs (Sellick Roof Assessment Report - H1).	30	2012	7,000	25	9,000	9	•	•	•	•	•	•	•	•	9,000	
	8	Repaint paired circular steel downpipes and spreaders to Auditorium drum walls	10	2011	2,000	18	3,000	3	•	•	•	•	3	•	•	•	6,000	
	9	Repaint compressed fibre cement sheet soffit linings to Auditorium drum roof	10	2011	2,000	18	3,000	3	•	•	•	•	3	•	•	•	6,000	
	10	Replace prepainted steel eaves gutter and fascia cladding around Foyer roof	20	2018	6,000	25	8,000	•	•	•	8	•	•	•	•	•	8,000	
	11	Repaint fibre cement sheet lining to Foyer eaves and steel capping to lower level masonry wall on west side	10	2011	2,000	18	3,000	3	•	•	•	•	3	•	•	•	6,000	
	12	Repaint sheet cladding to upswept (45°) eaves to Stage wing roof (north and west sides) and Dressing Rooms and Green Rooms wings (east sides only)	10	2011	3,000	18	4,000	4	•	•	•	•	4	•	•	•	8,000	
	13	Repaint steel rainwater heads and circular downpipes to Foyer, Dressing Rooms wing and Green Room wing	10	2011	1,000	18	2,000	2	•	•	•	•	2	•	•	•	4,000	
	14	Install new roof canopy (with glazed wall enclosure) for weather protection and privacy at Stage Door	35	2012	16,000	25	20,000	20	•	•	•	•	•	•	•	•	20,000	
	15	Replace wearing components in rooftop safety tether	5	2014	3,000	18	4,000	•	4	•	•	4	•	4	•	4	16,000	
	16	Refurbish motorised banner handling system (face of Fly Tower)	20	2027	50,000	18	59,000	•	•	•	•	•	•	•	59	•	59,000	
External walls	17	Clean ribbed steel wall cladding to Fly Tower (including smoke exhaust fans enclosure on roof)	5	2013	4,000	18	5,000	•	5	•	5	•	•	5	•	5	20,000	
	18	Repaint steel framing and ribbed steel cladding panels to Fly Tower walls (including louvres and cladding to rooftop fan enclosure)	10	2018	12,000	18	15,000	•	•	•	15	•	•	•	15	•	30,000	
	19	Repaint rendered walls to Auditorium drum (above Foyer roof level) and corrugated steel wall cladding panels between building wings	10	2013	10,000	18	12,000	•	12	•	•	•	•	12	•	•	24,000	
	20	Repaint external metalwork including steel angle "cornices", window and door hoods and Stage loading bay sill protector	10	2012	2,000	18	3,000	3	•	•	•	•	3	•	•	•	6,000	
	21	Clean/refurbish quartzite rendered walls to Foyer (east and west sides), Stage wing, Dressing Rooms wing and Green Room wing	15	2012	3,000	18	4,000	4	•	•	•	•	•	•	4	•	8,000	
	22	Repaint rendered concrete walls north of Stage Door, Green Room entry, Green Room patio, new Green Room courtyard and hardwood screens to waste bins enclosure	10	2012	2,000	18	3,000	3	•	•	•	•	3	•	•	•	6,000	
	23	Repaint steel framing, rooftop access ladder, louvre panels and compressed fibre cement sheet cladding to rooftop plantroom enclosure	10	2013	3,000	18	4,000	•	4	•	•	•	•	4	•	•	8,000	
Windows	24	Refurbish powder coated aluminium frames to external glazing (including remaining Foyer curtain walls) and louvre panels	15	2013	27,000	18	32,000	•	32	•	•	•	•	•	32	•	64,000	

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								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
External doors	25	Repaint external doors to Green Room wing (including hot water enclosure doors and frame) and plant rooms on north and west sides of Stage wing	10	2013	1,000	18	2,000	.	2	2	.	.	.	4,000
	26	Install sensors and display panel to indicate open doors around backstage areas in Playhouse (including required memory upgrade to Playhouse controller)		2012	16,000	25	20,000	20	.	.	.	.	.	.	.	.	.	20,000
	27	Refurbish door hardware (including hinges, locks, closers and seals) to external doors - progressive	1	2011	1,000	18	2,000	4	4	4	4	4	4	4	4	4	4	40,000
	28	Fixed and removable bollards to protect footpath adjacent to side dock door	25	2012	8,000	18	10,000	10	.	.	.	.	.	.	.	.	.	10,000
Internal walls	29	Improve sightlines in Balconies (removal of brickwork required)		2011	16,000	25	20,000	20	.	.	.	.	.	.	.	.	.	20,000
Internal screens	30	Replace toilet and shower partitions (including doors) in toilets, showers, dressing rooms and public facilities	12	2012	32,000	25	40,000	40	.	.	.	.	40	.	.	.	.	80,000
Internal doors	31	Repaint internal doors in front of house areas	6	2012	2,000	18	3,000	3	.	.	3	.	.	3	.	.	3	12,000
	32	Repaint internal doors in back of house areas	7	2012	2,000	18	3,000	3	.	.	.	3	.	.	3	.	.	9,000
	33	Refurbish door hardware (including hinges, locks, closers and seals) - progressive	2	2011	5,000	25	7,000	7	7	7	7	7	7	7	7	7	7	70,000
	34	Install new motorised glazed sliding doors at Stage Door and privacy screens or curtains around Stage Door desk		2012	16,000	25	20,000	20	.	.	.	.	.	.	.	.	.	20,000
FINISHES																		
Wall finishes	35	Repaint Auditorium drum high level outer walls within Foyer	12	2021	4,000	18	5,000	.	.	.	.	.	5	.	.	.	.	5,000
	36	Repaint walls to toilets, showers, dressing rooms and Green Room	6	2012	7,000	18	9,000	9	.	.	9	.	.	9	.	.	9	36,000
	37	Repaint walls to other back of house areas	12	2015	4,000	18	5,000	.	.	5	.	.	.	.	5	.	.	10,000
	38	Repaint walls to front of house areas (including sound lock inner and outer walls)	6	2015	36,000	18	43,000	.	.	43	.	.	43	.	.	43	.	129,000
	39	Repaint inner faces of Auditorium walls (including veneer faced acoustic panels and balcony sill panels)	10	2012	8,000	18	10,000	10	.	.	.	.	10	.	.	.	.	20,000
	40	Repaint internal metalwork in front of house areas (including Auditorium balcony rails and stair handrails)	6	2015	7,000	18	9,000	.	.	9	.	.	9	.	.	9	.	27,000
	41	Repaint internal metalwork in back of house areas (including stair handrails and hanging rails in dressing rooms)	6	2012	7,000	18	9,000	9	.	.	9	.	.	9	.	.	9	36,000
	42	Repaint blackout walls to Stage including wings, lighting balconies and backstage areas	15	2015	37,000	18	44,000	.	.	44	.	.	.	.	.	.	44	88,000
	43	Acoustic treatment to VIP room (may include ceiling works)	35	2012	8,000	25	10,000	10	.	.	.	.	.	.	.	.	.	10,000
	44	Acoustic treatment to The Playhouse Foyer West (may include ceiling works)	35	2012	8,000	25	10,000	10	.	.	.	.	.	.	.	.	.	10,000
	45	Replace ceramic wall tiling to toilets, showers, cleaners rooms and kitchenettes (incl skirtings and splashbacks)	24	2024	17,000	25	22,000	.	.	.	.	.	22	.	.	.	.	22,000
Floor finishes	46	Replace carpet to Green Room and upper level Dressing Rooms	12	2012	10,000	18	12,000	12	.	.	.	.	.	12	.	.	.	24,000
	47	Replace carpet to VIP Function Room, Foyer ground floor and upper level Foyer balconies	10	2017	40,000	25	50,000	.	.	.	50	.	.	.	.	50	.	100,000
	48	Replace carpet to Auditorium ground floor and balconies (complete with aluminium/vinyl nosings at each step in aisles)	12	2014	26,000	25	33,000	.	33	.	.	.	.	.	33	.	.	66,000
	49	Replace hardboard surface to Stage floor	2	2012	5,000	18	6,000	6	6	6	6	6	6	6	6	6	6	60,000
	50	Repaint hardboard surface to Stage floor	1	2011	3,000	3	4,000	8	8	8	8	8	8	8	8	8	8	80,000
	51	Replace sprung floor to Stage (with 2 layer airtight flooring system)	35	2033	49,000	25	62,000	.	.	.	.	.	.	.	.	.	.	0
	52	Renew paving paint to backstage corridors and stairs and lower level Dressing Room	6	2012	5,000	3	6,000	6	.	.	6	.	.	6	.	.	6	24,000
	53	Renew paving paint to understage areas	10	2014		3		.	.	.	.	.	.	.	.	.	.	0
	54	Replace ceramic tile floors to toilets, showers and cleaners rooms	24	2012	16,000	25	20,000	20	.	.	.	.	.	.	.	.	.	20,000
Ceiling finishes	55	Repaint blackout ceilings to Auditorium and Stage	18	2016	10,000	18	12,000	.	.	12	.	.	.	.	.	.	.	12,000
	56	Renew clear finish to timber veneered ply panels to Foyer high level ceiling	24	2022	8,000	18	10,000	.	.	.	.	10	.	.	.	.	.	10,000
	57	Repaint sheet ceilings to VIP Room, Auditorium lobbies	6	2015	10,000	18	12,000	.	.	12	.	.	12	.	.	12	.	36,000

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								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
	58	Repaint ceilings to toilets, showers, dressing rooms and Green Room	6	2012	8,000	18	10,000	10	.	.	10	.	.	10	.	.	10	40,000
	59	Repaint ceilings to other back of house areas	12	2012	14,000	18	17,000	17	.	.	.	.	.	17	.	.	.	34,000
FITTINGS																		
Fitments	60	Refurbish joinery fittings, mirrors and screens in dressing rooms, toilets, showers and Green Room	12	2012	80,000	25	100,000	100	.	.	.	.	.	100	.	.	.	200,000
	61	Replace sanitary fittings in toilets, showers, cleaners rooms and kitchenettes (including Green Room)	24	2024	120,000	25	150,000	.	.	.	.	.	.	150	.	.	.	150,000
	62	Refurbish VIP room kitchen fittings and finishes	12	2021	20,000	25	25,000	.	.	.	.	.	25	.	.	.	.	25,000
	63	Replace joinery to Auditorium bio box and audio control booth	25	2023	17,000	25	22,000	.	.	.	.	.	.	22	.	.	.	22,000
	64	Replace mirrors and fittings in toilets including hand dryers, soap dispensers, toilet roll holders, etc.	12	2011	30,000	25	38,000	38	.	.	.	.	.	38	.	.	.	76,000
	65	Replace benches and joinery in Dressing Rooms,	12	2011	32,000	25	40,000	40	.	.	.	.	.	40	.	.	.	80,000
	66	Replace cabinets, shelves and benches in understage stores	25	2023	20,000	25	25,000	.	.	.	.	.	.	25	.	.	.	25,000
	67	Replace notice boards and signage - progressive	1	2011	1,000	25	2,000	4	4	4	4	4	4	4	4	4	4	40,000
	68	Install flip up usher seats (2) in Auditorium at Doors 3 & 4.	20	2011	1,000	26	2,000	2	.	.	.	.	.	.	.	.	.	2,000
	69	Replace theatre seats (including bases) and store spares - See HVA Services allowance for separating supply air inlets from seat bases	15	2014	200,000	25	250,000	.	250	.	.	.	.	.	.	.	250	500,000
	70	Upgrade backstage access ladder safety (contingency for follow up works to upgrade largely completed in 2008)		2015	12,000	25	15,000	.	.	15	.	.	.	.	.	.	.	15,000
	71	Upgrade backstage downstairs bathroom to meet DDA requirements		2012	28,000	25	35,000	35	.	.	.	.	.	.	.	.	.	35,000
Equipment/misc.	72	Replace cyclorama (PC allowance)	15	2013	67,000	3	70,000	.	70	.	.	.	.	.	.	70	.	140,000
	73	Replace curtains, masking and drapery to Stage (PC allowance)	20	2018	72,000	3	75,000	.	.	.	75	.	.	.	.	.	.	75,000
	74	Replace velvet drapes	15	2013	28,000	18	34,000	.	34	.	.	.	.	.	.	34	.	68,000
	75	Refurbish neon frieze (House Proud) under eaves of Auditorium drum (Subject to review of viability. Nominal lifetime ends in 2016.)	10	2017	80,000	18	95,000	.	.	.	95	.	.	.	.	95	.	190,000
	76	Grand Piano (Yamaha C7)	30	2012	24,000	3	25,000	25	.	.	.	.	.	.	.	.	.	25,000
	77	Safety lines for access to Balcony lighting positions (from Colin Peet report)	25	2011	8,000	20	10,000	10	.	.	.	.	.	.	.	.	.	10,000
	78	Hoeker tent (for temporary extension of the VIP Room)	15	2011	5,000	18	6,000	6	.	.	.	.	.	6	.	.	.	12,000
	79	Personnel lift - mid-life overhaul & upgrade to lift car finishes		2022	288,000	20	346,000	.	.	.	.	.	346	.	.	.	.	346,000
	80	Orchestra pit lift - overhaul screw jacks	25	2016	24,000	20	29,000	.	.	29	.	.	.	.	.	.	.	29,000
	81	Replace scenery ropes etc - progressive	1	2011	9,000	12	11,000	22	22	22	22	22	22	22	22	22	22	220,000
	82	Replacement tools appliances (eg washers, dryers etc) - progressive	1	2011	22,000	12	25,000	50	50	50	50	50	50	50	50	50	50	500,000
FIRE PROTECTION																		
Fire Services	83	Replace/Refurbish Fire Detection System	20	2018	132,000	20	159,000	.	.	.	159	.	.	.	.	.	.	159,000
	84	Replace/Refurbish EWIS system	20	2018	60,000	15	69,000	.	.	.	69	.	.	.	.	.	.	69,000
	85	Safety audit/conformance - progressive	5	2011	18,000	12	21,000	21	.	21	.	.	21	.	21	.	.	84,000
	86	Fire Appliance replacement - progressive	1	2011	2,000	12	3,000	6	6	6	6	6	6	6	6	6	6	60,000
ELECTRICAL																		
Electrical Services	87	Replace emergency lighting	20	2018	168,000	10	185,000	.	.	.	185	.	.	.	.	.	.	185,000
	88	Replace/refurbish the bulk of general lighting	25	2023	240,000	20	288,000	.	.	.	.	.	.	288	.	.	.	288,000
	89	Upgrade semi-automated blue – white light system	25	2015	36,000	20	44,000	.	.	44	.	.	.	.	.	.	.	44,000
	90	Replace groups of stage lighting - similar types - progressive	1	2011	8,000	20	10,000	20	20	20	20	20	20	20	20	20	20	200,000
	91	Replace house & stage dimmer systems	15	2014	180,000	15	207,000	.	207	.	.	.	.	.	.	.	207	414,000
	92	Replace lighting control system	15	2014	108,000	15	125,000	.	125	.	.	.	.	.	.	.	125	250,000
	93	Refurbish digital telephone system peripherals	20	2024	36,000	15	42,000	.	.	.	.	.	42	.	.	.	.	42,000
	94	Refurbish security (access/intruder) system peripherals	15	2015	48,000	20	58,000	.	.	58	.	.	.	.	.	.	58	116,000
	95	Replace stage view monitors & expand coverage (new flat screen monitors)	15	2012	40,000	15	46,000	46	.	.	.	.	.	.	.	46	.	92,000
	96	Replace audio-visual systems - progressive	2	2011	42,000	20	51,000	51	51	51	51	51	51	51	51	51	51	510,000
	97	Replace data cabling	15	2015	20,000	20	24,000	.	.	24	.	.	.	.	.	.	24	48,000
MECHANICAL																		

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals	
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
HVAC Services																		
	98	Replace and improve central chiller plant	20	2012	264,000	20	317,000	317	.	.	.	.	.	.	.	.	317,000
	99	Upgrade burner & controls (one boiler)		2012	6,000	22	8,000	8	.	.	.	.	.	.	.	.	8,000
	100	Replace central boiler plant	18	2016	180,000	22	220,000	.	.	220	.	.	.	.	.	.	220,000
	101	Replace/refurbish air handlers	25	2023	384,000	20	461,000	.	.	.	.	.	461	.	.	.	461,000
	102	New displacement diffusers to complement seat replacement		2014	224,000	15	258,000	.	258	.	.	.	.	.	.	.	258,000
	103	Replace/upgrade/expand DDC/BAS	25	2018	180,000	20	216,000	.	.	.	216	.	.	.	.	.	216,000
HYDRAULICS																		
Hydraulic Services																		
	104	Internal inspection of U/G conduits		2015	10,000	15	12,000	.	.	12	.	.	.	.	.	.	12,000
	105	Replace sewage pumping system	10	2020	36,000	15	42,000	.	.	.	42	.	.	.	.	42	84,000
	106	Upgrade gas line for DHW system		2011	8,000	12	9,000	9	.	.	.	.	.	.	.	.	9,000
	107	Replace Gas DHW system and ventilate housing	20	2011	21,000	12	24,000	24	.	.	.	.	.	.	.	.	24,000
	108	DHW compliance measures - 2015		2015	36,000	12	41,000	.	.	41	.	.	.	.	.	.	41,000
	109	Tapware replacement - progressive	2	2015	5,000	12	6,000	.	.	6	6	6	6	6	6	6	48,000	
SITE WORKS																		
Landscaping																		
	110	Form enclosed courtyard at rear of Green Room (including paving and landscaping)		2012	16,000	25	20,000	20	.	.	.	.	.	.	.	.	20,000
	111	Install log barrier and landscaping at edge of roadway to prevent parking on grass, provide path for wheelchair access from roadway to Stage Door		2012	20,000	25	25,000	25	.	.	.	.	.	.	.	.	25,000

lifetime total 8,673,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUBSTRUCTURE																		
Substructure	1	Raise stormwater outlet grates under Library entrance pebbled strip beds to surface level with additional weepholes at base of risers. (Sellick Water Ingress Report recommendation H1)		2012	6,000	25	8,000	8	.	.	.	.	.	.	.	8,000
	2	Install slotted grate in Theatre Podium outside Link foyer eastern entrance and regrade surface falls to the grate (Sellick Water Ingress Report recommendation H3).		2012	36,000	25	45,000	45	.	.	.	.	.	.	.	45,000
SUPERSTRUCTURE																		
Staircases	3	Install slotted grates within pavement along Link walkway to prevent water cascading down stairs (Sellick Water Ingress Report recommendation H2).		2012	17,000	25	22,000	22	.	.	.	.	.	.	.	22,000
	4	Replace balustrades to Link walkway and bridge, using units with more robust members and finishes.	25	2013	24,000	25	30,000	.	30	.	.	.	.	.	.	30,000
Roof	5	Replace flat topped hail guards with domed, appropriately perforated versions. (Sellick Water Ingress Report recommendaton H5 proposes removal.)		2011	2,000	18	3,000	3	.	.	.	.	.	.	.	3,000
	6	Refurbish gutters, overflows, rainwater outlets, flashings and cappings to all roofs	20	2016	32,000	25	40,000	.	.	40	.	.	.	.	.	40,000
	7	Refurbish flashings and seals to glazed roofs (over Link and Library)	10	2016	4,000	18	5,000	.	.	5	.	.	5	.	.	10,000		
	8	Replace wearing components to rooftop safety system - progressive	5	2015	3,000	18	4,000	.	.	4	.	4	.	4	.	16,000		
	9	Refurbish low level canopy over entry doors to "Box Office" foyer	20	2026	12,000	25	15,000	.	.	.	.	.	15	.	.	15,000
External Walls	10	Repaint louvre panels on rooftop plantroom (S wall) and fan enclosure (E & W faces), N end of W wall at ground level and roller, supply air inlets to basement plant rooms and shutter in W wall.	10	2026	3,000	12	4,000	.	.	.	.	.	4	.	.	4,000
Windows	11	Replace sun control blinds to upper level windows of Link E/W foyer	15	2021	9,000	18	11,000	.	.	.	.	11	.	.	.	11,000
Internal screens	12	Refurbish Box Office partitions and fittings (including doors, frames and hardware)	20	2026	48,000	25	60,000	.	.	.	.	.	60	.	.	60,000
Internal doors	13	Install frameless glass automatic sliding doors inboard of main entry doors to form airlock		2012	40,000	25	50,000	50	.	.	.	.	.	.	.	50,000
	14	Install frameless glass automatic sliding doors to both opening in west side entry alcove. (Sellick Water Ingress Report recommendation H4 proposes one door set.)		2012	40,000	25	50,000	50	.	.	.	.	.	.	.	50,000
	15	Replace damaged internal doors complete with hardware and painting - progressive	5	2012	4,000	18	5,000	5	.	.	5	.	5	.	5	20,000		
	16	Refurbish roller shutter in Link E/W foyer	20	2026	4,000	18	5,000	.	.	.	.	.	5	.	.	5,000
FINISHES																		
Wall finishes	17	Repaint front of house walls in Link foyers	7	2013	13,000	25	17,000	.	17	.	.	17	.	.	17	51,000		
	18	Repaint back of house walls in Link foyers (Box Office Sales, House Manager, First Aid, stair well)	10	2016	8,000	18	10,000	.	.	10	.	.	10	.	.	20,000		
	19	Repaint front of house walls in Library (all levels)	7	2014	24,000	25	30,000	.	30	.	.	30	.	.	30	90,000		
	20	Repaint back of house walls in Library (Level One - Common Area Lobby, Staff Room and Kitchen)	10	2017	4,000	18	5,000	.	.	.	5	.	.	5	.	10,000		
	21	Repaint walls in Library Level One plant rooms	15	2021	5,000	18	6,000	.	.	.	.	6	.	.	.	6,000
	22	Refurbish/renew painted mural on Library Level One	15	2021	2,000	25	3,000	.	.	.	.	3	.	.	.	3,000
	23	Refurbish/renew fabric faced walls panels on Library Levels One and Two	15	2021	12,000	25	15,000	.	.	.	.	15	.	.	.	15,000
Floor finishes	24	Replace carpet type 3 in Link foyers (Bar and Box Office). Last replacement after flooding in 2007	7	2014	36,000	18	43,000	.	43	.	.	43	.	.	43	129,000		
	25	Replace carpet type 3 in Link staff areas (House Manager, First Aid, Box Office sales)	10	2017	9,000	18	11,000	.	.	.	11	.	.	11	.	22,000		

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								2012	2014	2016	2018	2020	2022	2024	2026		2028
	26	Replace carpet type 2 in Library Levels 1 & 2 (Workroom, Librarian, Breakout Area, Audio Book Collection). Last replacement after flooding in 2007.	10	2017	16,000	18	19,000	.	.	.	19	.	.	.	19	.	38,000
	27	Replace carpet type 1 in Library Levels 1 & 2 (Library Collection, Manager, Facilities Office, Circulations Loans Desk).	10	2017	28,000	18	34,000	.	.	.	34	.	.	.	34	.	68,000
	28	Replace non slip sheet vinyl flooring in Link Level 3 (Kitchen, Bar, Cloak Room, Box Office Tea Room)	10	2016	16,000	18	19,000	.	.	19	.	.	.	19	.	38,000	
	29	Replace antistatic vinyl in Link Server Room and Store (1.27)	20	2026	3,000	18	4,000	.	.	.	.	.	4	.	.	4,000
	30	Replace sheet vinyl flooring in Common Area Lobby of Library Level 1	10	2016	3,000	18	4,000	.	.	4	.	.	.	4	.	8,000	
	31	Replace wipe off mats at east and west side entry doors to Link foyers	7	2013	6,000	18	8,000	.	8	.	.	8	.	.	8	.	24,000
	32	Replace carpet type 1 in Library Level 4 (Group Study Room, Meeting Room and Display Area).	10	2017	11,000	18	13,000	.	.	.	13	.	.	.	13	.	26,000
	33	Refinish timber parquet flooring in Link foyers (except Bar)	10	2016	8,000	18	10,000	.	.	10	.	.	.	10	.	20,000	
	34	Refinish timber parquet flooring in Link foyer Bar	7	2013	2,000	18	3,000	.	3	.	.	3	.	.	3	.	9,000
Ceiling finishes	35	Repaint lower level plasterboard ceilings in Link front of house areas (including Bar and Cloak Room)	7	2013	2,000	18	3,000	.	3	.	.	3	.	.	3	.	9,000
	36	Repaint plasterboard ceilings in Link patrons toilets	7	2013	2,000	18	3,000	.	3	.	.	3	.	.	3	.	9,000
	37	Repaint plasterboard ceiling in Link Kitchen	7	2013	4,000	18	5,000	.	5	.	.	5	.	.	5	.	15,000
	38	Repaint high level plasterboard ceilings over Link E/W foyer (including west side entry)	10	2016	4,000	18	5,000	.	.	5	.	.	.	5	.	10,000	
	39	Repaint plasterboard ceilings in Link staff areas (Box Office Sales, House Manager, First Aid)	10	2016	3,000	18	4,000	.	.	4	.	.	.	4	.	8,000	
	40	Repaint plasterboard ceilings in Library front of house areas (all levels)	10	2016	7,000	18	9,000	.	.	9	.	.	.	9	.	18,000	
	41	Repaint plasterboard ceilings in Library patrons' toilets, Common Area Lobby and staff amenities	7	2013	3,000	19	4,000	.	4	.	.	4	.	.	4	.	12,000
FITTINGS																	
Fitments	42	Refurbish Box Office sales counters	15	2021	48,000	25	60,000	60	60,000
	43	Refurbish Link foyer bar (including main under bar equipment, refrigeration, bar plumbing etc.)	15	2021	100,000	25	125,000	125	125,000
	44	Refurbish Library Circulations desk	20	2026	24,000	25	30,000	.	.	.	.	.	30	.	.	30,000
	45	Refurbish ACT Licensing outlet on Library Level One	20	2026	20,000	25	25,000	.	.	.	.	.	25	.	.	25,000
	46	Replace Link foyer bar furniture - allowance	15	2021	40,000	25	50,000	.	.	.	.	50	.	.	.	50,000
Equipment/misc.	47	Hydraulic Lifts - refurbish finishes and safety overhaul	20	2027	30,000	20	36,000	.	.	.	.	.	.	36	.	36,000
	48	Overhaul or replace book lift	20	2027	100,000	15	115,000	.	.	.	.	.	.	115	.	115,000
	49	Refurbish cool room	20	2027	9,000	20	11,000	.	.	.	.	.	.	11	.	11,000
	50	Replacement equipment and appliances - progressive	1	2020	15,000	12	17,000	.	.	.	17	34	34	34	34	34	187,000
FIRE PROTECTION				2010													
Fire Services	51	Replace/Refurbish Fire Detection System	20	2027	30,000	20	36,000	.	.	.	.	.	.	36	.	36,000
	52	Replace/Refurbish EWIS system	20	2027	18,000	15	21,000	.	.	.	.	.	.	21	.	21,000
	53	Safety audit/conformance - progressive	5	2017	10,000	15	12,000	.	.	.	12	12	.	12	.	36,000	
	54	Fire Appliance replacement - progressive	10	2017	6,000	12	7,000	.	.	.	7	.	.	7	.	14,000	
ELECTRICAL				2010													
Electrical Services	55	Replace emergency lighting	18	2025	80,000	10	88,000	.	.	.	.	.	88	.	.	88,000
	56	Replace/refurbish portion of general lighting - stage 1	20	2027	75,000	20	90,000	.	.	.	.	.	.	90	.	90,000
	57	Replace/refurbish portion of general lighting - stage 2	20	2029	75,000	20	90,000	.	.	.	.	.	.	90	.	90,000
	58	Replace dimmer systems	15	2022	20,000	15	23,000	.	.	.	23	.	.	.	.	23,000
	59	Replace lighting control system	15	2022	25,000	15	29,000	.	.	.	29	.	.	.	.	29,000
	60	Refurbish digital telephone system	20	2027	15,000	15	18,000	.	.	.	.	.	.	18	.	18,000
	61	Refurbish security (access/intruder) system	20	2027	40,000	20	48,000	.	.	.	.	.	.	48	.	48,000
	62	Replace LED display & information system for Link entry	10	2019	95,000	15	110,000	.	.	.	110	.	.	.	110	220,000	
	63	Replace audio-visual systems - progressive	5	2017	30,000	20	36,000	.	.	.	36	36	.	36	.	108,000	
	64	Replace data cabling	15	2022	16,000	20	20,000	.	.	.	20	.	.	.	.	20,000
MECHANICAL				2010													
HVAC Services	65	Replace air-cooled chiller plant	18	2025	296,000	20	356,000	.	.	.	.	.	356	.	.	356,000
	66	Replace circulating pumps for in-floor heating circuits	20	2027	14,000	15	17,000	.	.	.	.	.	.	17	.	17,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals	
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
	67	Replace split cooling unit for Ticketing UPS	15	2022	4,000	15	5,000	.	.	.	.	.	5	.	.	.	.	5,000
	68	Replace or upgrade DDC/BAS	20	2027	140,000	20	168,000	.	.	.	.	.	.	.	168	.	.	168,000
HYDRAULICS				2010														
Hydraulic Services	69	Internal inspection of U/G conduits	20	2027	8,000	15	10,000	.	.	.	.	.	.	.	10	.	.	10,000
	70	Replace sewage pumping system	15	2022	30,000	15	35,000	.	.	.	.	.	35	.	.	.	.	35,000
	71	Replace storm water pumping system	15	2022	10,000	12	12,000	.	.	.	.	.	12	.	.	.	.	12,000
	72	Replace DHW vessel & circ pump	20	2027	5,000	12	6,000	.	.	.	.	.	.	.	6	.	.	6,000
	73	Replace rainwater pressure pump	20	2027	3,000	12	4,000	.	.	.	.	.	.	.	4	.	.	4,000
	74	Tapware replacement - progressive	2	2020	1,000	12	2,000	.	.	.	.	2	2	2	2	2	2	12,000

lifetime total 3,156,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUPERSTRUCTURE																		
Windows	1	Replace internal blinds (including Members' Room, Board Room and office spaces)	15	2014	30,000	25	38,000	.	38	.	.	.	.	.	.	38	76,000
Internal screens	2	Refurbish pivoting and demountable display walls in ground floor Exhibition Spaces - progressive (and provisional since little used)	5	2011	2,000	28	3,000	3	.	3	.	.	3	.	3	.	12,000	
FINISHES																		
Floor finishes	3	Refinish timber floating floor to ground floor Foyer (initial refinishing with Foyer upgrade)	10	2011	19,000	25	24,000	24	.	.	.	.	24	.	.	.	48,000
	4	Replace timber floating floor to ground floor Foyer with hardwood flooring (provisional in case of instability)		2021	68,000	18	81,000	.	.	.	.	.	81	.	.	.	81,000
	5	Refinish hardwood flooring to Exhibition Spaces and timber insets to Performance Theatre and Board Room carpeted floors	10	2011	55,000	25	69,000	69	.	.	.	.	69	.	.	.	138,000
	6	Replace carpet in first floor Members' Room and Board Room (carpet elsewhere on first floor by landlord)	10	2011	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	7	Replace floating floor to bar and kitchenette in first floor Boardroom with solid timber boarding (safety issue)		2011	4,000	18	5,000	5	.	.	.	.	.	.	.	.	5,000
	8	Replace carpet to slab floor and retractable seating platforms in ground floor Performance Theatre. (Carpet elsewhere on ground floor by landlord.)	10	2017	7,000	18	9,000	.	.	.	9	.	.	.	9	.	18,000	
	9	Reseal or repaint sealed concrete surface of Loading Dock and Collection Storage areas. (Provisional allowance only due to disruptive nature)	15	2015	8,000	18	10,000	.	.	10	.	.	.	.	.	10	20,000
	10	Repaint Loading Dock metalwork, including floor platform to scissor lift, steel plate covers to lift mechanism and steel framed elevated platform and railings (Low frequency due to disruptive nature)	15	2015	1,000	18	2,000	.	.	2	.	.	.	.	.	2	4,000
Wall finishes	11	Repair and repaint marked or damaged wall surfaces (not otherwise painted for display purposes) - progressive	5	2014	8,000	18	10,000	.	10	.	10	.	10	.	.	10	40,000	
Ceiling finishes	12	Refurbish galvanised steel and timber veneer reflectors/acoustic baffles in first floor Exhibition Space	20	2018	2,000	25	3,000	.	.	.	3	.	.	.	.	.	3,000
	13	Repaint ground floor ceilings (not otherwise painted for display purposes) - provisional, allow 500 m ²	15	2014	8,000	18	10,000	.	10	.	.	.	.	.	.	10	20,000
FITTINGS																		
Fitments	14	Replace café counter in ground floor Foyer with provision for refrigerated display cabinet under (cabinet listed in Equipment)	12	2011	15,000	18	18,000	18	.	.	.	.	.	18	.	.	36,000
	15	Replace reception desk in ground floor Foyer	12	2011	20,000	25	25,000	25	.	.	.	.	.	25	.	.	50,000
Equipment/misc.	16	Refrigerated display cabinet to coffee service counter in ground floor Foyer	12	2011	12,000	25	15,000	15	.	.	.	.	.	15	.	.	30,000
Fitments	17	Reupholster freestanding seating in ground floor Performance Theatre	10	2010	4,000	25	5,000	5	.	.	.	5	.	.	.	5	15,000	
	18	Replace furniture in ground floor Foyer (leather upholstered sofas and armchairs) - progressive	5	2011	11,000	18	13,000	13	.	13	.	.	13	.	13	.	52,000	
	19	Replace door pivots to frameless glass display system in ground floor Open Collection Exhibition Space	20	2012	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
	20	Refurbish frameless glass display enclosure within ground floor Open Collection Exhibition Space (principally suspension cables)	10	2012	5,000	18	6,000	6	.	.	.	.	6	.	.	.	12,000
	21	Replace information boards and signage (other than exhibition related items) - progressive	5	2012	9,000	25	12,000	12	.	.	12	.	12	.	.	12	48,000	
	22	Replace freestanding display cabinets in ground floor exhibition spaces - progressive	5	2012	40,000	25	50,000	50	.	.	50	.	50	.	.	50	200,000	
	23	Refurbish hardwood demonstration bench and workbenches in Art Studio (sand and refinish)	10	2011	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	24	Replace fixed benches and wall mounted cupboards in Art Studio and Darkroom (including acid resistant vinyl tops and sinks)	10	2011	24,000	25	30,000	30	.	.	.	.	30	.	.	.	60,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
	25	Refurbish / replace painted steel drying rack in Art Studio	15	2014	4,000	18	5,000	.	5	.	.	.	.	.	.	5	10,000
	26	Retractable shade awning to Art Studio courtyard (replacing shade sails in first iteration).	7	2011	5,000	18	6,000	6	.	.	6	.	.	6	.	.	18,000
	27	Replace freestanding seating in ground floor Performance Theatre	20	2020	11,000	18	13,000	.	.	.	.	13	.	.	.	.	13,000
	28	Refurbish door hardware (key cylinders and latches), replacing custom made items with standard types - progressive	5	2014	2,000	18	3,000	.	3	.	.	3	.	3	.	3	12,000
	29	Refurbish hardwood carpenter's bench and workbenches in ground floor Workshop (sand and refinish)	20	2017	2,000	18	3,000	.	.	.	3	.	.	.	.	.	3,000
	30	Refurbish suspension mechanisms to sliding storage panels in ground floor Collection Storage - progressive	10	2012	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
	31	Refurbish / replace document storage cabinets in ground floor Collection Storage - progressive	10	2012	7,000	18	9,000	9	.	.	.	.	9	.	.	.	18,000
	32	Refurbish pallet racks in ground floor Collection Storage and Loading Dock (incl touching up paintwork)	15	2014	5,000	18	6,000	.	6	.	.	.	.	.	.	6	12,000
	33	Refurbish staff amenities room	12	2020	16,000	25	20,000	.	.	.	.	20	.	.	.	.	20,000
	34	Replace kitchenette joinery in first floor Boardroom and Members' Room	12	2012	20,000	25	25,000	25	.	.	.	.	.	25	.	.	50,000
	35	Replace motor driven blackout curtains (including brush seals) to ground floor Art Studio and Performance Theatre	15	2011	12,000	18	15,000	15	.	.	.	.	.	.	15	.	30,000
Equipment/misc.	36	Refurbish mechanism and repaint exposed support structure and railing to retractable seating in Performance Theatre	5	2014	3,000	18	4,000	.	4	.	.	4	.	4	.	4	16,000
	37	Replace digital projector recessed into ceiling of ground floor Performance Theatre	3	2011	7,000	18	9,000	9	9	.	9	9	.	9	9	9	63,000
	38	Replace projector screen in ground floor Performance Theatre	15	2014	3,000	18	4,000	.	4	.	.	.	.	.	.	4	8,000
	39	Replace equipment & appliances - progressive	1	2012	3,000	20	4,000	4	8	8	8	8	8	8	8	8	76,000
	40	Replace gas radiant heaters used in Art Studio courtyard (subject to availability of coffee service)	10	2013	3,000	20	4,000	.	4	.	.	.	4	.	.	.	8,000
FIRE PROTECTION																	
Fire Services	41	Replace / refurbish EWIS system	20	2018	72,000	15	83,000	.	.	.	83	.	.	.	.	.	83,000
ELECTRICAL																	
Electrical Services	42	Replace refurbish display lighting - progressive	5	2015	16,000	20	20,000	.	.	20	.	20	.	.	20	.	80,000
	43	Replace audio-visual systems (progressive)	5	2016	18,000	20	22,000	.	.	22	.	.	22	.	22	.	66,000
	44	Replace / upgrade security and access control system	18	2018	50,000	20	60,000	.	.	.	60	.	.	.	.	.	60,000
	45	Replace CCTV system	18	2024	30,000	20	36,000	.	.	.	.	.	36	.	.	.	36,000

lifetime total 1,676,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUBSTRUCTURE																		
Substructure	1	Regrade gravel and paved surfaces adjoining building to provide positive falls away from the building perimeter and towards grated drains in stormwater lines		2015	8,000	25	10,000	.	.	10	.	.	.	.	.	.	10,000
SUPERSTRUCTURE																		
Roof	2	Replace metal deck roof (including cappings and flashings, sarking and insulation) and concealed eaves gutters to galleries and toilet block	35	2015	82,000	25	103,000	.	.	103	.	.	.	.	.	.	103,000
	3	Install new downpipes discharging over grated drains in earth berms wherever possible, otherwise over grated drains at the lower ground level		2015	8,000	25	10,000	.	.	10	.	.	.	.	.	.	10,000
	4	Replace decayed fascia and pergola beams, including outrigger framing between them		2015	24,000	25	30,000	.	.	30	.	.	.	.	.	.	30,000
	5	Repaint fascia and pergola beams and outrigger framing	7	2015	5,000	18	6,000	.	.	6	.	.	6	.	.	6	18,000	
	6	Repaint shiplap timber board linings to eaves soffits (replacing any decayed boards)	10	2015	8,000	25	10,000	.	.	10	.	.	.	10	.	.	20,000	
External walls	7	Replace decayed timber posts (allowance for all corner posts and 25% of inboard posts)	25	2015	8,000	25	10,000	.	.	10	.	.	.	.	.	.	10,000
	8	Repaint exposed external timberwork, including posts and timber lattice enclosures to outdoor a/c condensor units	7	2015	8,000	18	10,000	.	.	10	.	.	10	.	.	10	30,000	
	9	Repaint bagged masonry external walls to galleries, toilet block and exposed faces of earth berm retaining walls	10	2015	9,000	18	11,000	.	.	11	.	.	.	11	.	.	22,000	
	10	Repaint sheltered external timberwork including door frames and window chair rails	10	2015	4,000	18	5,000	.	.	5	.	.	.	5	.	.	10,000	
Windows	11	Renew sealing compound to frameless glazing in gallery windows	10	2015	1,000	18	2,000	.	.	2	.	.	.	2	.	.	4,000	
External doors	12	Refurbish hardware to external doors (including plant room and toilet doors, gallery exit and main entry doors - hinges and hardware) - progressive	5	2011	3,000	18	4,000	4	.	4	.	.	4	.	4	.	16,000	
	13	Repaint external doors (including timber grille plant room and toilet doors and steel security bars and stain finished gallery doors)	10	2015	2,000	18	3,000	.	.	3	.	.	.	3	.	.	6,000	
Internal doors	14	Renew clear finish to veneer faced internal doors to office, store, staff toilet and plant room	10	2015	1,000	18	2,000	.	.	2	.	.	.	2	.	.	4,000	
	15	Refurbish door hardware (including hinges, locks, closers and pivots to frameless glass doors to galleries) - progressive	5	2011	3,000	18	4,000	4	.	4	.	.	4	.	4	.	16,000	
FINISHES																		
Wall finishes	16	Repaint bagged masonry walls to galleries, offices, store, staff toilet and external toilet block	10	2015	9,000	25	12,000	.	.	12	.	.	.	12	.	.	24,000	
	17	Renew stained finish to door frames and timber chair rails in frameless glazed windows	10	2015	1,000	25	2,000	.	.	2	.	.	.	2	.	.	4,000	
	18	Replace steel mesh and birdwire screening to upper level walls of external toilet block	30	2031	5,000	25	7,000	.	.	.	.	.	.	.	.	.	0
	19	Replace ceramic wall tiling splashbacks to vanity benches and urinals in external toilet block and staff toilet	30	2015	1,000	25	2,000	.	.	2	.	.	.	.	.	.	2,000
Floor finishes	20	Sand and renew clear finish to timber block parquet flooring to galleries (or install carpet throughout, depending on future use)	15	2030	13,000	18	16,000	.	.	.	.	.	.	.	.	16	16,000
	21	Replace timber block parquet flooring to galleries - No allowance pending determination of future use	35	2031	30,000	18	36,000	.	.	.	.	.	.	.	.	.	0
	22	Replace cork flooring to staff work areas - nominal allowance (floor finish may vary for future use)	20	2015	4,000	18	5,000	.	.	5	.	.	.	.	.	.	5,000
	23	Replace ceramic floor tiles to staff toilet and lay new tiles to concrete floor of external toilet block	35	2015	4,000	25	5,000	.	.	5	.	.	.	.	.	.	5,000
Ceiling finishes	24	Renew stained finish to shiplap timber boarding to gallery raked ceilings	15	2015	3,000	18	4,000	.	.	4	.	.	.	.	.	4	8,000
	25	Repaint sheet ceilings in office, store and lobbies	10	2015	2,000	18	3,000	.	.	3	.	.	.	3	.	.	6,000	
FITTINGS																		

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals	
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
Fitments																		
	26	Refurbish staff amenities to suit new function - nominal allowance	15	2015	15,000	25	19,000	.	.	19	19	38,000
	27	Replace storage racks and cabinets in Store to suit new function - nominal allowance	20	2015	5,000	18	6,000	.	.	6	.	.	.	.	.	.	6,000
	28	Replace vanity benches and toilet partitions in external toilet block, renew finishes	20	2015	16,000	25	20,000	.	.	20	.	.	.	.	.	.	20,000
	29	Replace sanitaryware in staff toilet and external toilet block	30	2015	12,000	26	16,000	.	.	16	.	.	.	.	.	.	16,000
	30	Replace eaves mounted retractable awning in entry court - provisional allowance	10	2020	7,000	25	9,000	.	.	.	.	9	.	.	.	.	18,000
	31	Replace tapware - progressive	5	2015	1,000		1,000	.	.	1	.	1	.	.	1	.	4,000	
FIRE PROTECTION																		
Fire Services	32	Modify & recommission fire detection system		2013	12,000		12,000	.	12	.	.	.	.	.	.	.	12,000
ELECTRICAL																		
Electrical Services	33	Modify & recommission security system		2013	10,000	20	12,000	.	12	.	.	.	.	.	.	.	12,000
	34	Replace general lighting	25	2013	24,000	20	29,000	.	29	.	.	.	.	.	.	.	29,000
MECHANICAL																		
HVAC Services	35	Refurbish HVAC services	20	2013	144,000	20	173,000	.	173	.	.	.	.	.	.	.	173,000
HYDRAULICS																		
Hydraulic Services	36	Upgrade existing U/G stormwater drainage & add grates for lower ground level discharges (see Roof)		2015	16,000	15	19,000	.	.	19	.	.	.	.	.	.	19,000
	37	New U/G stormwater drainage in earth berms with surface grates for new downpipes (see Roof)		2015	14,000	15	17,000	.	.	17	.	.	.	.	.	.	17,000
	38	Replace DHW unit	20	2015	3,000	20	4,000	.	.	4	.	.	.	.	.	.	4,000

lifetime total 747,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUBSTRUCTURE																		
Substructure	1	Restore effective stormwater drainage to Garage and driveway, around Woodshed and Air Raid Shelter	10	2020	4,000	25	5,000	.	.	.	.	5	.	.	.	5	10,000
	2	Residence: Allowance for rectifying possible defects revealed in inspection of floor framing	15	2025	30,000	25	38,000	.	.	.	.	.	.	38	.	.	38,000
SUPERSTRUCTURE																		
Roof	3	Residence: Selectively replace cracked terra cotta roof tiles and repoint capping tiles - progressive	5	2015	5,000	18	6,000	.	.	6	.	6	.	.	6	.	24,000	
	4	Residence: Repair timber shingles to gable ends of roof	15	2025	2,000	18	3,000	.	.	.	.	.	.	3	.	.	3,000
	5	Residence: Repair guttering, fit or refurbish membrane lining, repair downpipes	15	2025	8,000	25	10,000	.	.	.	.	.	.	10	.	.	10,000
	6	Residence: Repair finishes to chimney copings and shaft walls, repair flashings and repaint	10	2017	3,000	25	4,000	.	.	.	4	.	.	.	4	.	8,000	
	7	Residence: Repair and repaint barge boards, fascias and eaves linings	10	2017	5,000	18	6,000	.	.	.	6	.	.	.	6	.	12,000	
	8	Residence: Repair and repaint vents to gable ends of roof (including vents in masonry walls)	10	2017	3,000	18	4,000	.	.	.	4	.	.	.	4	.	8,000	
	9	Residence: Allowance for possible rectification works resulting from structural inspection of roof framing	20	2020	30,000	25	38,000	.	.	.	.	38	.	.	.	.	38,000
	10	Garage: Repair roofing, gutters and downpipes	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
	11	Cubby House and Woodshed: Repair roofing	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
	12	Garage, Cubby House, Woodshed: Repaint roof claddings and soffits	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
External walls	13	Residence: Repaint external timber trims and metalwork	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
	14	Cubby House; Complete carpentry repairs and painting/preservative work	10	2020	5,000	18	6,000	.	.	.	.	6	.	.	.	6	12,000
	15	Garage and Cubby House: Repaint external walls, timber trims and metalwork	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
Windows	16	Residence: Repoint window putty (where needed) and repaint timber window frames	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
	17	Residence: Ease and adjust all window, renew sashcords	10	2020	7,000	18	9,000	.	.	.	.	9	.	.	.	9	18,000
	18	Garage: Repoint window putty (where needed) and repaint timber window frame	10	2020	1,000	28	2,000	.	.	.	.	2	.	.	.	2	4,000
	19	Residence: Conserve / replace window furnishings and blinds	20	2030	15,000	25	19,000	.	.	.	.	.	.	.	.	19	19,000
External doors	20	Residence: Repaint timber doors and frames (including screened and glazed doors)	10	2020	1,000	18	2,000	.	.	.	.	2	.	.	.	2	4,000
	21	Garage and Cubby House: Repaint timber doors and frames	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
Internal doors	22	Residence: Refurbish doors identified in Condition Audit (including bell push at front door, repairs to doors of Laundry/WC, Maid's Room, Bedroom 3)		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	23	Residence: Replace gauze in door to Rear Porch, recoat thresholds to Entry Hal doors	10	2020	1,000	18	2,000	.	.	.	.	2	.	.	.	2	4,000
FINISHES																		
Wall finishes	24	Residence: Rectify cracks in ceilings and cornices	10	2020	3,000	25	4,000	.	.	.	.	4	.	.	.	4	8,000
	25	Patch cracks in external walls, touch up enamel and limewash finishes, apply red wash to base brickwork, thresholds and sills	10	2020	8,000	18	10,000	.	.	.	.	10	.	.	.	10	20,000
	26	Residence: Limewash ceilings and walls, clean varnish	20	2030	50,000	25	63,000	.	.	.	.	.	.	.	.	63	63,000
	27	Residence: Repair cracking and touch up finishes to all walls, rectify effects of damp and leaks in Sitting Room	20	2030	34,000	25	43,000	.	.	.	.	.	.	.	.	43	43,000
Floor finishes	28	Residence: Repair floorboards to loggia floors of Living Room and Bedroom 2	20	2030	5,000	25	7,000	.	.	.	.	.	.	.	.	7	7,000
	29	Residence: Protect linoleum in Kitchen and Maid's Room, repair split skirting in Bedroom 3		2011	5,000	25	7,000	7	.	.	.	.	.	.	.	.	7,000
FITTINGS																		
Fitments	30	Residence: Protect concrete topping to copper and concrete tubs		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:								Totals	
								2012	2014	2016	2018	2020	2022	2024	2026		2028	2030
	31	Residence: Refurbish fittings identified in Condition Audit (including bathtub, wardrobe, pianola handles, fireplace and hood)		2014	9,000	25	12,000	.	12	.	.	.	.	.	.	.	12,000
	32	Residence: Allowance for further conservation works of fittings		2024	12,000	25	15,000	.	.	.	.	.	15	.	.	.	15,000
	33	Residence: Rectify cistern in Laundry/WC, replace mismatching tap in Bathroom		2011	2,000	18	3,000	3	.	.	.	.	.	.	.	.	3,000
	34	Residence: Improve external signage	10	2020	1,000	25	2,000	.	.	.	.	2	.	.	.	2	4,000
	35	Residence: Allowance for handling, moving and storing collection during works		20	20,000	3	21,000	.	.	.	.	.	.	.	.	21	21,000
Equipment/misc.	36	Restore / replace equipment and appliances		25	12,000	20	15,000	.	.	15	.	.	.	.	.	.	15,000
FIRE PROTECTION																	
Fire Services	37	Fit domestic fire protection system (depending on findings of Risk Assessment Report)		40	24,000	15	28,000	28	.	.	.	.	.	.	.	.	28,000
	38	Garage: Install smoke alarm		15	1,000	15	2,000	.	.	.	.	.	.	2	.	.	2,000
ELECTRICAL																	
Electrical Services	39	Replace / upgrade security system		15	9,000	20	11,000	.	.	11	.	.	.	.	.	11	22,000
	40	Residence: Light fitting repairs and conservation		2011	2,000	20	3,000	3	.	.	.	.	.	.	.	.	3,000
	41	Residence: Repairs to wiring and appliances - progressive		5	1,000	20	2,000	.	.	2	.	.	2	.	2	.	6,000
HYDRAULICS																	
Hydraulic Services	42	Inspection of underground sanitary drainage services		2015	3,000	15	4,000	.	.	4	.	.	.	.	.	.	4,000
SITE WORKS																	
Outbuildings	43	Repair rustic timber garden structures and clothesline		15	6,000	25	8,000	.	.	.	.	.	.	8	.	.	8,000
Pavements	44	Residence: Repair paved court		2011	5,000	29	7,000	7	.	.	.	.	.	.	.	.	7,000
Roadways	45	Stabilise driveways against erosion and resurface - allow 250 m ²		10	5,000	25	7,000	7	.	.	.	.	7	.	.	.	14,000

lifetime total 570,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUBSTRUCTURE																		
Substructure	1	Cottage: Replace decayed timber floor framing - allow 2 m ²		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
SUPERSTRUCTURE																		
Roof	2	Timber framed lean-to structures: Repairs recommended by 2004 and 2010 structural engineering reports - Tie down roof structures and brace timber walls against wind loads, attach securely to the main buildings	40	2011	10,000	25	13,000	13	.	.	.	.	.	.	.	.	13,000
	3	Cottage: Attach awning, repair and align gutters		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	4	Cottage: Repair roof cladding in matching materials (progressive)	5	2016	2,000	25	3,000	.	.	3	.	.	3	.	3	.	9,000	
	5	Slab Kitchen: Resecure roof sheets, fill/repair holes, clear and repair downpipe	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
	6	Flat: Repair barge and ridge cappings and guttering (allow 60 m), clear and repair downpipe	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
	7	Flat: Replace fibreglass roofing over rear porch/alcove	20	2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
External walls	8	Cottage: Repair base plates to slab walls, repair verandah post bases, repair and oil breezeway post(s)	10	2011	3,000	25	4,000	4	.	.	.	.	4	.	.	.	8,000
	9	Cottage: Restore spalling finishes to external walls, repoint rubblestone base wall	5	2016	2,000	25	3,000	.	.	3	.	.	3	.	3	.	9,000	
	10	Flat: Repaint external walls, timber trims and metalwork	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
	11	Slab Kitchen: Rectify defects in walls, seal vermin entry points, repair Dining Room window		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
	12	Cottage: Complete detailed repairs to windows in Bedrooms 3 and 7 and Father's Room		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
Windows	13	Cottage and Flat: Repoint window putty (where needed) and repaint timber window frames	10	2011	1,000	25	2,000	2	.	.	.	.	2	.	.	.	4,000
	14	Slab Kitchen: Reinstate window latch		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	15	Flat: Detailed repairs to windows and doors		2011	2,000	25	3,000	3	.	.	.	.	.	.	.	.	3,000
External doors	16	Cottage: Repair and repaint external doors	10	2011	1,000	25	2,000	2	.	.	.	.	2	.	.	.	4,000
	17	Slab Kitchen: Detailed repairs to doors		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	18	Flat: Repaint timber doors and frames	10	2011	1,000	18	2,000	2	.	.	.	.	2	.	.	.	4,000
Internal doors	19	Cottage: Complete detailed repairs to Bedroom 3 and Meat Room doors		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
FINISHES																		
Wall finishes	20	Cottage: Renew limewash to walls of Bedroom 7 and Meat Room	10	2011	4,000	18	5,000	5	.	.	.	.	5	.	.	.	10,000
	21	Cottage: Renew limewash to walls of Bedroom 3 and Hall	10	2020	4,000	18	5,000	.	.	.	.	5	.	.	.	5	10,000
	22	Cottage: Repaint walls of Father's Room and repair trims	10	2011	9,000	18	11,000	11	.	.	.	.	11	.	.	.	22,000
	23	Cottage: Make good wallpaper to Living Room walls - progressive	2	2012	2,000	25	3,000	3	3	3	3	3	3	3	3	3	30,000	
	24	Cottage: Refurbish plaster in Front Bedroom	10	2020	1,000	25	2,000	.	.	.	.	2	.	.	.	2	4,000
	25	Slab Kitchen: Refinish Kitchen walls	10	2020	3,000	25	4,000	.	.	.	.	4	.	.	.	4	8,000
	26	Slab Kitchen: Complete minor detailed repairs to trims		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	27	Flat: Repaint internal wall surfaces, trims and skirtings	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
Floor finishes	28	Flat: Rectify lifting tiles in Kitchen, worn linoleum in Bathroom, grout shower hob	10	2011	2,000	25	3,000	3	.	.	.	.	3	.	.	.	6,000
	29	Flat: Repair pine T&G boards to Sunroom floor		2011	1,000	18	2,000	2	.	.	.	.	.	.	.	.	2,000
	30	Flat: Stabilise fraying edges and surfaces of linoleum		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
	31	Flat: Allowance for eventual replacement of carpet and sheet flooring		2025	6,000	25	8,000	.	.	.	.	.	.	8	.	.	8,000
Ceiling finishes	32	Cottage: Refurbish hessian ceiling and plaster in Living Room - progressive	2	2012	2,000	25	3,000	3	3	3	3	3	3	3	3	3	30,000	
	33	Cottage: Make good ceiling/roof of Meat Room	10	2011	1,000	25	2,000	2	.	.	.	.	2	.	.	.	4,000
	34	Slab Kitchen: Complete detailed repairs to ceilings and cornices	10	2011	2,000	25	3,000	3	.	.	.	.	3	.	.	.	6,000
	35	Flat: Repaint ceilings and trims (allowance)	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
FITTINGS																		
Equipment/misc.	36	Cottage: Rectify fireplace defects	10	2020	2,000	25	3,000	.	.	.	.	3	.	.	.	3	6,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:								Totals	
								2012	2014	2016	2018	2020	2022	2024	2026		2028	2030
	37	Slab Kitchen: Repair fireplace (rebed birckwork, apply sacrificial mortar, limewash alcove)		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
	38	Slab Kitchen: Detailed repairs to joinery		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	39	Flat: Repair cracking and paint damage to firechamber in fireplace		2011	1,000	25	2,000	2	.	.	.	.	.	.	.	.	2,000
	40	Improve directional and interpretive signage	15	2023	4,000	25	5,000	.	.	.	.	.	5	.	.	.	5,000
	41	Replace / refurbish Education Centre services and equipment - progressive	5	2015	4,000	20	5,000	.	.	5	.	5	.	.	5	.	20,000
FIRE PROTECTION																	
Fire Services	42	Cottage and Flat: Additional fire protection measures (depending on findings of Risk Assessment report)		2013	18,000	15	21,000	.	21	.	.	.	.	.	.	.	21,000
ELECTRICAL																	
Electrical Services	43	Install RCDs for electrical safety		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
	44	Complete wiring repairs for electrical safety	10	2011	1,000	18	2,000	2	.	.	.	.	2	.	.	.	4,000
SITE WORKS																	
Outbuildings	45	Shed: Allowance for extensive range of works in Historic Places forward planning	10	2011	10,000	25	13,000	13	.	.	.	.	13	.	.	.	26,000
Fences	46	Repair / replace grazing paddock fencing - allow 1 km	20	2015	2,000	18	3,000	.	.	3	.	.	.	.	.	.	3,000
	47	Repaint garden fences and picket fences	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
Paths	48	Attend to brick edging and tip hazards on paths	5	2015	3,000	18	4,000	.	.	4	.	4	.	.	4	.	16,000
Roadways	49	Regrade/resurface visitor access road and parking areas - allow 2,000 m ²	5	2015	10,000	18	12,000	.	.	12	.	12	.	.	12	.	48,000

lifetime total 417,000

Asset replacement works 2011 - 2030 (reported in 2 year periods)

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:										\$ Totals
								2012	2014	2016	2018	2020	2022	2024	2026	2028	2030	
SUBSTRUCTURE																		
Substructure	1	Restore effective stormwater drainage at ground level perimeters of Building 1 (Slab Hut), Building 2 (Kitchen), Building 5 (Stables) and Building 10 (Homestead)		2011	12,000	25	15,000	15	.	.	.	.	.	.	.	.	15,000
	2	Building 4 (Station Office): Underpin external walls (including northern wall identified in 2010 structural report) and repair cracks		2011	20,000	25	25,000	25	.	.	.	.	.	.	.	.	25,000
	3	Homestead: Complete subfloor inspection of all rooms and any necessary preventive works	15	2025	32,000	25	40,000	.	.	.	.	.	40	.	.	.	40,000
	4	Cottages: Complete wombat baffles to three cottages		2013	7,000	25	9,000	.	9	.	.	.	.	.	.	.	9,000
	5	Cottages: Install insulation below elevated floors (see BCA as guide) - allow 600 m ²	40	2011	15,000	18	18,000	18	.	.	.	.	.	.	.	.	18,000
SUPERSTRUCTURE																		
Roof	6	Homestead: Apply special conservation measures to tessellated tiles		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	4,000
	7	Homestead: Secure roofing and cappings, repair barges, fascias and eaves	10	2019	15,000	25	19,000	.	.	.	.	19	.	.	.	19	38,000
	8	Building 1: Strip and limewash chimney to Slab Hut	10	2011	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	9	Buildings 2 & 6: Install/renew birdproofing to roofs of Building 2 (Kitchen) and Building 6 (Stone Barn)	10	2011	5,000	18	6,000	6	.	.	.	.	6	.	.	.	12,000
	10	Building 2 (Kitchen): Secure roofing, repair cappings and flashings	10	2020	2,000	18	3,000	.	.	.	.	3	.	.	.	3	6,000
	11	Building 3 (Cafe): Secure roofing, repair cappings and flashings	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	6,000
	12	Building 4 (Station Office): Secure roofing and cappings, repair barges, fascias and eaves	10	2011	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	13	Building 5 (Stables): Rectify fungal attack in roof frame, secure roofing and cappings, repair barges	10	2011	5,000	18	6,000	6	.	.	.	.	6	.	.	.	12,000
	14	Building 6 (Stone Barn): Secure roofing and cappings, repair barges and edges of shakes	10	2011	5,000	18	6,000	6	.	.	.	.	6	.	.	.	12,000
	15	Farm Buildings: Repair roof cladding in matching materials - allow 50 m ²	10	2012	7,000	25	9,000	9	.	.	.	.	9	.	.	.	18,000
	16	Cottages: Repair roof cladding in matching materials - allow 50 m ²	10	2013	7,000	25	9,000	.	9	.	.	.	.	9	.	.	18,000
	17	Farm Buildings: Repair barge, ridge and hip cappings and guttering in matching profiles - allow 20 m	10	2012	2,000	25	3,000	3	.	.	.	.	3	.	.	.	6,000
	18	Cottages: Repair barge, ridge and hip cappings and guttering in matching profiles - allow 20 m	10	2013	2,000	25	3,000	.	3	.	.	.	.	3	.	.	6,000
	19	Cottages: Insulate presently uninsulated ceilings in Cottages 2,3 and 6 (See BCA for guide) - allow 500 m ²	40	2011	8,000	18	10,000	10	.	.	.	.	.	.	.	.	10,000
	20	Homestead: Repaint barges, fascias and eaves gutters	5	2015	3,000	18	4,000	.	.	4	.	4	.	4	.	4	16,000	
	21	Buildings 1-8: Repaint barges, fascias and eaves gutters	5	2014	10,000	18	12,000	.	12	.	.	12	.	12	.	12	48,000	
	22	Farm Building: Repaint barges, fascias and eaves gutters	10	2012	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	23	Cottages: Repaint barges, fascias, eaves gutters and soffit linings	10	2013	6,000	18	8,000	.	8	.	.	.	8	.	.	.	16,000	
	24	Historic Precinct - all buildings (including toilet block): Repaint roof claddings	10	2019	55,000	18	65,000	.	.	.	.	65	.	.	.	65	130,000
	25	Farm Buildings: Repair and repaint roof cladding	10	2012	15,000	18	18,000	18	.	.	.	.	18	.	.	.	36,000
	26	Cottages: Repair and repaint roof cladding	10	2013	18,000	18	22,000	.	22	.	.	.	.	22	.	.	44,000
	27	Homestead: Repaint eaves soffit linings	10	2011	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	28	Farm Buildings: Repaint soffit linings (principally underside of skillions)	10	2012	3,000	18	4,000	4	.	.	.	.	4	.	.	.	8,000
	29	Homestead: Repair finishes to chimney copings and shaft walls, repair flashings and repaint	5	2015	5,000	25	7,000	.	.	7	.	7	.	7	.	7	28,000	
	30	Cottages: Repair finishes to chimney copings and shaft walls, repair flashings and repaint - allow 80 m ²	10	2013	9,000	18	11,000	.	11	.	.	.	.	11	.	.	22,000
External walls	31	Homestead: Rectify causes and effects of damp in external walls - Stage One (staged to allow continuing visitation)		2011	20,000	25	25,000	25	.	.	.	.	.	.	.	.	25,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:								Totals
								2012	2014	2016	2018	2020	2022	2024	2026		2028	2030
	32	Homestead: Rectify causes and effects of damp in external walls - Stage Two (staged to allow continuing visitation)		2011	20,000	26	26,000	26	.	.	.	.	.	.	.	26,000
	33	Homestead: Rectify salination of external walls		2011	16,000	25	20,000	20	.	.	.	.	.	.	.	20,000
	34	Homestead: Repoint joints in various locations		2018	8,000	25	10,000	.	.	.	10	.	.	.	.	10,000
	35	Building 3 (Cafe): Underpin external walls and repair cracks		2011	20,000	25	25,000	25	.	.	.	.	.	.	.	25,000
	36	Building 6 (Stone Barn): Complete rectification of rising damp and salination, repoint wall		2011	24,000	25	30,000	30	.	.	.	.	.	.	.	30,000
	37	Historic Precinct - all buildings: Prepare external walls for renewal of limewash		2011	100,000	25	125,000	125	.	.	.	.	.	.	.	125,000
	38	Historic Precinct - all buildings: Renew limewash to external walls	5	2011	100,000	18	118,000	118	.	118	.	.	118	.	118	472,000
	39	Historic Precinct - all buildings: Complete detail painting to external walls	10	2011	40,000	18	48,000	48	.	.	.	.	.	.	.	96,000
	40	Toilet block: Rectify defects in external walls and repaint	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	6,000
	41	Farm Buildings: Repaint external walls and timber trims	10	2012	10,000	25	13,000	13	.	.	.	.	13	.	.	26,000
	42	Cottages 2 & 3: Repaint external walls, timber trims and metalwork (last done in 2007)	10	2017	3,000	18	4,000	.	.	.	4	.	.	.	4	8,000
	43	Cottages 1 & 4-6: Repaint external walls, timber trims and metalwork	10	2013	5,000	18	6,000	.	6	.	.	.	.	6	.	12,000
Windows	44	Homestead: Ease and adjust windows to all rooms, fit new sash cords	10	2011	15,000	18	18,000	18	.	.	.	.	18	.	.	36,000
	45	Homestead: Complete programmed works to window hardware and other defects in Rooms 5, 6, 10, 11a-c, 12, 13 and 18		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	4,000
	46	Homestead: Refurbish/renew window treatments to all rooms	10	2014	32,000	25	40,000	.	40	.	.	.	.	40	.	80,000
	47	Homestead: Repair gauze to windows, including Room 18 (Guest Room) and Room 19 (Fernery)	10	2020	7,000	25	9,000	.	.	.	.	9	.	.	.	18,000
	48	Homestead: Repoint putty (where needed) and repaint timber window and door frames	10	2011	2,000	25	3,000	3	.	.	.	.	3	.	.	6,000
	49	Buildings 1-8: Repoint putty (where needed) and repaint timber window and door frames (Lanyon Outbuildings)	5	2011	4,000	18	5,000	5	.	5	.	.	5	.	5	20,000
	50	Cottages: Repoint putty (where needed) and repaint timber window and door frames - allow 100 m ²	10	2013	4,000	18	5,000	.	5	.	.	.	.	5	.	10,000
External doors	51	Farm Buildings: Repaint timber doors and frames (preserving escutcheon pattern) - allow 50 m ²	10	2012	2,000	25	3,000	3	.	.	.	.	3	.	.	6,000
Internal doors	52	Homestead: Attend to door hardware (including stripping paint from rimlocks)		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	4,000
	53	Homestead: Ease and adjust all doors	10	2011	10,000	18	12,000	12	.	.	.	.	12	.	.	24,000
	54	Buildings 2 & 8: Rectify decayed jamb to Laundry door in Building 2 (Kitchen), strip and recommission door hardware in Building 8 (Stone Hut)		2011	2,000	25	3,000	3	.	.	.	.	.	.	.	3,000
	55	Buildings 1, 2 & 8: Realign doors in Building 1 (Slab Hut), minor works to Dry Stores door in Building 2, ease and adjust doors to Building 8 (Stone Hut)	10	2011	3,000	18	4,000	4	.	.	.	.	.	4	.	8,000
FINISHES																
Wall finishes	56	Homestead: Seal surfaces of asbestos sheeting in Bathrooms (11a & 11b), Room 11c, Kitchen and Pantry/Bootroom		2011	3,000	18	4,000	4	.	.	.	.	.	.	.	4,000
	57	Homestead: Rectify leaks through walls in Room 11c and remedy effects of leaks in Rooms 8 and 9		2011	12,000	25	15,000	15	.	.	.	.	.	.	.	15,000
	58	Homestead: Rectify causes and effects of damp in internal walls		2011	12,000	25	15,000	15	.	.	.	.	.	.	.	15,000
	59	Homestead: Extra allowance for slab floors in Bathrooms (11a & 11b) and Laundry		2011	15,000	25	19,000	19	.	.	.	.	.	.	.	19,000
	60	Homestead: repair wallpaper after damp rectification and plaster work		2011	4,000	25	5,000	5	.	.	.	.	.	.	.	5,000
	61	Homestead: Rectify cracking and defects in plasterwork (initial corective works)		2011	30,000	25	38,000	38	.	.	.	.	.	.	.	38,000
	62	Homestead: Rectify cracking and defects in plasterwork (subsequent repair works)	10	2021	30,000	25	38,000	.	.	.	.	.	38	.	.	38,000
	63	Homestead: Complete internal painting and decorative finishes to walls and ceilings to all rooms (under direction)	10	2011	152,000	25	190,000	190	.	.	.	.	.	.	.	380,000

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:								Totals		
								2012	2014	2016	2018	2020	2022	2024	2026		2028	2030
	64	Building 2 (Kitchen): Repairs to plaster in Laundry, Store, Dry Stores, Cool Room	10	2011	2,000	18	3,000	3	.	.	.	.	3	.	.	.	.	6,000
	65	Building 4 (Station Office): Rectify plaster and selected decorative finishes in Office, rectify gaps and gauze in Meat Room	10	2011	8,000	25	10,000	10	.	.	.	.	10	.	.	.	.	20,000
	66	Building 5 (Stables): Rectify selected decorative finishes in Tack Room, Store Room and Stables	10	2011	3,000	25	4,000	4	.	.	.	.	4	.	.	.	.	8,000
	67	Building 8 (Stone Hut): Rectify selected decorative finishes in North and South Rooms	10	2011	2,000	25	3,000	3	.	.	.	.	3	.	.	.	.	6,000
	68	Homestead: Rectify fungal attack to wall side stringer of stair in Corridor B (to upper storey bedrooms)		2011	4,000	25	5,000	5	.	.	.	.	.	.	.	.	.	5,000
	69	Historic Precinct - Buildings 1-8: Renew limewash to internal walls - Stage 1 (to spread costs)	10	2011	63,000	18	75,000	75	.	.	.	.	75	.	.	.	.	150,000
	70	Historic Precinct - Buildings 1-8: Renew limewash to internal walls - Stage 2 (to spread costs)	10	2012	63,000	18	75,000	75	.	.	.	.	75	.	.	.	.	150,000
	71	Cottages: Repaint internal wall surfaces, doors, trims and skirtings - allow 800 m ²	10	2013	8,000	18	10,000	.	10	.	.	.	.	10	.	.	.	20,000
Floor finishes	72	Homestead: Repair vinyl skirting in Pantry/Bootroom, replace decayed skirting in Workroom, prevent further damage to floorboards in Education Store Room		2011	3,000	18	4,000	4	.	.	.	.	.	.	.	.	.	4,000
	73	Homestead: Treat floorboards to Fernery	7	2015	1,000	18	2,000	.	.	2	.	.	2	.	.	.	2	6,000
	74	Buildings 2 & 8: Stabilise concrete floors (verandah of Building 2, North and South Rooms of Building 8)		2011	4,000	18	5,000	5	.	.	.	.	.	.	.	.	.	5,000
	75	Building 5: Remove concrete patching, install hardwood block floor		2011	3,000	25	4,000	4	.	.	.	.	.	.	.	.	.	4,000
	76	Homestead: Selectively replace worn carpet and rugs in similar types - progressive	5	2011	14,000	25	18,000	18	.	18	.	.	18	.	18	.	.	72,000
	77	Cottages: Replace carpet and sheet flooring - allow 600 m ²	10	2013	48,000	18	57,000	.	57	.	.	.	.	57	.	.	.	114,000
Ceiling finishes	78	Homestead: Repair ceilings and cornices in all rooms (including loose boards in Trophy Room and sagging ceiling in Curatorial Office)		2011	16,000	25	20,000	20	.	.	.	.	.	.	.	.	.	20,000
	79	Buildings 2 & 3: Repair ceilings and seal gaps	10	2011	1,000	18	2,000	2	.	.	.	.	2	.	.	.	.	4,000
	80	Homestead: Repaint ceiling linings and trims	5	2011	10,000	18	12,000	12	.	12	.	.	12	.	12	.	.	48,000
	81	Buildings 1-8: Repaint ceiling linings and trims - allow 300 m ²	10	2011	8,000	28	11,000	11	.	.	.	.	11	.	.	.	.	22,000
	82	Cottages: Repaint ceiling linings and trims - allow 600 m ²	10	2013	9,000	18	11,000	.	11	.	.	.	.	11	.	.	.	22,000
FITTINGS																		
Fitments	83	Homestead: Conserve bathroom tiles and porcelain fittings		2011	10,000	25	13,000	13	.	.	.	.	.	.	.	.	.	13,000
	84	Building 2 & Homestead: Install pegrail in Pantry, anchor galvanised pipe in Laundry of Building 2, ease and adjust cupboard in Room 11c) of Homestead		2011	2,000	18	3,000	3	.	.	.	.	.	.	.	.	.	3,000
	85	Buildings 2, 5 & Homestead: Repair fireplaces		2011	4,000	25	5,000	5	.	.	.	.	.	.	.	.	.	5,000
	86	Cafe: Refurbish café kitchen with new stainless steel fittings	15	2013	16,000	25	20,000	.	20	.	.	.	.	.	.	20	.	40,000
	87	Toilet block: Provision of accessible toilet facilities - allowance	25	2012	20,000	25	25,000	25	.	.	.	.	.	.	.	.	.	25,000
	88	Cottages: Repair water damaged bathroom linings and finishes in one cottage (Cottages 2 & 6 repaired in 2007)		2011	6,000	25	8,000	8	.	.	.	.	.	.	.	.	.	8,000
	89	Cottages: Refurbish kitchens with new PC items, cabinets, sinks and tapware	25	2013	64,000	25	80,000	.	80	.	.	.	.	.	.	.	.	80,000
	90	Cottages: Refurbish bathrooms with new tiling, PC items, tapware, joinery and mirrors	25	2013	56,000	25	70,000	.	70	.	.	.	.	.	.	.	.	70,000
	91	Upgrade signage (front entrance, camera surveillance warning, traffic, other)	10	2011	8,000	25	10,000	10	.	.	.	.	10	.	.	.	.	20,000
	92	Install interpretive panels in Barn	10	2011	12,000	25	15,000	15	.	.	.	.	15	.	.	.	.	30,000
	93	Upgrade external directional signage and internal interpretive signage	10	2011	50,000	25	63,000	63	.	.	.	.	63	.	.	.	.	126,000
Equipment/misc.	94	Cafe: Replace café and general equipment - progressive	5	2012	5,000	20	6,000	6	.	.	6	.	6	.	.	6	.	24,000
	95	Conservation works to Collection - progressive	1	2011	2,000	25	3,000	6	6	6	6	6	6	6	6	6	6	60,000
	96	Conserve buggy		2014	6,000	25	8,000	.	8	.	.	.	.	.	.	.	.	8,000
ELECTRICAL																		

Cost source/element	ID	Asset replacement works	Frequency (Yrs)	Next due in (Financial Year)	Net Trade Value (2011 \$ values)	On-Cost %	o/a Cost \$ (excl. GST)	\$,000s for 2 year period ending in:									Totals	
								2012	2014	2016	2018	2020	2022	2024	2026	2028		2030
Electrical Services	97	Replace non-heritage general light fittings after inspection for deterioration	35	2020	22,000	20	27,000	.	.	.	.	27	.	.	.	.	.	27,000
	98	Repair Homestead garden lights	10	2018	15,000	20	18,000	.	.	.	18	.	.	.	.	18	.	36,000
	99	Install /upgrade movement sensors and siren	10	2021	6,000	20	8,000	.	.	.	.	.	8	.	.	.	.	8,000
MECHANICAL																		
HVAC Services	100	Cottages: Fit new split heat pumps to cottages	20	2013	30,000	20	36,000	.	36	.	.	.	.	.	.	.	.	36,000
HYDRAULICS																		
Hydraulic Services	101	Repair / line river water storage tanks on hill	40	2012	22,000	15	26,000	26	.	.	.	.	.	.	.	.	.	26,000
	102	Replace or overhaul electric pump		2013	9,000	20	11,000	.	11	.	.	.	.	.	.	.	.	11,000
	103	Replace sprinkler system water tank		2025	8,000	20	10,000	.	.	.	.	.	.	.	10	.	.	10,000
	104	Refurbish river water system		2025	15,000	15	18,000	.	.	.	.	.	.	.	18	.	.	18,000
	105	Replace / upgrade homestead drainage		2012	15,000	15	18,000	18	.	.	.	.	.	.	.	.	.	18,000
	106	Replace elevated potable water tank supplying water to Cafe, etc.		2015	4,000	20	5,000	.	.	5	.	.	.	.	.	.	.	5,000
SITE WORKS																		
Fences	107	Building 2 (Kitchen): Repair brick garden fence	10	2019	7,000	18	9,000	.	.	.	.	9	.	.	.	.	.	18,000
	108	Building 5 (Stables) & 4 (Station Office): Repair fences	10	2011	3,000	18	4,000	4	.	.	.	.	4	.	.	.	.	8,000
	109	Repair / replace standard fences and gates to 80 hectare site - allow 1 km of 7.5 km total each cycle	10	2015	3,000	25	4,000	.	.	4	.	.	.	.	4	.	.	8,000
	110	Repaint sawn timber yard fencing to farm buildings - allow 1 km each cycle	10	2012	5,000	25	7,000	7	.	.	.	.	7	.	.	.	.	14,000
	111	Repair / duplicate heritage fences - allow 500 m each cycle	10	2011	15,000	28	20,000	20	.	.	.	.	20	.	.	.	.	40,000
Roadways	112	Renew gravel to Historic Precinct pathways	5	2015	8,000	18	10,000	.	.	10	.	10	.	.	10	.	10	40,000
	113	Renew gravel to Historic Precinct driveways	5	2015	10,000	18	12,000	.	.	12	.	12	.	.	12	.	12	48,000
	114	Maintain roadways and visitor parking areas to Historic Precinct	1	2011	15,000	18	18,000	36	36	36	36	36	36	36	36	36	36	360,000
	115	Regrade other onsite access roads (Lanyon) - allow 3 km	5	2013	30,000	18	36,000	.	36	.	36	.	.	36	.	36	.	144,000
Landscape	116	Rectification work to rotting tree stump		2011	4,000	18	5,000	5	.	.	.	.	.	.	.	.	.	5,000

lifetime total 4,327,000

Appendix 2: Structural Inspection Summary

Original Structural Inspections

In 2004, visual inspections of the historic structures were undertaken by structural engineers, Rogers + Jefferis. The assessments were undertaken to determine if the cracking observable in most heritage structures implied any underlying structural problems that would require corrective measures within the time frame for asset management planning. The engineer's brief was to identify any such work likely to be needed on the balance of probabilities.

The 2004 inspections indicated that the presence of cracking did not necessarily imply that the structural integrity of the building was compromised. However, the inspections identified a number of structural issues with the historic places. Since the original inspections, almost all of the enumerated problems have been corrected with the exception of the stabilisation of timber lean to structures at Mugga Mugga. The cracking at historic places has also been substantially remediated, thereby improving the weatherproofing and presentation of the historic facilities. The stabilisation of the timber structures at Mugga is receiving attention. However, the appropriate solution may be different from the reinforcement originally envisaged.

The remediation of cracking will be a complex ongoing issue that needs to account for heritage aspects, weatherproofing, presentation and practical issues. However, the Corporation now has considerable experience in addressing this issue. Cracking needs to be carefully monitored over time because unusually large or progressive cracking may imply an underlying structural problem that needs to be addressed.

Updated Structural Inspections

For the current planning update, new inspections of the historic structures have been undertaken by Northrop Engineers. The engineer's brief was essentially unchanged, namely, to identify any structural issues likely to impact on the asset management planning. The updated structural inspection summary follows. The engineer has reported in the context of the original structural inspection and has recorded the substantial progress made since 2004.

Excluding the known problem with the Mugga Mugga timber lean-to, the major issue with asset management implications is the need for underpinning the northern wall of the Meat House / Site Office building. When this building was inspected in 2004 it was flagged as needing to be monitored over time. It appears that the wall settlement has continued and now reached the point where intervention is needed.

Note that the current structural advice, like that in 2004, is framed using a 'balance-of-probability' assessment to try to predict any current or future problems that need to be allowed for in the planning. For this reason it does not constitute a structural certification for any of the structures.

ACT Historic Places Structural Inspection Summary

Building	Observations	Conclusions	Prognosis	Recommendations
Lanyon – Homestead	Most of the cracking in walls of the building observed in 2004 has been repaired recently. There is some cracking in walls around the bathroom in the southwest corner of the building but it is understood that these will be repaired in the near future.	Cracking in the walls is the result of foundation movement. Footings are flexible and are founded in reactive clay soils. The cracking does not affect the overall structural integrity of the building.	The building will continue to move and cracks that have been repaired may re-occur. This will have no effect on the structural integrity of the building.	No structural repair is necessary.
Lanyon – Old kitchen	The northern and southern walls of the building were underpinned and the large cracks in these walls were repaired in 2008. At the same time, a buttress wall was built to stabilise the northern wall of the lean-to. Some minor cracking has recurred in the underpinned walls and there are a number of cracks, perhaps a bit more extensive than in 2004, in the eastern and western walls.	As for the homestead, the cracking in walls is the result of foundation movement.	Movement of the walls will continue and cracking will continue to occur – even in the walls that have been underpinned. The cracking in these walls is likely to be fairly superficial, but more extensive cracking could occur in the other walls – partly because the walls perpendicular to them are now more stable.	No further structural repair is necessary at this stage. The extent of cracking should be reviewed again in a couple of years.
Lanyon – Cafe / barracks	There is minor cracking in most walls. A larger crack near the southern corner of the western wall has been filled with a flexible filler but the wall has not been re-rendered.	The cracking in walls is the result of foundation movement and is not structurally significant.	Movement will continue and if cracking is repaired it may recur.	No structural repair is needed immediately but it would be prudent to record and monitor cracking.

ACT Historic Places Structural Inspection Summary

Building	Observations	Conclusions	Prognosis	Recommendations
Lanyon – Meat house / site office	There are some large cracks in the walls of this building, the most significant in the northern wall. Part of the wall on the eastern side of the building leans out at the top. The wall opposite, on the western side, seems to lean in.	The cracking is the result of foundation movement. The damage here seems to have been exacerbated by a very large tree that was growing against the western wall. The tree and the stump have now been removed.	Movement will continue and cracking will continue to occur.	The northern wall should be underpinned and the cracks repaired – as has been done in the kitchen and the coach house. The other cracks should be monitored but immediate repairs are not necessary.
Lanyon – Coach house / stables	The northern wall of this building was underpinned in 2008 and the cracks were repaired. Some minor cracking has recurred. The width of a large crack near the northern end of the western wall may have increased – possibly a result of underpinning the northern wall. There are wide cracks in the walls in a number of other locations.	As for the homestead, the cracking in walls is the result of foundation movement. Although some cracks are quite wide, there is no significant risk to the building structure.	Movement will continue. If cracking is repaired, it is likely to recur.	No structural repair needed at this time. If weathering occurs in the wall around larger cracks, the cracks should be repaired.
Lanyon – external masonry walls	The external walls appear to be sound and stable.			No action is necessary.
Lanyon – Convict barn	There are no apparent structural problems.			No action is necessary.
Lanyon – Wilson’s cottage	There are no apparent structural problems.			No action is necessary.

ACT Historic Places Structural Inspection Summary

Building	Observations	Conclusions	Prognosis	Recommendations
Calthorpes' House	The cracking in walls observed in 2004 has been repaired recently.		The building will continue to move and cracks that have been repaired may re-occur. This will have no effect on the structural integrity of the building.	No structural repair is necessary.
Mugga Mugga Homestead	The masonry buildings appear to be in sound condition. Most of the timber framed lean-to structures appear to be poorly constructed, are generally in very poor condition and are not securely attached to the main buildings.	The external timber framed structures do not have capacity to resist potential wind loads.		If the external structures are retained as part of the complex, they should be repaired and fixed securely to resist the wind loads specified in Australian Standards.

Appendix 3: Capital Works 2005-2010

A3.1 Lifecycle & Development Works

The Corporation's lifecycle and development works over the period 2005 – 2010 are summarised in the tabulations following. Cost for the development items are included in the summary only where they were available from readily accessible sources. Cost are approximations and are rounded to the nearest thousand dollars. The designation 'N/A' indicates cost were not readily available and accessible for the purposes of this report. They would likely be recorded in a number of project files held by the Corporation.

A3.2 CFC Capital Works (2005-2010)

General

The information in the following tables comes from a number of sources. The primary source is the Corporation's annual reports. As most of the information sources provided summary data, the scope and costs are not well delineated. In addition, it is likely that not all capital works for the relevant periods have been captured. Nevertheless, the listing provide a valuable insight into over half a decade of lifecycle investment.

The high level summarising from the source documents does not allow ready comparison with the more detailed works listing in the Asset Plan. Since other sources with sufficient detail were not discovered, this issue of the asset management plan does not directly compare the costs or timing of forecast works with those actually undertaken.

Capital Works Items 2005

The following table list works in the 2004-05 financial year

Item	Description	Cost
Canberra Theatre		
Roof safety upgrade	Provision of fall restraint system for Theatre roof	\$200,000
Audio upgrade	Upgrade of front of house speaker system	\$300,000
Access improvement	Access improvement feasibility study / business case	\$50,000
Thespis sculpture conservation	Conservation cleaning, removal and storage (for installation in new Library / Link building	\$16,000
HVAC upgrade	HVAC Upgrade works	\$48,000
Canberra Museum & Gallery		
Nolan Gallery assessment	Nolan gallery / orientation centre options study & business case	\$61,000
Security system	Nolan gallery security system upgrade	\$27,000
Lanyon Estate		

Item	Description	Cost
Development works	Education centre and cafe improvements (External painting, cafe kitchen upgrade, secure storage, sink and hot water service)	N/A
Conservation works	Internal & extensive external painting; electrical works; improvements to drainage	N/A
Site works	Removal of dead and senescent trees	N/A
Cottage improvements	Plumbing upgrade, cottage 4	N/A
Calthorpes' House		
Improvements	New air conditioning in Calthorpes' garage / visitor centre	N/A
Drainage system	Repairs to underground drainage	N/A
Mugga Mugga Property		
Conservation works	Internal & external painting; conservation sitting room wall paper & slab bedroom hessian ceiling	N/A
Fire protection	Bushfire preparedness works	N/A

Note 1: Conservation, restoration and equipment procurement – Lanyon Estate, Calthorpes' House & Mugga Mugga - \$200,000 (some maintenance costs included in total funding).

Capital Works Items 2006

The following table list works in the 2005-06 financial year.

Item	Description	Cost
Canberra Theatre¹		
Development	Installation of fly tower banners	N/A
Safety upgrade	Procurement of new man lift for backstage safety improvement; safety measures for Juliet lighting positions	N/A
Lighting upgrade	Major upgrade to emergency lighting; increased lighting in Courtyard studio	N/A
Power upgrade	New 3-phase power supplies in Courtyard studios	N/A
The Playhouse¹		
Development	Acoustic improvement works	N/A
Safety upgrade	Procurement of new man lift for backstage safety improvement; safety measures for Juliet lighting positions	N/A
Library/Link		
Construction	The Civic Library / Link building construction commenced and progressed throughout the year	\$8.4mil ²
Canberra Museum & Gallery		
Nolan Gallery assessment	Heritage assessment of Nolan Gallery	N/A
Lanyon Estate³		
Development works	Further education centre improvements	N/A
Painting & conservation works	Painting to roof of old stables, water tower and tank, and new stables	N/A
Site works	Further removal of dangerous dead radiata pines and tree surgery on senescent trees. Entrance roadway improved by grading and rolling with imported clay and gravel surfacing	N/A

Calthorpes' House³		
Drainage system	Ongoing repairs to decaying underground drainage	N/A
Mugga Mugga Property³		
Conservation works	Stabilising and conserving wall paper and external limewashing	N/A

Note 1: Total funding for OH&S works, upgrade works & equipment procurement for Theatre & Playhouse - \$600,000

Note 2: Approximate project construction cost to 30.6.06.

Note 3: Total funding for Lanyon, Calthorpes & Mugga Mugga listed conservation works & maintenance - \$200,000

Capital Works Items 2007

The following table list works in the 2006-07 financial year.

Item	Description	Cost
Canberra Theatre¹		
Access upgrade	Provision of lift access from Knowles Place to Stage Door area (disabled access to Courtyard Studio, Canberra Theatre stage, Administration)	\$1.47m
Audio-visual	Replacement of stage view cameras	N/A
Theatre equipment	Various equipment replacement and upgrades	N/A
Boiler upgrade	Replacement of burner on natural gas fired boiler	N/A
Development	VIP Room & Green room improvements	N/A
Storm damage repairs	Repair damage from major storm in December 2006 to ceilings, floor coverings, furniture, audio and computing equipment	N/A
The Playhouse		
Signage	New banner frame	N/A
BAS upgrade	Playhouse HVAC BAS upgrade to integrate with Canberra Theatre and Link Building	\$47,000
Library/Link		
Construction	Library / Link construction project completed	\$20 mil
Storm damage repairs	Repair damage from major storm in December 2006 to ceilings, floor coverings & data cabling	\$260,000
Lanyon Estate²		
Lanyon	Engineering advice on water services issues at Lanyon Cafe and Lanyon Education Centre	N/A
Storm damage repairs	Repair damage from major storm in December 2006 to entry road, fences, bridge and convict barn	\$178,000
Cottage improvements	Bathroom repairs cottages 2 & 6; exterior painting cottages 2 & 3	N/A
Fencing	Horse yard repairs	N/A
Calthorpes' House²		
Shed	New equipment shed	N/A
Painting	House exterior painting	N/A
Mugga Mugga Property²		
Fencing	Repairs to garden railing and fencing	N/A

Note 1: Total funding for OH&S works, & equipment procurement for Theatre - \$100,000

Note 2: Total funding for Lanyon, Calthorpes & Mugga Mugga listed conservation works & maintenance - \$200,000

Capital Works Items 2008

The following table list works in the 2007-08 financial year.

Item	Description	Cost
Canberra Theatre¹		
Plumbing Upgrade	Header tanks (40 years old) for foyer toilets replaced with individual dual flush cisterns	N/A
Safety equipment	Inertial reel safety harness systems in "Box Boom" and side stage lighting positions	N/A
HVAC development	Reverse cycle air conditioner in Administration/Stage Door foyer	N/A
Drainage pump replacement	Replacement of failed sewer lift pumps	N/A
OH&S works	Provision of two new hoists for lifting audio desks into Biobox	\$32,000
The Playhouse¹		
Audio upgrade	Upgrade to audio system	N/A
Safety measures	Juliet boxes, follow spot, catwalks, orchestra pit and machine safety measures	\$23,000
Electrical works	Various electrical works and services	\$29,086
Plumbing works	Various plumbing, roofing and drainage works and service	\$31,073
Library/Link¹		
Recovery works	Replacement of Link floor and various recovery works following damage by severe hailstorm in December 2007	\$113,000
PABX development	Integration of Administration and Canberra Ticketing PABX systems	N/A
Safety measures	Additional handrails, Civic Square entrance	N/A
HVAC development	Forced air extraction for Link basement	N/A
Canberra Museum & Gallery		
Audio visual equipment	Various audio-visual equipment and services procured	\$24,000
Lanyon Estate²		
Conservation management plan	Development of Lanyon conservation management plan	\$90,000
Recovery works	Repair storm damage and upgrade gravel road drainage	\$126,000
Conservation work	Old kitchen block – wall structural stabilisation, ceiling replacement; remedial work for roof leaks; damp management of plaster ceilings and walls	N/A
Fencing upgrade	Restoration and improvement work on fencing	N/A
Road works	Various remedial road works	N/A
Calthorpes' House²		
Conservation works	Ultraviolet screening tint on all windows replaced	N/A
Mugga Mugga Property²		
Drainage works	Site drainage works for cottage and flat	N/A
Conservation works	Solander boxes procured for Silvia Curley collection	N/A

Note 1: Total funding for OH&S works, & equipment procurement for CTC - \$171,000.

Note 2: Total funding for Lanyon, Calthorpes & Mugga Mugga listed conservation works & maintenance - \$137,000

Lifecycle Works Items 2009

The following table lists lifecycle work in the 2008-09 financial year

Item	Description	Cost
Canberra Theatre¹		
PABX UPS	Installation of Uninterruptible Power Supplies (UPS) to each telephone PABX to enable continued operation in event of a power failure.	N/A
Signage upgrade	Directional, functional & promotional signage	\$165,000
Audio upgrade	Supply and installation of mixing console at the Canberra Theatre Centre	\$68,000
Safety handrails	Entry tunnel handrails Doors 3 & 4 (DDA compliance)	N/A
Office refurbishment	Administration area refurbishment – stage 3	N/A
Toilet upgrade	New toilet cubicles	N/A
The Playhouse		
Acoustic improvements	Acoustic separation of The Playhouse from the Link area	\$54,000
Acoustic equipment	Procurement of acoustic equipment	\$31,000
Audio upgrade	Supply and installation of replacement speakers at The Playhouse	\$125,000
Painting	Repainting Foyer and Upper Lobbies	N/A
Library / Link		
Handrail rectification	Handrails and balustrades on overbridge	\$29,000
Promotional signage	Supply and installation of computerised RGB full colour display screen at entry	\$101,665
Bar track lighting	Install Track Lighting in Foyer Bar area to illuminate red wall and menu boards	\$2,732
Canberra Museum & Gallery		
Refinishing	Floor damage repair; refinish foyer floor	N/A
Lanyon Estate²		
Security improvements	Security sensors and camera housings installed	N/A
Cottage improvements	New water tanks installed at Cottage 6; Toilet cisterns, soakage pit at Cottage 2	N/A
Cafe improvements	Cafe pump replaced; electrical safety works carried out	N/A
Homestead painting	External painting of homestead completed	N/A
Stone Hut conservation	Masonry repairs, plastering and lime wash	N/A
Building 4 conservation	Underpinning; remedial work to cracks & plaster	N/A
Entry road	Entry road graded	N/A
Calthorpes' House²		
Electrical	Electrical power lines diverted to avoid trees;	N/A
Safety measures	Tree removal and pruning	N/A
Driveway	Resurfacing of driveway.	N/A
Re-roofing	Removal and replacement of tiles; new sarking and battens	\$58,000
Plastering	Plaster restoration works	\$27,000
Other conservation works	Lime washing in several rooms; fireplace and flue repairs	N/A
Drainage works	Aged terracota stormwater drainage replaced with UPVC piping	\$17,000

Item	Description	Cost
Mugga Mugga Property²		
Fire protection	Investigation into improved fire safety, including the installation of a water hydrant carried out	N/A
Security improvements	Upgrades of the security systems to the cottage and education centre completed	N/A
Cottage conservation works	Doors repairs; water control measures; roof repairs; sarking installation; wallpaper conservation; hessian ceiling conservation; timber & flooring conservation;	N/A
Fencing	Fencing of water well; garden fencing; fence repairs for exclusion of rabbits	N/A
Driveway	Entry road upgraded	N/A

Note 1: Total funding for OH&S works, safety measures & equipment procurement for Theatre - \$208,000

Note 2: Total funding for Lanyon, Calthorpes & Mugga Mugga listed works - \$225,000

Lifecycle Works & Proposals for Capital Projects 2010

The following table lists primarily, proposed works for the short term including current bid items for capital funding. A small number of the items have funding and are in progress in financial year 09-10. Most of the items await funding and will be completed if and when funding is available in subsequent years. The items represent the Corporations current assessment of lifecycle and development works that need to be accommodated in the short term.

Item	Description	Cost
Canberra Theatre		
Green room refurbishment	Refurbish theatre green room, paint, carpet, fixtures and fittings. Refurbish kitchen	\$50,000
Stage view monitors upgrade phase 1	Replace approximately 14 aging CRT stage view monitors throughout the venues with flat screen monitors.	\$14,000
Stage view monitors upgrade phase 2	Provide approximately 15 new flat screen stage view monitors and cabling to upgrade coverage. Provision included for additional cabling etc.	\$20,000
Lighting upgrade	Replace outdated and worn out luminaires and associated equipment. Improve energy efficiency and technology eg intelligent light fittings and projectors.	\$350,000
Dimmer replacement	Replace aging main lighting dimmers	\$200,000
Loading area weather protection	Provide roof for Theatre loading area	\$150,000
Loading lighting - stage 1	New tower lighting on for truck loading area at Theatre	\$4,000
Loading lighting - stage 2	Lighting on swing-out booms on Theatre wall to light into rear of trucks	\$6,000
Hot water systems - phase 1	New gas feed to Theatre domestic hot water systems to alleviate gas starvation.	\$9,000
Mirror lights safety	Safety covers for mirror lights or replacement lights with integral covers.	N/A
Refurbish floors	Strip, sand and refinish parquetry floor in Courtyard Studio & Workshop.	\$15,000
Usher seats modifications	Flip-up usher seats for doors 2 and 5.	\$2,000
HVAC upgrade	Upgrade inadequate airconditioning in Dressing Room 7	\$8,000

Item	Description	Cost
Noise attenuation - stage door	Reduce sound transfer through access hoist from stage door lobby to theatre backstage	\$25,000
Studio Seating	Provide seating assemblies for the Courtyard Studio	\$10,000
The Playhouse		
Playhouse backstage refurbishment	Refurbish and repaint Dressing Rooms, Green Room and backstage corridors. Replace benches and cabinets in dressing rooms. Enclose and landscape Green Room courtyard. Provide wheelchair access from roadway to stage door. Prevent parking on grassed area. Provide glass wall and roof to stage door exterior for weather protection and privacy. Provide operable glass door and screening to improve security and privacy. Provide sensors and display to indicate open backstage doors. Upgrade ground floor backstage bathroom to DDA Requirements	\$200,000
Stage view monitors upgrade phase 1	Replace approximately 13 aging CRT stage view monitors throughout the venues with flat screen monitors.	\$13,000
Safe access to playhouse lighting positions	Safety lines for safe access to balcony lighting positions.	\$10,000
Hot water systems - phase 2	New gas feed to Playhouse Domestic Hot Water Systems to alleviate gas starvation.	\$7,000
Hot water systems - phase 3	Replace aging gas fired domestic hot water Systems.	\$20,000
Safety railings playhouse balconies	Improved public safety railings at base of stairs in balconies.	N/A
Refurbish playhouse orchestra pit mechanism	Refurbish guide rails and shoes in orchestra pit.	\$6,000
Usher seats	Flip-up Usher seats, doors 3 and 4	\$2,000
Hoeker tent	New tent for temporary extension to VIP Room.	\$6,000
Acoustics - VIP room	Acoustic treatment to VIP Room to reduce reverberation and improve amenity.	\$10,000
Acoustics - Foyer	Acoustic treatment to Foyer west to reduce reverberation and improve amenity.	\$10,000
Library / Link		
Air lock doors - Civic Square entry	New sliding glass door airlock at Civic Square main entry point to improve weather protection	\$50,000
Air lock doors - western laneway entrance	Double up sliding glass doors at both western laneway entry points to improve weather protection.	\$50,000
Security lock - operable wall	Electronic lock and swipe card reader on bar side operable wall in link	\$4,000
Banner frame for laneway	Small banner frame for laneway overbridge facing Vernon Circle	N/A
Canberra Museum & Gallery		
Foyer development	Foyer refurbishment & new reading corner. Minor fit-out for lobby coffee service	N/A
Gallery development	Gallery 1 refurbishment	N/A
Gallery development	Fit-out for new Nolan Gallery	N/A

Item	Description	Cost
Lanyon Estate		
Paths & Driveways	New gravel to paths & driveways	\$27,000
Overhauls	Diesel pump & sprinkler valve overhauls	\$6,000
Development	Door / blind to protect buggy	\$4,000
Calthorpes' House		
Paving rehabilitation	Rehabilitation of paved court & other minor conservation	\$13,000
Conservation	Conservation of door framing and other miscellaneous items	\$50,000
Mugga Mugga Property		
Fire fighting	Water storage, hydrants & hose reels	\$72,000
Conservation	Floor & verandah conservation	\$14,000

Appendix 4: Terminology & References

Abbreviations, Acronyms & Terminology

ACTEW	ACTEW Corporation Limited - holding company with interests in the provision of water, wastewater, natural gas, and energy services.
ACTION	ACT Internal Omnibus Network (Bus Transport Corporation)
Air cooled	Cooled by airflow, normally by passing air over a dry, finned, heat exchanger.
AS	Australian Standard.
Barge	The sloping boards built along gables to protect roof timbers
BAS	Building Automation System - comprises a serial network for direct digital controllers and one or more computer workstations to operate and monitor the control systems. Sometimes called 'Building Management System'.
BCA	Building Code of Australia.
CAD	Computer Aided Drafting.
Cat-5	Category 5 computer network cabling that consists of four twisted pairs of copper wire terminated by RJ45 connectors. Supports frequencies up to 100 megahertz and speeds up to 1000 megabits per second.
CCTV	Closed-Circuit Television.
CFC	The Cultural Facilities Corporation
CRT	Cathode Ray Tube
CMAG	The Canberra Museum and Gallery.
CMP	Conservation Management Plan
Condenser	Part of a refrigeration system that cools gaseous refrigerant until it condenses as a liquid.
COP	Coefficient of Performance – used to express the efficiency of vapour compression refrigeration where the heat transfer is 3 – 8 times the energy input.
CTC	Canberra Theatre Centre (ie The Playhouse, Theatre and Library / Link)
DDA	Disability Discrimination Act
DDC	Direct digital controller – a networked microcomputer, programmable controller.
DHW	Domestic hot water
Drencher	Component of fire sprinkler system with localised, high water flow - normally used to confine fire growth.
Evaporative	Heat exchange by evaporating water using aerosols or wetted pads. Normally more efficient than dry heat exchange (Air cooled, as above).
EWIS	Emergency Warning and Intercommunication System (Facilitates personnel evacuation in the event of a fire).
FIP	Fire Indicator Panel
Firmware	Controller operating systems in read only memory – replaced by removing and replacing a permanently programmed memory chip.

HDPE	High Density Poly Ethylene (piping material)
HVAC	Heating Ventilation and Air Conditioning.
InTACT	ACT Government Insourcing Agency, Telecommunications and Computing
LAN	Local Area Network
N/A	Not available
NCDC	National Capital Development Commission
OH&S	Occupational Health and Safety
PABX	Private Automated Branch Exchange (equipment that serves as the central routing point for incoming and outgoing phone calls)
pdf	Files in Adobe Acrobat readable format.
PVC	Poly Vinyl Chloride (plastic tank material)
R134A	Refrigerant 134A (1,1,1,2-Tetrafluoroethane) – modern fluoro-carbon refrigerant with low ozone depletion potential
R22	Refrigerant 22 (chlorodifluoromethane) – an ozone depleting, halocarbon refrigerant with production phase out in 2015
Soffit	The underside of eaves or verandah overhangs
TAMS	Territory and Municipal Services (ACT Government Agency)
UPS	Uninterruptible Power Supply
UPVC	Unplasticised Poly Vinyl Chloride (piping material)
VESDA	Very Early Smoke Detection Apparatus
Water cooled	Cooled by a circulating water loop.
Y2K compliant	Designed to avoid the software date malfunction at Year 2000

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