genius of its designer, the Danish architect Jørn Utzon and the contributions to its successful completion by the engineering firm Ove Arup and Partners, the building contractors M.R. Hornibrook, and the architects Hall, Todd and Littlemore. It is an exceptional creative and technical achievement in the national history of building design and construction in Australia. Since its completion the Sydney Opera House has attracted world wide acclaim for its distinctive design, enhanced by its prominent location on Bennelong Point within a superb harbour setting. With its soaring white roof shells set above a massive podium, the Sydney Opera House is a monumental urban sculpture, internationally acclaimed as an architectural icon of the twentieth century. Its many national and international awards reflect its pivotal place in the national story of creative and technical achievement in Australia. The challenges involved in executing Utzon's design inspired innovative technical and creative solutions that were groundbreaking in the history of architectural design and building construction in Australia, particularly the roof shells that were based on the geometry of the sphere and demonstrated the extraordinary creative potential of the assembly of prefabricated, repeated components. The interior spaces also reflect the creative genius of Utzon and his successors, Todd, Hall and Littlemore, who completed the building after Utzon's departure from the project in 1966. The Sydney Opera House is the most widely recognised building in Australia, and is cherished as a national icon and world-class performing arts centre. It represents an enduring symbol of modern Sydney and Australia, both nationally and internationally, reflecting changing social attitudes towards Australian cultural life in the decades after World War II. The Sydney Opera House has played a seminal role in the development of Australia's performing arts, enhancing the cultural vitality of the nation. It continually attracts nationally and internationally acclaimed performers, and is a mecca for visitors from around Australia and overseas. The peninsula on which the Sydney Opera House now stands has a special association with Bennelong, an Aboriginal man who became a prominent and influential figure in the early colony and played a significant role in mediating interactions between Aboriginal people and early settlers.

Official Values:

Criteria	Values
A Events, Processes	The Sydney Opera House is significant in the course of Australia's cultural history, both for its place in the national history of building design and construction, as well as the history of the performing arts in Australia. The Sydney Opera House represents a masterpiece of modern architectural design, engineering and construction technology in Australia. It is a national icon that has become an internationally-recognised symbol of modern Australia and of Sydney, Australia's largest city. From the earliest concept drawings, the building's striking design, its quality as a monumental sculpture in the round, and its inspired design solution in response to its prominent setting on Bennelong Point in Sydney Harbour, have attracted national and international professional and public acclaim. The challenges involved in executing the design inspired innovative developments in technologies, construction engineering and building methods in Australia, creating the building's distinctive form, fabric and structural systems. Since the official opening on 20 October 1973 by Queen Elizabeth II, the Sydney Opera House has played a seminal role in Australia's performing arts history, enhancing the cultural vitality of the nation and continuously attracting nationally and internationally recognised performers from around the world. The achievement of its design and construction between 1957

	and 1973 is all the more remarkable because it marks a significant transitional period in Australian political and economic development, and changing social attitudes towards Australian cultural life in the decades following World War II.
B Rarity	The Sydney Opera House is a cultural icon that has no counterpart in Australia. With its distinctive sail-like concrete shell roofs standing boldly upon a massive granite-faced platform, located prominently on the Sydney Harbour foreshore, the Sydney Opera House is the most widely recognised building in Australia, and one of the most definitive national architectural icons of the twentieth century. It is also a rare example of a national cultural centre that has gained widespread recognition and respect as a performing arts venue.
E Aesthetic characteristics	The design, form, scale and location of the Opera House make it one of the most significant landmarks in Australia. The aesthetic qualities of the Sydney Opera House relate both to its topographical setting on Bennelong Point, and its distinctive architectural features. Its landmark qualities are enhanced by the building's juxtaposition with Sydney Harbour, its relationship with the Sydney Harbour Bridge, the garden landscape of Bennelong Ridge, the sandstone cliff face of Tarpeian Rock, and the vistas and views to and from The Rocks, Circular Quay, East Circular Quay, Macquarie Street, the Botanic Gardens and the harbour. The sculptural, billowing sail-like roof shells provide a visual link to and artistic representation of the yacht-scattered harbour waters. The ceramic white tiles of the roof further add to this relationship and provide a dramatic contrast with the blue waters of the harbour. The building with its strongly curved design emphasis is juxtaposed with the nearby Sydney Harbour Bridge which itself has a strongly emphasized curvature, and this visual relationship is a further element of the place's aesthetic appeal. The place's dramatic aesthetic appeal is enhanced by subtle floodlighting on the white roof shells at night. The building's ability to emotionally move people and invoke a strong aesthetic response is enhanced by the experience of approaching, entering and moving around the building and surrounds. The public promenades including the Forecourt, Broadwalk, and podium platform and steps contribute to the majestic qualities of the place. The large forecourt and sweeping podium steps prepare the visitor for the majestic quality of the soaring internal spaces including the folded concrete beams throughout the building, and the reinforced radial cranked beams in the northern foyers. These are complemented by the vast coloured glass panels in the main foyers of the Concert Hall and Opera Theatre wings, through which the harbour and city views reinforce the building's magnificent setting. The distinctive interiors including the foyers surrounding the major auditoria, the

	Reception Hall (now the Utzon Room), the Box Office foyer, and the Bennelong Restaurant designed by Utzon and Peter Hall, enhance the relationship between the interior and exterior of the building. The two large murals commissioned specifically for the Sydney Opera House, including John Olsen's 'Five Bells' and Michael Nelson Jagamara's 'Possum Dreaming', enhance the aesthetic values of the interior.
F Creative or technical achievement	The Sydney Opera House represents a masterpiece of architectural creativity and technical accomplishment unparalleled in Australia's history. In every respect, it is a structure at the leading edge of endeavour. Its many awards, including the Royal Australian Institute of Architects Gold Award given to architect Jørn Utzon in 1973, reflect its pivotal place in the national story of creative achievement providing, as Utzon envisioned, 'an individual face for Australia in the world of art' (Frampton and Cava 1995, 296). The design of the building reflects Utzon's intention to create a sculptural form that would be both a focal point in Sydney Harbour and a reflection of its character. 'The white sail-like forms of the shell vaults relate as naturally to the Harbour as the sails to its yachts' (Assessors Report cited in Norberg-Schulz 1980, 56). The 'hybrid' interior spaces of the Sydney Opera House reflect the creative genius of both Utzon and Todd, Hall and Littlemore, who completed the building and interior finishes after Utzon's departure. The major public spaces with outside views, for example were designed by Utzon (and completed by Peter Hall) to be finished in natural materials, textures and colours similar to those on the exterior of the building in order to bring the outside inside (Kerr 2003, 69). In his *Design Principles* booklet submitted to the Sydney Opera House Trust in 2002, Utzon revealed the two ideas of particular importance in his design: first, his use of organic forms from nature, evident in the leaf form pattern devised for the ceramic roof tiles, and second was the creation of sensory experiences to bring pleasure to the building's users, particularly the experience of approaching, mounting the grand staircase to the podium, passing through the low ribbed box office, up to the foyers flanking the auditoria with their harbour views, and the climax of the performance itself. 'Both ideas were…reinforced by Utzon's application of counterpointing techniques using light and dark tones, soft and hard textures and richly treated warm and cool interior colours. On a grander scale, the light toned shells of the building were to stand out against the (then) darker fabric of the city' (Kerr 2003, 44). The interior spaces designed by Peter Hall, including the

major auditoria known as the Concert Hall and Opera Theatre, and the minor performance spaces, performers' and staff areas, and rehearsal rooms, known collectively as 'Wobbly Land' because of the distinctive 'U' shaped timber paneling, demonstrate the distinctive design solutions that made the Opera House a functioning performing arts centre in the 1970s, and reflect the prevailing aesthetic values, building standards, and financial constraints of the day.

The process of building the Sydney Opera House resulted in the development of a number of innovative technical and creative solutions that were groundbreaking in the history of building design and construction in Australia. This is especially the case with the design and construction of the roof, based on the geometry of the sphere. The roof shells had to span large areas to accommodate the main hall and smaller hall. The solution to the structural challenges of the roof shells devised by Utzon and Ove Arup and Partners over a four year period involved the production of arched segments of varying curvature from the same range of precast modular units. The concrete shells were finally produced by cutting a three-sided segment out of a sphere and by deriving regularly modulated curved surfaces from this solid (Frampton and Cava 1995, 273). The roof shells with their vaulted concrete ribs were constructed using precast concrete segments fixed together with epoxy resin and held together by pre-stressing tendons, representing a considerable structural innovation for the period. The roof shells were faced in off-white Swedish Hoganas tiles inspired by the Chinese ceramic tradition. Using a European technique of prefabrication, over one million tiles were cast into precast concrete lids on the ground then bonded onto the ribbed superstructure of the shells (Frampton and Cava 1995, 280). From the point of view of science, the Opera House embodies within its structure the integration of sophisticated geometry, technology and art. It epitomizes the extraordinary creative potential of the assembly of prefabricated, repeated components (Norberg-Schulz 1996, 101).

The building was the first of its kind in Australia to use computer-based three-dimensional site positioning devices, geothermal pumps, tower cranes, chemical anchors, non-competitive tendering, life-cycle engineering, parametric design (such as the use of governing equations to model a design), and critical path methods. It gave rise to the establishment of a testing laboratory at the University of New South Wales that became one of the first organizations in the world to commercialise university research and support technology transfer. It also promoted Australian expertise internationally, and opened the way for international

	engineering construction firms such as Ove Arup to establish their operations in Australia. Utzon's approach to project management was instrumental in changing Australian building and building procurement practices, including *de facto* pre-qualification of bidders, use of scope drawings, performance-based design assistance from trade specialists, mock-up testing, and on-the-job skill development (Tombesi 2005).
G Social value	The Sydney Opera House is an enduring symbol of modern Sydney and Australia, both nationally and internationally. Indeed, the profile of the distinctive ceramic clad roof shells has become an instantly-recognisable national emblem. For example, it provided the inspiration for the logo used to promote the 2000 Olympic Games held in Sydney. The building's role as a cultural icon is also derived from the numerous performances conducted there (100,000 since 1973), and the place's role as a focal point for community events. The Sydney Opera House is a mecca for both Australian and international visitors to Sydney, attracting over 100 million visitors since the opening in 1973. The high cost of construction was met by a major public lottery that served to enhance its status as a place for the people.
H Significant people	The Sydney Opera House is directly associated with Jørn Utzon, whose design won an international competition in 1957 and was hailed by the architectural critic Sigfried Giedion as opening a new chapter in contemporary architecture. Utzon's design represented a significant development in the basic concepts of the Modern Movement in architecture associated with free plan and clear construction. It evolved during a period of experimentation in modern architecture occurring internationally in the 1950s. Utzon was influenced by the architecture of the ancient Mayans and Aztecs, as well as the work of earlier twentieth century architects including the Finnish architect, Alvar Aalto with whom Utzon worked in 1945, Frank Lloyd Wright, and Mies van der Rohe. Utzon's creative genius, exemplified in the Sydney Opera House, is widely acknowledged amongst national and international scholars of modern architectural history. Athough Utzon left the project in 1966, prior to the building's completion, the Sydney Opera House is nevertheless identified with him and he has attracted national and international acclaim. His professional recognition in Australia is reflected by awards such as the Royal Australian Institute of Architects' Gold Award mentioned above, and internationally in awards such as the prestigious Pritzker Prize for Architecture awarded to Utzon in 2003. The peninsula on which the Sydney Opera House now stands has a special association with Bennelong, an

Aboriginal man 'captured' by Governor Arthur Phillip in 1789. Bennelong became a prominent and influential figure in the early Sydney colony, sharing information about his culture with Governor Phillip and regularly visiting the Governor's residence. He was the first Aboriginal adult in the new colony to play a significant role in mediating interactions between Aboriginal people and the early settlers, and was reportedly highly regarded by both Aboriginal people and Europeans. Governor Phillip built the first structure - a house - on the peninsula for Bennelong's use, and from the 1790s the peninsula became known as 'Bennelong Point', and was known to Aboriginal people as Tyubow-gule (McBryde 1989, 17).

Description:

The Sydney Opera House is strategically located on Bennelong Point, giving the building added prominence in the Sydney Harbour vista. It is closely adjacent to Circular Quay, the harbour's main transport hub. It also forms an important visual relationship with the Sydney Harbour Bridge to the west – the strong curves of both are complementary.

The opera house complex is made up of two main buildings plus a smaller one, principally of reinforced concrete, which sit on a massive concrete platform on a foundation of piles. The three upper buildings are formed of clusters of reinforced concrete vaulted structures which contain a large hall for 2690 people (the Concert Hall) and a small hall for 1547 people (the Opera Theatre) plus theatrical spaces (Drama Theatre and Playhouse), the Studio, administration areas, a major restaurant (Bennelong) plus other areas. Utzon's plan set the two largest halls side by side on the platform. This made possible the building's dramatic sculptural elevations – the roofs resemble billowing sails and the whole ensemble has a singular freedom of form. The two halls have their stage set to the south which maximizes views of the harbour from the northern foyers and from the glass-walled passages as the public passes around to the northern end. The concrete platform is clad with precast panels faced in reconstituted red granite, and this material is also used for the paving of the waterfront promenade which surrounds the platform. The platform, both in its form and colour, contrasts with the roofs of the building. The building is entered from the southern forecourt and a wide sweeping set of stairs, which makes for a grand approach on foot.

Inside, the two main halls are constructed using a hidden steel framework which has been faced with timber. Plywood panels were designed as part of the internal lining to conceal the services. The Concert Hall includes a mechanical-action pipe organ. Linings in this hall are birch plywood, in radiating ribs on a suspended hollow raft ceiling, running down the walls to laminated brush box linings which match the floor. The Opera Theatre by contrast has black-stained ceilings and walls. Both of these main halls have proscenium curtains designed by John Coburn. The design of the interiors was completed by Todd, Hall and Littlemore after the departure of Utzon in 1966. The general experience of the interiors of the Sydney Opera House is one of majestic spaces defined by strong structural forms.

The glass walls, filling the external openings under the vaulted concrete shells of the roof, are constructed of a light steel framework supported off the concrete ribs, supporting laminated, topaz-tinted plate glass sheets with bronze fittings. The walls were designed after Utzon's departure from the project. These glass walls provide spectacular views from the main foyers out across Sydney Harbour. John Olsen's painting, inspired by the Kenneth Slessor poem 'Five bells', relates to the harbour and hangs in the main foyer and is a well known feature of the building's interior.

The most revolutionary feature of the building is the concrete roof. Utzon produced a design

utilizing ribbed shell vaults made of precast concrete. Utzon based the shape of the vaults on the curve of a sphere, so that all segments had the same curve and could be mass-produced. These segments were precast and lifted into place and held together with epoxy resin and prestressing tendons, an innovative method at the time of construction. The engineering firm on the project, Ove Arup and Partners, and the building contractors, M.R. Hornibrook, both made important contributions to the realization of Utzon's project. Conventional design, construction and finish methods were superceded by a range of innovative approaches to meet the challenges of the building's design. The roof segments, for example, were coated with small ceramic tiles. Utzon spent more than a year working with manufacturers in Sweden to develop tiles specifically suited to the building. The glazed tiles have a slightly irregular surface with a glasslike finish. The central tiles are glazed white and the border tiles matt cream. The standardized prefabricated method used on the roofs was both much less costly than other methods, and also allowed for very precise quality control.

History:

When the First Fleet arrived in 1788, and moved from Botany Bay to Port Jackson, it landed in Sydney Cove. The beginning of European settlement in Australia occurred within a short distance of the site of the future Sydney Opera House. Upon arrival, Governor Arthur Phillip's Instructions of April 1787 were to 'endeavour by every possible means to open an intercourse with the natives, and to conciliate their affections….' (McBryde, 1989:5). While initially friendly, Aboriginal people soon came to shun the Sydney cove settlement, threatening the 'plan he had so much at heart of conciliating and establishing a friendly intercourse with them' (Phillip, 1789:112). Taking initiative, Governor Arthur Phillip organised to take 'by force' an Aboriginal person. Arabanoo was captured in December 1788 but soon died from smallpox (April 1789). Two Aboriginal children (Nanbaree and Boorong) then acted as informants following a stay in the colony hospital (Attenbrow, 2002:14). In November 1789 Phillip decided to capture two more men, Bennelong (also known as Wolarawaree) and Colbee (Tenchs diary, Ch. 5). While both later escaped, they retained connections with Governor Phillip.

Bennelong became a particularly prominent Aboriginal figure in and around the settlement (e.g. Tench's journal, Bradley's journal). He and his relatives often stayed or dined at the Governors' residence when visiting the settlement, and on a number of occasions Phillip offered the shelter of his house to Aboriginal women seemingly at threat (McBryde, 1989:17). In time Bennelong solicited the government to 'build him a hut at the extremity of the eastern point of the cove. This, the governor, who was very desirous of preserving the friendly intercourse which seemed to have taken place, readily promised, and gave the necessary directions for its being built (Collins, I, 113). The hut, built of brick, twelve feet square, and roofed with tiles, was completed in November 1790. It is illustrated in a painting by Thomas Watling (Dixson Gallery), which shows its exposed, isolated position on the point. From this time the point, formerly called *Tubow-gule* (various spellings, Attenbrow, 2002:11) became known as Bennelong's Point. There is no evidence to suggest that Bennelong spent much time in the dwelling; rather, it seems that the house was more of a symbol of his importance (Kerr, 2003:1-2). The place was however occasionally used as a social centre for those Aboriginal people who were about the settlement (McBryde, 1989:17). William Bradley recounted an evening of 'entertainment' in March 1791 provided by Bennelong at his house for the governor and his party (Bradley, 231). Bennelong and another Aboriginal man returned to England with Governor Phillip, departing in 1792. Only Bennelong survived the trip, and in 1795 he returned with the new Governor John Hunter. During his absence, Bennelong's house was lent to a visiting Spanish expedition, and was demolisted in 1795. Upon his return, Bennelong's importance and status in both the Aboriginal and the European communities apparently remained high, and he was offered official protection as Governor Hunter's friend (McBryde, 1989:17). Records of his life in this period (early 1800s) are few and un-sympathetic. Bennelong died on 3 January 1813 (McBryde, 1989:27).

A defensive battery was built at Bennelong Point early in the colony's history, followed by the construction of Fort Macquarie in 1821 by order of Governor Lachlan Macquarie. It was designed

by Francis Greenway. By 1902 the fort had been replaced by a tramshed as part of Sydney's public transport system. The tramshed, built in Gothic style like the fort, stood until the 1950s when buses were increasingly used to replace trams throughout Sydney. A proposal was put forward for an opera house to be built in Sydney. This proposal was pursued by the conductor of the Sydney Symphony Orchestra, Eugene Goossens, on the advice of town planners Rosette Edmunds and Sydney Luker (Freestone 1995). Goossens published a conceptual plan for an opera house in 1948. It emphasised the place of high culture in the centre of Sydney, but the idea did not gain political support until 1952 when the then Premier of New South Wales, J.J. Cahill, announced the government's intention to build an opera house. The decision reflected a growing desire to change the public perception of Sydney as a former penal colony, and to put the city on the world map. According to Denis Winston, a professor of town planning, 'The building of the new Opera House on one of the grandest urban sites in the world – the headland where Governor Macquarie's old Fort used to be – will be a visible symbol of the coming of age of the capital of the Mother State.' (Winston 1957, 19). In November 1954 Cahill appointed an Opera House Committee to advise the State Government on ways to implement the proposal. The Committee recommended Bennelong Point for the site and an international competition in order to select a suitable design. The competition was announced in January 1956, attracting more than 220 final entries received from 32 countries. The competition brief called for a 'national opera house' on Bennelong Point with two halls designed for specific uses, but no limits on the estimated cost of the project. The judging panel included Henry Ashworth (Professor of Architecture at Sydney University), John Leslie Martin (Professor of Architecture at Cambridge University), Cobden Parks (the NSW Government Architect), and Eero Saarinen (the renowned Finnish architect). On 29 January 1957 the judges announced that Jørn Utzon of Denmark had won. The winning design attracted considerable public interest and, whilst there were some critics, Utzon's design was widely acclaimed for its spectacular presentation and suitability for the Bennelong Point site.

The spectacular and dramatic design was far ahead of its time. The influence of Utzon's father, a naval architect, had led to Utzon's interest in curved shapes and an attention to detail. Utzon was also inspired by Frank Lloyd Wright and Mies Van Der Rohe, as well as architectural traditions from a number of cultures. His design was particularly inspired by the harbour setting for the proposed building, and the first design drawings depicted shell-like entities, floating in space like clouds, rising above a grand ceremonial platform with staircases reflecting the form of Mayan temples. Utzon's guiding design principles emphasised the organic forms of nature and the creation of a pleasurable sensory experience (Kerr 2003, 44). He envisaged the Opera House as a sculpture that would be viewed from all angles – from water, land and air. It was to be the focal point in a grand waterscape. As Utzon explained, 'Instead of making a square form, I have made a sculpture – a sculpture covering the necessary functions…If you think of a Gothic church, you are closer to what I have been aiming at. Looking at a Gothic church, you never get tired, you will never be finished with it – when you pass around it or see it against the sky… Something new goes on all the time…Together with the sun, the light and the clouds, it makes a living thing' (Utzon, Descriptive narrative, Sydney Opera House, cited in Kerr 2003, 16).

During this period, new forms of expression were sought by architects worldwide. The pioneers of the Modern Movement in architecture during the early twentieth century, including Le Corbusier, Mies van der Rohe, and Frank Lloyd Wright, had developed new principles of architectural design. The basic intention of the Modern Movement was 'to realise an image of the new open and dynamic world' where people could participate in a world of freedom of movement and choice (Norberg-Schulz 1996, 167). It represented a departure from earlier architectural ideas that placed humans outside of the understood world and emphasised enclosed, static spaces. Instead, modern architecture sought to restore the human presence. In this way, the Sydney Opera House, is as an exemplar of the late Modern Movement, and demonstrated what Giedion called the 'humanisation of modern architecture' after the 'functional' achievements of early modernism. It reflected the world-wide demand for a 'new monumentality' and a 'new

regionalism' in architecture, and 'a humanised urban life, where the human settlement is served by a 'heart' which gathers its primary qualities. The Sydney Opera House is such a heart. In the rational context of the modern city, it represents a living core, that is, a place where life is revealed as being meaningful, not in the sense of a dogmatic centre, but a place where culture *takes place*' (Norberg-Schulz 1996, 172).

'The Sydney Opera House accomplishes what is the basic aim of modern art and architecture: the relinquishment of the split between thought and feeling. The word "modernity" has been used to denote the rational thought that has been dominant since the Enlightenment, and which implies a pragmatic attitude devoid of emotional qualities. "Modernism", on the contrary, is an artistic movement which his directed against mere reason, as was pointed out by Gropius when he in 1935 presented the Bauhaus approach to the British public: "…rationalization, which many people imagine to be the cardinal principle (of the new architecture), is really only its purifying agency…The other, the aesthetic satisfaction of the human soul, is just as important as the material. Both find their counterpart in that unity which is life itself." It is precisely this unity Utzon has accomplished in his works, and in the most significant way in the Sydney Opera House…in the Sydney Opera House Jørn Utzon realised the great synthesis of earth and sky, landscape and city, vista and intimacy, thought and feeling, in terms of a unity of technological and organic form. Hence we may safely say that the Sydney Opera House represents a masterpiece of human creative genius, and a most significant step in the history of modern architecture' (Norberg-Schulz 1996, 1972).

In September 1957, the New South Wales Government announced the establishment of an Opera House Lottery to pay for the construction costs of the building, and over the next 16 years it yielded just over $100 million for construction (SOH website). Utzon's designs for the Opera House were initially presented as concept diagrams that were not structurally feasible. Over a five year period, Utzon collaborated with the London-based Danish engineering firm Ove Arup and Partners to develop a method for constructing a ribbed shell roof system based on the geometry of a sphere. The system permitted each rib to be built up with standard segments cast on site. The segments were then lifted into place between the previous rib and a supporting telescopic steel arch devised by the contractor, M.R.Hornibrook. Design and construction of the Sydney Opera House was difficult, demanding innovative solutions that extended the boundaries of technological and building methods of the period (Kerr 2003, 16).

The design of the building had already attracted the attention of professionals, but by the mid-1960s the general public was aware of the controversy surrounding the project's time and cost overruns. There were also difficulties between Utzon and a new NSW Government elected in 1965. As a result Utzon resigned in February 1966, with the podium in place and the roof structure nearly complete. The reasons for Utzon's departure from the project were complex and have been widely discussed in the literature. A major factor was Premier Cahill's insistence on the building being commenced before the March 1959 election, before the design for the shells and their supports had been resolved. The problem of construction running pushing ahead of design solutions was to be a problem that beset the construction of the Opera House throughout its fifteen year construction period. Utzon encountered further difficulties with the technical advisory committee not providing timely advice to the project. In addition, Utzon's attention to detail and his approach to resolving design problems by developing solutions in consultation with technical experts and artisans through trial and error brought him into conflict with the new State Government, who viewed his methods as not conducive to the scale and complexity of the project. In April 1966, Utzon was replaced with a panel of Australian architects to complete the project, involving Peter Hall, Lionel Todd and David Littlemore in association with the NSW Government Architect, Ted Farmer. Utzon gave them drawings to assist them in completing construction, but Hall described these as incomplete. This made the task of completing the project difficult, and emphasised the different approaches preferred by Utzon and his Australian successors. Whilst Utzon worked with consultants and contractors to develop, test, and refine

three-dimensional prototypes, Hall, Todd and Littlemore followed the standard practice used in Australia of relying on two-dimensional drawings. Utzon's departure from the project meant that his plans for the major and minor halls, the glass infill walls and the public spaces were not realised. Instead, Hall, Todd and Littlemore contributed to the final design with innovative topaz-coloured glazing in bronze frames which enclose the ends of the roofs. In June 1966 the major intended commercial user of the main hall, the Australian Broadcasting Commission, belatedly produced a set of specific requirements. As a result, Hall, Todd and Littlemore produced a number of recommendations to the State Government, outlining radical changes to the interiors to accommodate the ABC's needs. Theses included making the main hall a dedicated Symphony or Concert Hall, and the smaller hall a dedicated Opera Theatre. The recommendations were approved in April 1967, and Hall, Todd and Littlemore developed the final designs for the interior. The interiors are largely attributed to Peter Hall.

In 1960 American actor and singer Paul Robeson climbed onto the scaffolding of the Sydney Opera House and during construction, and sang to the workers. The first official performance was given by the Australian Opera Company on 28 September 1973, and on the following night Charles Mackerras conducted the Sydney Symphony Orchestra in the Concert Hall. The Sydney Opera House was officially opened on 20 October 1973 by Queen Elizabeth II, and 300 journalists arrived from across the world 'to see if the Sydney Opera House was to be a white elephant or a sacred cow' (Kerr 2003, 24-5). Martin Bernheimer, the music critic of the Los Angeles Times, wrote: 'This, without question, must be the most innovative, the most daring, the most dramatic and in many ways, the most beautiful home constructed for the lyric and related muses in modern times' (cited in Kerr 2003, 24-5). By his own choice, Utzon did not attend the opening nor did his name appear on the plaque in the entry concourse. It was, however, widely acclaimed as Utzon's creation, with the outstanding contribution by Hall, Todd and Littlemore in turning his masterpiece into a fully-functioning performing arts centre. Since its opening, the Opera House has attracted great artists from across the world, and hosted performances by many nationally and internationally acclaimed performers. These include Joan Sutherland, Kiri Te Kanawa, June Bronhill, Joan Carden, Luciano Pavarotti, the Sydney Symphony Orchestra, the Australian Chamber Orchestra, the New York Philharmonic conducted by Leonard Bernstein, Yehudi Menuhin, Bob Hope, Bangarra Dance Theatre, Mikhail Barishnikov, Twyla Tharp, Ella Fitzgerald, Nana Mouskouri, Harry Secombe and Crowded House (SOH website). Since 1973 over 45 million people have attended over 100,000 performances, including classical and contemporary music, ballet, opera, drama and dance, events for children and outdoor activities. It is used as a venue by a wide range of organisations including performing arts companies, entrepreneurs, schools, community groups, corporations, individuals and government agencies. The harbour-side Broadwalk and some of the foyers are open to the public, and it has attracted an estimated 100 million visitors.

The construction of a forecourt, car parking, and an appropriate approach by land to the Opera House was undertaken between 1986 and 2003. The approach was designed under the supervision of Andrew Andersons and involved Peter Hall. It was undertaken as part of the State Government's bicentennial refit of Macquarie Street and the public areas flanking Sydney Cove, and completed in time for the visit by British Royalty on Australia Day 1988. The parking station was an ingenious design solution to the problem of car access to the site. It involved a double helical coil set underground behind the Tarpeian cliff face. The vehicle entry and exits were in Macquarie Street, the air intake grills along the base of the cliff and the air exhaust a feature in the centre of the vehicle roundabout east of the forecourt. Part of the 1858 Bennelong drain was relocated during the work, and the harbour tunnel avoided. The pedestrian tunnel linked the 1988 lower forecourt to provide undercover access to the Opera House. It offered protection from the elements and serviced the lower forecourt shops, although it bypassed the grand forecourt approach envisioned by Utzon (Kerr 2003, 26). Between 1988 and 1997, the NSW Government commissioned the Public Works Department to upgrade the building and establish an asset management system to 'ensure the survival of the house for future generations' (SOHUP

Progress Report 1993, 4-11, cited in Kerr 2003, 27). Further work was carried out in 1994 to accommodate catering venues in the Opera House and lower forecourt, including the redesign of the Bennelong and Forecourt Restaurants and the Café Mozart, and modifications to the Harbour Restaurant. The Sydney Opera House Trust established a Conservation Council to advise and assist the Trust on the care, control and maintenance of the building. Whilst Jørn Utzon never returned to Australia and nor saw his building completed, he accepted an invitation from the NSW Premier to provide advice to the Sydney Opera House Trust, including a set of design principles to guide the ongoing conservation and management of the opera house, including any future redevelopment of the interiors. These were delivered in 2002. Utzon wrote that 'it is right that we should be looking forward to the future of the Sydney Opera House and not back to the past. For this reason I believe…future architects should have the freedom to use up-to-date technology to find solutions to the problems of today and tomorrow (cited in Kerr 2003, 31). The refurbishment of the Reception Hall, now called the 'Utzon Room', was completed according to Utzon's advice, and includes a tapestry designed by Utzon.

The Sydney Opera House has received many awards for its design and construction. These include the United Kingdom Institution of Structural Engineers Special Award in 1973, the Royal Australian Institute of Architects Gold Award to Jørn Utzon in 1973, and a Commemorative Sulman Award in 1992. The Association of Consulting Engineers gave its Excellence Award for the glass walls in 1972. The Illuminating Engineering Society of Australia gave a Meretricious Lighting Award in 1974, and a Certificate of Commendation for the shell floodlighting in 1988. The Royal Australian Institute of Architects has also given a range of other awards including one for outstanding environmental design in 1974, a civic design award in 1980, the Lloyd Rees award in 1988 and a National Civic Design Award in 1988 for the design of the forecourt. In 2003 the NSW RAIA gave the inaugural 'NSW 25 year award' and in 1998 the Sydney City Council awarded Utzon the Keys of the City of Sydney. In 1982 Utzon was warded the A. Aalta Medal and in 2003 the prestigious international Pritzker Prize for his contributions to architecture and in recognition of his masterpiece, the Sydney Opera House. The Pritzer Prize Juror, architect Frank Gehry, observed that 'Utzon made a building well ahead of its time, far ahead of available technology, and he persevered through extraordinary malicious criticism to a building that changed the image of an entire country. It is the first time in our lifetime that such an epic piece of architecture gained such universal presence' (Pritzker Prize website, 2003).

Condition and Integrity:

The building is in good condition and has a high degree of integrity. It retains its original design appearance although the fabric has been restored in part with new compatible finishes. The building's interiors have been extensively remodeled although many significant spaces remain close to their original form.

Location:

2 Circular Quay and Macquarie Street, Bennelong Point, Sydney, comprising all of Lot 5 DP775888 and all of Lot 4 DP7879333, and including the sea walls abutting these lots.

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Great Buildings Online: Sydney Opera House at www.GreatBuildings.com

Sydney Opera House at http://www.sydneyoperahouse.com
Sydney Opera House, entry in the *New South Wales State Heritage Register* at http://www.heritage.nsw.gov.au
Australian Performing Arts Centres Association at http://www.apaca.com.au/Home.html
Australian Heritage Places Inventory at http://www.heritage.gov.au/ahpi (Australian Heritage Commission, Register of the National Estate Database No 002353, Sydney Opera House and Surrounds, Sydney NSW)

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Report Produced: Mon Sep 11 17:02:33 2006

Appendix E

Register of the National Estate—Sydney Opera House

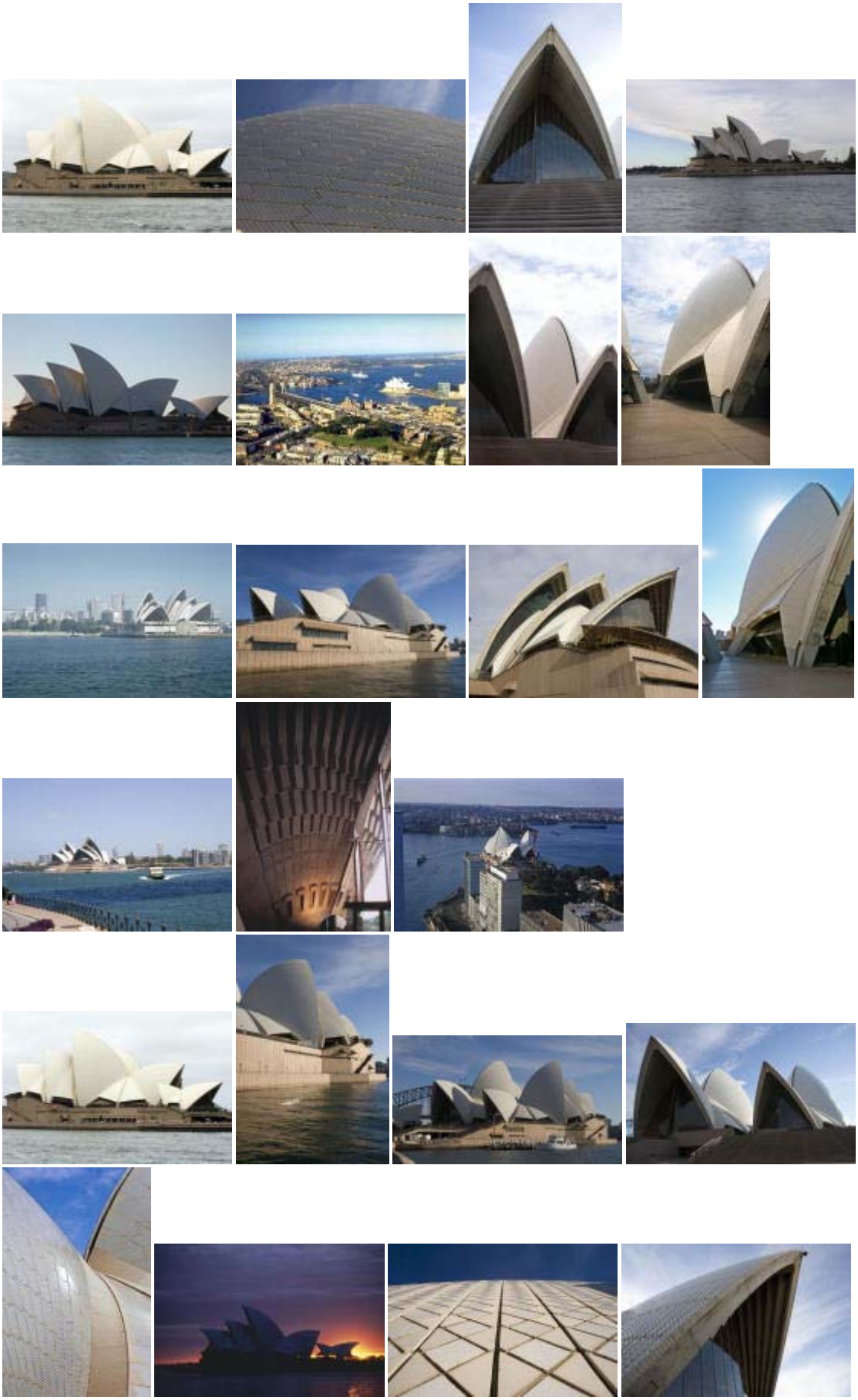
http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;search=place_id%3D2353%3Bkeyword_PD%3Don%3Bkeyword_SS%3Don%3Bkeyword_PH%3Don%3Blatitude_1dir%3DS%3Blongitude_1dir%3DE%3Blongitude_2dir%3DE%3Blatitude_2dir%3DS%3Bin_region%3Dpart;place_id=2353

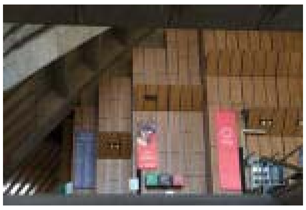
Place Details

Send Feedback

Sydney Opera House and Surrounds, 2 Circular Quay East, Sydney, NSW, Australia

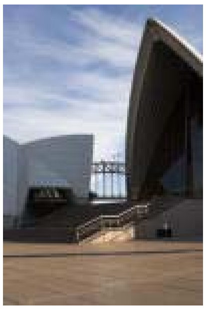
Photographs:



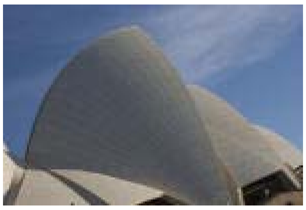




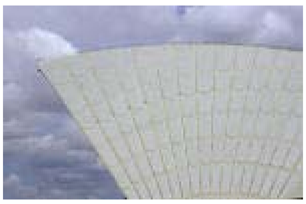



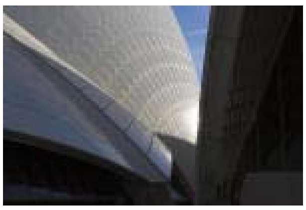


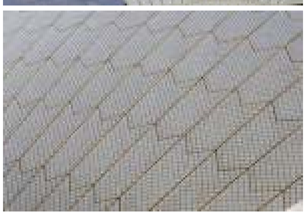
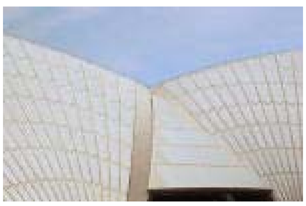


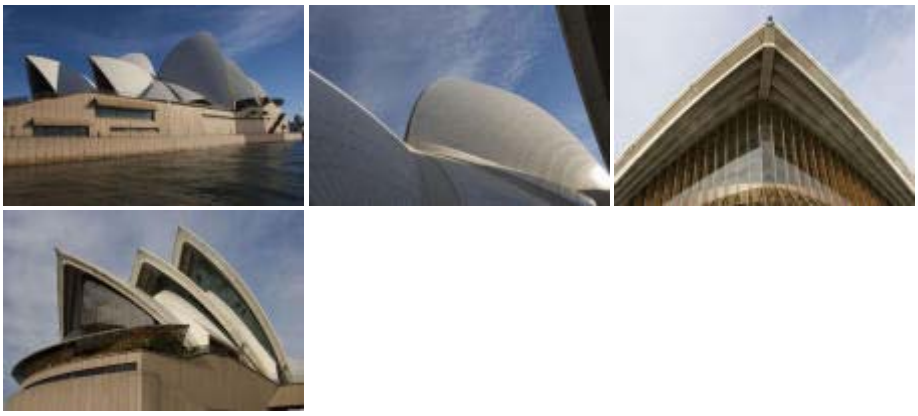






List:	Register of the National Estate
Class:	Historic
Legal Status:	Registered (21/10/1980)
Place ID:	2353
Place File No:	1/12/036/0449

Statement of Significance:

The Sydney Opera House is a magnificently sited building which has become an internationally recognised symbol of Sydney and of Australia (Criterion G.1). The building's exterior design is a great artistic achievement, with roof shapes echoing the billowing sails of the harbour. The interior design is functional and complements the high standard of the exterior design. Since its completion the Sydney Opera House has attracted world wide acclaim as an exceptional design, enhanced by the superb setting (Criterion E.1). The engineering design and construction of the Opera House, using vaulted concrete ribs to achieve a practical solution to the limitations of the shell concrete construction envisaged in Utzon's sketch, is a considerable technical accomplishment (Criterion F.1).
Since its completion, The Opera House has been the scene of many notable achievements in the performing arts and has associations with many important artistic performers (Criteria F.1 and H.1).

Official Values: Not Available

Description:

A reinforced concrete base, containing drama theatre, recording hall, rehearsal studios and administration areas, is surmounted by clusters of reinforced concrete vaulted sails in three groups which contain the Opera Hall, Concert Hall and a restaurant. The base is clad with precast panels faced in reconstituted red granite and this material is also used for the paving of the waterfront promenade which surrounds the base. The sails are clad in white ceramic coated tiles. Huge expanses of glazing provide dramatic views into and out of the foyers. Joern Utzon won an international competition with his design for the building in 1957. Construction was well underway when he resigned from the project. The interiors and glazing were designed by Hall, Littlemore and Todd, who took over as architects to complete the building.

History: Not Available

Condition and Integrity:

Good.

Location:

2 Circular Quay and Macquarie Street, Bennelong Point, Sydney.

Bibliography:

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RAIA 1990.

Report Produced: Tue Jun 2 12:50:48 2009

Appendix F

NSW State Heritage Register—Sydney Opera House

http://www.heritage.nsw.gov.au/07_subnav_02_2.cfm?itemid=5054880

Sydney Opera House

Item

Name of Item: Sydney Opera House

Other Name/s: Opera House, National Opera House, The Opera House, Jubughalee, Bennelong Point

Type of Item: Built

Group/Collection: Recreation and Entertainment

Category: Theatre

Location: Lat:-33.8589 Long:151.2138

Primary Address: Circular Quay East, Sydney, NSW 2000

Local Govt. Area: Sydney

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
LOT	5	-	DP	775888
LOT	4	-	DP	787933

All Addresses

Street Address	Suburb/Town	LGA	Parish	County	Type
Circular Quay East	Sydney	Sydney	St James	Cumberland	Primary
Bennelong Point	Sydney	Sydney			Alternate

Owner/s

Organisation Name	Owner Category	Date Ownership Updated
Attorney General, Minister for the Arts, Minister for the Environment	State Government	

Statement of Significance

The Sydney Opera House is of State significance as a twentieth century architectural masterpiece sited on a prominent peninsular in Sydney Harbour. In association with the Sydney Harbour Bridge it has become an internationally recognised symbol of Sydney and Australia, which is also widely admired by local citizens. Designed for the NSW Government by renowned Danish architect Jørn Utzon between 1957 and 1966, and completed in 1973 by Hall, Todd and Littlemore, the building has exceptional aesthetic significance because of its quality as a monumental sculpture in the round, both day and night, and because of the appropriateness of its design to its picturesque setting. Its public spaces and promenades have a majestic quality, endowed by powerful structural forms and enhanced by vistas to the harbour and the city. An icon of modern architecture, the Sydney Opera House uses the precise

technology of the machine age to express organic form. It has scientific and technical significance for the ways in which its construction continually pushed engineering and building technologies to the limit. It also has significance for the extensive associations of the site with many famous people and important themes in Australian history. Abutting the site of the first settlement of Europeans in Australia at Sydney Cove, the Sydney Opera House stands on Bennelong Point, Aboriginal land which was named after a Wangal Aboriginal man and which is of significance in the history of the entanglements and interactions between Aboriginal and non-Aboriginal cultures in Australia. Other historic themes associated with the site include the arrival of the First Fleet in Sydney Cove, scientific investigation, defence, picturesque planning, marine and urban transport and most recently, cultural showcasing. Since its official opening by the Queen in 1973, the Sydney Opera House has been the scene of many notable achievements in the performing arts and has associations with many nationally and internationally renowned artistic performers. The Sydney Opera House provides an outstanding visual, cultural and tourist focal point for Sydney and Australia.

Date Significance Updated: 21 Mar 05

Note: There are incomplete details for a number of items listed on the State Heritage Register. The Heritage Office intends to develop or upgrade statements of significance for these items as resources become available.

Description

Designer: Jørn Utzon, completed by Hall Todd & Littlemore

Builder: Engineers Ove Arup, contractor M.J. Hornibrook

Construction Years: 1957 - 1973

Physical Description: Located on the prominent peninsula of Bennelong Point in the heart of Sydney's central business district, the Sydney Opera House faces north into Sydney Harbour. Visually juxtaposed against the strong curves of the Sydney Harbour Bridge, the Sydney Opera House adjoins the city's historic Royal Botanic Gardens and overlooks Circular Quay, the transport hub of Sydney's ferries, trains and buses.

Jrn Utzon's design for the Sydney Opera House consists of a monumental platform surfaced with ochre granite, a massive horizontal base that contrasts with the white-tiled sail-like roofs. Its public spaces and promenades have a majestic quality endowed by powerful structural forms. A huge external stairway up the platform to the performance venues is an important element designed for a grand approach on foot. The publicly-accessible Broadwalk around the building allows pedestrians to promenade and appreciate the ever-changing outlook. Huge expanses of glazing provide dramatic views into and out of the foyers. As an icon of modern architecture it combines an expressive freedom of form with the precise technology of the machine age.

The NSW Government's international design competition brief of 1957 that resulted in the Sydney Opera House was visionary but vague. As the project materialized, the full extent of the functions of the complex had to be worked out, just as the problems inherent in the sculptural conception of Utzon's winning design had to be overcome. Inspired decisions by Utzon and the engineer Ove Arup to use vaulted concrete ribs based on the geometry of the sphere, and cast on site, achieved a brilliantly practical solution to the problem of roof construction. Australian architectural historian Max Freeland stated: "This Sydney Opera House was a voyage of architectural and engineering discovery in which new oceans were charted, new frontiers of knowledge and technology were conquered and the resources of science and technology were employed to solve design, erection and quality of finish problems beyond the capacity of conventional methods" (Freeland 1983).

Utzon's plan set the two largest performance venues side by side upon the platform. This made possible his dramatic sculptural elevations but came at a functional cost: the loss of conventional side and backstage space. Instead, access was contrived from below, using a broad passage under the platform at ground level. Utzon

explained: "The idea has been to let the platform cut through like a knife, and separate primary and secondary functions completely. On top of the platform the spectators receive the completed work of art and beneath the platform every preparation for it takes place" (DEST, 1996, 62)

The Sydney Opera House encompasses a complexity of structures including the Concert Hall, the Opera Theatre, the Drama Theatre and Playhouse, the Studio, administration areas and restaurants. The Concert Hall, the home of the Sydney Symphony Orchestra, is the largest venue. It seats 2,690 patrons and has a fine mechanical-action pipe organ. Birch plywood, formed into radiating ribs on the suspended hollow raft ceiling, extends down the walls to meet laminated brush box linings which match the floor. In the harbour foyer is John Olsen's acclaimed mural "Five Bells", itself inspired by a poem about the harbour by Kenneth Slessor. The Opera Theatre seats 1,547 people and is the performance base for Opera Australia. It is also used by the Australian Ballet and the Sydney Dance Company. It features black-stained ceilings and walls and red leather upholstery, although its acclaimed proscenium curtain designed by John Coburn, the "Curtain of the Sun", has been removed at least temporarily for repair. The Drama Theatre' s"Curtain of the Moon", also designed by John Coburn, is also removed at least temporarily. This theatre and the Playhouse are both theatrical venues and are primarily used by the Sydney Theatre Company. The Studio is the Sydney Opera House's newest performing space, having opened in March 1999, and is used for innovative and contemporary productions. There are also facilities for cinema, exhibitions, meetings, lectures, rehearsals, administration, restaurants and ancillary functions.

Physical Condition and/or Archaeological Potential:

The Sydney Opera House has great physical integrity and intactness. The building retains its original design appearance although the fabric has been restored in part with new compatible finishes. The building's interiors have been extensively remodelled although many significant spaces remain close to their original form. After the profound building effort required to construct the Sydney Opera House, it is unlikely that any archaeological potential is retained in relation to its historical associations with famous people and important themes in Australian history. Maritime archaeological work in preparation for the construction of the Sydney Harbour Tunnel found no evidence relating to the shipwreck site of the Three Bees,1814, just off the north west corner of Bennelong Point (Atkinson, 1988). The Three Bees was the earliest known wreck in NSW waters, and if found, would be the only submerged site representing the early convict trade to the colony. **Date Condition Updated:** 19 Aug 03

Modifications and Dates:

Ongoing adaptation of spaces, fabric and equipment to changing performance needs. 1976 - Repaint of interior. 1986-88 Construction of land approach and forecourt treatment under the supervision of Government Architect Andrew Andersons, with contributions by Peter Hall. 1988-1997 - Extensive repair and restoration work including: conservation of Concert Hall ceiling surfaces, extension of the stage of the Concert Hall, extension of the basement of the building to provide extra floor space, additional dressing rooms and storage space for the Playhouse Theatre, resealing joints between roof tiles, renewing slabs on ceremonial stairs and parts of podium, resealing glass wall joints, refurbishing auditoria seating, modifying the Opera Theatre orchestra pit, major structural refurbishment of supports to the Broadwalk, upgrading of fire protection and suppression systems, developing new edge tiles for the roof shells. (Kerr 2003: 26-27, Sydney Opera House website) 1993 - Conservation Plan commissioned from James Semple Kerr, updated in 2003. 1998-1999 - Conversion of the recording and rehearsal room into both an assembly area for the orchestra and "the Studio", for the presentation of innovative music and performing arts. 1999-2003 - Replacement of areas of pre-cast paving on the northern and western broadwalk, podium deck and steps, cleaning of external pre-cast wall panels, technical improvements to lighting, air-conditioning, hydraulics and fire and stage facilities, a series of acoustic studies of the Concert Hall. (Kerr, 2003, 30) 2003 - plans to refurbish the Opera Theatre and to redesign its orchestra pit, improvements to the Concert Hall acoustics, refurbishment of the Reception Hall, partial opening of the western foyer to its harbour setting, development of the forecourt as a performance venue (Kerr, 2003, 31).

Further Information:

As Kerr states, "There will always be a demand for adaptations to a performing arts centre if it is to remain in commercial use. One of the roles of a conservation plan is

to recommend the ways in which adaptations and additions may be controlled so that the cumulative effect does not degrade the building and its interiors, and to identify the thresholds at which change will have an adverse effect upon the significance of the building . . . Residual tensions between the care of the structure as a monument and its function as a performing arts centre will always exist. It is therefore important to emphasise the degree to which the quality of the building and its site and the popular and financial success of the events within it reinforce each other. Neither can be neglected." (Kerr, 1993, 27)

Former Use: Opera House

History

Historical Notes: The Sydney Opera House is sited on the peninsular of Bennelong Point in Sydney Harbour, part of the site of Australia's first European settlement at Sydney Cove near the contemporary Sydney CBD. Bennelong Point has extensive associations with many important themes in Australian history, including: the arrival of the First Fleet of British convicts in Sydney Cove in 1788, Aboriginal and European contact, scientific investigation, defence, picturesque planning, marine and urban transport and most recently, cultural showcasing.

EARLY ABORIGINAL ASSOCIATIONS WITH THE SITE
During the last ice age 20,000 years ago, the present Sydney Harbour was a complex river valley extending about 25 kilometres further east before meeting the ocean. Material in rock shelters reveals that Aboriginal people inhabited the surrounding region at least from that time. Some 6-7,000 years ago, melting ice had raised the sea-level to flood the valley system, to create a place approximating the present harbour, islands and foreshores and to cover any evidence of earlier human occupation along the valley floor (DEST & DUAP, 1996, 42) About 3,000 years ago there appears to have been a major population increase of Aboriginal people in the area (and elsewhere throughout Australia), suggested by the evidence of many camp sites that seem to have come into use from that time. Several different languages and dialects were spoken in the Sydney Harbour area before the arrival of the First Fleet. While 'Kuringgai' was the language spoken on the north shores, on the southern shores, including the peninsular now known as Bennelong Point, the language was 'Eora'. The Cardigal, who formed part of the Darug nation, were the Aboriginal traditional owners of this part of Sydney Harbour (Haglun, 1996, 135, 138). Bennelong Point was known to Aboriginal people as "Tyubow-gule" (Kerr, 1993, 1) or 'Jubgalee' (City of Sydney webpage).

The foundation of Sydney Town allied with the effects of a smallpox epidemic in 1789-1791 caused a massive disintegration of Aboriginal social structure around Sydney within the first decade of colonisation. The indigenous concepts of the religious meaning of the landscape and its features were not recorded by the British. It is thought that water, fire and creatures of the sea would have played important roles here as for other areas nearby (Haglund, 1996, 137). Other information about Aboriginal culture in Sydney Harbour before British colonisation is embedded in physical traces of their activities. Fire was used to modify the environment to suit human needs, a form of land husbandry noted in the journals of British officers when they commented on the park-like appearance of the landscape (DEST & DUAP, 1996, 42). Other evidence ranges from debris left behind during the daily round of getting, preparing and eating food, to expressions of beliefs and social organisation. Both aspects are still represented within view of the Sydney Opera House in shell middens middens and rock engravings (Haglund, 1996, 134). The Royal Botanical Gardens near Bennelong Point commemorates the culture and lifestyle of the Cardigal people in its 'Cadi Jam Ora: First Encounters' garden display (Royal Botanical Gardens website).

EARLY EUROPEAN ASSOCIATIONS WITH THE SITE AND INTERACTIONS WITH BENNELONG
The First Fleet arrived on the shores of NSW in January 1788 to form a British penal colony. Following Governor Arthur Phillip's decision that Botany Bay would not support the settlement, the ships began moving up the coast the few kilometres to Sydney Harbour. The HMAS Supply anchored at nightfall on Friday 25 January 1788

just inside Sydney Cove, about a cable's length from the eastern point of the cove that is now known as Bennelong Point. The rest of the fleet arrived the next day, 'Australia Day', 26 January 1788. Sloping and rocky, the eastern side of the cove was not attractive to habitation, although government cattle and horses were landed there temporarily. They remained until they had cropped what little pasture was available before being removed to a government farm nearby (Kerr, 1993, 1).

Bennelong Point was originally a small tidal island that largely consisted of rocks with a small beach on the western side (Wikipedia online, 2005). First known unofficially as 'Cattle Point', early correspondents were soon referring to Bennelong Point as "the east point of the cove" and in common usage it briefly became 'East Point'. Its permanent name, however, arose indirectly from Phillip's attempts to become acquainted with the local Aboriginal people. In November 1879, because of his limited success, he took the drastic step of seizing two indigenous men: Coleby and Bennelong. Coleby soon escaped but Phillip endeavoured by 'kind treatment' to 'reconcile' Bennelong to the Europeans. Although Bennelong soon escaped he appears to have retained some regard for Phillip. He paid several visits to Government House with companions, and apparently requested the government to build him a house on the eastern point of the cove. Phillip agreed and in mid-November 1790 Bennelong took possession of a brick and tile hut at the extremity of the point, about four metres square (Kerr, 1993, 1).

Contemporary sketches show the hut in exposed isolation on the point and from this time the headland has been known as Bennelong's Point. There is no evidence to suggest that Bennelong spent much time in the dwelling. He seems to have regarded the house more as a symbol of his importance than a place of residence. William Bradley gives an account of an evening's entertainment in March1791 provided by Bennelong at his house for the governor and his party, when 24 men, women and children danced to the accompaniment of beating sticks and hands. In December 1792 Bennelong and a young compatriot, Yem-mer-ran-wan-nie, departed for England with Phillip. Of the two Aboriginal men, only Bennelong survived the trip and it was not until 1795 that, homesick and unwell, he was able to return with the new governor, John Hunter. The trip helped to unsettle a volatile character and he died in1813, alienated from both Aboriginal and European cultures. During his English trip his house on Bennelong Point was hardly used and fell into disrepair. In March 1793 it was lent to a visiting Spanish expedition, which made astronomical observations from the point and stored their equipment in the dwelling. Bennelong's house was demolished in 1795 (Kerr, 1993, 2).

Bennelong Point was also the site of the first defensive structures in the colony. A couple of months after the First Fleet's landing, Phillip had appointed marine officer William Dawes to construct a small redoubt on the east point at its northern tip. The work was completed by the end of the year and on New Year's day 1789 two guns were placed in position. However the battery had fallen into decay by 1791. Another battery was built in December 1798 but by 1800 it too was reported to be in a 'total state of decay'. No attempt was made to repair the work and instead the point was to become a de facto hospitality area for visiting survey and expedition vessels (Kerr, 1993, 2-3). Kerr comments helpfully on these early uses of the point:

'If . . . Bennelong chose the site of his house, why was it in such an exposed location on the tip of the point, overlooked by headlands and ridges and visible from the waters of the harbour in three directions? In the absence of records of the local people's attitude to the point, it seems likely that Bennelong chose to give maximum visibility to the very solid evidence of the esteem in which he was held by the European visitors. The value of such a highly visible symbol of white benevolent intentions would not have escaped Phillip. . . Whatever the reason, the topological characteristics which made it attractive to Bennelong also made the vicinity useful for temporary defensive works and, when they were derelict, as a shore camp for visiting foreign expeditions. On the point, the foreigners could be held at a not inconvenient arm's length and at the same time be kept under easy surveillance' (Kerr, 1993, 3-4).

NINETEENTH CENTURY PICTURESQUE ASSOCIATIONS
Bennelong Point is close to the earliest known wreck in NSW waters. The Three Bees arrived in Sydney on 6 May 1814 with a cargo of 200 surviving male convicts. Two

weeks later she caught fire at anchor in Sydney Cove, but all aboard managed to escape before her guns or magazine began to explode. With the rigging ablaze she was cut free but drifted back to shore, burning to the waterline during the night, and finally sinking in shallow water off Bennelong Point. Maritime archaeological survey work, conducted in preparation for the construction of the Sydney Harbour Tunnel in 1988, searched the area near the north west tip of Bennelong Point where it was supposed that the Three Bees had sunk, but no relics were found (Atkinson, 1988).

The area encompassing Bennelong Point, the Botanical Gardens and Mrs Macquarie's Point had been reserved for the crown by Phillip, who meant it to continue free of encroachments. Under governors Hunter and King, however, a variety of leases and buildings were permitted. Thus in 1795 Governor Hunter agreed to a proposal by Mr John Boston to make salt at Bennelong Point. Boston was allocated seven convicts and constructed a small works on the west side of the point in a building that was known as the salt works, however the venture failed within months (Kerr, 1993, 2). When Governor Bligh took over in 1806 he cancelled these leases and had the buildings removed. Fortunately the next governor, Lachlan Macquarie, reinforced and completed the clearance. 'Macquarie and his wife Elizabeth did a lot more than return the government domain to its former shape: they also set out to embellish it' using their 'taste for the Picturesque' (Kerr, 1993, 4).

In 1812 the Macquaries built a castellated cottage on the west side of Bennelong Point as a dwelling for an eccentric Jamaican emancipist, Billy Blue, who acted as a watchman and 'waterman'. More importantly, in 1818, the Macquaries commissioned the recently emancipated English architect Francis Greenway to design 'a Neat Handsome Fort' in sandstone on Bennelong Point. It was meant to prevent clandestine departures from Sydney as well as to repel surprise attacks from an enemy. Between 1818 to 1821, the tidal area between Bennelong Island and the mainland was filled with rocks excavated from the peninsula. The entire area was leveled to create a low platform and to provide suitable stone for the construction of Fort Macquarie. While the fort was being built, a large portion of the rocky escarpment at Bennelong Point was also cut away to allow a road to be built around the point from Sydney Cove to Farm Cove, known as Tarpeian Way (Wikipedia online, 2005). Completed in 1821, Fort Macquarie was 40 metres square with circular bastions on the four corners, and was entered by a bridge over a dry moat and an octagonal guard tower. Fort Macquarie provided a picturesque focal point on the harbour throughout the nineteenth century but was generally considered inadequate for military purposes - 'an ornamental and archaic toy' (Kerr, 1993, 9). A notable further use of the Fort commenced in 1858 with the firing of a gun each day precisely at 1pm to enable the rating of ships' chronometers (Kerr, 1993, 10). Presumably this also alerted Sydneysiders to their lunch.

The Macquaries intended to build a grand governor's residence on Bennelong Point but only got as far as constructing the stables uphill, which were later converted to the Sydney Conservatorium of Music. During the late 1820s, Governor Ralph Darling and his wife Eliza built a castellated bathing house with octagonal towers on Bennelong Point facing east, not far from Fort Macquarie (Kerr, 1993, 5-7). An 1839 guide to Sydney stated that 'the chief pride of this town is the excellent walks round the domain, passing Fort Macquarie'. Kerr points out that 'The "genius" of the Point was still considered to be most peculiarly Gothic and a generation of artists, amateur and professional, never tired of depicting its elements' (Kerr, 1993, 7). In1843 the present Government House was completed in Late Gothic style, positioned further uphill toward the stables than the site chosen by Macquarie.

TRANSPORT ASSOCIATIONS WITH THE SITE

In 1860 a wharf was built on Bennelong Point for a ferry service crossing to the north side of the harbour at Milson's Point. This service became redundant with the opening of the Sydney Harbour Bridge in 1932. Major longshore wool, mail and passenger wharves were also built during the 1880s, extending towards Circular Quay. In the late 1890s the western rampart of the fort was demolished, presumably to provide carriage access for burgeoning P&O passenger trade. From 1879 Sydney was increasingly serviced by a tramway network. By 1902 Fort Macquarie had been demolished, replaced by a tram shed designed to hold 72 of the city's largest trams. In deference to the picturesque associations of the site, the tram shed was designed by the NSW Department of Public Works in Gothic style. As

Kerr describes it, 'the industrial saw-tooth roof was concealed behind crenelated parapet walls and the office and staff facilities were located in a north end with five apses in echelon - in the manner of the thirteenth century High Gothic cathedrals of Amiens, Rheims and Beauvais. This surprising arrangement was surmounted by an asymmetrically placed tower in the government architect's best Neo-Gothic mode' (Kerr, 1993, 11). The tram shed remained in use until the 1950s when buses began to progressively replace trams throughout Sydney.

PLANS FOR A NATIONAL OPERA HOUSE

Meanwhile the town planners Rosette Edmunds and Sydney Luker had convinced Eugene Goossens, the conductor of the Sydney Symphony Orchestra, that Bennelong Point was a fine potential location for a performing arts centre (SMH 19/10/73, p.6; Freestone, 1995). In October 1948 Goossens published a plan for an opera house with an auditorium to accommodate up to 4,000 people on the site. This was an ambitious plan to emphasise 'high culture' in a most prominent part of the city. The idea did not gain political support until 1952 when the Labor premier of NSW, J.J. Cahill, announced the government's intention to build an opera house. The decision to invest in such a building at this time may be seen as a timely attempt to shift perceptions of Sydney from being a ex-penal colony in a far-flung corner of the British Empire to Sydney as a world city with its own cultural maturity. Town planning professor Denis Winston wrote at the time that:

'The building of the new Opera House on one of the grandest urban sites in the world - the headland where Governor Macquarie's old Fort used to be - will be a visible symbol of the coming of age of the capital of the Mother State' (Winston, 1957, 19).

AN INTERNATIONAL DESIGN COMPETITION

In November 1954, Cahill appointed an 'Opera House Committee' to advise the government on ways to implement its intention to build an opera house. The committee - consisting of Goossens, Henry Ashworth (Sydney University's Professor of Architecture) and representatives of the Australian Broadcasting Commission, the Sydney City Council and the Department of Local Government - recommended Bennelong Point as the preferred site and an international competition to select the design. In January 1956 the NSW government announced the terms of a major international competition to design a 'national opera house' on Bennelong Point with two halls, each designed for a specific set of uses. No limits were set on the estimated cost of the project. This open-ended design brief attracted 933 registrations of interest from all over the world and more than 220 final submissions by architects from 32 countries. The judging panel consisted of Ashworth, John Leslie Martin (professor of Architecture at Cambridge UK), Cobden Parkes (the NSW Government Architect) and Eero Saarinen (the renowned Finnish architect). On January 29, 1957, the judges announced that Joern Utzon was the winner of the competition. There are conflicting views of what went on during the jury's deliberations but all agree that Saarinen was a strong advocate of the winning design (Kerr, 1993, 15). The jury stated, 'The drawings are simple to the point of being diagrammatic. Nevertheless we have returned again and again to the study of these drawings, we are convinced that they present a concept of an Opera House which is capable of being one of the great buildings of the world' (Sydney Opera House website, 2003).

Both the architectural fraternity and the public were amazed by the design. Although there were a few dissenting voices, initially including Cahill's, most people found Utzon's design a spectacular and appropriate development for the site. Utzon, like other designers who had worked on Bennelong Point, was inspired by the site. It was clear that the building would be viewed from all angles - from water, land and air, that the Sydney Opera House was to be the focal point in a grand waterscape. Utzon drew on the form of Mayan temples for his solid, grand ceremonial platform with staircases, from which spring the shells or roof structure. Two of his guiding design principles were the use of organic forms from nature, and the creation of sensory experiences that would bring pleasure to the users of the place (Kerr, 2003, 44). As Utzon explained:

'. . . Instead of making a square form, I have made a sculpture - a sculpture covering the necessary functions . . . If you think of a Gothic church, you are closer

to what I have been aiming at. Looking at a Gothic church, you never get tired, you will never be finished with it - when you pass around it or see it against the sky . . . Something new goes on all the time . . . Together with the sun, the light and the clouds, it makes a living thing' (Kerr, 1993, 16).

During public debate on a name for the building, concerns were expressed that the cost of admission would be too high for the average working family. Cahill had feared this perception and publicly promised that 'the building when erected will be available for the use of every citizen.' Furthermore, he declared, 'the Opera House will, in fact, be a monument to democratic nationhood in the fullest sense' (Kerr, 1993, 15). Rather than pay for the construction of the building from the usual tax revenues, Cahill announced the establishment of the 'Opera House Lottery' in September 1957. Over the next 16 years, the gambling public of NSW voluntarily contributed just over $100 million to the erection of the Sydney Opera House (Sydney Opera House website, 2003).

CONSTRUCTION DIFFICULTIES
The austere line sketches Utzon had prepared for the 1957 competition showed a relatively squat, free-form roof of concrete shells. These were concept diagrams and did not prove to be structurally practical. Over the next five years Utzon, in conjunction with the famous engineering firm of Ove Arup of London, developed a ribbed shell system based on the geometry of a sphere. This system permitted each rib to be built up of a number of standard segments cast at the site. The segments were then lifted into place between the previous rib and a supporting telescopic steel arch devised by the contractor, M.R. Hornibrook. The complete rib was then stressed and the process repeated. The development of this roof shell design was a difficult and lengthy process. As with so much of the Sydney Opera House work, it extended skills and pushed technology to the limit (Kerr, 1993, 16).

In the early 1960s the architectural character of the proposed Sydney Opera House had already made it famous in professional circles. By the mid 1960s the controversy surrounding the time and cost overruns had spread that fame to almost all levels in society. In February 1966, with the podium in place and the roof structure nearly complete, Utzon 'resigned'. By April he had left Sydney and did not return.

The reasons for these troubles were complex and have been much discussed in a range of publications. A major factor was Premier Cahill's insistence on the building being commenced before the March 1959 election - long before the design for the shells and their supports had been resolved. With construction running ahead of the design solutions, a chain reaction was set up which plagued all those concerned with the work for the fifteen year construction period. A further problem lay in the honorary committees appointed by Cahill. The technical advisory committee did not meet sufficiently frequently to give timely advice. Ashworth made an unfortunate recommendation that it would be unnecessary for Utzon to work with an Australian architectural firm with local knowledge, as had been foreshadowed in the competition brief (Kerr, 1993, 15, 18-19). Ashworth's suggestion that Arup be directly responsible to the client rather than to Utzon also contributed to discord.

Utzon approached the design problems by working up solutions in consultation with technical experts and artisans, by a process of trial and error. In his search for perfection, Utzon was working to a very different agenda to that of the new Liberal government that took office in May 1965. In financial - and therefore also political - terms Utzon's approach was not one the new government considered appropriate to jobs of the scale and complexity of the Sydney Opera House. When the authorisation of fees was transferred from the executive committee to the Minister for Public Works, Davis Hughes, in October 1965, Utzon was in trouble. Utzon finally resigned in February 1966 in an oddly constructed letter in which he told Hughes that he had been 'forced . . . To leave the job'. The alacrity with which Hughes dispatched a formal acceptance of Utzon's 'resignation' belied the deep regret he expressed at receiving it (Kerr, 1993, 19).

In April 1966 Hughes announced the appointment of a panel of architects to complete the project. It consisted of Peter Hall, Lionel Todd and David Littlemore. Hall was responsible for design. The fourth member was the government architect,

Ted Farmer, who by virtue of his office, acted as client. Utzon gave them some drawings but Hall described these as incomplete. While this made work difficult for Hall Todd & Littlemore, it also emphasised the very different approaches of Utzon and his Australian successors. Utzon liked to work with consultants and contractors developing and adjusting three-dimensional prototypes. By contrast the Australian tradition continued the primacy of two-dimensional drawing. It was apparent that, in the absence of communication between Utzon and the new team, the Sydney Opera House was not going to be finished as Utzon might have intended (Kerr, 1993, 20-21). His departure meant that his plans for the major and minor halls, the glass infill walls and the public spaces were never realised. Instead, the topaz-coloured glazing in bronze frames which enclose the ends of the roofs was a major innovation achieved by the Australian architects.

In June 1966, the Australian Broadcasting Commission (ABC) - as the intended major commercial user of the space - belatedly produced a set of specific requirements for the main hall, including a reverberation time of at least two seconds. In December 1966, Hall Todd and Littlemore presented a number of recommendations to the Minister that outlined radical changes to the interiors to accommodate these needs. These changes included turning the main hall into a dedicated Symphony or Concert Hall and turning the smaller hall into a dedicated Opera Theatre. The State Government approved the recommendations in April 1967 and the design of the interior of the structure was developed by Hall, Todd and Littlemore to comply with them (Sydney Opera House website). Thus the interiors are largely attributed to Peter Hall, within the spectacular exterior shell designed by Utzon.

OPENING PERFORMANCES

In 1960, the black American actor and singer Paul Robeson climbed on the scaffolding at the Sydney Opera House while it was under construction to sing to the workers. The first public performance was however given in the Opera Theatre on 28 September 1973 by the Australian Opera Company, while the following night in the Concert Hall Charles Mackerras conducted the Sydney Symphony Orchestra. A little after these first official performances, on 20 October 1973, the Sydney Opera House was officially opened by Queen Elizabeth II. During the inaugural period 300 journalists arrived from all over the world 'to see if the Sydney Opera House was to be a white elephant or a sacred cow'. The Los Angeles correspondent spoke for many when he wrote: 'This, without question, must be the most innovative, the most daring, the most dramatic and in many ways, the most beautifully constructed home for the lyric and related muses in modern times' (Kerr, 1993, 25).

Sydney author Ruth Park wrote about the Sydney Opera House in 1973 in an account that is suggestive of some of the perceptions of it at that time:

'To walk into the Opera House is to walk inside a sculpture, or perhaps a seashell, maybe an intricate, half-translucent nautilus. Morphology and the computers have composed a world of strange breathless shapes, vast, individual, quite unlike any other architecture I have ever seen. Palm ribs of steel, sea fans of concrete! And all of extraordinary height, all in harmonious dialogue one with another. The glassy declivities of the walls are an almost imperceptible amber; they bring the sun into the vast structure as they bring the sky and the harbour. It's such a nonesuch of a building, a white swan in a land of black swans. . . One of its dazzling features are the world's biggest theatre curtains (and woollen ones at that). Woven in the Aubusson style in the medieval French village of Felletin, from a design by Australian artist John Coburn, each curtain measures more than 1,000 square feet [93 sq.m] and requires six men to lift it. Expectedly, the bold blazing designs have been severely criticized as 'bathroom wallpaper', but I think them breathtaking. The curtain for the Opera Theatre, especially, is a perfect symbol of the city; a summer coloured curtain with vigorous leaping shapes that recall Sydney's resident demon, the bushfire. The central sun motif is of such energy and brilliance that one can almost hear the hissing roar of its prominences. You may well find yourself an ant inside the Opera House, but when you come out you're more than human. To know that this masterpiece comes from the materialistic sixties! And the worse seventies! One goes away full of justified faith' (Park, 1973, 29-30).

A NATIONAL CULTURAL CENTRE

Many famous artistic performers from Australia and overseas have been associated with the Sydney Opera House since its completion, indeed, its success as a performing arts centre has been described as 'spectacular' partly because of the building's 'ability to attract great artists from all over the world' (Kerr, 1993, 26). These performers include: opera singers Joan Sutherland, Kiri Te Kanawa, June Bronhill, Joan Carden and Luciano Pavarotti; orchestras such as the Sydney Symphony, the New York Philharmonic conducted by Leonard Bernstein, The Festival Orchestra with Yehudi Menuhin, the Chicago Symphony Orchestra and the Berlin Philharmonic; comedians Bob Hope, Paul Hogan, Billy Connolly and Judith Lucy; and dance shows by the Sydney Dance Company, the Aboriginal Islander Dance Theatre and the Bangarra Dance Theatre; ballet performers such as Natalia Makarova, Mikhail Barishnikov, Jiri Kylian, George Balanchine and Twyla Tharp; popular singers and musicians such as Paul Robeson, Ella Fitzgerald, Nana Mouskouri, Harry Secombe, Sammy Davis Jr, John Williams, Tiny Tim, Elvis Costello, kd lang, Michael Jackson and Crowded House (Sydney Opera House website).

As this range of names may indicate, the Sydney Opera House doesn't operate principally as a venue for opera, but hosts a wide range of performing arts. These include classical and contemporary music, ballet, opera, drama and dance, events for children and outdoor activities. It is used as a venue by a wide range of organisations including performing arts companies, entrepreneurs, schools, community groups, corporations, individuals and government agencies. Its harbour-side Broadwalk and some of its foyers are freely open to the public. Since it opened in 1973, over 45 million people have attended more than 100,000 performances at the Sydney Opera House and it is estimated that well over 100 million people have visited the site. Market research from 2003 indicated that the people who visited the Sydney Opera House numbered around 4.4 million per year, averaging nearly 85,000 visitors each week. Only about a quarter of those visiting came for performance-related reasons, while the remainder came to experience the building and its environment (Sydney Opera House webpage).

HONOURS BESTOWED
The Sydney Opera House and its designers have been awarded many honours. In Australia in 1972 the Association of Consulting Engineers gave Ove Arup & Partners the Annual Award for Excellence (for the design and construction of the glass walls). The Illuminating Engineering Society of Australia gave a Meretricious Lighting Award for the Opera Theatre in 1974 and a Certificate of Commendation of the shell floodlighting in 1988. n 1973 the Royal Australian Institute of Architects (RAIA) awarded Joern Utzon its prestigious Gold Medal, and in 1992 they gave him a Commemorative Sulman Award. From the RAIA also came a Merit Award for work of outstanding environmental design in 1974, a Civic Design Award in 1980, the Lloyd Rees Award in 1988 and a National Civic Design Award in 1988, both awarded for the design of the forecourt, which was remodelled as part of the Circular Quay and Macquarie Street revitalisation project. Also, in 2003, the NSW RAIA gave the inaugural "NSW 25 Year Award". In 1998 the Sydney City Council awarded Joern Utzon the Keys of the City of Sydney. The Sydney Opera House has been listed on the registers of the Australian Heritage Commission, the National Trust as well as on the Sydney City Council heritage LEP.

Internationally, in the Uk in 1969, Ove Arup & partners were given the Queen's Award to Industry (for technological innovation in prestressed concrete roofing). In 1973 the UK Institution of Structural Engineers made a Special Award to Ove Arup & Partners to acknowledge a physical achievement in its widest sense (for the contribution to the creation of the Opera House). Utzon has since been awarded the Aalto Prize, the Royal Institute of British Architects' Gold Medal and Denmark's highest cultural honour, the Sonning Prize. In 2003 the prestigious Pritzker Prize ('the architectural equivalent of a Nobel Prize') was awarded to Joern Utzon, recognising the Sydney Opera House as his masterpiece. As a jury member for Pritzker Prize in 2003, the American architect Frank Gehry commented:

'Utzon made a building well ahead of its time, far ahead of available technology, and he persevered through extraordinary malicious criticism to a building that changed the image of an entire country. It is the first time in our lifetime that such an epic piece of architecture gained such universal presence' (Frank Gehry quoted in the Architecture Bulletin, Jul/Aug 2003, 19).

UTZON'S RETURN
In 1998 the Sydney Opera House Trust began negotiations for the return of Joern Utzon as an advisor. In 1999, Utzon agreed to supply a statement of his 'design principles' for the building. These were delivered in 2002 and have been published as 'Sydney Opera House Utzon Design Principles' (2002). These are, in Utzon's words, 'to be used as a permanent reference for the long term conservation and management of the House and for any redevelopment of interiors as and when that becomes necessary'. He emphasised however that, 'it is right that we should be looking forward to the future of the Sydney Opera House and not back to the past. For this reason I believe . . . Future architects should have the freedom to use up-to-date technology to find solutions to the problems of today and tomorrow' (Kerr, 2003, 31).

The long-serving Labor premier of NSW, Bob Carr, has written about the Sydney Opera House as the primary symbol of 'our vigorous cultural life' that will enable Sydney 'to thrive in the new century'. In noting that 'Sydney and the architect of our city's icon, Joern Utzon, are reconciled', Carr proudly states that 'all future work on the Opera House will be guided by [Utzon's] original vision' (Carr, 2002, 225).

Historic Themes

Australian Theme (abbrev)	New South Wales Theme	Local Theme
2. Peopling - Peopling the continent	Aboriginal cultures and interactions with other cultures - Activities associated with maintaining, developing, experiencing and remembering Aboriginal cultural identities and practices, past and present.	All nations - places of interaction and entanglement between Aboriginal and non-Aboriginal peoples -
3. Economy - Developing local, regional and national economies	Commerce - Activities relating to buying, selling and exchanging goods and services	Operating a tourism venture -
3. Economy - Developing local, regional and national economies	Environment - cultural landscape - Activities associated with the interactions between humans, human societies and the shaping of their physical surroundings	Landscapes of sport and recreation -
3. Economy - Developing local, regional and national economies	Environment - cultural landscape - Activities associated with the interactions between humans, human societies and the shaping of their physical surroundings	Landscapes of cultural and natural interaction -
3. Economy - Developing local, regional and national economies	Environment - cultural landscape - Activities associated with the interactions between humans, human societies and the shaping of their physical surroundings	Landscapes of cultural and natural interaction -
3. Economy - Developing local, regional and national economies	Events - Activities and processes that mark the consequences of natural and cultural occurences	Providing a venue for significant events -
3. Economy - Developing local, regional and national economies	Events - Activities and processes that mark the consequences of natural and cultural occurences	Developing national landmarks -
3. Economy - Developing local, regional and national economies	Science - Activities associated with systematic observations, experiments and processes for the explanation of observable phenomena	Researching astronomy -
3. Economy - Developing local, regional and national economies	Technology - Activities and processes associated with the knowledge or use of mechanical arts and applied sciences	Technologies of new building materials and techniques -
3. Economy -	Transport - Activities associated with the moving of people and	Building and operating

Developing local, regional and national economies	goods from one place to another, and systems for the provision of such movements	industrial tramways -
3. Economy - Developing local, regional and national economies	Transport - Activities associated with the moving of people and goods from one place to another, and systems for the provision of such movements	Building and maintaining jetties, wharves and docks -
4. Settlement - Building settlements, towns and cities	Land tenure - Activities and processes for identifying forms of ownership and occupancy of land and water, both Aboriginal and non-Aboriginal	Exposed site for surveying foreigners -
7. Governing - Governing	Defence - Activities associated with defending places from hostile takeover and occupation	Repatriating returned service personnel -
7. Governing - Governing	Defence - Activities associated with defending places from hostile takeover and occupation	Building colonial forts -
7. Governing - Governing	Government and Administration - Activities associated with the governance of local areas, regions, the State and the nation, and the administration of public programs - includes both principled and corrupt activities.	Developing roles for government - parks and open spaces -
7. Governing - Governing	Government and Administration - Activities associated with the governance of local areas, regions, the State and the nation, and the administration of public programs - includes both principled and corrupt activities.	Building and operating public infrastructure -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Designing structures to emphasise their important roles -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Creating works of art -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Building in response to natural landscape features. -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Building in response to natural landscape features. -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Building and using prefabricated structures -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Technological innovation and design solutions -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Architectural styles and periods - Late 20th Century Late Modern -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Creating an icon -
8. Culture - Developing cultural	Leisure - Activities associated with recreation and relaxation	Visiting lookouts and places of natural beauty -

institutions and ways of life		
8. Culture - Developing cultural institutions and ways of life	Leisure - Activities associated with recreation and relaxation	Going to the theatre -
8. Culture - Developing cultural institutions and ways of life	Leisure - Activities associated with recreation and relaxation	Gathering at landmark places to socialise -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Governor Arthur Philip, 1788-1792, -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Governor Lachlan Macquarie, 1810-1821 -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with J.J. Cahill, NSW Premier -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Jorn Utzon, architect -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Eugene Goossens, orchestra conductor -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with H.I. Ashworth, architecture professor -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Governor Ralph Darling and Eliza Darling -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Bennelong -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Ove Arup, engineer -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Francis Greenway, emancipist architect -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Billy Blue, Jamaican emancipist -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with theatre performers -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with musical performers -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Eero Saarinen, architect -

Assessment of Significance

SHR Criteria a) [Historical Significance]

The Sydney Opera House has historical significance as a modern architectural masterpiece, recognised internationally as a symbol of Sydney and Australia, and created throughout many years of creative and financial controversy. Its historical significance is furthermore enhanced by the extensive associations of the site with major themes in Australian history such as Aboriginal and European contact,

scientific investigation, defence, picturesque planning, marine and urban transport, popular recreation and cultural icons. (Kerr 1993: 28)

SHR Criteria b) [Associative Significance]

The Sydney Opera House site is of significance for its many associations with people prominent in NSW's history including the early colonial governors of NSW, the Aboriginal man Bennelong, the architect Francis Greenway and many artists who have depicted the site. Many significant people are associated with the construction of the Sydney Opera House, including Eugene Goossens, Joe Cahill, Jørn Utzon, Eero Saarinen and Ove Arup. Many famous artistic performers from Australia and overseas have been associated with the Sydney Opera House since its completion, indeed, its success as a performing arts centre has been described as "spectacular" partly because of the building's "ability to attract great artists from all over the world".

SHR Criteria c) [Aesthetic Significance]

The Sydney Opera House has exceptional aesthetic significance because of its quality as a monumental sculpture in the round, both day and night, and because of the appropriateness of its design to its setting and the picturesque quality of the setting. Its public spaces and promenades have a majestic quality endowed by powerful structural forms and enhanced by vistas to the harbour and the city. Its aesthetic quality is largely attributed to the 1957 prize-winning design by Jrn Utzon. Utzon was then a relatively unknown Danish architect whose subsequent international fame has been in part a result of the success of the building. Its aesthetic quality was also enhanced by the high quality completion work by Hall, Todd & Littlemore, by the technical support given throughout by the internationally renowned engineering firm of Ove Arup & partners, and finally by M.R. Hornibrook, the contractor of stages two and three (Kerr, 2003, 32). Widely recognised as a masterpiece of twentieth century architecture, the Sydney Opera House combines an expressive freedom of form with the precise technology of the machine age. It has scientific and technical significance for the ways in which its construction continually pushed engineering and building technologies to the limit. Australian architectural historian Max Freeland stated: "This Sydney Opera House was a voyage of architectural and engineering discovery in which new oceans were charted, new frontiers of knowledge and technology were conquered and the resources of science and technology were employed to solve design, erection and quality of finish problems beyond the capacity of conventional method".

SHR Criteria d) [Social Significance]

The Sydney Opera House is of social significance as an internationally recognised symbol of Sydney, one of Australia's leading tourist attractions and a focal point for community events. It is also widely admired by Sydneysiders, and can be seen to contribute importantly to the sense of place in the Sydney CBD. As a world-class performing arts centre, the Sydney Opera House has enhanced the cultural vitality of the nation. It has also hosted many "everyday" cultural activities as well as providing free public access to its harbour-side Broadwalk. Of the 85,000 people estimated to visit each week in 2003, about a quarter came for performance-related reasons while the rest came to experience the building and its environment. In offering this remarkable accessibility to a broad public, Sydney Opera House can be seen to be fulfilling Cahill's hope that it would be "a monument to democratic nationhood".

SHR Criteria e) [Research Potential]

The Sydney Opera House is significant for its research potential as an internationally recognised icon of modern architecture. The development of the roof shell design was a difficult and lengthy process that extended skills and pushed technology to the limit. There is also research potential in investigating Utzon's design motivations and methods.

Furthermore there is research potential in investigating the role of the Sydney Opera House in the changing image of Sydney throughout the twentieth century, from being a colonial outpost to a world city. There is also scope for investigating the role of the Sydney Opera House in alerting an international audience to the existence of Sydney as a modern city, including the possibility that the Sydney Opera House may have helped in attracting migrants to Australia in the post World War II period. There is also potential for investigating the controversies surrounding the construction of the building as a reflection of "broader planning problems in the City" (Ashton, 1993, 83).

After the profound building effort required to build the Sydney Opera House, it is

unlikely that much archaeological potential is retained in relation to its historical associations with famous people and important themes in Australian history. A 1988 maritime archaeological survey found no remaining evidence of the shipwreck site of the Three Bees,1814, thought to have been near the north west corner of Bennelong Point.

SHR Criteria f)
[Rarity]

The Sydney Opera House has significance for its rarity as a twentieth century architectural masterpiece sited on a prominent peninsular in Sydney Harbour. It is an exceptional landscape (and seascape) monument because of its quality as a sculpture in the round, both day and night, and because of the appropriateness of its design to its setting and the picturesque quality of the setting. It is also unique in so far as it has become an internationally recognised symbol of Sydney and Australia, which is also widely admired by local citizens.

SHR Criteria g)
[Representitivenes]

The Sydney Opera House has significance for being an internationally recognised building representative of major performance arts centres. It is outstanding because of its innovative design appropriate both to its entertainment functions and to its harbour-side setting, and because of the esteem in which it is held in Australia and internationally. As an icon of modern architecture it combines an expressive, sculptural freedom of form with the precise technology of the machine age. Its success as a performing arts centre has been described as "spectacular" partly because of the building's "ability to attract great artists from all over the world" (Kerr, 2003, 26).

Integrity / Intactness:

The Sydney Opera House has great physical integrity and intactness. The building retains its original design appearance although the fabric has been restored in part with new compatible finishes. The building's interiors have been extensively remodelled although many significant spaces remain close to their original form.

Assessment Criteria

Items are assessed against the **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Procedures / Exemptions

Section of Act	Description	Title	Comments	Action Date
21(1)(b)	Conservation Plan submitted for endorsement	Conservation Plan (Interim)	This CMP is an Interim CMP only - the HC resolution endorsing the document notes that exemptions from s57(1) will be developed once a finalised CMP has been endorsed. Exemptions can only be developed once the place is listed on the SHR - this has not occurred as at 8 April 2003. Revised CMP submitted for broad review April 2003.	Apr 4 1996
57(2)	Exemption to allow work	Standard Exemptions	I, the Minister for Planning, pursuant to section 57(2) of the Heritage Act 1977 on recommendation of the Heritage Council of New South Wales grant standard exemptions from section 57(1) of the Heritage Act, 1977 described in the schedule gazetted on 7 March 2003, Gaz No. 59 pages 4066-4070. To view the schedule click on the link below.	Mar 7 2003
21(1)(b)	Conservation Plan submitted for endorsement	HC endorsed 3rd ed. CMP by J.S.Kerr, 2003 with appendix of Utzon Design Principles, 2002.	5th November 2003 - Heritage Council endorsed the 'Sydney Opera House, A Revised Plan for the Conservation of the Sydney Opera House and Its Site (3rd ed.)', prepared by James Semple Kerr for the Sydney Opera House Trust, dated February 2003 with the addition as an appendix of Utzon Design Principles.	Nov 5 2003
57(2)	Exemption to allow work	Site specific exemptions- superceded, see below	Site specific exemptions gazetted alongside the SHR listing, December 2004 1. All development applications authorised or lodged before the gazettal date of the Sydney Opera House listing on the State	Dec 3 2003

Heritage Register. These are:
Proposed use of the northern broadwalk of the Opera House for events for a period of five years (DA444-2003)
The use of the southern forecourt of the Opera House for events (being low, medium and high impact events) for a potential maximum of 134 days per year (for a maximum 31 events per annum) over a three year period (DA445-10-2003)
2. The use of the roof/shells as a place from which to project broadcasts or fireworks, for limited periods and on infrequent occasions, where this has no adverse effect on fabric rated some, considerable or exceptional significance in the CMP.
3. The use of the roof/shells as a medium for the projection of colour or imagery where confined to exceptional, non-commercial occasions of brief duration, and only where this has no adverse effect on fabric rated some, considerable or exceptional significance in the CMP.
4. All maintenance that is consistent with the CMP.
5. All repainting in areas identified in the CMP as having some, considerable or exceptional significance, that employs the same colour scheme as an earlier scheme and maintains the general character.
6. All painting that is consistent with the CMP in areas identified in the CMP as having low significance or as being intrusive.
7. All repairs consistent with the CMP. Subject to Sydney Opera House assessment for heritage significance, the repair (such as re-fixing and patching) or the replacement of missing, damaged or deteriorated fabric that is beyond further maintenance, which matches the existing fabric in appearance, material and method of affixing, where this does not involve damage to or the removal of other fabric graded some, considerable or exceptional significance in the CMP
8. Subject to Sydney Opera House assessment for heritage significance, all improvements to the operational efficiency and all changes to the backstage infrastructure of performance venues (such as widening the loading door or updating flying systems) where these have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP.
9. Subject to Sydney Opera House assessment for heritage significance, all improvements to update and maintain technology requirements for providing industry standard information technology, telecommunications infrastructure and technical infrastructure where these changes have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP.
10. All internal and external design and fit-out of shops and restaurants on the lower concourse/ lower forecourt, including changes in the size and fabric of elements such as walls, doorways and windows, where these changes have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP.
11. All changes to the size and shape of shop spaces on the lower concourse/ lower forecourt, including that of the tour office and visitor centre, where these have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP.
12. While all efforts should be made to minimise visual impacts, all temporary security arrangements consistent with current and future risk/threat assessments provided by State and/or Commonwealth security agencies or by recognised security consultants commissioned by Sydney Opera House and the NSW Police.
13. All permanent security arrangements where these have no adverse effect on fabric rated of some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP. (Where a Development Application is required the Heritage Council will determine the

application as soon as possible, i.e. no more than 3 days after receipt of public submissions where these are required, 5 days if not required.)
14. Development consent for temporary or permanent security works is not required under s57(1) of the Heritage Act where;
a)Integrated development for which consent has been granted by the consent authority that is consistent with the general terms of proposed approval that have been provided to the consent authority by the Heritage Council, provided that all conditions included in the general terms of approval have been complied with,
b)Integrated development for which the consent has been modified by the consent authority pursuant to s96 of the Environmental Planning and Assessment Act 1979 in a manner that is consistent with any comments provided by the Heritage Council to the consent authority.
Note 1
Integrated development and consent authority have the same meaning as in the EP&A Act 1979. General terms of proposed approval means the general terms of any approval proposed to be granted by the approval body in relation to the development, as used in Division 5 of Part 4 of the EP&A Act 1979.
Note 2
Integrated development that is exempt under 14 b) above is not subject to the requirements in s65A of the Act in relation to modification of existing approvals.
15. All signage that conforms to a Signage Manual prepared by the Sydney Opera House Trust and endorsed by the Heritage Council.
16. All temporary signage and all permanent signage that conforms to current practices, is consistent with the CMP and does not obstruct views identified as significant in the CMP. This exemption to operate only until the implementation of a Signage Manual prepared by the Sydney Opera House Trust and endorsed by the Heritage Council within 12 months from the date of listing.
17. Minor changes and repairs to existing signage (such as replacing the poster in an illuminated box).
18. Removal of signage identified as intrusive or of low significance in the CMP.
19. All signage on and within lower concourse shop fronts, where this has no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and does not obstruct views identified as significant in the CMP. This exemption to operate only until the implementation of Signage Manual prepared by the Sydney Opera House Trust and endorsed by the Heritage Council within 12 months from the date of listing.
20. All temporary signage associated with temporary structures which is generally consistent with the CMP and where this has no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and does not obstruct views identified as significant in the CMP. This exemption to operate only until the implementation of a Signage Manual prepared by the Sydney Opera House Trust and endorsed by the Heritage Council within 12 months from the date of listing.
21. All semi-permanent plasma and flat screen displays for the purpose of promoting performances and sponsors, that are consistent with the CMP, have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP. This exemption to operate only until the implementation of a Heritage Council-endorsed Signage Manual within 12 months from the date of listing.
22. Small long-stay structures to house on-line information, ticketing and banking services in interior and exterior spaces, that are consistent with the CMP, have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP and do not obstruct views identified as significant in the CMP.

			23. The full-time operation of the Dolce Vita refreshment vending carts at six agreed locations around the site plus the short-term operation of additional vending carts as required for short periods for special events. This exemption is in force until 2012 when the vending cart contract concludes and this exemption can be reviewed. 24. Temporary structures (including stages, fencing, portable lavatories, food and beverage services and small marquees to display sponsorships) associated with special performance events to be erected on the forecourt, broadwalk, podium stairs and podium platform where they have no adverse effect on fabric rated some, considerable or exceptional significance in the CMP, minimise the impact on views identified as significant in the CMP and are consistent with the design terms of the CMP as far as possible. These structures may be erected for low, medium or high impact events with the following frequencies: a maximum of 12 low impact events per annum, each lasting a maximum of 2 days; a maximum of 9 medium impact events per annum, each lasting up to11 days for a total maximum of 50 days per annum; and a maximum of 5 high impact events per annum each lasting up to 7 days for a total maximum of 25 days per annum. Definitions Low Impact: minimal temporary infrastructure with limited visual impact Medium Impact: marked visual and/or site access impact during the event itself but the scale and nature of infrastructure minimises such impact outside the performance/event time. High Impact: requires infrastructure that has a marked visual and/or site access impact both during and around the event (the use of high fencing and/or temporary audience seating for more than 24 hours automatically makes an event High Impact). 25. A covered temporary structure on the western side of the northern forecourt of a maximum size of 400 square metres, inclusive of support infrastructure, to remain erected for a maximum of 21 days at a time and with a total maximum of 45 days per annum for infrequent special occasions, and to be consistent with the design terms of the CMP as far as possible. 26. A covered permanent temporary structure on the eastern side of the northern broadwalk, consistent with the design terms of the CMP, of a maximum size of 192 square metres, which can be expanded by another 192 square metres to 384 square metres in total. This expanded functions area may be erected on 12 days per month, generally in 3 blocks of 4 days for a maximum of 144 days per annum, where support infrastructure such as kitchens and toilets are situated inside the shells of the Opera House. 27. A covered temporary structure on the forecourt, which accommodates the design terms of the CMP as far as possible, of a maximum size of 2,500 square metres to be erected up to 6 times per annum, for a maximum of 7 days at a time or 28 days overall per annum, including installation and removal periods, where all associated support infrastructure such as kitchens, refrigeration and toilets are included under the main structure, and the impact on views identified as significant in the CMP is minimised, and public access is maximised.	
57(2)	Exemption to allow work	S57(2) 4 - Discovery of 'relics' during installation of a lift pit to service the Reception Hall	Archaeological relics were found during excavations for a lift pit in the basement of the Sydney Opera House. Relics include a sandstone wall and bones of mixed animal species (cow and sheep). Following a site visit the Heritage Office advised that recording of the relics would be required and an Exemption Application should be made under Section57(2) 4 (1) (b) for a minor impact on the archaeological resource. The relics uncovered during the work have been recorded and assessed by an archaeologist; the stone wall has been recorded and assessed by a conservation architect. The stone wall will be retained and will be isolated from the new works for the lift pit. Statements about these works have been supplied with the application. Full reports will be supplied in due course.	Nov 10 2004