Royal Randwick Racecourse Spectator Precinct Redevelopment

Environmental Assessment in relation to Major Development Application MP 10_0097

For the Australian Jockey Club

October 2010

urbis

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Tim Blythe
Associate Director	Paul Altree-Williams
Senior Consultant	Graeme Bews
Job Code	SA4305
Report Number	SA4305/v1 FINAL

URBIS
Australia Asia Middle East
www.urbis.com.au

FIGURES:

TABLES:

Executive Summary

This Environmental Assessment accompanies a Project application under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). The proposal for redevelopment of the Spectator Precinct at the Royal Randwick Racecourse has been declared a Major Project identified as MP10_0097.

The proposal will replace and refurbish outdated spectator facilities at the site to secure the Royal Randwick Racecourse's (RRR) position as a major cultural and horse racing event destination in NSW and nationally. The refurbishment of the precinct and introduction of complimentary recreational and event facilities will improve the functionality of the precinct and the overall spectator experience. The proposal is critical to the ongoing success of RRR in providing world-class racing and spectating facilities, and a cultural event destination in its own right.

The Minister's discretion is sought as part of this application to waive the requirement for further Environmental Assessment under clause 75P(1)(c) of the EP&A Act. The proposal includes sufficient detail to allow this determination.

The scope of the proposal includes:

- Demolition of the Paddock Stand and construction of a new seven level stand plus basement.
- Refurbishment of the seven level QEII Stand.
- Amphitheatre-style parade ring to establish the "Theatre of the Horse".
- Three storey Owners and Trainers building overlooking the "Theatre of the Horse" parade ring.
- Amenities block.
- Adaptive re-use of the historic Swab building for conference, museum, café, equine gallery and members' registration office.
- Extensive landscaping improvement to the public domain.
- Demolition of the Randwick pavilion and Teahouse.

The proposal establishes a built form that is of a scale, form and character that reflects the site's function as a premier racecourse and recreational venue.

Potential impacts of the proposed development largely relate to noise and heritage impacts. Acoustic impacts from the proposal are minor given the nature of activities at RRR. Acoustic impacts on surrounding areas can be effectively mitigated through standard acoustic treatment of the buildings and operational management controls.

Overall, the proposal results in positive heritage outcomes. These include the restoration and adaptive re-use of the historical Swab building. Demolition of the moderately significant Teahouse building will have some adverse impact on heritage. However, this is offset by the introduction of the world's best practice Theatre of the Horse amphitheatre which utilises this area for a viable modern day use. The impact is also appropriately mitigated by the preparation of an archival photographic record to provide an enduring account of this building's historical significance.

Whilst the proposal will result in increased capacity in the stands, there will be no increase in total capacity. Therefore no significant adverse impacts on the local traffic network are expected. Recent transport infrastructure upgrades to improve access and egress to the site adequately provide for the traffic and transport needs of the proposal.

Amenity impacts on surrounding residential areas have been sensitively managed through careful design of the new facilities and through management of events and functions to mitigate any adverse impacts. In this regard, AJC has a successful history of implementing its events management procedures to manage large gatherings of people safely and efficiently.

The proposed setbacks from adjacent boundaries, together with building heights, ensure the proposal does not result in overshadowing.

The new Paddock Grandstand will result in some view loss due to the additional four levels proposed. The view loss only affects a small number of residents living in higher storeys of the future residential development at 66A Doncaster Avenue. The view loss is minor and considered acceptable in the context of a wide panorama available, the considerable setback of the stand and the site's function to provide high quality spectator facilities which are necessary for a spectator facility of this grand scale.

Ecologically Sustainable Design (ESD)

ESD principles are embraced in the design, construction and ongoing operation of the proposal. The ESD features of the proposal include natural ventilation of buildings, water harvesting, waste recycling, efficient water and light fittings.

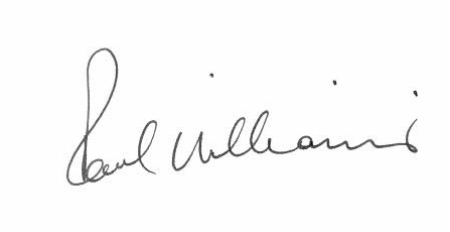
The proposed public domain landscape works will set a benchmark in design quality for the precinct. The works will create a signature grand entrance to the precinct, establishing a strong sense of place through landscaping and sculpture. Significantly, the public domain works will greatly improve pedestrian circulation throughout the Precinct.

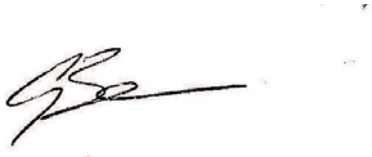
The proposal will result in a range of public benefits including:

- Provides world-class spectator facilities which complement the array of cultural entertainment destinations that Sydney offers the local, national and international tourist markets.
- Ensures the long-term viability of the RRR as a major cultural and event destination.
- Significantly improves the spectator experience by replacing and updating outdated facilities.
- Embraces the site's heritage significance through adaptive reuse of buildings.
- Promotes significant investment in a major facility which will result in new local jobs during the design, construction and ongoing operational phase of the RRR.

This EA demonstrates that the Project Application satisfactorily addresses the Director General's Requirements and the proposal will be subject to the commitments outlined in **Appendix B** of this report. It is envisaged that no unreasonable or significant adverse environmental impacts will result from the proposed development and it is recommended that the Minister Approve the proposal.

This report has been written by Urbis Pty Ltd, with input from a number of other expert consultants, on behalf of the Australian Jockey Club Limited. The accuracy of the information contained herein is to the best of our knowledge not false or misleading. The comments have been based on information and facts that were correct at the time of writing the report.





Paul Altree-Williams

Associate Director

Graeme Bews

Senior Consultant

1 Introduction

1.1 Background

This report has been prepared in respect of a Major Project lodged under Section 75E of the Environmental Planning & Assessment Act 1979.

The proponent for the project is the Australian Jockey Club Limited (AJC), who is the lessee of the Royal Randwick Racecourse land with primary frontage to Alison Road Randwick.

AJC propose to develop the core of the Spectator Precinct incorporating the existing QEII and Paddock Stands, the former Swab Building and an area amounting to approximately half of the Precinct. The concept is the first step in realising a vision to lift the standard of the existing racing related facilities and redevelop the remainder of the Racecourse site to realise its potential and better relate the site with the surrounding area.

This report provides a detailed assessment of the Director General Requirements issued pursuant to 75E Environmental Planning and Assessment Act 1979.

1.2 Vision

The Royal Randwick Racecourse site is a substantial land holding located in the heart of the prime real estate of Sydney's Eastern Suburbs. At the same time as enhancing the racing related facilities and function of the site, redevelopment of the surplus land will enable the site's development potential to be realised and the area to be better integrated with surrounding uses.

1.2.1 Vision for the Randwick Racecourse

The AJC vision for Royal Randwick Racecourse is based on a number of desired outcomes:

- To ensure the financial sustainability of the racing function of the site and improve the existing spectator and horse-related facilities to a world best standard.
- Realise the development potential of this strategically significant location and take advantage of the sites proximity to key Sydney destinations and good public transport connections.
- Better integrate the site with the immediately surrounding area including connections to the University and Hospital both physically and in terms of usage.
- Assist in improving the accessibility of the locality through improved public transport and parking arrangements.
- Creation of a large number of new full time jobs, new construction jobs and the protection of existing employment not only at Randwick but in NSW's second largest industry which includes racing training and breeding.
- The construction of a retail offering to complement the existing shopping strip of Kensington.
- The provision of a mix of residential accommodation that provides housing for essential service workers, students, professionals (lecturers and physicians), families visiting hospital patients and the broader community.

1.2.2 Vision for the Spectator Precinct

The AJC's vision for Spectator Precinct aligns with the overarching vision for the entire RRR. The vision includes the following desired outcomes:

- Create a precinct of design quality and excellence that befits a world-class racing and cultural venue.
- Enhance the spectator experience within the precinct and thereby encourage increased patronage.
- Offer a range of cultural events, including race day and non-racing, to achieve the more economical usage of the Precinct's facilities.
- Embrace the site's strong historical links through sensitive design and ongoing operation of the Precinct.
- Develop and operate the Precinct in a way that minimises impacts on nearby residential uses.
- Incorporate the principles of ESD to ensure the Precinct is designed, constructed and used in a sustainable way.

1.3 Value of Project

The value of the project has been calculated as having a capital investment value of $130,823,405. The Quantity Surveyor's report is included in **Appendix A**.

1.4 Preliminary Consultation

The AJC has held preliminary discussions with a range of stakeholders about the proposed Spectator Precinct refurbishment to identify key issues.

A consultation strategy has been prepared and forms part of the Environmental Assessment proposal. A more comprehensive consultation process is proposed to be undertaken following the public exhibition of the Project Application. Any submissions or concerns raised during this process will be reviewed and addressed in due course.

1.5 Proponent & Consultant Team

The Environmental Assessment has been prepared on behalf of the AJC, the proponent of the project. The AJC has appointed a team of specialist consultants to ensure that the Spectator Precinct is consistent with the AJC's long-term objective of being an exemplar of world's best practice horse racing facilities.

The specialist consultant team includes:

▪ Urbis	Planning and Social Policy
▪ Fitzpatrick Partners	Architecture - Master Planning, Grandstands and Parade Ring
▪ Tonkin Zulaikha Greer Architects	Architecture - Heritage Precinct
▪ Arup	ESD, Acoustic, Light Spill, Reflectivity, Integrated Stormwater Management, CPTED, Odour and Waste management, Groundwater Ecosystems
▪ WMA Water	Flooding and Drainage

▪ AECOM	Landscape Architecture and Public Domain
▪ Stapleton Transportation + Planning	Transport and Traffic
▪ Graham Brookes and Associates	European Cultural Heritage
▪ AHMS Heritage Consultants	Aboriginal Heritage
▪ Douglas & Partners	Contamination, Acid Sulphates and Geotechnical
▪ Earthscape Horticultural	Arboricultural
▪ Morris Goding	Accessibility
▪ Rygate & West	Surveyor
▪ Ralph Beattie Bosworth	Quantity Surveyor

2 Director-General's Requirements

The Director General's Requirements (DGRs) were issued on 6 August 2010. A copy of the DGRs is included at **Appendix B**. **Table 1** summarises the DGRs and includes a reference as to where the DGR key issue is addressed in this report.

Table 1 – DGR's

Key Issue	Director-General Requirement	Location
1. Relevant EPIs, policies and Guidelines to be addressed.	Planning provisions applying to the site, including permissibility and the provisions for all plans and policies listed below: ▪ Objects of the EP&A Act 1979 ▪ SEPP(Major Development) 2005 ▪ NSW State Plan 2010 ▪ Sydney Metropolitan Strategy 2005 ▪ Draft East Subregional Strategy 2007 ▪ Metropolitan Transport Plan 2010, Integrating Land Use and Transport – A Planning Policy Package 2001 and Planning Guidelines for Walking and Cycling 2004; ▪ Randwick LEP 1998 (Consolidation) ▪ Royal Randwick Racecourse DCP 2007 ▪ Parking DCP 1998 ▪ Section 94A Development Contributions Plan 2007; ▪ SEPP 55 – Remediation of Land; ▪ SEPP (Infrastructure) 2007 ▪ Protection of the Environment Operations Act 1997 and Environmental Protection Authority Noise Control Manual & industrial Noise Policy. ▪ NSW Government Floodplain Development Manual 2005	▪ Section 5.1 ▪ Section 5.3.1 ▪ Section 5.2.1 ▪ Section 5.2.2 ▪ Section 5.2.3 ▪ Section 5.2.4 ▪ Section 5.3.3 ▪ Section 5.4.1 ▪ Section 5.4.2 ▪ Section 5.4.3 ▪ Section 5.3.2 ▪ Section 5.3.3 ▪ Appendix U ▪ Appendix BB
2. Built Form and Urban Design Impacts	The EA shall demonstrate that the design and visual impact of the development is consistent with the desired future character of Royal Randwick Racecourse and the general locality as described in the relevant planning instruments. The assessment should address the following issues: ▪ Siting, height, bulk, scale, form and character of structure and landscape elements including fencing, entry gates, turnstiles and ticketing structures; ▪ Visual impacts on views to and from key buildings, structures, spaces, and the site in general; ▪ Visual impacts upon the public domain and nearby residential development including the future development at 66A Doncaster Avenue (the former Tramways land); ▪ Best practice urban design in relation to design, security, circulation and the public domain; ▪ Heritage and conservation significance of the individual heritage items on site and potential Aboriginal archaeological elements, surrounding heritage items, and the Conservation Area as whole; and ▪ Landscape and open space concepts that assist in reducing visual impact, including planting layout and species and water sensitive management/design practices.	EA s6.1.1 Appendix H EA s6.1.2 Appendix L EA s6.1.2 Appendix L EA s6.2 Appendix N & J EA s 6.7 Appendix O & P EA s6.4…. Appendix J

Key Issue	Director-General Requirement	Location
3. Transport and Accessibility (Construction and Operational)	The EA shall address the following matters: ▪ Provide a Traffic and Accessibility Impact Study prepared in accordance with the RTA's *Guide to Traffic Generating Developments,* considering cumulative traffic generation associated with the range of events and functions available at the Racecourse (including the proposal, non-raceday functions/events and proposed new stable facility) including trip generation, any required road/intersection upgrades, access from surrounding streets, including examination of the different options to cope with routine and increased access requirements, access and egress for buses, taxi's, emergency, service and maintenance vehicles, loading dock(s), car parking arrangements, measures to promote public transport usage and pedestrian and bicycle linkages; ▪ An estimate of the travel demand generated by the proposal and an assessment of accessibility by public transport, walking and cycling and the implications of the proposed development for non-car travel modes (including public transport, walking and cycling) including identification of safe pedestrian links and access to the site. Travel demand management including proposed measures to increase use of non-car transport modes and travel behaviour change initiatives such as travel awareness campaigns and workplace travel planning shall be included; ▪ Identify measures to mitigate potential impacts for pedestrians and cyclists during the construction stage of the project; and ▪ Demonstrate the provision of sufficient on-site car parking for the proposal having regard to local planning controls and RTA guidelines and Australian Standards. (**Note:** the Department supports reduced car parking rates in areas well-served by public transport).	EA s6.5 Appendix Q EA s6.5 Appendix Q EA s6.5.7 EA s6.5.8 Appendix Q
4 Impacts on Existing Operations During Construction	The EA is to outline how the existing race course activities will be managed as a result of construction occurring on site and provide information relating to staging of the proposal. In particular, the EA shall provide details on any proposed temporary structures such as grandstands, marquees, parking or road works.	EA s6.6 Appendix R & S
5. Heritage	A Heritage Impact Statement (HIS) shall be prepared identifying the potential impacts of the proposed development on any items, areas or places of natural, Aboriginal, historic, industrial or archaeological significance on the site and in the surrounding area in accordance with the requirements of the NSW Heritage Council guidelines and *Manual*.	EA s6.7 Appendix O & Appendix P
6. Environmental and Residential Amenity	▪ The EA must address any likely solar access, acoustic privacy, visual privacy, view loss, odour issues and light spill and identify mitigation measures necessary to achieve a high level of environmental and nearby residential amenity including the future development at 66A Doncaster Avenue (the former Tramways land). ▪ The EA shall address the siting of the development in relation to existing significant landscaping on site and provide a site tree survey and aborist report. ▪ The EA shall address the degree of intensification of the existing use and the impact on surrounding residential uses including (but not limited to) any changes to hours of operation, increased patron capacity, types and frequency of non-race day functions/events.	EA s6.8 Appendix M, U, L, V, X EA s6.8.7 Appendix Z EA6.8.8 Appendix Q,V,U,X,T,V,W

Key Issue	Director-General Requirement	Location
7. Public Domain and Safety	The EA is to demonstrate how the design of proposed structures and the treatment of public domain and open spaces will: ▪ Maximise safety and security within the site and the pubic domain. ▪ Maximise surveillance and activity within the site and the public domain. ▪ Compliance with guidelines for Crime Prevention Through Environmental Design (CPTED) outlined in the Royal Randwick Racecourse Development Control Plan. ▪ Ensure access for people with disabilities. ▪ Minimise potential for vehicle and pedestrian conflicts.	EA s6.9 Appendix N Appendix N Appendix N Appendix N Appendix T
8. Ecologically Sustainable Development (ESD)	▪ The EA shall detail how the development will incorporate ESD principles in the design, construction and ongoing operation phases of the development. ▪ The EA must demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice and demonstrate excellence in sustainability consistent with a rating of 4 Green Stars or higher, if applicable.	EA s6.10 Appendix AA Appendix AA
9. Flooding, Drainage and Surface Water Management	The EA shall address drainage/flooding issues associated with the development/site, including stormwater, drainage infrastructure and incorporation of Water Sensitive Urban Design measures. The EA shall: ▪ Provide an assessment of any flood risk on site in consideration of any relevant provisions of the NSW Floodplain Development Manual (2005); ▪ Provide a detailed analysis of overland flowpaths within the development site and measures proposed to minimise any potential adverse impact of the development on properties/infrastructure upstream and downstream of the development site and adjacent to the development site. ▪ Identify any proposed water management structures including any swales or detention basins and provide information regarding the size, location, capacity and purpose of any water management structures.	EA s6.11.1 Appendix BB EA s6.11.2 &6.11.3 Appendix CC EA s6.11.4 Appendix CC
10. Ground Water Management	▪ Identify ground water issues and potential degradation to ground water sources and identify mitigation measures required to remediate, reduce or manage potential impacts to the existing ground water resource and any dependent ground water environment or water users. ▪ Provide details of the presence and distribution of Groundwater Dependent Ecosystems in the vicinity of the site and identify any potential impacts as a result of the proposal, and any mitigation measures required to address identified impacts.	EA 6.12 Appendix DD Appendix DD
11. Contamination and Geotechnical Issues	Contamination and geotechnical issues associated with the proposal should be identified and addressed in accordance with SEPP55 and other relevant legislation and guidance. This assessment should also identify any risks/hazards associated urban salinity and acid sulphate soils.	EA s6.13 Appendix EE Appendix EE

Key Issue	Director-General Requirement	Location
12. Utilities and Infrastructure	▪ In consultation with relevant agencies, address the existing capacity and requirements of the development for the provision of utilities including staging of infrastructure works. ▪ The EA shall demonstrate the relationship of the proposals with the Stage 1 infrastructure works approved under Major Project Application MP07_0092 and any variations/inconsistencies are to be fully identified.	EA s6.14 Appendix DD ER s6.14
13. Contributions	The EA shall address the provision of public benefit, services and infrastructure having regard to Council's Section 94A Contribution Plans, and provide details of any Planning Agreement or other legally binding instrument proposed to facilitate this development.	EA s6.15
14 Consultation	The EA shall demonstrate that an appropriate level of consultation in accordance with the Department's *Major Project Community Consultation Guidelines October 2007* is to be undertaken and a comprehensive Community Consultation Strategy shall be provided.	EA 6.16 Appendix HH
15. Statement of Commitments	The EA must include a draft Statement of Commitments detailing measures for environmental management, mitigation measures and monitoring for the project.	Appendix II
Appendix A – Relevant EPIs and Policies to be Addressed		
Objects of the EP&A Act 1979		5.1
SEPP (Major Development) 2005		5.3.1
NSW State Plan 2010		5.2.1
Sydney Metropolitan Strategy 2005		5.2.2
Draft East Sub-regional Strategy 2007		5.2.3
Metropolitan Transport Plan 2010		5.2.4
Integrating Land use and Transport – A Planning Policy Package 2001		5.2.5
Planning Guidelines for Walking and Cycling 2004		5.2.6
Randwick LEP 1998 (Consolidated)		5.3.4
Royal Randwick Racecourse DCP 2007		5.4.1
Parking DCP 1998		5.4.2
Section 94A Development Contributions Plan 2007		5.4.3
SEPP 55 – Remediation of Land		5.3.2
SEPP (Infrastructure) 2007		5.3.3
NSW Government Floodplain Development Manual 2005		Appendix BB
Protection of the Environmental Operations Act 1997		Appendix U
Environmental Protection Authority Noise Control Manual and Industrial Noise Policy		Appendix U

Key Issue	Director-General Requirement	Location
Appendix B		
General		
The Environmental Assessment (EA) must include: 1. An executive summary; 2. A thorough site analysis including site plans, aerial photographs and a description of the existing and surrounding environment including the future development at 66A Doncaster Avenue; 3. A thorough description of the proposed development; 4. An assessment of the key issues specified above and a table outlining how these key issues have been addressed; 5. An assessment of the potential impacts of the project and a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures to be implemented to minimised any potential impacts of the project; 6. The plans and documents outlined below; 7. A signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading; 8. A Quantity Surveyor's Certificate of Cost to verify the capital investment value of the project (in accordance with the definition contained in the Major Projects SEPP); and 9. A conclusion justifying the project, taking into consideration the environmental impacts of the proposal, the suitability of the site, and whether or not the project is in the public interest.		EA Page i section 3 section 4 section 2 section 6 Appendix II Section 7 Appendix A
Plans and Documents		
The following plans, architectural drawings, diagrams and relevant documentation shall be submitted; 1. **An existing site survey plan** drawn at an appropriate scale illustrating: ▪ The location of the land, boundary measurements, area (sq.m) and north point; ▪ The existing levels of the land in relation to buildings and roads; ▪ Location and height of existing structures on the site; ▪ Location of and height of existing trees; ▪ Location and height of adjacent buildings and private open space; and ▪ All levels to be Australian Height Datum. 2. **A Site Analysis Plan** must be provided which identifies existing natural elements of the site (including all hazards and constraints), existing vegetation, footpath crossing levels and alignments, existing pedestrian and vehicular access points and other facilities, slope and topography, utility services, boundaries, orientation, view corridors and all structures on neighbouring properties where relevant to the application (including windows, driveways, private open space etc). Adjoining land uses and activities, sources of nuisances and heritage features of the surrounding locality and landscape shall also be shown. 3. **A locality/context plan** shown at an appropriate scale should be submitted indicating: ▪ Significant local features such as parks, community facilities and open space and heritage items; ▪ The location and uses of existing buildings, shopping and employment areas; ▪ Traffic and road patterns, pedestrian routes and public transport nodes. 4. **Architectural drawings** at an appropriate scale illustrating: ▪ Detailed floor plans, sections and elevations of the proposed buildings; ▪ Elevation plans providing details of external building materials and colours proposed;		Appendix E Appendix C Appendix D Appendix F & G

Key Issue	Director-General Requirement	Location
	▪ Fenestrations, balconies and other features; ▪ Accessibility requirements of the Building Code of Australia and the Disability Discrimination Act; ▪ The height (AHD) of the proposed development in relation to the land; ▪ The level of the lowest floor, the level of any unbuilt area and the level of the ground; and ▪ Any chances that will be made to the level of the and by excavation, filing or otherwise.	Appendix I
	5. **A Schedule of Materials and Finishes** and **Sample Board,** detailing all proposed materials and finishes.	Appendix L
	6. **Visual and View Analysis** demonstrated through visual aids, such as a photomontage, to demonstrate visual impacts of the proposed buildings. In particular, the view analysis must consider siting, bulk and scale relationships from key areas.	Appendix M
	7. **Shadow diagrams and Solar Access Report** showing solar access to the site and adjacent properties at summer solstice (Dec 21), winter solstice (June 21) and the equinox (March 21 and September 21) at 9am 12 midday and 3pm.	Appendix O & P
	8. **Heritage Impact Statement** prepared in accordance with the NSW Heritage Council guidelines and Manual and illustrating the impacts of the proposed development on the heritage listed buildings and trees on and in the vicinity of the site, and Conservation Area. The HIS should also address any inconsistencies with the design principles and policies of the Conservation Management Plan prepared by Godden Mackay Logan, associated with the Racecourse DCP.	Appendix Z
	9. **An Arborist Report** which makes an assessment of the impact of the proposed development on all of the trees on site. The report shall have regard to the landscape elements of "Exceptional" and "High" heritage significance as outlined in the Racecourse DCP.	Appendix J
	10. **Landscape Concept Plan** illustrating treatment of open space areas, shade structures, circulation, planting layout, screen planting, retaining walls and fencing along common boundaries and tree protection measures both on and off the site. Details of any trees to be removed, existing and proposed planting (for proposed planting documentation on the type of species and growth at full maturity is needed).	Appendix N Appendix EE
	11. **Accessibility** – a Plan showing accessible paths of travel within the site and from other public domain areas (streets), prepared y a suitably qualified Access Consultant.	Appendix CC
	12. **Preliminary Site Contamination Assessment** and documentation that demonstrates that the land can be made suitable for the intended purpose within the project delivery timeframe.	Appendix CC
	13. **Stormwater Concept Plan** – illustrating the concept for stormwater management including Water Sensitive Urban Design Concepts	Appendix W
	14. **Integrated Water Management Plan** - including any proposed alternative water supply, proposed end users of potable and non-potable water, demonstration of water sensitive urban design and any water conservation measures.	Appendix DD
	15. **Waste Management / Garbage and Recycling Management Plan** – provide detail of the proposed design of waste management/garbage and recycling facilities and collection arrangements in accordance with Council's requirements.	Appendix U
	16. **Groundwater Assessment** – identifying groundwater issues and potential degradation to the groundwater source that may be encountered during excavation. The assessment should identify contingency measures to manage any potential impacts.	
	17. **Acoustic Report** that predicts the noise levels associated with the proposed development including any non-race day functions/events and demonstrates noise and vibration emissions from the proposed development satisfy the relevant provisions of the *Protection of the Environment Operations Act 1997* and Environmental Protection Authority *Noise Control Manual* & *Industrial Noise Policy.* The assessment and report must include all relevant fixed and operational noise sources and the impacts on the nearest residential development including the future development at 66A Doncaster Avenue (the former Tramways land).	Appendix T

Key Issue	Director-General Requirement	Location
	18. **A Functions and Events Plan of Management** which outlines the annual number of race meetings and associated non race day functions/events (existing and proposed) and details the measures to be implemented to: ▪ Ensure consistency with the existing Plan of Management for the operation of the racecourse; ▪ Comply with the relevant conditions of approval; ▪ Minimise the potential impact of the operation of the premises upon nearby residents including the residents in the future development at 66A Doncaster Avenue; ▪ Effectively minimise and manage anti-social behaviour; ▪ Minimise noise and odour emissions and associated nuisances; ▪ Effectively manage and respond to resident complaints; and ▪ Ensure responsible service of alcohol and harm minimisation.	Appendix V
	19. **Odour Assessment and Odour Management Plan** – prepared by a suitable professional person/body in accordance with DECCW guidelines identifying all odour sources associated with the proposed development and addressing the collection, storage and disposal of manure and include details of odour control and management practices.	Appendix X and Y
	20. **Lighting Assessment** – desktop assessment of the impact of lighting and light spill including the reflectivity from the glazed surfaces from the proposed development on surrounding residential development including the future development at 66A Doncaster Avenue (the former Tramways land).	Section 6.5.7 of EA
	21. **Construction Traffic Management Plan** – prepared by a suitably qualified person addressing ingress and egress of vehicles to the site, loading and unloading, including construction zones, hours of operation, predicted traffic volumes, types and routes, pedestrian and traffic management methods and an assessment of any impact the construction will have on bus services including if any bus services or bus stop infrastructure will need to be removed, closed or relocated as part of the works.	

3 Site Context and Analysis

3.1 Regional Context

The Racecourse site is one of the largest recreation areas in the highly urbanised Eastern Suburbs. It is located within a major open space and entertainment precinct which comprises:

- Moore Park.
- Kingsford Golf Course.
- Sydney Football Stadium.
- Fox Studios.
- Centennial Park.

The site is also strategically significant due to its relatively close proximity to a number of key Inner Sydney features including:

- Coogee Beach – 3km.
- Bondi Beach – 5km.
- Sydney Airport – 6km.
- Sydney CBD – 6km.
- UNSW and Prince of Wales Hospital – immediately adjacent.

3.2 Local Context

The Greater Racecourse site is located between two key sub-regional road corridors, Anzac Parade and Alison Road.

It has an interface with many different localities each with a distinct character. The Spectator Precinct site in the north-west corner has a primary frontage to Alison Road and secondary access points off Doncaster Avenue. The main entry off Alison Road has recently been significantly upgraded to improve the entry experience for patrons, and improve accessibility to and from the Spectator Precinct generally.

The area surrounding the Spectator Precinct consists of:

- To the north - Centennial Park directly opposite on the other side of Alison Road.
- To the west - residential area consisting of a mix of one and two storey single dwellings and three storey residential flat buildings.
- Further to the west – Kensington village shopping strip located along Anzac Parade.
- To the east – predominantly residential area with Randwick shopping village located approx. 1.5km away. This area is elevated above the level of the Racecourse but views across the Racecourse are well screened by a row of huge figs.
- To the south – the University of NSW is located on the other side of High Street extending along the entire southern boundary of the site.
- To the south-east – the Prince of Wales Hospital is located less than 1km away.

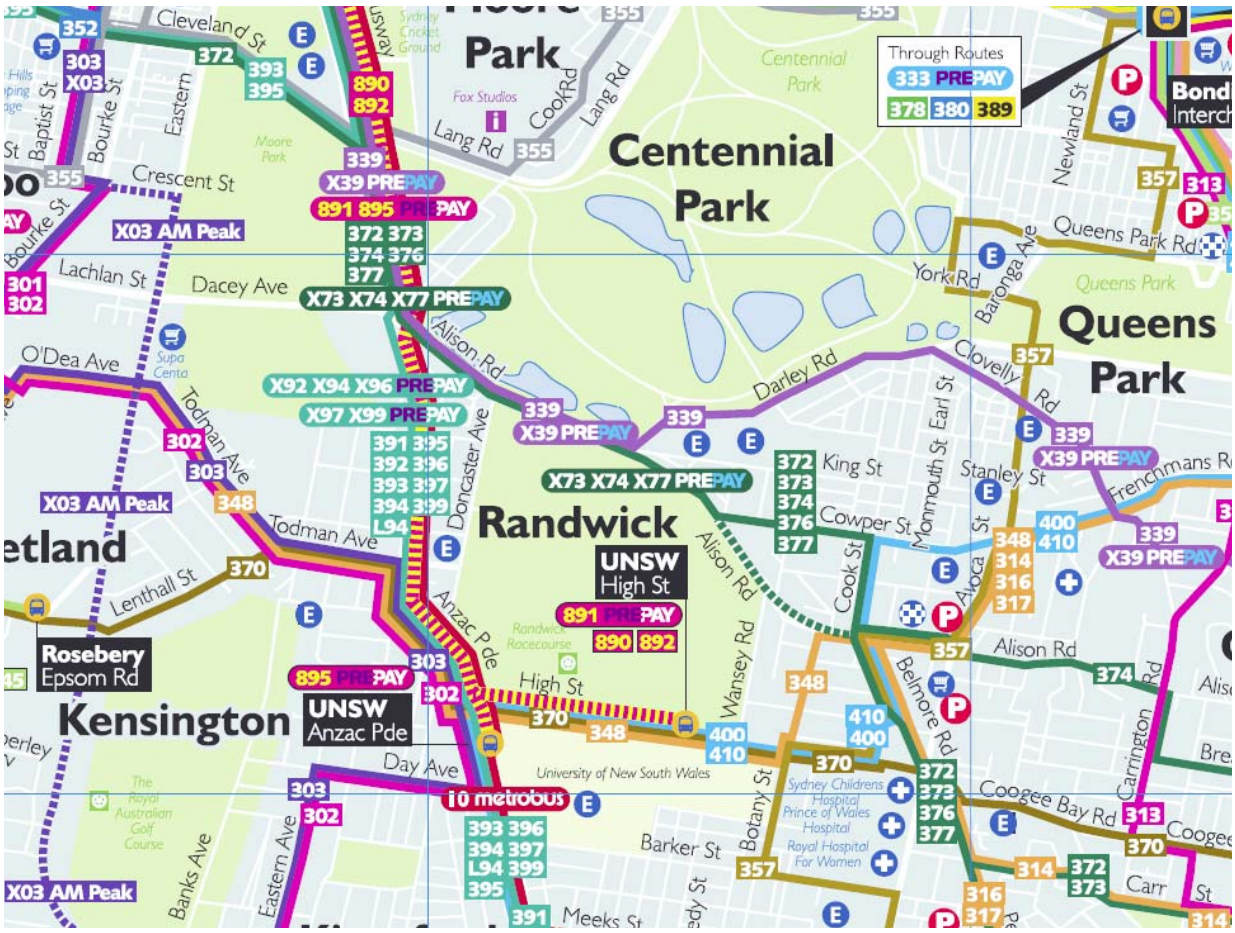
3.2.1 Transport and Access

Road Network

The key road corridors within the south-eastern subregion include Anzac Parade which runs along the western side of the RRR land and Alison Road running along the eastern side of the RRR. Anzac Parade provides the key road corridor through the region, and includes a diverse range of retail land uses in a local 'strip shopping' cluster.

Public Transport

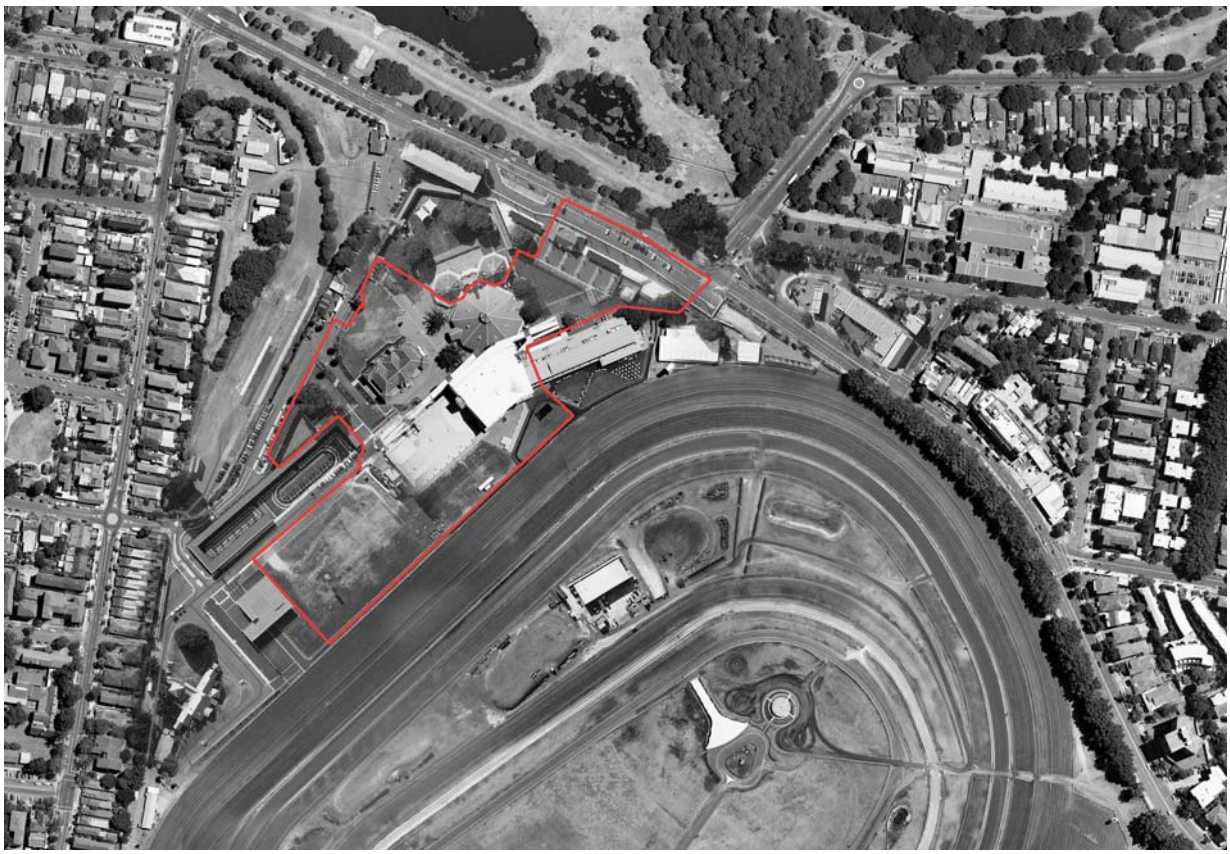
Due to the location of the RRR between two key road corridors, the site has substantial exposure to bus routes. Bus routes running along Anzac Parade run at high frequencies during the day to service the University and surrounding residents. It should be noted that the Stables Precinct activities are generally early in the morning, commencing at 4.30am, public transport frequency is every half-hour between the Sydney CBD and the RRR.



3.3 Site Description

The site comprises part of the Spectator Precinct (50,900m^2) within the Greater Royal Randwick Racecourse site (80ha). The Spectator Precinct has frontage to Alison Road with access gained off that road and off Doncaster Avenue. An aerial of the site indicating the extent of the site for this proposal is shown in **Figure 1**.

Figure 1 – The Site



4 The Proposal

4.1 Overview

This EA presents the proposed initial upgrade of the core of the Spectator Precinct facilities. The facilities will be used for race days and has an alternate use for conference and exhibition space on non-race days.

The site currently accommodates 3 grandstands, the QEII stand which was completed in 1969, the Paddock Stand completed 1995 and the Officials stand completed 1910. In addition to the grandstands, the site also encompasses a tea house which is currently used for event day staff meals and public toilets, The Pavilion used as the race day betting auditorium and non race day event space. There are also a number of surrounding walkways, lawns and significant trees. In addition, the former swab building is located on the Alison Road frontage directly adjacent to the new busway.

The site encompasses part of the overall Spectator Precinct and includes the curtilage around the key components of the proposal, as illustrated in the **Figure 2 Proposed Spectator Precinct Plan** below. The key components of the proposal include:

- Alterations and additions to the existing QEII Stand to improve the design and layout with the aim to increase capacity, improve spectator experience and circulation.
- Demolition and rebuild of the Paddock Stand to increase capacity, improve spectator experience and circulation.
- Construction of a new parade ring to the rear of the QEII and Paddock Stands with associated amphitheatre style seating to establish a “Theatre of the Horse”.
- Construction of the Owners and Trainers Pavillion, a 3 storey building for members which allows viewing of the parade ring. It includes facilities for stewards, owners, trainers and jockeys.
- Construction of a new amenities building.
- Adaptive reuse of the existing Swab Building at the entry to accommodate a racing museum and members sign-up area. Ancillary restaurant and bar facilities will be located directly adjacent.
- Demolition of the existing Randwick Pavilion and Tea House buildings.
- Associated services infrastructure upgrades, civil and landscape works.

An Architect Design Statement for the overall Spectator Precinct works has been prepared by Fitzpatrick Partners + Partners. An Architect Design Statement for the proposed adaptive re-use of the Swab building has been prepared by Tonkin Zulaikha Greer. These statements provide further details of the proposal and are included in **Appendix H**.

Figure 2 – Proposed Spectator Precinct Plan

4.2 Redevelopment Need

The areas to be redeveloped have had minimal capital investment since their completion and require extensive upgrades to meet current standards. The QEII has significant concrete cancer and has "catchers" in place to catch the concrete chunks that fall off the façade intermittently. The QEII purlin beams that hold up the roof on track side also have concrete cancer and require a full inspection and engineering certification on a 3 monthly basis in order for the AJC to continue to utilise the stand. There is a real risk of the building being condemned in the near future.

Aside from the structural issues, the area contained within the building from outdoor to indoor seating environments no longer meet standards the sporting public expect of the premium racing facility in Sydney. The function and décor of the internal space is rundown, inefficient and does not provide satisfactory amenity for race day or non-race day events.

Although not as old as the QEII, the Paddock Stand is also in major need of renovation given the lack of refurbishment since its original completion. There is also a need to expand the facility to incorporate additional levels in order to house new public, members and corporate facilities which will directly link to the QEII stand on each level. The combined floor plates between the QEII and Paddock stand will allow the area of the Pavilion to be replaced within the two stands for function and exhibition space with the betting ring relocating into the ground floor of the QEII.

In addition to the above, both the stands are currently serviced by an archaic vertical transport system called movators. These structures are no longer satisfactory from an OH&S or BCA compliance perspective. In addition, servicing and maintenance costs are exorbitant and given their age spare parts are problematic to source.

Given the size and international renown of the NSW and Australian racing industry, the expectations of race going spectators (both members and public) as well as the corporate sponsor market niche that racing attracts, the Royal Randwick facilities are simply not up to the standards expected locally let alone benchmarks set by the pinnacle race clubs around the world.

4.3 Grandstands

There are three main objectives for redeveloping the spectator precinct:

- To provide world class spectator facilities.
- To increase grandstand capacity to provide the ability to grow the business into the future.
- Design the new facilities to be as flexible as possible to allow for not just race day configurations but non-race day events as well.

In order to lift the capacity of the stands it is proposed that the current floor slabs be remodelled to provide additional floor area for improved tiered seating layouts, corporate box and dining configurations.

In order to make spectating a more pleasant experience year round, it is proposed the façade will be operable in certain locations to allow it to be open during good weather and closed during bad. Having glazing on both the racetrack and the frontage overlooking the new Theatre of the Horse parade ring will allow for utilization of both sides of the floor plate for pre-booked functions thereby shoring up the commercial return on race days.

The stand redevelopment is to include new world class internal fitouts that will cater for the large variety of demographic the AJC currently caters for as well as attracting new patronage through new dining and entertainment areas and experiences.

The stands will be joined via a new “link building” structure which will house fire stairs, elevators and escalators for vertical transportation. These link buildings will be located between the QEII and Paddock stands as well as the northern and southern extremities of the stands. The southernmost link building will be designed to provide a future link to the convention and exhibition stand which is to be developed as a future stage. The link building to the north of the QEII stand will also cater as a link to the Officials Stand to provide compliant fire egress, new vertical transport and entry lobby to both stands. This link can be achieved without alteration to the heritage listed Officials stand.

The new Paddock stand will be built to the same height as the QEII stand which will increase seating capacity and ensure the grandstand area has a contemporary integrated design appearance befitting a racecourse of renown.

As a function of the redevelopment of the grandstands it is proposed the betting ring be relocated from the Pavilion structure, which will be demolished, to the base of the QEII stand. The deletion of the Pavilion structure will assist with the flow of pedestrians into the spectator precinct and along the boulevard leading to the entry points of the stands and the Theatre of the Horse parade ring. At present, this is a highly congested area that constrains pedestrian movements and intuitive movement through this location. The Pavilion structure is also not in keeping with the current or proposed architecture.

In terms of designing the stands for flexibility of use, AJC’s core business is thoroughbred racing and as a result the main focus of the design team is to ensure the Royal Randwick facilities meet or exceed world’s best practice for the Racecourse’s core clientele.

The RRR is currently used for racing purposes approximately 40 days a year. The AJC therefore needs to ensure that these facilities can be utilised for non race day functions and events to maximise commercial returns.

4.3.1 Grandstand capacity

The alterations and additions to the QEII and Paddock stands, together with the construction of the new "Theatre of the Horse" parade ring will see an increase in formal seating capacity. The target is to increase capacity by 100% to allow for the future growth of the general public and membership attending race days. The proposed changes in the seating capacity is summarised below:

Grandstand	Current Capacity	Proposed Capacity	Percentage Change
Queen Elizabeth II	3,077	6,543	112%
Paddock	3,618	7,621	111%
Tea House	888	-	(100)%
Theatre of the Horse	-	4,500	450%
Pavilion	1,600	320	(80)%
Total	**9,183**	**18,975**	**107%**

In addition to the above formal seating capacity, the standing capacity existing on lawn areas will decrease from the current 16,500 to 14,700 people.

4.4 Theatre of the Horse

The new Theatre of the Horse parade ring is modelled on some of the most highly renowned international racetracks such as Royal Ascot, Goodwood, and Epsom racecourses in the United Kingdom, Shatin in Hong Kong and Tokyo racecourse Japan. The purpose of relocating the parade ring is to expand the racing experience to the rear of the grandstands. There are multiple advantages for doing this. These include:

- a greater opportunity for all racegoers to interact with the thoroughbreds.
- racegoers experience the excitement of the build-up to the race.
- interaction with the doyens of racing including trainers, jockeys and owners.
- both sides of the grandstands working to provide a greater commercial return.
- the new parade ring being a multi-purpose venue – designed as an amphitheatre, the area will be used for events after racing has concluded for the day and for non race day events.

The horses will enter the parade ring from the recently constructed day stalls via a ramp and tunnel. The horses will then parade around the ring and exit to the racecourse via a tunnel under the new stands and exit onto the track for the race start.

The parade ring is surrounded by tiered seating and dedicated viewing platforms to provide patrons with a world class viewing experience.

A new three storey Owners' and Trainers' pavilion will be constructed at the southern end of the Theatre of the Horse parade ring. It will be a dedicated area for members to overlook the parade ring. Two shade structures will be built on the western end of the parade ring which will accommodate a Tote and bar area.

A large television screen will be built at the western end of the parade ring, providing footage that will allow patrons to gain a full race or non-race day entertainment experience.

In order to provide the necessary area to ensure the success of the Theatre of the Horse design, demolition of the existing Tea House structure will be required.

4.5 The Swab Building

The former Swab building located on the Alison Road frontage is to be adapted using sympathetic architecture to the historical nature of the building and utilising as much of the existing structure as possible for a new membership office and museum for displaying to the public the collection of historical items owned by the AJC.

The former Swab building will be adapted for reuse as follows:

- conference facility for a maximum of 100 people
- café
- equine gallery
- museum – for display of a collection of historical items owned by the AJC
- new membership office
- amenities

The proposed adaptive reuse of the Swab building will occur in stages and involves the following:

- Re-roofing with shingles from the nearby Teahouse, which is to be demolished.
- Construction of two new wings. These will be built of glass and timber louvres, each with skillion roofs off a valley gutter running diagonal to the plan. They have the form of verandas and will give a lightweight 'pavilion' impression, in keeping with the festive, outdoor nature of the rest of the site. Their new roof forms will continue the alternating diagonal planes of the central Swab's hipped roof in a contemporary way. The alternating pitches of the roof offer a strong, welcoming public announcement to passers-by on Alison Street. The new wings form a courtyard in front of the old Swab building, with a more communal scale, but opening to the grand public concourse approaching the raceway.
- Flanking the wings will be a curved covered walkway in glass and steel. Currently, the rear of the Swab fronts on to Alison Rd but it was never intended to address the street, and until recently was screened from it by the main fence, now removed. A new glass wall will follow the northern edge of the eastern walkway, wrap around the north face of the Swab and further along the north face of the partnering walkway to the west of the Swab. This glass screen forms an interpretive re-facing of the historic building. It will be adorned with some kind of graphic to announce the use of the site.

As part of this redevelopment the new entry sequence into the main spectator precinct will be formed. This new entry sequence will direct patrons directly from the main pick up and drop off points on Alison Road to the main boulevard running in a north/south direction behind the stands and adjacent the Theatre of the Horse.

The vision for this entry sequence and the new members' office is to recreate the grandness of entry to Royal Randwick in a modern context whilst celebrating the history through the interaction of the public with the museum and a proposed sculptural walk. The perimeter fence will be realigned to wrap around the building and bring it into the Spectator Precinct.

It is proposed the entry sequence will also include the refurbishment of the Officials stand and Tote building as part of the next stage of works which do not form part of this application.

4.6 Demolition

The proposal includes essential improvements to the functionality of the Spectator Precinct. Presently, the Precinct includes buildings and areas that are not fit for purpose and located poorly such that pedestrian flow is obstructed. These features include:

- The unsightly escalator structures (movators) to the rear of the grandstands.
- The Randwick Pavilion building to the rear of the QEII stand.
- The Tea House building.
- Paddock Stand.

4.7 Access and Parking

The existing access and parking arrangements will adequately cater for the proposed alterations and will remain unchanged. The recently upgraded entry experience, including public transport drop-off, has ensured that ample capacity of safe vehicle drop off and pedestrian assembly area is available. The existing taxi facility, with access off Doncaster Avenue and Alison Road also has ample capacity and will remain unchanged.

In terms of car parking, the existing car parking facilities are expected to cater for any potential increase in parking demand. Moreover, given the revised capacity will not exceed the previous Part 3A application, this will not be an issue.

The small car parking area in the north-west corner of the site, typically reserved for members on race day, will remain available. The balance of parking demand, particularly on race day, will be accommodated in the inner race track precinct. This area has excess capacity and will more than adequately cater for the parking demand for any peak event.

4.8 Public Domain Landscaping

A landscape design has been prepared as an integral element of the Spectator Precinct works. The public domain and landscape design includes the following key features:

- Main paved pedestrian boulevard which reflects the historical paving at RRR.
- Pleached lime trees form an edge to the pedestrian boulevard and lawn areas.
- Clipped ‘English Box’ hedges to reinforce the ‘gardenesque’ appearance traditionally associated with quality racecourses around the world.
- Extensive lawn areas to including the main lawn, spectator building lawn members and spectator lawns providing formal and informal gathering spaces.
- Feature trees at significant locations near the entry plaza to complement the sense of arrival.
- “Insitu” concrete super grid lines and paving bands to add patterning and visual interest to paved areas within the precinct.
- Heritage sandstone entry feature using sandstone collected from the demolished RRR grandstands to establish a visual sense of arrival which is strongly linked to the rich history of the RRR.

5 EPIs and Policy Assessment

5.1 Objects of the Environmental Planning & Assessment Act 1979

Section 5 of the *Environmental Planning and Assessment Act 1979* (the Act) contains the objects of the Act. These are:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of ***promoting the social and economic welfare of the community*** *and a better environment,*

(ii) the promotion and co-ordination of the ***orderly and economic use and development of land****,*

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the ***provision of land for public purposes****,*

(v) the provision and co-ordination of community services and facilities, and

(vi) the ***protection of the environment****, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*

(vii) ***ecologically sustainable development****, and…*

(c) to provide increased opportunity for ***public involvement and participation*** *in environmental planning and assessment. (Author's emphasis).*

The proposal accords with the objects because it:

- Improves functionality and use of the facilities which will increase economic investment in Sydney, providing additional employment and enhancing the community's enjoyment and spectator experience when using the upgraded facilities.
- Promotes the use of land for public purposes associated with race days and non-race day events.
- Protects the environment through retention of significant trees, incorporation of extensive landscaping and managing waste in an ecologically responsible manner.
- Promotes ESD through use of best practice measures in the design and construction of the upgraded facilities. Measures include water harvesting, efficient light and tapware fittings, re-cycling of building materials and natural ventilation of grandstands where weather conditions permit.
- Facilitates extensive community consultation as part of the proposal.

5.2 Consistency with Strategic Planning Policy

The Spectator Precinct Project Application is consistent with the strategic targets and directions for development within the state, regional, subregional and local context.

5.2.1 NSW State Plan

The NSW State Plan was revised in March 2010 and provides targets for 'increasing participation in recreational and sporting activities. The proposed development achieves the following relevant objectives of the State Plan:

- *Promote our parks* – by maximising the efficient utilisation of sporting and recreational land uses directly adjacent to the Centennial Park parklands which is a key urban parkland.
- *Increase participation in recreational and sporting activities* – supporting the ongoing development of thoroughbred racing at a state and national level.

- *Increase participation in the arts and cultural activity* – through providing state of the art facilities which are designed for multiple uses which may include cultural events; by embracing the club's rich racing history in the adaptive reuse of the swab building and proposed museum and equine gallery.

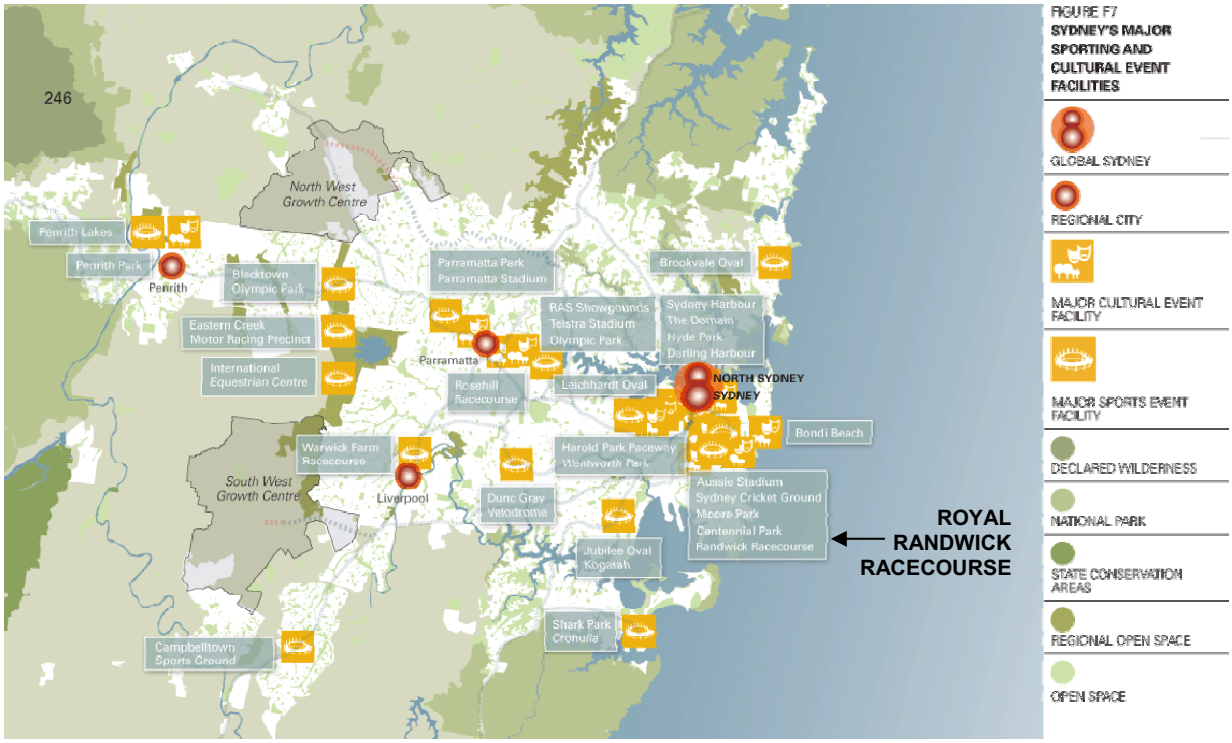
5.2.2 Sydney Metropolitan Strategy 2005

The Sydney Metropolitan Strategy 2005 (the Metro Strategy) is the state government strategic policy for planning future development across Greater Metropolitan Sydney over the next 25 years.

The Metro Strategy identifies RRR as part of the Sydney's 'major sporting and cultural event facilities'. The proposed Stable Precinct redevelopment is consistent with and supports the achievement of the following Metro Strategy actions:

- *F3 Improve Sydney's Major Sporting and Cultural Event Facilities* – through providing a state-of-the-art multi-purpose spectator facilities which can accommodate a range of racing and non-racing events including corporate functions, exhibits and conferences.
- *F1.2 Improve the quality of regional open space* – the RRR is identified as forming part of the regional open space in Sydney's east. The extensive refurbishment of the Spectator Precinct to provide world-class facilities will enhance the site's role within the regional open space network.
- *F2 Provide a diverse mix of parks and public spaces* – by enhancing the quality of the specialised sporting and cultural open space which the RRR provides.

Figure 3 – Sydney's Major Sporting and Cultural Event Faculties, Sydney Metropolitan Strategy 2005



5.2.3 Draft East Subregional Strategy (2007)

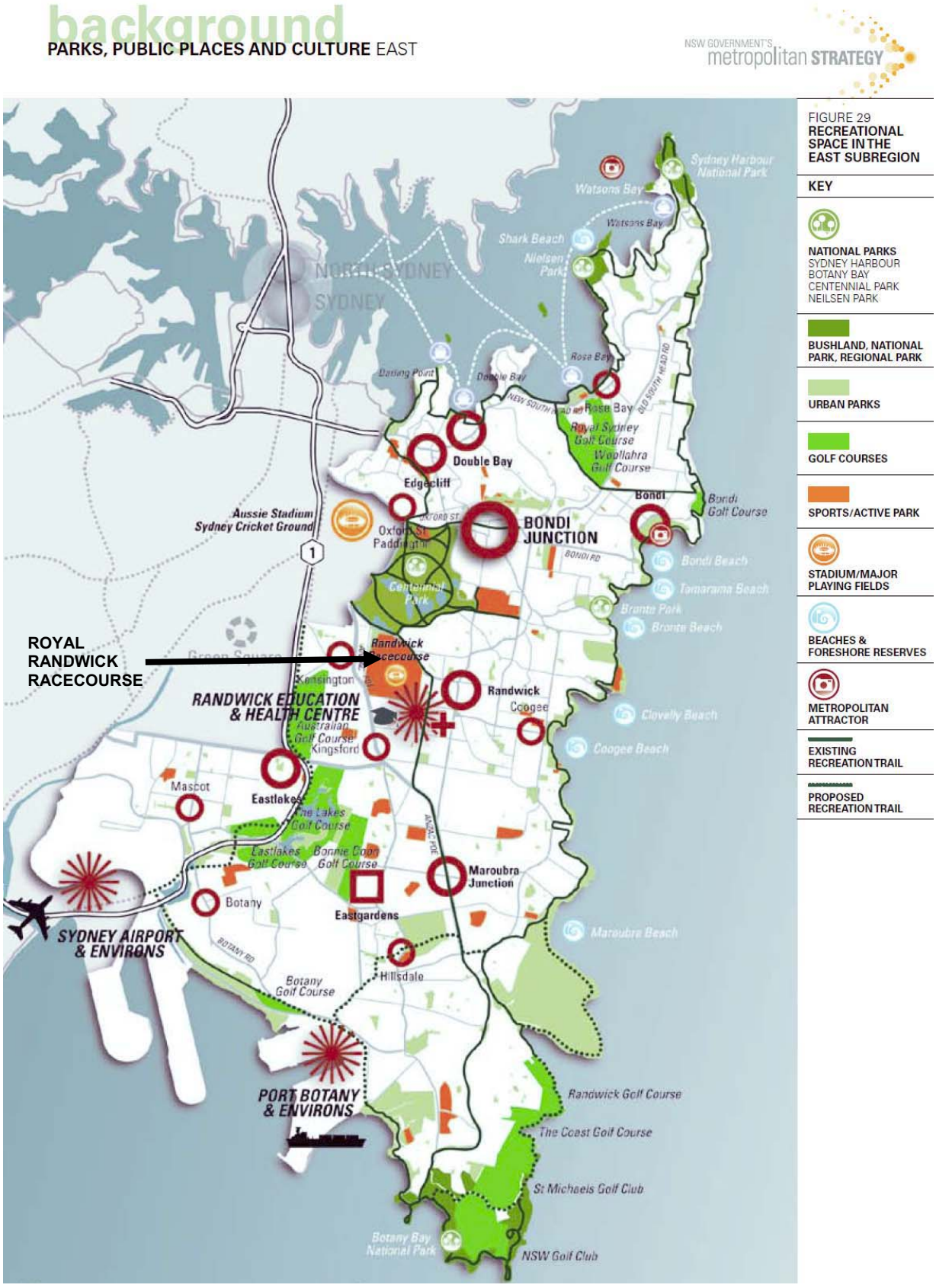
The Draft East Subregional Strategy (the Strategy) has seven key directions, of which *Direction 7 – Protect and Promote Scenic Quality and Tourism* has direct relevance to the proposal.

RRR is identified within the Strategy as a 'sports / active park' with stadium facilities, as illustrated on the Parks Public Spaces and Culture Subregional Map extracted below.

The improvement of sport and recreational facilities falls within the ambit of the *'parks, public places and culture'* strategy. The Strategy includes a number of key directions which can be met by achievement of various actions. The proposed Spectator Precinct redevelopment achieves the following actions which in turn meet the key directions of the Strategy:

- A2.4 – Utilise local assets to encourage learning and innovation, by designing the upgrades to the Spectator Precinct to create an exemplar in racing facilities which is both world class and best practice.
- F3.1 – Improve Sydney's major sporting and cultural event facilities, through replacing outdated and unsound structures with state of the art facilities that will further enhance RRR as a major sporting / cultural venue and will secure its growth into the future.
- F4.1 – Recognise and build upon Sydney's cultural life – by upgrading the Spectator Precinct to improve the experience for patrons and by maximising the use of the site for a variety of race and non-race day cultural events.
- F4.3 – Continue to co-ordinate and plan for the improvement of tourism precincts in Sydney to maximise the visitor experience, by redeveloping the Spectator Precinct to be a world-class cultural event destination.
- The environmental assessment will detail how the proposed stables development will contribute to the achievement of these subregional actions.

Figure 4 – *'Parks, Public Spaces and Cultural Map'* Extract, Draft East Subregional Strategy, p.105.



5.2.4 Metropolitan Transport Plan 2010

The Metropolitan Transport Plan (MTP) is a strategy to effectively link Sydney's Land Use planning with its transport network to improve the sustainability, liveability and efficiency of the city. The MTP will be fully integrated with the Metropolitan Strategy which is currently being review. The MTP includes a funded program to improve transport infrastructure over the next 10 years. These include:

- Improved rail system including light rail, new rolling stock and platforms and new SW and NW rail links.
- Improved bus network including additional buses, strategic bus corridors, increased frequency.
- Improved pedestrian and bicycle links.

As noted in section 2.2.1 the RRR is already well-served by local public transport services. The above improvements for the Sydney Metropolitan area will make it easier for people from across the entire Sydney Metropolitan area to access the RRR using public transport through improved integration of public transport services and additional services and routes.

5.2.5 Integrating Land Use and Transport – A Planning Policy Package 2001

Integrating Land Use and Transport Planning Policy Package provides a framework for State Government agencies, councils and developers to integrate land use and transport planning at the local and regional level. Of relevance to the current proposal, it aims to:

- improve access to housing, jobs and services by walking, cycling and public transport
- increase the choice of available transport and reduce reliance on cars
- encourage people to travel shorter distances and make fewer trips
- support the viable operation of public transport services

Included in the package are the Improving Transport Choice guidelines which provide advice on how councils, the development industry, state agencies, and other transport providers can provide transport choice and manage travel demand to improve the environment, accessibility and liveability.

The proposal is consistent with the Planning Policy Package and in particular the 10 accessible development principles listed in the Transport Choice Guidelines. These are summarized below:

- **Concentrate in centres** - the proposal consolidates and enhances the role of the RRR as an existing major sporting and entertainment centre.
- **Mix uses in centres** - the proposal facilitates use of the Spectator Precinct for a range of uses which will complement its role as a major event destination in Sydney.
- **Align centres within corridors** – the RRR is located near the public transport corridor on Anzac Parade.
- **Link public transport with land use strategies** – RRR is already well-served by local bus and taxi services.
- **Connect streets** - not applicable.
- **Improve pedestrian access** – RRR is well served by an extensive pedestrian path network on surrounding roads and park areas.
- **Improve cycle access** - as above.
- **Manage parking supply** - the proposal is adequately catered for by existing carparking on the greater RRR site.

- **Improve road management** - the completed stage 1 works greatly improved the accessibility to the site by public transport. These works have improved transport choice and promote an integrated transport approach which manages road traffic flow and priority of transport. Additional traffic management measures (including the use of traffic control personnel and police) are implemented during events to ensure the safe and efficient flow of public, private, pedestrian and cycle traffic.
- **Implement good urban design** – the site is conveniently accessed by pedestrians, cyclists and public transport users. The existing bus drop-off area is conveniently located at the main entry plaza on Alison Road.

5.2.6 Planning Guidelines for Walking and Cycling 2004

The Planning Guidelines aim to improve planning and design practices to create more opportunities for people to live in places with easy walking and cycling access to urban services and public transport. This will help reduce car use and create healthier neighbourhoods and cities. The guidelines complement and expand on the design principles included in the Integrating Land Use and Transport Planning Policy Package, discussed above.

The proposal is consistent with the guidelines in the following respects:

- The Spectator Precinct is already well served by pedestrian and cycling access pathways in the surrounding streets and parklands.
- A number of bike racks are installed at highly visible locations within the Spectator Precinct.
- The website for the Royal Randwick Racecourse (www.AJC.org.au) provides details of a range of transport options available to access the site, including public transport and pedestrian access. It provides details of pedestrian access arrangements thereby encouraging pedestrian modes of travel.

5.3 Consistency with Statutory Planning Instruments

5.3.1 State Environmental Planning Policy (Major Development) 2005

Schedule 1 of SEPP (Major Development) lists the types and classes of development that may be considered as Part 3A projects.

The relevant type or class for this project is listed in 'Group 6 – Tourism and recreational facilities', which identifies the development to be a development relating to:

15 Major Sporting Facilities

(2) Development for the purpose of major sporting facilities that:

(a) has a capital investment value of more than $30 million, or

The proposal falls within the ambit of the SEPP (Major Development) and is a development to which Part 3A of the *EP&A Act* applies since:

- The Spectator Precinct is an integral component of the RRR, a major sporting facility.
- The proposed Spectator Precinct works outlined in **Section 4** of this report will have a capital investment value of over $130 million.

5.3.2 State Environmental Planning Policy No.55 – Remediation of Land

State Environmental Planning Policy No.55 (SEPP 55) states that land must not be rezoned or developed unless contamination has been considered and, where relevant, land has been appropriately remediated.

A Preliminary Contamination Assessment was undertaken by Douglas Partners. Detailed discussion of contamination issues is included in **Section 6.13** of this report.

5.3.3 SEPP (Infrastructure) 2007

Clause 101 of State Environmental Planning Policy (Infrastructure) 2007 (the ISEPP) requires that for developments which have a frontage to a classified road, the consent authority must be satisfied that access is obtained from another road, not being the classified road, where practicable.

The Spectator Precinct has a frontage to Alison Road, which is a classified road. No changes are proposed to the existing access arrangements off Alison Road.

Clause 104 of the ISEPP relates to 'traffic generating development' which is development listed in Schedule 3. The Spectator Precinct development constitutes traffic generating development as it involves a sportsground with access to any road and generates over 200 motor vehicle movements. Proposals for traffic generating development must be referred to the Roads and Traffic Authority (RTA).

5.3.4 Randwick LEP 1998 (Consolidation)

The principle local environmental planning instrument is the Randwick Local Environmental Plan 1998 (Consolidated) (the LEP). The principle local environmental planning instrument is the Randwick Local Environmental Plan 1998 (Consolidated) (the LEP). Section 75J(3) of the Act prescribes that:

> *In deciding whether or not to approve the carrying out of a project, the Minister **may (but is not required to)** take into account the provisions of any environmental planning instrument that would not (because of section 75R) apply to the project if approved.* (emphasis added)

Therefore, as the LEP is called by in the DGEARs, the following assessment is made.

Under the LEP, the RRR site is Zone 6A – Open Space and is identified as a 'heritage conservation area'. An extract of the zoning map which indicates both the site's zone and heritage conservation status is provided below in **Figure 5**.

The objectives of the Zone 6A Open Space are:

(a) to identify publicly owned land used or capable of being used for public recreational purposes, and

(b) to allow development that promotes, or is related to, the use and enjoyment of open space, and

(c) to identify and protect land intended to be acquired for public open space, and

(d) to identify and protect natural features that contribute to the character of the land, and

(e) to enable the sustainable management of the land.

The Project Application proposal satisfies the Zone 6A Open Space objectives in the following manner:

- The proposed refurbishment of the spectator precinct to achieve a world class facility and increase patronage promotes the use and enhances the patron's enjoyment of the open space.
- Protecting the sustainable management of the land by incorporating best practice principles in the design, construction and operation of the new facilities, including adaptive re-use of heritage items, ESD principles and responsible waste management.
- Protecting the natural character of the land by designing and locating the new Theatre of the Horse and landscape improvements in a manner that responds to the natural topography of the Precinct and retains existing significant vegetation.

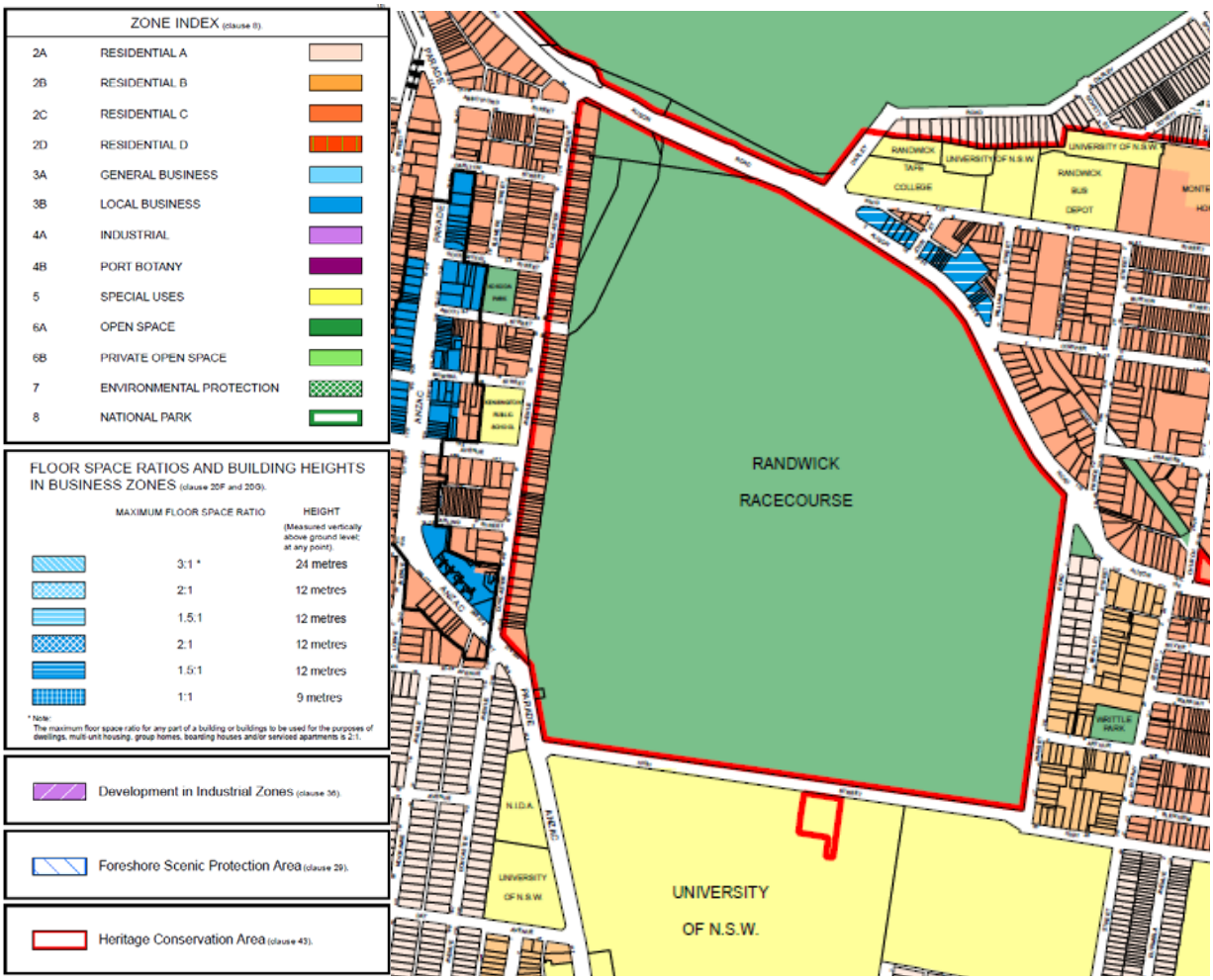
Clause 18 provides the Zone 6A objectives and permissible uses. The proposal is a "Recreational facility" which is defined in Clause 49 of the LEP as follows:

> ***recreation facility*** *means a building or a work used for a sporting, exercise or leisure activity, and includes golf courses, racecourses, showgrounds, bowling greens, tennis courts and the like, including any ancillary club building, but (in Part 2) does not include a building or work elsewhere defined in this clause.* (our emphasis added)

'*Recreation facility'* is permissible with development consent.

Assessment of the other provisions of the LEP has been undertaken and included in the Compliance Table in **Appendix K**.

Figure 5 – Randwick LEP 1998 Zoning Map Extract, Randwick Council website, last amended 15 January 2010.



5.4 Consistency with Non-Statutory Policies and Guidelines

5.4.1 Royal Randwick Racecourse Development Control Plan 2007

The Royal Randwick Racecourse Development Control Plan 2007 (RRR DCP) was adopted by Randwick Council on 8 May 2007, and provides site specific development controls to fulfil the requirements of Clause 40A of the LEP.

Under the DCP, the site is identified as the "Spectator Precinct" which is to be occupied by a 'concentration of race day, AJC management and entertainment" land uses.

A detailed compliance table addressing the relevant provisions of the RRR DCP is attached in **Appendix K** which demonstrates that the Spectator Precinct Project Application is generally consistent with the key objectives of the RRR DCP controls.

The Desired Future Character for the RRR is included in clause 2.4 of the DCP. It states:

> *"The Racecourse facilities will be expanded to optimise the site's role as key recreational venue in Sydney. The design and character of the Racecourse will build on the sites major physical features, particularly its heritage significance and landscape features, and serve the needs of racegoers and other users of the site."*

The Project Application satisfies the RRR DCP desire future character principles because it:

- Provides for the growth of the facilities and spectator numbers.
- Diversifies the nature of events that will be held at the RRR.
- Reinforces the site's landmark presence as a major gateway to Randwick by providing high quality building and landscapes and embracing the site's cultural heritage through retention and adaptation of significant buildings.
- Expands and improves the facilities in the Spectator Precinct.

Overall, the proposed redevelopment of the Spectator Precinct will allow the AJC to establish the RRR as a world class racecourse facility.

5.4.2 Randwick Development Control Plan – Parking 1998

The Randwick Development Control Plan for Parking 1998 (the Parking DCP) prescribes the parking rates for a range of land uses within Randwick LGA. The parking requirement objectives of the parking DCP are:

- *To ensure that an acceptable level of off-street vehicle parking is provided in the City of Randwick through specific standards to meet parking demand.*
- *To recognise the need for flexibility and site specific parking solutions.*

Assessment of the carparking needs of the proposal is included in the Traffic Report prepared by ST&P included at **Appendix Q.** Further discussion of carparking issues is provided in **Section 6.5** of this EA.

5.4.3 Randwick Section 94 Developer Contributions Plan 2007

The Randwick Section 94 Developer Contributions Plan 2007 (the Contributions Plan) requires that all developments with a cost of works over $200,000 are required to pay a contribution of 1% of the total cost of carrying out the development.

The proponent has included a commitment to pay contributions in accordance with the provisions of the Contribution Plan. This commitment has been incorporated into the Draft Statement of Commitments attached in **Appendix II**.

6 Environmental Assessment

An environmental assessment of the proposed Spectator Precinct redevelopment has been undertaken, which addressed the key environmental considerations of the proposal.

Overall, the proposal provides for replacement and refurbishment of outdated and unsound spectator facilities to create a benchmark in design and to enhance the spectator experience for patrons of race and non race day events alike. The associated amphitheatre parade ring and Owners and Trainers pavilion and improvements to the public domain landscaping are critical to maximise the potential of the RRR as a world-class sporting and cultural facility both now and in the future.

The environmental assessment undertaken below demonstrates that the Spectator Precinct development will enhance the existing facilities at RRR and will not result in any adverse environmental impacts on the physical, environmental, historical or social fabric of the locality.

6.1 Built Form and Urban Design Impacts

6.1.1 Siting, Height, Bulk, Scale, Form and Character

The principle built form elements proposed as part of the Spectator Precinct redevelopment Project Application are:

- QEII Stand – refurbishment of the existing 7 level building.
- Paddock Stand – demolish and rebuild of the existing 3 storey stand to line up with the existing QEII stand.
- Owners and Trainers Pavilion – 3 storey building at the southern end of the new parade ring.
- Swab building – refurbishment and extension of single storey brick building.

The Stands

The new Paddock stand will be 7 levels plus one level of basement. It will align with the height of the QEII stand providing a cohesive and integrated external appearance. The grandstands are necessarily of an impressive scale which is reflective of their function to accommodate large gatherings of people. However, the scale and bulk of the stands when viewed from inside and outside the RRR is relieved by the extensive use of glass, timber (or similar) and steel finishes which contrast with the stands' primarily concrete construction. The new raked seating areas located at the rear between both stands will further soften the visual bulk of the stands.

The visual impact of the stands is also mitigated by extensive existing vegetation surrounding the site itself and along the boundaries of the greater RRR. The existing trees provide a soft interface with the hard architectural edge of the refurbished and new stands. The fact that the stands are set significantly back from the RRR boundaries also reduces the scale.

Owner's and Trainer's Pavilion

The Owners' and Trainers' Pavilion is located approximately 50 metres from the site's west boundary with future residential development at 66A Doncaster Avenue. The design of the Pavilion and associated shade structures and viewing screen appropriately addresses the building's proximity to nearby future residential uses. The design includes the following key features:

- The height of the building is limited to 3 storeys which is compatible with the scale of housing in nearby Doncaster Street and significantly lower than the maximum 6 storeys of the future residential flat buildings on 66A Doncaster Avenue.
- The 3 storey pavilion provides for gradation of heights to the 7 level grandstands and achieves a visual transition which softens the overall appearance of the built form.

- The form of the pavilion includes contemporary styling and articulation of the building. It incorporates a variety of complementary materials such as glass, timber (or similar) and aluminium which achieves an attractive appearance that is integrated with the new spectator precinct works and compatible with the residential flat buildings proposed at 66A Doncaster Avenue.

Swab Building

The vacant former Swab building will be extensively refurbished for its adaptive re-use. The open, timber lined ceiling of the building will remain exposed and will be a prominent feature of the interior. A transparent glass wall adjacent to the northern facade of the building will provide the required security for this area while maintaining the building's visual connection with the street. Alterations to the Swab also include replacement of recent roof tile additions with shingles reused from the teahouse which will be demolished.

The new single storey wing additions to the east and west of the existing Swab building will include a light weight link to the existing structure. The new wings will be built of glass and timber louvres, and will have skillion roofs.

Overall, the alterations to the Swab retain its human scale and character and provide a contemporary interpretation of the veranda / pavilion style of structure which is fitting for the outdoor nature of racecourse activities on the site.

In summary, the built form proposed across the Spectator Precinct is entirely appropriate for its function as offering entertainment and spectating opportunities for racegoers and other patrons. It has been designed so that there are no significant adverse impacts in terms of height, scale, bulk or character.

A more detailed description of the architectural character of the Spectator Precinct redevelopment is provided in the architectural design statement attached in **Appendix H**.

6.1.2 Visual Impact of the Built Form on Views to and from the Site

General

A visual assessment of the impacts of the proposal undertaken by Fitzpatrick & Partners Architects is contained within **Appendix L**.

Public Domain

The View Analysis demonstrates the following:

> *The proposed development will have minimal impact on the views of the surrounding public domain due to the extensive existing fences and mature vegetation. In particular, High Street and Wansey Road have little to no view of the site. Views from Alison Road are partially obstructed by the existing line of trees to the south of the grandstands and partially obstructed by the AJC office building and more trees to the north.*

The additional height of the new Paddock stand will offer impressive views of the greater RRR and enhance the spectators' views of the surrounding urban landscape. Overall, the proposal does not adversely impact on views from the site to surrounding areas in any significant way.

Residential Properties

The proposed residential development at 66A Doncaster Avenue comprises primarily two and three storey townhouses and a six storey apartment building to the north of the site. These dwellings do not enjoy any significant views of the greater RRR. Views of the greater RRR and surrounding area are restricted by the existing six storey QEII stand and three storey Paddock stand and by existing trees on the site.

The View Analysis included in **Appendix L** notes also:

> *The proposed development will have some potential visual impact on the existing residences on Doncaster Avenue and the proposed future development of 66A Doncaster Avenue due to their proximity to the site. In our opinion this impact is relatively minor, due to the QEII structure not significantly increasing in bulk and assisted by the demolition of the existing movators which are unsightly. The development of the Paddock Stand will have a minor impact on high level views looking south west across the Randwick Racecourse site.*

The views analysis indicates that the built form will be sympathetic to the existing views enjoyed by surrounding residential properties.

6.2 Best Practice Urban Design

Ecological Sustainable Development (ESD), Water Sensitive Urban Design (WSUD) and CPTED are accepted as best practice urban design principles. The built form, public domain and landscaping works have been designed to incorporate these principles.

The proposal incorporates a range of ESD principles including material re-use, natural ventilation, water harvesting, energy efficient buildings, lighting and water use. Further details of the ESD and WSUD principles employed in the Spectator Precinct are contained in **Section 6.10** and the ESD report prepared by Arup which is included at **Appendix AA.**

The landscape concept prepared by AECOM included at **Appendix J** achieves best practice outcomes in terms of design, security and circulation. The landscape design was informed by Arup's Public Safety Assessment report included at **Appendix N.** It includes the following key design elements which ensure creation of a safe, accessible, attractive and sustainable public domain:

- Relocation of pedestrian tunnel and entry points to improve pedestrian flows and circulation.
- Legible clearly defined travel paths to assist pedestrian circulation.
- Use of landscaping elements which maintain sight lines and reduce opportunities for undesirable behaviour.
- Retention of existing trees as features within the landscape.
- LED lighting in selected locations to maximises safety and add to the ambience of the spectator precinct during night time events.
- Expansive lawns and use of clipped 'Old English' hedges are featured to acknowledge the historic "gardenesque" pattern of landscaping at the racecourse.
- Where possible drought tolerant species will be utilised.
- Historical sandstone sculpture at the entry plaza to create a sense of arrival and acknowledge history through landscape design.

6.3 Heritage and Conservation Significance

The heritage significance of the site, both in terms of non-indigenous cultural heritage and aboriginal heritage, is discussed at **Section 6.7** of this report.

6.4 Landscape and Open Space

AECOM has prepared a Landscape Design Report which is included in **Appendix J**. The report includes the Landscape Design Intent for the Spectator Precinct refurbishment. The landscape design intent is reproduced below:

The landscape design has evolved in response to the proposed architectural program together with the functional program of the external spaces thus created.

- The proposed adaptive re-use of the existing Swab Building (described elsewhere) will create a new visitor experience at the main turnstile entry zone. Immediately inside the new entry an orientation zone is defined by the turfed Swab Building quadrangle, a major new 'Equestrian' artwork (see below), and a large turfed quadrangle beyond. The whole is defined by the large existing trees. The composition of these features is designed to lead visitors around to the pedestrian boulevard of the Parade Ground.

- The proposed grandstand buildings and Parade Ground create a new spectator experience. The public realm response presents a pedestrian 'boulevard" that defines the main crowd circulation zone whilst creating a cohesive 'threshold' space to the new buildings.

- The Spectator Precinct is primarily a welcoming and enjoyable pedestrian environment. Open lawn areas will be enlarged to provide flexible places of respite during 'event-mode' and areas for picnics and open air functions. The existing mature Fig Trees provide an established evergreen backdrop while providing shade to seating areas beneath. Lines of pleached trees, such as the Hills Fig, provide spatial definition, shade and a mediating scale between the pedestrian and the heroic scale of the grandstands, creating an intimate street-like atmosphere. Within the Old Tote Building a cafe/bar spills out into adjacent paved areas and services the adjacent picnic areas.

- Various sandstone features recovered from previous works programs are to be integrated into the equestrian artwork as part of a broader, site-wide interpretative program. An equestrian artwork, on the theme of 'Wild Brumbies' will incorporate shallow and misting water features to provide an illusion of movement to life size bronze horses. This iconic artwork will provide an exciting entry statement, a very legible meeting point and orientation feature.

- All existing trees will be retained. New tree planting throughout the Parade Ground boulevard will incorporate passive water harvesting and rain gardens for irrigation purposes. This is considered best practice for both the initial establishment and long term health of street trees.

- The diamond shaped parade ground is sunken below ground level and flanked by two existing mature figs. Each corner of the parade ground is framed with a garden bed of hedging and dense ground covers. Shade structures to the western side of the parade ground are mirrored by pleached trees on the eastern side which reinforce the pedestrian axis. The pleached trees in this area are positioned strategically to avoid blocking views of the parade ground from the upper story of the adjacent grand stands viewing boxes.

- The landscaping continues around the western site boundary either side of the tramway entry to maximise the extent of softscape within the precinct. The existing boundary wall and planting is retained to ensure current levels of privacy at the site boundary.

6.5 Transport and Accessibility (Construction & Operational)

Stapleton Transportation and Planning has prepared a transport and accessibility assessment. The report is included in **Appendix Q**. The report has reviewed the existing transport arrangements for the site and assessed traffic generation.

6.5.1 Cumulative Traffic Generation

In respect of the proposed refurbishment of the Spectator Report, the traffic report states:

These alterations will not alter the total capacity for crowds to attend events, however the alterations will increase the undercover capacity of the stands by approximately 100% race days and taking the maximum capacity of the course to a total estimated of 44,000, which is well below the design capacity of 55,000 for the recently completed bus and taxi works.

The Royal Randwick DCP states in section 4.2:

The concepts within Section 4.3 are planned to provide improved facilities for the exiting peak capacity of 55,000 patrons and to expand AJC membership by up to 5,000.

Section 4.3 of the DCP lists a range of design elements envisaged for the Spectator precinct. These include: entry plaza upgrades, new buildings for members, and upgrades to the spectator stands.

6.5.2 Access from Surrounding Streets

The Spectator Precinct is accessed from Alison Road, Ascot Street, Bowral Street and internally from High Street. The Traffic Report included in **Appendix Q** provides further description of existing access arrangements from surrounding streets.

6.5.3 Traffic Upgrades

Access to the Racecourse has been substantially upgraded in the last few years by way of a new bus interchange on Alison Road and the new taxi drop off and pickup area off Ascot Street. This arrangement has been in operation through a number of major Carnivals and smaller events. The upgrade addressed issues of pedestrian access along Alison Road at the entry gate to Alison Road. A new plaza bus-way was built which, together with pedestrian barriers in Alison Road, closing the main gate to vehicular access on race days, and locating taxis with access from Ascot Street, has managed the main conflicts between pedestrians and traffic both arriving and departing from the site.

6.5.4 Traffic and Access Management

No major changes are proposed for vehicle, pedestrian or public transport access to the Spectator Precinct. The traffic report notes the following transport changes resulting from the proposal:

-Better pedestrian circulation to the entry plaza and between grandstands along a wide "Boulevard".

-A new loading dock at the southern end of the Paddock Grandstand.

In terms of deliveries, the Traffic Report notes the following:

The distance between buildings, and in particular the "Theatre of the Horse" and the race day stalls, limits access between these buildings to service delivery trucks. These larger vehicles, and the occasional B-Double, are used for set-up and dismantle major events, particularly stage equipment. These larger vehicles will load and unload in the new boulevard.

6.5.5 Public Transport Access and Egress

Part of the recent works in the Spectator Precinct has been the completion of an entry plaza and bus set down pick up bay. This bay consists of a single lane of ten marked bus stops, one lane for manoeuvring and one lane to store buses. During race days, buses from the city access the busway via Darley Street turning at the roundabout to Centennial Park and thence return to the city, or park for reuse after the event.

The traffic report notes that these works have removed a large proportion of pedestrian movement in Alison Road.

6.5.6 Travel Demand and Behaviour Management

As noted in **Section 5.2.6** of this report, the RRR website includes useful details on how to access the site via a range of transport options including bus, taxis and walking. The existing transport strategy is performing well as evidenced by the high proportion of patron arrivals at the site via transport options other than private vehicles (58%). This is discussed further in **Section 6.5.8** below.

6.5.7 Impacts on Pedestrian and Cyclist during Construction

It is expected that construction will have some impact on pedestrians and cyclist during construction. The exact nature and degree of impact will depend on the staging of works. At this point, the staging of the proposal is yet to be confirmed. Proposed staging will be determined in conjunction with a construction programmer, civil and building contractor. The staging will aim to deliver the project in the most efficient way which minimises impacts on AJC operations and the community, including pedestrians and cyclists.

Maintaining levels of pedestrian and cyclist safety and convenient will be significant considerations in the determination of the staging and construction management.

A staging plan and construction traffic management plan will be prepared during the detailed design phase of the project. This has been reflected in the Draft Statement of Commitments included in **Appendix II**.

6.5.8 Carparking

The Royal Randwick Racecourse enjoys ample on-site carparking including the infield parking area that accommodates 4,000 cars.

The traffic report has assessed travel patterns during a major race day event which attracted 45,000. It notes that a high proportion of vehicles that arrive at the site do not park within the Precinct:

> *Another difference in the profile for Randwick Racecourse and other events is the proportion of vehicles that use nearby streets and do not enter the Precinct. Some 2100 vehicles arrive in a peak hour, 600 to park, many in Centennial Park, 740 that drop off passengers and then depart and 800 taxis that do not use the taxi rank.*

The report further notes that 72% of the total 45,000 did not require carparking. These patrons arriving at the site were either dropped off (14%), taxi (26%), bus (23%), coach (8%), walked (1%).

Based on the traffic assessment it is considered that the existing carparking and travel arrangements operate satisfactory.

6.6 Impacts on Existing Operations during Construction

6.6.1 Construction Management Plan

AJC has prepared a Construction Management Plan and Environmental Management Plan which describes how the project management team will conduct its site management responsibilities during the construction phase of the project.

The Construction Management Plan is included in **Appendix R**. The Environmental Management Plan is included in **Appendix S**.

6.6.2 Staging of Works

Development of the Spectator Precinct works will occur in stages to minimise the impact of construction on both the operation of the Racecourse and the community generally. Staging of the proposal will be determined as part of the detailed design phase of the project in consultation with the project architect, engineer and construction programmer.

A staging plan will be prepared at the detailed design phase and this has been included in the draft Statement of Commitments in **Appendix II**.

6.6.3 Temporary Structures

No impacts on temporary structures have been identified at this preliminary design phase of the project. Potential impacts on temporary structures such as marquees, parking or roadworks will be identified and assessed in conjunction with the determination of staging for the project. Again, a commitment to this effect has been included in the draft Statement of Commitments included in **Appendix II**.

6.7 Heritage

6.7.1 Non-Indigenous Heritage

RRR is included within the Heritage Conservation Area under the LEP. A number of existing buildings and landscape elements on the site and dwellings in nearby Doncaster Avenue are listed as heritage items under the LEP and DCP.

An assessment of the non-indigenous cultural heritage value of the site was prepared by Graham Brookes & Associates. Their Heritage Impact Statement is included at **Appendix O**.

The proposal has been designed to respond to the non-indigenous cultural heritage value of the site, surrounding heritage items and the Conservation Area as a whole. A summary of the relevant heritage items and the proposed changes is provided below:

Table 2 – Heritage items

Listed Item	Proposed Change
Racecourse Precinct Heritage Conservation Area	▪ Demolition of Teahouse, Randwick Pavilion, Paddock Stand and Movators ▪ Alteration and additions to QEII stand ▪ Construction of new paddock stand and parade ring with associated facilities ▪ Additions to and adaptive re-use of Swab building ▪ Landscaping Spectator Precinct
Official stand	Modification of southern end of stand to interface with modified QEII stand Development in vicinity of heritage item
10-12 Doncaster Ave – 2 storey terrace pair	Development in vicinity of heritage item
58 Doncaster Ave- late Victorian house	Development in vicinity of heritage item
68-82 Doncaster Ave – row of Federation Queen Anne dwellings	Development in vicinity of heritage item

Teahouse

The teahouse will be demolished to accommodate the new parade ring. The Teahouse is identified in the DCP and Draft CMP as having relatively high significance and its removal will involve some detrimental impact.

The project architect investigated a number of design options in an effort to retain the Teahouse and accommodate the new facilities. Design alternatives to allow retention of the Teahouse have been thoroughly examined, however, the three alternatives considered proved not to be feasible.

The Graham Brookes and Associates report assessed the proposed removal of the Teahouse and made the following finding:

"Although the demolition of the Tea House is recognised as an adverse heritage impact it is supported in the context of the proposed upgrade of the Spectator Precinct which will provide world class facilities at Sydney's premier racecourse.

The heritage impact of the loss of built fabric required to facilitate this phase of development of the Royal Randwick Racecourse can be mitigated by the preparation of an archival photographic record of the building and its setting, and the continued implementation of the site's interpretation."

The recommendation to prepare an archival photographic record of the teahouse and its setting is included in the Statement of Commitments in **Appendix II**.

Randwick Pavilion and Movators

The proposal also requires removal of the Randwick Pavilion and movators which are noted as having little heritage significance. In regards to the proposed demolition of these items, the Graham Brookes and Associates report concludes:

"The removal of Betting (Randwick) Pavilion and the Movators will improve the relationship between, and views to and from, the more significant elements of the site and is seen as a positive heritage outcome for the site.

The adaptive re-use of the Swab Building, as a conference and museum facility, restores its active use within the Racecourse site and is considered to be a positive heritage outcome."

Paddock Stand

The Paddock Stand was built in 1995 and is listed in the Draft CMP as being of moderate heritage significance. In regards to its proposed demolition to allow construction of a new stand the Graham Brookes and Associates report states:

"The Paddock Stand, constructed in 1995 and assessed in the Draft CMP as being of Moderate heritage significance, is to be demolished and re-built. This is being undertaken as a more cost effective alternative to alterations and additions in achieving the required form and function. Although it is graded as having moderate heritage significance, the demolition and replacement of this building is supported as it is considered to be consistent with Draft CMP Policy 6.. because its function and location, which are identified as its significant attributes, are both to be retained."

Alterations to the QEII stand

The AHMS supports the alterations to the QEII stand. It states:

"The proposed development is essentially within the built envelope of the existing Queen Elizabeth II Stand. It is consistent with the DCP aim to optimise the site's capacity and spectator experience while respecting its heritage significance as a prestigious racing facility.

The main objectives for redeveloping the Spectator Precinct are to provide world class spectator facilities; to increase capacity to provide the ability to grow the business into the future and to design the new facilities to be as flexible as possible to allow for not just race day configurations but non-race day events as well…

The proposed modifications to the Queen Elizabeth II Stand will continue the evolution of this precinct and enhance its significance as a focus of visitor activity"

Former Swab building

The adaptive re-use of the building as a conference centre, museum, members' registration office, café with ancillary kitchen and amenities areas involves refurbishment and additions to the existing structure. These include:

- Addition of two wings along the eastern and western flanks of the building.

- Retention of exposed timber lined ceiling as a prominent feature.
- Transparent glass wall adjacent to the northern building facade to maintain security whilst maintaining the building's visual connection with the street.

Graham Brookes and Associates assessed the proposed works and concluded:

> *"The provision of member and corporate facilities in this area complies with Performance criteria 4.3e. of the DCP. The adaptation of this building restores its active use within the Racecourse site and is consistent with CMP Policy 35 - Adaptation. Therefore it is considered to be a positive heritage outcome".*

Official Stand

The proposal involves minor alteration to the official stand to provide an improved link with the refurbished QEII stand.

> *"Overall, the proposed works will result in a positive impact for the Official Stand."*

It notes:

> *"The current junction of the Official Stand and the Queen Elizabeth II Stand is poorly resolved. The proposed development provides a physical and visual separation to the front of these stands thus improving the presentation of the historic stand. The replacement of the Movators with a new "link" element will restore views to the rear façade of the Official Stand and further enhance opportunities for the appreciation of its significance.*
>
> *There will be a minor physical impact on the Official Stand to link it to the refurbished Queen Elizabeth II Stand. This will provide compliant fire egress, new vertical transport and an entry lobby to both stands. Although the architectural detailing of this link is yet to be resolved the concept is supported, from a heritage perspective, as this will minimise the intervention required to provide the necessary fire egress and equitable access to the Official Stand.*
>
> *The impact of these changes can be minimised with advice from a suitably qualified heritage consultant in the preparation of the design detail."*

The recommendation in the last paragraph above is included in the Statement of Commitments at **Appendix II**.

Landscaping

The landscaping design has retained all trees identified as having Exceptional and High heritage significance.

Heritage Items in the Vicinity

The Graham Brookes and Associates report assessed the proposal's impact on the heritage listed items in Doncaster Avenue. It concludes:

> *"…that the proposed development of the Spectator Precinct which may change in built form viewed from these dwellings will not have an adverse impact on their established heritage significance."*

It notes:

> *"Some of these houses have limited views to the buildings of the Spectator Precinct but this is not considered to contribute in any way to their heritage significance. It should also be noted that views to the subject site from 10-12 Doncaster Avenue are likely to be obscured by the future development of the property at 66A Doncaster Avenue…"*

6.7.2 Aboriginal Heritage

Previous heritage assessments of the RRR have concluded that the Spectator Precinct is considered to have low aboriginal archaeological value. An Aboriginal Heritage Impact Assessment was prepared by Archaeological and Heritage Management Solutions (AHMS). The report reviewed the previous findings and reassessed the site for potential aboriginal heritage significance. The AHMS report is included at **Appendix P.** In preparing the report, AHMS undertook informal consultation with the La Perouse Local Aboriginal Land Council and Dharawal Elders. The report concludes as follows:

> *"..the study area has low Aboriginal archaeological sensitivity,. This is due to the fact that the area is unlikely to have been a favoured occupation site for Aboriginal people in the past as well as the extensive historic disturbance. If any Aboriginal occupation evidence were to be present in the study area it would be likely to be ephemeral in nature and of low archaeological significance. It is more likely that previous development has removed any pre-existing traces of occupation."*

6.8 Environmental and Residential Amenity

6.8.1 Solar Access

Shadow Diagrams and a Solar Access Report have been prepared by FP Architects and are included at **Appendix M**. The shadow diagrams demonstrate that the proposal does not impact on solar access to adjacent properties. This extent of shadow to adjacent land is limited due to:

- The separation distance between the new Paddock Stand and adjacent residential areas.
- The low rise (3 storey) scale of the Owners & Trainers Pavilion combined with the separation distance to adjoining residential areas.
- Existing large tree on the site's western boundary overshadowing of the adjacent land at 66A Doncaster Avenue.

The new seven storey Paddock Stand will result in some additional shadow of the spectator precinct compared to the existing 3 storey stand. However, the extent of overshadow is considered acceptable for the following key reasons:

- The expansion of the stand is consistent with the aims of the RRR DCP to replace and improve the facility.
- The Paddock Stand casts shadow over a small portion of the overall Spectator Precinct. This is considered insignificant in light of the ample areas of the precinct which enjoy full solar access.
- The lack of impact on residential properties from shadow before 9am in mid-winter.

6.8.2 Acoustic Privacy

Arup has prepared an acoustic assessment to determine potential acoustic impacts on surrounding areas. The Acoustic Assessment is included in **Appendix U**.

The Acoustic Assessment notes that following areas of the development are expected to generate environmental noise:

- Plant and services equipment associated with the new facilities
- Operational noise from the site:
  - race day events
  - non-race day events/functions

- Increased or altered traffic noise associated with people accessing the site from surrounding public roads
- Increased pedestrian noise generated from new venues and increased total occupant capacity

The Arup report provides further discussion of the noise generated by these activities and includes noise control mitigation strategies.

Mechanical Services Plant

Plant and services equipment associated with the new facilities is proposed at the following locations:

- Rooftop plant on Grandstand
- Mid-level plant in Grandstand
- Rooftop plant on High Rollers Pavilion
- Plant associated with Amenities building

In respect of the above, the Arup report recommends the following:

Noise from proposed mechanical plant will be controlled to meet the established INP criteria at the nearest noise sensitive receivers at 66A Doncaster Avenue.

Noise mitigation measures that may be required include rooftop barriers, acoustic louvers, attenuators and careful layout of plant in outdoor areas. At this stage in the project, external mechanical plant details have not been finalised. Therefore limiting sound power levels from each of the proposed plant locations have been established to ensure that the INP criteria are satisfied at 66A Doncaster Avenue.

During the design stages of the project, plant will be selected, and mitigation measures used, to control noise levels to the required limits.

Operational Noise – Non-Race Day Events/Functions

The Arup report notes the following Non-Race Day events may have potential noise impacts on the surrounding area:

- Outdoor amplified music within the Theatre of the Horse
- Outdoor amplified event screenings within the Theatre of the Horse (i.e. cinema)
- Outdoor unamplified events within the Theatre of the Horse
- Outdoor amplified music events on the racetrack
- Indoor events - dinners and other events held within the Grandstand function rooms
- Exhibitions – arts, crafts and other expositions

The Acoustic assessment notes the following design strategies of the Theatre of the Horse which will contain sound within the enclosure and thereby mitigate potential noise impacts on surrounding areas:

- The parade ring will be sunken below ground level by 4 m and the tiered seating located around the enclosure will therefore provide a barrier for sound.

- The stage area will be orientated towards the QEII and Paddock stands, and away from the proposed residences at 66A Doncaster Avenue.

- The tram entry building will be raised and relocated to provide shielding from the Theatre of the Horse to the proposed residences at 66A Doncaster Avenue.

- The house sound system will be designed using line array loudspeaker technology and directional sub-woofers that allow the sound to be directed digitally to the location where it is needed, and avoid unnecessary sound spill to other areas.

Physical articulation on the back of the grandstands will be maximised where practical in the architectural design to scatter any reflected sound from the sound system. To prevent focusing of sound, the depth of articulation will vary.

In addition to the above mitigation measures, the Acoustic Assessment recommends that:

Amplified outdoor entertainment within the Theatre of the Horse and on the racetrack will be controlled in accordance with the conditions for the Future Music Festival under the Development Application Notice of Determination (DA/873/2009) Clause 41 including noise abatement measures. It is also proposed that permanent noise logging be set up to ensure that noise from amplified events is monitored.

Indoor Events

The type of indoor events in the Spectator Precinct will remain unchanged from the existing situation, although the number of events may increase. The Arup acoustic assessment notes that noise impacts from these events depends upon:

- The time of day of the particular event
- Whether amplified music is used
- The location within the precinct of the event relative to the nearest residences
- Whether the event space is air-conditioned or is naturally ventilated with open windows

However, the Acoustic Assessment confirms that a range of mitigating measures can be employed depending on the factors above. It states:

… control of noise any impact can be achieved by the timing of the event, limiting the sound level of amplified music, or by closing windows and using air conditioning during the evening hours.

Deliveries and Waste Removal

The Acoustic Assessment notes the following noise control strategies in respect of deliveries and waste removal:

Noise levels from vehicle movements on site will be mitigated by space planning of the development to minimise the need for heavy vehicles to reverse (including reversing beeper noise), and by locating loading areas and car park entrances/exits away from noise-sensitive areas of the Spectator Precinct development and away from external noise-sensitive receivers.

Traffic Noise on Public Roads

The Acoustic report has taken into account the findings of the Traffic report prepared by Stapleton Transport and Planning. Based on this report, traffic conditions are expected to be unchanged from existing conditions in the Spectator Precinct, during Non Race/Non Event Days and during the Normal Race Days. Therefore no change to traffic noise conditions within the Spectator Precinct is anticipated during these two conditions.

In regards to major Race/Event Days there is expected to be a higher in-field parking demand and also a possible increase of the traffic on High Street. However, the Acoustic Assessment states:

Comparing the Average Industrial L_{Aeq} provided in Table 2 with the ECRTN criteria set in Table 19, it can be noted that the existing traffic noise levels already exceed the criteria although it is expected that the new development should not increase the existing noise levels by more than 2 dB(A).

Based on its acoustic assessment of the proposal, Arup concludes:

the design of the development can be progressed such that it will not unreasonably impact upon the acoustic privacy of the neighbouring properties with the appropriate mitigation measures introduced.

It is proposed that noise limits at affected residences similar to those approved for the Future Music Festival 2010 be adopted in order to set noise limits for all event types to be held at Randwick Racecourse (both race day and non-race day events). This noise limit is to apply to events held both on the infield and within the Theatre of the Horse. The proposed noise limit criteria are:

- $L_{A1,15min}$ 70 dB(A)

- $L_{C90,15min}$ 90 dB(C)

Noise levels are to be measured at affected residences with the sound level meter set to the 'fast' response setting over any 15 minute period during the event, including any bump in/out phases and sound checks.

6.8.3 Visual Privacy

The RRR has been established on the site since 1883 and has been modified and expanded at various times since that time. As surrounding lands were developed for residential and other urban purposes, potential for conflict between these different uses, in terms of visual privacy, has increased.

Of particular relevance to this assessment is the potential impact on the future residential development at 66A Doncaster Avenue. That development comprises primarily 2 and 3 storey apartment buildings which are generally setback 5 metres from the site's western boundary. The dwellings are located approximately 100 metres from the nearest grandstand and approximately 50 metres from the Owners and Trainers pavilion.

The following key features of the proposal are relevant to the assessment of visual impacts on the future residential development:

- The stands include seating and balcony spaces for viewing of the Theatre of the Horse parade ring. These spaces include rear terraces on most levels of the stands and a new raked seating area in between the stands. As discussed above, these viewing areas are located a considerable distance from the adjoining future residential land and will not adversely impact on visual privacy of future residents.
- The Theatre of the Horse parade ring, although closer to the future residents, is still sufficiently removed from these uses to ensure visual privacy is achieved. The following key design elements are also relevant:
  - The side walls of the Owners' and Trainers' Pavilion building will prevent direct views towards the future residential areas.
  - Architectural screening obscures views towards the residential areas.
  - The orientation of the parade ring essentially turns its back on the adjoining residential areas.

6.8.4 View Loss

View loss has been discussed at section of this EA. As noted at **Section 6.1.2**, a visual assessment of the impacts of the proposal has been undertaken by Fitzpatrick & Partners Architects. It is included within **Appendix L**.

6.8.5 Odour

Arup have prepared an Odour Assessment report which is included at **Appendix V**.

Currently, odour generation from the site is primarily from the generation, storage and transportation of waste. The Spectator Precinct currently generates considerable volumes of waste on major events days, in the order of 20 tonnes. The odour assessment includes recommendations to appropriately manage odour on the site.

6.8.6 Light Spill & Reflectivity

Light Spill

The majority of activities on the site during a race day or event will end by 11pm. After this time, lighting of the Precinct will revert to an “after hours” setting which will primarily illuminate the main pedestrian circulation paths.

Arup have prepared a Light Spill Assessment which is included at **Appendix X**. The report includes an assessment against the requirements of AS4282 Control of the Obtrusive Effects of Outdoor Lighting. It has assessed the proposed lighting of the Spectator Precinct for the “after hours” setting as required by AS4282. The report includes an assessment of the potential impact of light spill on the future residential development at 66A Doncaster Avenue.

It is noted that the lighting concept is to primarily illuminate the main arterial pedestrian circulation areas. Lighting will also be provided in and around the Spectator Precinct for the differing buildings including the Stands and Parade Ring and this will be provided for day to day operation and be configured to respect the requirements of AS 4282.

The report provides recommendations for lighting of the Precinct to ensure compliance with the requirements of AS4282 Control of the Obtrusive Effects of Outdoor Lighting. The design recommendations in the draft Statement of Commitments included in **Appendix II**.

Implementation of the above recommendations will ensure there are no significant adverse impacts on the amenity of future residential development at 66A Doncaster Avenue.

Reflectivity

Arup has prepared a Reflectivity Report which is included in **Appendix Y**. The report addresses rogue solar reflections that are likely to occur off the facade of the proposed development and their effect on surrounding observers. The reflectivity analysis assesses the effect of the main façade facing north-west as well as the curved façade elements that enclose the stairwells at either end of the proposed development. Observers on the nearby roads and occupants of the future development at 66A Doncaster Avenue are considered as part of the assessment.

The report concludes:

> *The reflectivity analysis predicts that no high-risk solar reflections are to be expected for road users on Doncaster Avenue or Alison Road.*
>
> *The curved façade elements enclosing the stairwells are predicted to cause intermittent veiling reflections for observers located in the future development at 66A Doncaster Avenue. These reflections can be reduced and potentially eliminated through careful selection of cladding system and material selection.*
>
> *The main façade is not predicted to create reflections above the acceptance threshold; however, lower intensity reflections from this façade will be directed towards 66A. These are within the acceptability criteria.*

6.8.7 Significant Landscaping and Trees

Earthscape Horticultural has prepared a tree survey and arborist report which assesses the location and health of significant existing trees on the site. The report is included at **Appendix Z**.

The Arborist Report has assessed the landscape design and potential impacts. Broadly, the report notes that the landscape design will result in removal of 1 tree of moderate retention value, and potentially adversely impact on several trees due to compaction or other damage to root systems.

The Arborist Report recommends a number of solutions to minimise the potential impact on these trees including:

- Transplanting.
- Raising ground levels adjacent to the trees in planter boxes.
- Changing alignment or width of pathways.
- Relocation of proposed amenities block outside the Tree Protection Zone (TPZ).

The Arborist Report includes the following findings:

> *The proposed development will necessitate the removal of a one (1) tree of moderate retention value (T86). Alternatively, it would be feasible to transplant this tree elsewhere within the site. This tree is not considered significant, but is in good health and condition and makes a fair contribution to the amenity of the site and surrounding properties.*
>
> *Demolition of existing paved areas and pathways are located within the TPZ's of tree No.s T58 (Small-leaf Fig), T61, T62, T64, T77 & T78 (Port Jackson Figs) should not result in any adverse impact on these trees provided that the work is carried out in accordance with Section 14.18.*
>
> *Proposed new pavements within the TPZ's of these trees will necessitate some excavation and compaction within their root zones. However, the new pavement works should not result in any adverse impact on these trees provided that all excavations are undertaken in accordance with Section 14.19.*
>
> *Proposed new pavements and gardens surrounding tree No.s T68, T69, T84 & T85 currently indicate a reduction in ground levels within the area of the existing raised planter boxes, which would result in a significant adverse impact on these trees. However, it is understood that this issue will be resolved during the detailed design stage by adjusting the surrounding levels as required to ensure that the existing levels within the planter box areas are maintained.*
>
> *Proposed new pathways are located within the TPZ/SRZ of T91. Excavation and compaction associated with the pathway may result in a significant adverse impact on this tree. However, it is understood that this issue will be resolved during the detailed design stage by adjusting the surrounding levels as required to ensure that the existing ground levels within the TPZ of this tree are maintained.*
>
> *A proposed new amenities block located within the TPZ of T91 may result in an adverse impact on this tree. In order to avoid adverse impact, consideration should be given to relocating the amenities block further south, outside the TPZ (15 metres radius).*

The recommendations of the Arborist Report are reflected in the Statement of Commitments in **Appendix II**.

6.8.8 Impact on Surrounding Residential Areas (Intensification of Existing Use)

This section of Environmental Assessment assesses the impact of the proposal on surrounding residential uses in terms of:

- Patron capacity increase.

- Hours of operation.
- Frequency of Non Race Day events.

Patron Capacity Increase

The proposed refurbishment includes an increase in the capacity of the grandstands, resulting in an additional 7,525 seats. The new parade ring area will accommodate an additional 4,500 seats. The lawn area is expected to accommodate a reduction in number of patrons compared to the existing situation. Overall, the proposal does not result in an increased capacity of the Spectator Precinct. The following key matters are important in this regard:

- The proposal primarily involves the refurbishment of existing facilities in line with DCP objectives and performance criteria which state that:

  Members, corporate and club facilities are to be expanded and improved within the Spectator Precinct.

- The traffic study prepared by Stapleton Traffic and Transport (refer **Appendix Q**) concludes that the existing traffic strategies and previous Stage 1 transport infrastructure upgrades have been designed to accommodate 50,000 people. Traffic generation from the proposed refurbishment of the Precinct can be accommodated by the existing transport strategies.

The following key design and operational features are noted in respect of the proposal:

- Noise - the amphitheatre seating arrangements which are “in cut” will reduce noise impacts on surrounding residential areas.
- Lighting - The lighting design at the Spectator Precinct requires compliance with relevant Australian Standards to reduce obtrusiveness of lighting to acceptable levels. These design controls are complemented by operational controls which ensure that lighting of the Spectator Precinct after 11pm is restricted to pedestrian pathway areas.
- Waste – The increased capacity of the stands will result in an increase to the peak waste load that its to be expected during major Race Days. Arup has prepared a Waste Management Plan (refer **Appendix W**) which assesses the existing and likely waster generation on the site and makes recommendations regarding waste management practices.
- Odour – Odour generation from the site is primarily from the generation, storage and transportation of waste on the site. As noted above, the expected peak waste loads on the site will increase for major Race Days due to the increased capacity of the stands. Arup has prepared an Odour Assessment and Management Plan which is included in **Appendix V**. The Arup report identifies odour sources associated with the proposal and recommends odour management practices.

In our assessment any potential impacts from the increased capacity of the stands are adequately mitigated through the design of the new facilities and the recommendations of the expert consultant reports.

Hours of Operation

The RRR is a dynamic operation which involves a diverse range of activities whose hours of operation vary to suit the particular needs of the activity. Below is an extract from the AJC’s Functions and Events Management Plan which details existing hours of operation:

Racecourse hours of operation vary from race days to non race day events and equine training. Race day standard hours of operation are from gates opening at approximately 10.30am – 11.30am (dependant on first race times) to gates closing and all patrons to vacate the premises by 6.45pm.

As a result of the diverse range of events Royal Randwick hosts hours of operation can be tailored to suit specific event needs. This is also dependant on event space bookings as grandstand and internal venue spaces can be accessed from as early as 6.30am and well into the evening. The AJC operates with 24 hour onsite security which allows for flexible venue access times.

To aid in the bump in/out of events, access to certain venues can effectively be 24 hours to fulfil on their event objectives.

Hours of operation for non race day events can effectively be 24hrs. Functions will rarely extend overnight although operations relating to setup and cleanup may run through the night.

The proposed refurbishment of the Precinct does not propose any changes to the existing hours of operation at the site.

Potential impacts from the site's hours of operation largely relate to noise issues. Potential noise impacts on surrounding areas, particularly the future residential development at 66A Doncaster Avenue, will continue to be managed through a range of design and operational measures. These measures are identified in the Functions and Events Management Plan (FEMP) which supplements the existing overarching Management Plan which applies to the entire RRR site. The relevant extract from the FEMP is reproduced below:

Context:

To minimise event and crowd noise effects on the surrounding residents.

Process and Systems:

The AJC conducts its events within the hours of operation depicted [above].

During high noise level events specific infrastructure is employed to direct the noise Northward over Alison Road into Centennial Park and away from the surrounding residential streets.

The location and design of the proposed works aims to minimise noise impacts on surrounding residents.

Recommendations from ARUP's Acoustics report will be implemented as part of the FEMP.

Types and Frequency of Non Race Day Functions / Events

RRR currently hosts a diverse range of non-race day events and functions. The proposed refurbishment aims to enhance the delivery of such events in upgraded world-class facilities throughout the year. It is expected that the number of Non Race Day events and functions will increase to utilise the stands more efficiently. The Functions and Events Management Plan prepared by the AJC provides further details of the types of non Race Day Events. A relevant extract is provided below:

Royal Randwick Racecourse accommodates up to 300 Non Race Day Events in a calendar year with 11 different event types. Flexibility in the types of spaces available enable the racecourse to cater for a range of event types include weddings, conferences, family days, exhibitions, corporate dinners to major outdoor events.

The AJC has 11 multi purpose venues that can accommodate a variety of set up options from 120 banquet style to a 2,500 cocktail party. Room Names include Shannon Room, Panorama Room, Gimcrack, Vice Regal, Vista, Kingston Town, Doncaster, Galaxy, Tea House, Randwick Pavilion and the Oaks Lawn Marquee. Details

The frequency of these events will vary however the design features and management controls proposed will ensure that impacts from any change to the frequency is appropriately managed and any potential impacts mitigated. The following reports include assessment of the potential impacts of the proposal and include recommendations to further mitigate impacts:

- Traffic – see **Appendix Q**.
- Noise – see **Appendix U**.
- Light Spill –see **Appendix X**.
- Functions and Events Management Plan – see **Appendix T**.
- Odour Management Plan - see **Appendix V**.

- Waste Management Plan - see **Appendix W**.

6.9 Public Domain and Safety

Arup has prepared a Public Safety and Security Assessment which is included in **Appendix N**. The report outlines the design principles to be incorporated into the detailed design of the Spectator Precinct to ensure that the new facilities perform well in terms of safety and security, safety and CPTED compliance. The report outlines the 5 principles of CPTED as follows:

- Territoriality.
- Territorial Reinforcement.
- Surveillance.
- Adjacencies.
- Maintainability.

The report provides an overview assessment of how the proposal demonstrates achievement of the above. These include:

- Physical barriers (doors, turnstiles).
- Maintain clear visual axes across the site and no major surveillance black spots.
- Avoid the use of material, fixtures or fittings that are vulnerable to high levels of wear and tear or damage to.

The report recommends that a detailed CPTED assessment be undertaken as part of the detailed design phase of the project to further demonstrate how the proposed design achieves the CPTED principles. The recommendation is included in the draft Statement of Commitments in **Appendix II**.

Vehicle Pedestrian Conflict

The nature of the activities on the site which involves pedestrian, horse and vehicle movements for deliveries inevitably results in some potential conflict. Currently time windows and operational procedures are used to achieve separation at times when pedestrians and vehicles are required to occupy the same spaces.

The Arup report has assessed these and notes:

> *The developing design is cognisant of and is addressing the issues associated with the operational needs of the sites and the need to accommodate the crowds that are attracted to racing.*

It notes the following design features which will ensure that the vehicular areas are clearly distinguishable form designated pedestrian areas:

- Ground colours and textures
- Kerbing
- Signage
- Use of Temporary Barriers
- Direct intervention by staff members

Disabled Access

Morris-Goding Accessibility Consulting has prepared an Access Review Report which provides advice and strategies to maximise reasonable provision of access for people with disabilities. The report is included in **Appendix N**.

It reviewed the proposal to ensures that ingress, egress, paths of travel, circulation areas, toilets, lifts and linkages between the grandstand and parade ring comply with relevant statutory guidelines.

The assessment makes the following findings:

> *In general, the development has accessible paths of travel that are continuous throughout. In line with the report's recommendations, the proposed development has demonstrated an appropriate degree of accessibility. The Development Application drawings indicate that compliance with statutory requirements pertaining to site access, common area access and accessible sanitary facilities, can be readily achieved.*

The Morris-Goding report includes a number of recommendations which are to be addressed by the architect during the detailed design phase, prior to issue of construction certificates. The recommendations are contained within the draft Statement of Commitments included in **Appendix JJ**.

6.10 Ecologically Sustainable Development (ESD)

6.10.1 Overview

The proposal has been designed to embrace the principles of ESD through its design, construction and operational phases. Arup has assessed the proposal for its compliance with ESD principles and the report is included in **Appendix AA**. The Arup report concludes:

> *The redevelopment of the Spectator Precinct of the Royal Randwick Racecourse incorporates ESD initiatives and principles thought the Design Construction and Future Operations phases of the project.*

6.10.2 Design Phase

Design of the proposal incorporates a number of ESD principles. These include:

- Materials re-use Strategy.
- Natural ventilation of QEII and Paddock stands when occupancy and weather conditions allow.
- Rainwater harvesting.
- High frequency ballasts will be installed in fluorescent luminaries to avoid low frequency flicker.
- Low volatile organic compound (VOC) paints, carpets & adhesives where possible.
- Timber composite products of low formaldehyde content where possible.
- Timber specified will be of low ecological value.
- Solar hot water with gas boost where possible.
- Domestic hot water will be blended at 43°C to reduce water waste.
- WELS rated tapware and sanitary ware.
- Energy efficient lighting.

6.10.3 Construction Phase

The Arup report notes that the construction and demolition phase of the project will incorporate the following ESD principles:

- Construction and demolition waste is to be re-directed from landfill. It is anticipated that a minimum of 80% of construction waste by weight will be diverted from landfill.
- An environmental management plan will be adopted by a contractor with ISO 14001 certification.

6.10.4 Operation Phase

The Arup report indicates that the operational phase of the development will incorporate the following ESD principles:

- Rainwater harvesting from the roofs will be captured and used onsite for WC flushing, irrigation and cooling.
- When the buildings are operating in natural ventilation mode it will reduce the power consumption of the buildings.
- The sensor lighting will reduce the power consumption.
- Commissioning of lighting, HVAC and water systems to ensure design intent.
- A tenant guide to aid the building users to maintain and upgrade the buildings in-line with the design intent.
- Operational waste including but not limited to: horse-associated organic waste, paper, plastics, glass, other organics will be separated individually onsite for re-use or recycling either onsite or by external parties.
- It is anticipated that a proportion of the site's energy will come from less carbon intensive sources than coal-fired electricity. In this event, the spectator precinct would be proportionately supplied by these alternatives that may include solar photovoltaic's.

6.11 Flooding, Drainage and Surface Water Management

6.11.1 Flood risk

WMA Water has assessed the extent of the proposed development in the above Project Application. A statement from WMA is included in **Appendix BB**.

WMA Water previously undertook a comprehensive Flood Study for the South Sydney Centennial Park catchment for Randwick Council (Draft Report December 2009) in compliance with the NSW Floodplain Development Manual guidelines. This study defined the 100 year Average Recurrence Interval (ARI) floodplain in Alison Road and adjacent to Royal Randwick racecourse. Based on these previous investigations, the WMA statement concludes:

> *"… no works will be undertaken within the 100 year ARI floodplain. Thus the proposed development will not impact on flood levels, flows or velocities in adjacent properties in the 100 year ARI event."*

6.11.2 Overland Flow

Arup has prepared an Integrated Water Management Plan (IWMP) which is included in **Appendix CC**. The IWMP assessed the overland flow paths on the site and notes that drainage in the overland flowpaths will be collected in grated drains and pits and directed into the existing precinct gravity drainage systems.

6.11.3 On-Site Detention (OSD)

The Randwick City Council's Private Stormwater Code notes that where development can demonstrate adequacy of downstream drainage systems, OSD may not be required. Arup's IWMP included in **Appendix CC** contains an assessment of the OSD requirements for the site and concludes that no additional on-site detention is required for the development. It notes the following:

The existing precinct currently collects runoff into below ground drains and directs this storm water to existing site detention / infiltration basins to the south of the precinct adjacent to the racetrack draining through an existing ø600mm piped connection to the Anzac Parade Council drainage assets. The existing basins will remain in operation during and post redevelopment and ***will attract no additional storm water load than that which currently exists on site****." (Emphasis added).*

The existing Spectator Precinct…incorporates soft landscaping, gardens and lawns. The proposed new development involves demolition / removal of some impervious areas including the Tea House incorporating an equal or slightly greater area of soft permeable landscaping and therefore a theoretical reduced peak stormwater runoff.

A summation of impermeable areas within the development site shows:

• The existing precinct incorporates approximately 14,143m² of permeable area

• The new precinct incorporates approximately 14,759m² of permeable area

These areas are considered sufficiently close that it can be considered that the Precinct's impermeable area is unchanged.

The Arup report further notes:

The stormwater systems on site are performing adequately at present and this is taken as also confirming that the downstream drainage is adequate to service the redevelopment without requiring upgrade works.

6.11.4 Water Management Structures

Currently, the Spectator Precinct stormwater drains by gravity through a series of surface inlet pits, piped below the race track level draining to the existing inner and outer detention / infiltration basins located in the south western corner of the property.

As noted in Arup's Integrated Water Management Plan (IWMP), the redeveloped Spectator Precinct impermeable areas have been only slightly increased in size. The IWMP makes the following comments in this regard:

It is envisaged this slight increase will have an insignificant impact on the continued operation of the existing basins.

It is proposed the existing inner and outer detention / infiltration basin configurations remain unchanged and the remodelling of the spectator precinct presents an insignificant change to the current infiltration on site given the total area of the precinct.

Given that there is only a marginal increase in impermeable area, the proposal does not increase flooding impacts on up or down-stream properties. The IWMP concludes:

No additional swales or detention basins are envisaged to be required.

6.11.5 Water Conservation

Arup has assessed the proposal in terms of water conservation, primarily reduction in use and water harvesting. It notes the following features of the development which will assist in achieving water conservation outcomes:

- Natural ventilation of buildings (when external conditions are favourable) will reduce the mechanical cooling and volumes of water used in evaporative cooling towers.
- Use of low water use fittings as follows:

Table 3 – Proposed low water use fittings

Fixture	WELS Star rating
Basins	5*
Sinks	4*
Dual flush WC (4.5/3L)	4*
Washdown / hose taps	N/A (,0.2L/s)

- Use of bore water in conjunction with rainwater harvesting system is proposed to minimise water storage on-site between intermittent events. Arup has assessed the optimum rainwater tank requirements based on consideration of collection potential and usage patterns based on the last 50 years of rainfall data and concluded:

  A single 64,000 Litre storage tank is proposed as the optimal volume when considering the intermittent use of the facility, overall roof area and potential for re-use.

  The rainwater runoff for the Grandstands and Theatre of the Horse roofed areas will be directed to a single storage tank for reuse by means of a gutter and downpipe system, the water captured within the tank will be reticulated around the precinct to serve the requirements of facility wash down, irrigation, cooling towers and ablution flushing.

  The analysis has indicated that one (1) 64,000 litre tank will provide the following offsets and savings of potable water consumption:

  • Approximately 20% of low grade water use is met by rainwater re-use

  • Three (3) Mega litres of Potable water saved each year by rainwater re-use.

The 64,000 litre tank will be located beneath the Grandstand and the roof water collected will be directed to this tank and reticulated throughout the facility.

- Domestic hot water will have a circulation / return loop to minimise waste.
- Taps in public areas will be self-closing and provided with blended water.
- Sensor type urinals will be used.

In summary, the proposal does not result in increase in flooding off-site, overland flow can be appropriately managed on site without the need to increase existing OSD, and the proposal provides a range of water conservation measures for the reduction in potable water use and the capture and re-use of water on-site.

6.12 Ground Water Management

6.12.1 Overview

Douglas Partners (DP) have prepared a Groundwater Assessment report that identifies groundwater issues and potential degradation to the groundwater source that may be encountered during construction. Arup has prepared an assessment report assessing Groundwater Dependent Ecosystems (GDE). Both reports are included in **Appendix DD**.

The Arup GDE report utilised the Douglas Partners' report findings in relation to groundwater issues to inform its assessment of potential impacts on Groundwater Dependent Ecosystems.

The Arup GDE report therefore contains much of the same information as the DP report. This information has been included in the GDE report for completeness only.

6.12.2 Ground Water Issues

The DP report identified that the Royal Randwick Racecourse is underlain by the Botany Sands Aquifer. A secondary aquifer in the tertiary rocks underlying the sedimentary sequence has also been reported. There is considered to be some connection between these aquifers (Merrick, 1998).

It notes:

> *Based on the proposed development, there is considered to be no or little potential for impact on this deeper aquifer...*

The report addresses impacts from dewatering, contamination and future localised groundwater rise. These are discussed below. In regards to dewatering, the report notes:

> *Based on the depth to groundwater at the Spectator Precinct and the proposed basement and tunnel excavations, temporary construction dewatering will be required. It is understood that these structures are proposed to be tanked and hence no ongoing dewatering will be required. Dewatering will most likely incorporate spearpoint abstraction, with possible use of sheet pile walls and/or infiltration galleries to limit the drawdown and settlement of adjacent structures.*

The report concludes that the design of the dewatering system is not considered a constraint on the development.

In regards to contamination, the report finds:

> *The development is not considered to have a high potential for contaminating the aquifer during construction. Nonetheless, a Construction Management Plan should be prepared for the construction phase of the project well in advance of commencement.*

In regards to groundwater mounding (localised groundwater rise), the report states:

> *Consideration has been given to the potential for groundwater mounding (localised groundwater rise) upgradient of structures which protrude into the aquifer. Groundwater mounding and aquifer damming are problems more likely to occur in confined built up areas where numerous deep basements are present. A review of the surrounding area indicates that the presence of deep basements in the surrounding areas is limited. UNSW, Kensington and Randwick possess some relatively deep basements, but the distance to these areas precludes problems from aquifer damming.*
>
> *Groundwater mounding behind long basements (such as tunnels) may occur. This may result in a long term rise in the groundwater upgradient of the structure. Modelling of similar structures in the Botany Sands Aquifer has indicated only minor mounding, and rapid dissipation of the mound away from the wall. This is as a result of the relatively low groundwater gradients and high porosities.*

The report concludes:

> *Groundwater mounding is not considered to be a constraint to the development, though further modelling should be undertaken once the proposal is further developed.*

6.12.3 Groundwater Dependent Ecosystems (GDE)

The Arup report includes the following findings:

- Principle receptors comprise the pristine groundwater in the Botany Bay Sandstone aquifer. A Groundwater Dependent Ecosystem (GDE) has been identified, however this is 2km away and therefore the aquifer itself is the nearest and most vulnerable receptor.
- The aquifer is generally considered highly vulnerable to contamination due to the permeability of the sands and the generally shallow water table.

- Several mitigation measures have been proposed to manage the risk of contaminant migration into the aquifer during construction, and following completion of the works. Implementation of these measures will ensure that the impact of the development on the Botany Bay Sands aquifer is controlled.

The Arup assessment identified a GDE which was 2km away from the site. It notes that the aquifer itself is the nearest and most vulnerable receptor. The Arup report includes the following observations:

The area immediately surrounding the site (<2km) is dominated by residential and commercial development. A brief study has been carried out to identify the locations of possible Groundwater Dependent Ecosystems (GDE) using satellite imagery of the area. Potential nearby GDE's, and their potential connection with groundwater in the Botany Bay Sand Beds beneath the site is summarised in the table below.

Name	***Distance from site***	***Hydrological connection to the site***	***Risk Rating***	
Centennial Park Ponds	*150m north of the Spectator Precinct*	*Natural flow gradients drive groundwater from Randwick Racecourse, in the opposite direction to Centennial Park. (i.e. to the south/south-east).* *Centennial Park Ponds are therefore located up gradient of the site. Furthermore water within these ponds drain into the aquifer, rather than water from the aquifer recharging the ponds.*	*No risk*	
Glebe Gully Reserve	*1.1km east of the Stables Precinct*	*There is no hydraulic connection between the groundwater beneath Randwick Racecourse and that beneath the Glebe Gully Reserve. The GGR is located within a separate groundwater catchment area on the Hawkesbury sandstone.*	*No risk*	
Eastlake Golf Club lakes	*2.1km south of the Stables Precinct*	*The Eastlake Golf Club lakes are over 2km from the site. There is a potential hydraulic connection between the Randwick Racecourse and Eastlake Golf Club, as groundwater may migrate through the Botany Bay Sand Beds.*	*Low*	

6.12.4 Potential Impacts

The Arup report assessed potential impacts on the Aquifer during the construction and post-construction phases of the Precinct:

For the Construction Phase it identified the following potential impacts:

- Migration of contaminants into the aquifer. Potential contaminants include Hydrocarbons from fuel stored on site or refuelling vehicles, suspended sediments, chemicals stored on site associated with building works.
- Dewatering. The Arup report notes that:

The risk of groundwater degradation due to dewatering is considered low due to the following:

-Because the total amount of dewatering required is just 3m, the radius of influence due to the pumping would not extend beyond the boundaries of the Randwick Racecourse, and therefore the only extraction that will be affected will the Randwick Racecourses own irrigation borehole;

-Pumping will only occur for a short period of time during construction. This is unlikely to be longer than a month. Groundwater levels are likely to recover quickly following cessation of pumping.

For the Post Construction Phase the report noted possible migration of contaminants such as Hydrocarbons and suspended sediments within stormwater, from hardstand areas to the aquifer. The report concluded that the risk to groundwater from this source was negligible due to the following:

The current stormwater infiltration ponds are deemed sufficient to mitigate the risk of contaminants into the aquifer post-construction. The current stormwater system includes interceptor drains which intercept any possible hydrocarbons or suspended sediments prior to reaching the infiltration ponds.

In addition, the north-eastern Botany Bay Sand aquifer is comprised mostly of quartz sand, the sediment would also contain trace quantities of iron minerals, silt clay and shell fragments. The sands would likely act as an effective filtration and attenuation medium for a range of constituents including trace metals and pathogens.

6.12.5 Mitigation Measures

The Arup report included a number of mitigation measures to manage the risk of contaminant migration into the aquifer during and after construction. Arup's recommended mitigation measures follow:

- The reconfigured stormwater system will remain offline until the system is complete and the site is sufficiently stabilised. Swale sand/metal pillows in geotextile fabric will cover any existing stormwater inlets and gully inlets to prevent runoff entering the system prematurely.
- All fuel or chemicals stored on site during construction shall be kept within bunded areas in double skinned containers.

6.13 Contamination and Geotechnical Issues

6.13.1 Site Contamination

Douglas Partners has undertaken a contamination assessment of the site. The report also assessed salinity and acid sulphate soils issues. It is included in **Appendix EE**. The Douglas Partners (DP) assessment comprised a review of previous assessments undertaken at the overall RRR, a site history review and intrusive soil (from six sampling locations) and groundwater (from one groundwater monitoring well) investigations at the site.

Field investigations revealed the presence of the following on the site:

- Fill of varied depths.
- Asbestos fibres in one (TP102) of the soil samples. The fibres were in the form of a 2mm length of a fibre bundle that was found loose in the sample.
- Elevated levels of copper in one soil sample (BH2).

In regards to asbestos contamination, the DP report noted:

> *Noting that asbestos or asbestos fibres were not detected at the other sampling locations and the red mottled brown sand filling profile was not observed at any of the other sampling locations, it is considered that the asbestos contamination may be limited to the red mottled brown sand filling present at a nominal depth of 0.3m – 1.0m bgl located in the vicinity of TP102. Therefore, on the basis of the investigation findings, the site can be rendered suitable for the proposed commercial land use subject to the remediation of the asbestos contaminated soil in the vicinity of TP102.*

And:

> *Additionally, as the site has undergone modifications since as early as 1860, there may also be a potential for the presence of buried asbestos pipes to be uncovered during bulk excavation works similar to that experienced during the excavation for the Day Stalls site.*

The DP report recommends additional investigations be carried out in the vicinity of RTP102 to confirm the exact location of any asbestos contamination and recommends remedial works being undertaken to make the site suitable for development.

The report also notes that any asbestos pipes that may be uncovered during bulk excavation can be managed by the implementation of an Unexpected Asbestos Finds Protocol that can be developed prior to commencement of the construction phase.

The DP report notes that elevated concentrations of heavy metals including copper are not uncommon in urbanised areas. It states:

> *The common sources of heavy metals in urban areas include, typically, surface and stormwater runoffs (eg from streets), which infiltrate into the groundwater system and infiltration of effluent water through service leakage (including of pressurised water delivery pipes). Therefore, it is considered that the detected copper exceedance is most probably representative of the regional background levels, and does not represent significant health or environmental impacts. Therefore, based on the analytical results, the groundwater at the site is not considered to be impacted by heavy metal, TPH/BTEX, PAH, OCP/OPP/PCB and phenol contamination and further groundwater assessment is not deemed necessary.*

The report concludes:

> *The site history and the field observations suggest that with the exception of the quality of fill placed on the site, the site has a relatively low potential for contamination.*
>
> *The analytical results for the groundwater samples indicated that concentration of heavy metals, TPH/BTEX, PAHs, OCPs/PCBs/OPPs and phenols was generally low and within the adopted GILs.*

The Contamination Assessment includes a number of recommendations which will ensure the Spectator Precinct is suitable for its intended use. The recommendations are reflected in the draft Statement of Commitments in **Appendix II**.

6.13.2 Acid Sulphate Soils

In regard to salinity and acid sulphate soils, based on its field investigations, the DP report notes:

> *Further, the results of the assessment also showed that acid sulphate soils and saline soils are not present within the proposed development area.*

6.13.3 Geotechnical Issues

Douglas Partners have undertaken an assessment of geotechnical issues associated with the proposal. The assessment report is included at **Appendix FF** and concludes:

> *"The broad geotechnical issues concerning the design and construction of the two stands, the basement and tunnel, and the parade ring have been addressed in this report. None of these issues are considered to be outside the normal range of issues routinely encountered on any relatively large comparable project."*

Based on the findings of field work investigations, the report addresses the relevant geotechnical issues which are detailed below:

Grandstands

> *"The major geotechnical issue in the Spectator Precinct is expected to be that of deciding the appropriate type of foundation to the stands. Considering the presence of loose sand in places within the upper 4 m, it is likely that major structural loads will be carried by piles."*

The report nominates 4 types of piles which may be employed for the design of the stands. The exact pile design will be determined as part of the detailed design of the grandstands.

Basement (for new Paddock stand) and tunnel from parade ring

The base slab levels of the basement and the tunnel range between RL26.5 m and RL27.5 m. The base slab level of the main service corridor will be RL24.5 m. The report notes:

> *"These levels are either below or just above the recently measured groundwater level of RL26.7 m in BH2. Hence provision will need to be made for a ground water level continuously above the slab level of some areas of the basement, and possibly above the slab level in other areas during or after periods of prolonged rainfall."*

The report provides a number of design solutions that will be considered as part of the detailed design phase of the project. Refer to section 5.2 of Douglas Partners' report in **Appendix FF.**

Parade Ring

The parade ring will involve excavation to 4 metres depth which is 1.5 metres above the current groundwater level identified in the DP report. The report notes:

> *"Rising groundwater levels would have to be expected after periods of prolonged rainfall. Design consideration will need to be given to whether the base of the ring needs to be tanked in some manner, or whether potential flooding of the base is acceptable. Additionally, the prepared sub grade to the ring will presumably comprise some imported and compacted material, overlain by turfed soil. Hence the ring surface is likely to be substantially less permeable than what it would be were the surface merely to comprise the natural in-situ sand. If this were to be the case, then a system of perimeter drainage and pumpout pits might be required to remove ponded water resulting from heavy rainfall, even if the groundwater level has not risen."*

The geotechnical considerations will be taken into account in the detailed design phase of the project. The proponent will engage a qualified geotechnical consultant to provide detailed geotechnical assessment & recommendations in conjunction with the detailed design of the project. This undertaking is included in the draft Statement of Commitments included in **Appendix II**.

6.14 Utilities and Infrastructure

Arup has assessed the capacity of existing infrastructure and provided details of any augmentation or upgrades required to accommodate the proposal. The Utilities and Infrastructure report is included at **Appendix GG.** It states:

"In conclusion the new precinct loads have been analysed and the local water and drainage infrastructure requires modest adjustments to satisfy the new requirements of demands and building footprints. The report recommends upgrades to the high voltage infrastructure serving the site from the local zone sub-station."

The assessment of required infrastructure and utilities notes that the required adjustments are largely internal to the site. As a result, staging of infrastructure works will relate to the timing of construction of site works including the grandstands and landscaping. Details of staging will be determined in conjunction with the project architect and Construction programmer at the detailed design phase of the project.

The required adjustments to infrastructure and utilities are largely on-site and do not appear to impact on Stage 1 infrastructure works.

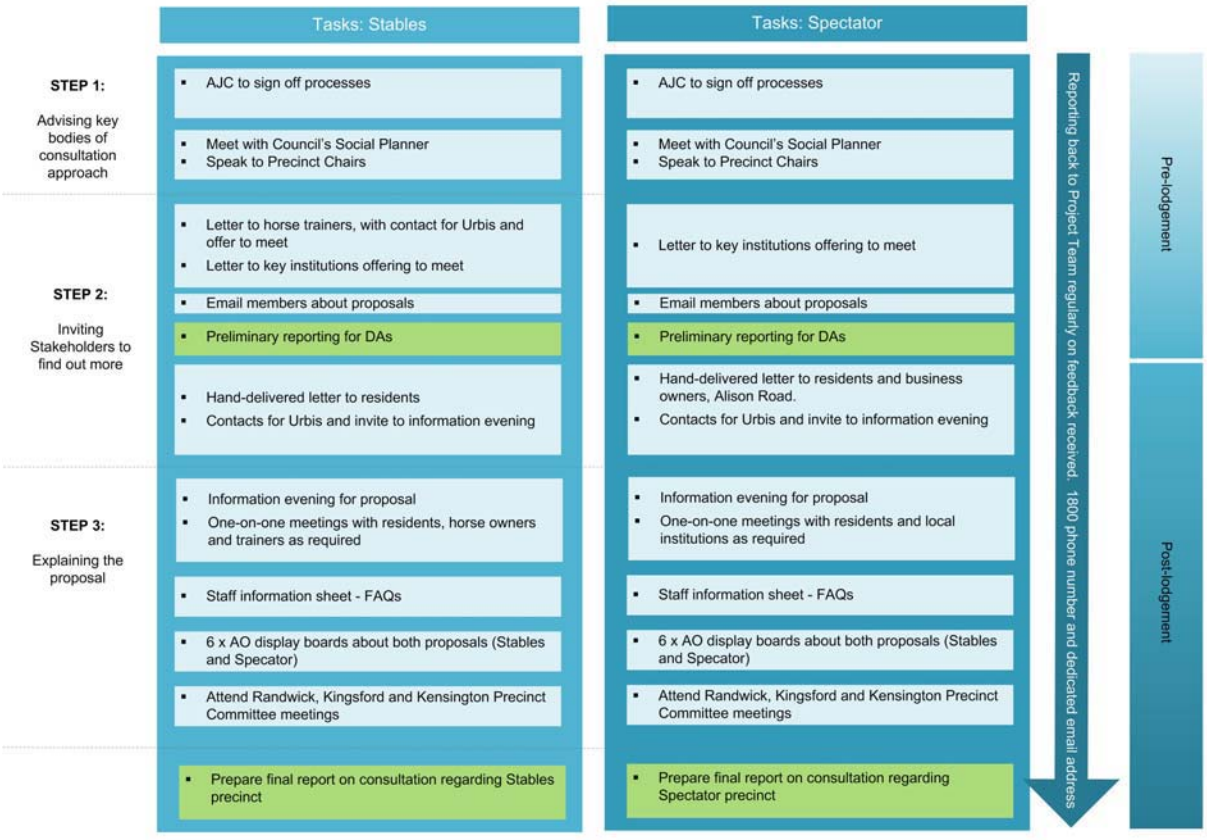
6.15 Contributions

Contributions for the proposed Spectator Precinct redevelopment will be paid in accordance with the Randwick Section 94 Developer Contribution Plan 2007 (the Contribution Plan). The plan requires contributions to be paid to the value of 1% of the total cost of carrying out the development.

6.16 Consultation

A Consultation Strategy for the Stables Precinct Project Application proposal and the Spectator Precinct Project Application has been established, and incorporated into the Environmental Assessment documentation at **Appendix II**. The Consultation Strategy is summarised in **Figure 6** below:

Figure 6 – Consultation Strategy



Step 1 of the above Consultation Strategy has been undertaken.

Steps 2 and 3 of the Consultation Strategy are currently being undertaken. Once completed, a final consultation report will be prepared and submitted after the Project Application exhibition period.

6.17 Statement of Commitments

A Draft Statement of Commitments is included at **Appendix II.**

7 Conclusions

This Environmental Assessment has assessed the proposed refurbishment of the Spectator Precinct in response to the DGRs issued in respect of MP10_0097.

The assessment has determined that the proposal does not have significant adverse impacts on surrounding residential areas, including the future development at 66A Doncaster Avenue.

The main potential impacts of the proposal on surrounding residential areas relate to noise, odour and lighting. Any potential impacts of the proposal can be adequately mitigated though detailed design and operational procedures. Mitigation measures have been included in the draft Statement of Commitments.

The proposal achieves a number of desirable outcomes for the site and for the broader community. These include:

- Provides world-class spectator facilities which complement the array of cultural entertainment destinations that Sydney offers the local, national and international tourist markets.
- Ensures the long-term viability of the RRR as a major cultural an event destination.
- Significantly improves the spectator experience by replacing and updating outdated facilitates.
- Embraces the site's heritage significance through adaptive reuse of buildings.
- Promotes significant investment in a major facility which will result in new local jobs during the design, construction and ongoing operational phase of the RRR.

It is recommended that the proposal be approved.

Sydney
Level 21, 321 Kent Street
Sydney, NSW 2000
Tel: +612 8233 9900
Fax: +612 8233 9966

Brisbane
Level 12, 120 Edward Street
Brisbane, QLD 4000
Tel: +617 3007 3800
Fax: +617 3007 3811

Dubai
Level 4, Attareen Building,
Saaha Offices, Old Town Island
Downtown Burj Dubai, UAE
Tel: +971 4 4200212
Fax: +971 4 4200209

Melbourne
Level 12, 120 Collins Street
Melbourne, VIC 3000
Tel: +613 8663 4888
Fax: +613 8663 4999

Perth
Ground Floor, 53 Ord Street
West Perth, WA 6005
Tel: +618 9346 0500
Fax: +618 9321 7790

Australia • Asia • Middle East
www.urbis.com.au
info@urbis.com.au