

Statement of Environmental Effects

Port Macquarie Indoor Sports Stadium and PCYC Development

Lot 81 DP 1128367 Hibbard Drive Port Macquarie

August 2013

LAND USE PLANNING

PROJECT CO-ORDINATION

LOCAL GOVERNMENT SPECIALIST

6 Braeroy Drive Port Macquarie NSW 2444 02 6581 5686 | 0410 057 352

tony@blueprintplanning.net.au www.blueprintplanning.net.au

Document Control

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Reviewed by:	Jenny Blue
Position:	Partner: Quality Control
Signed:	pe
Date:	1 August 2013

Prepared by:	Tony Blue
Position:	Partner: Planning Specialist
Signed:	Alue
Date:	1 August 2013

Contents

1	Des	cription of Proposal	3
	1.1	Development Proposed	3
	1.2	Location	3
2	Req	uirements of Environmental Planning and Assessment Regulation	5
	2.1	Address and Particulars of Title	5
	2.2	Indication if Critical Habitat	5
	2.3	Likelihood of Significant Effect on Threatened Species	5
	2.4	Concurrence Requirement	5
	2.5	Building Code of Australia (BCA): Design Considerations	5
	2.6	Documents Accompanying the Application	6
3	Env	ironmental Planning Instruments	7
	3.1	Port Macquarie-Hastings Local Environmental Plan 2011 (LEP 2011)	7
	3.2	State Environmental Planning Policy No 44 (Koala Habitat Protection) (SEPP 44)	9
	3.3	Port Macquarie-Hastings DCP 2011	11
4	Soc	ial Impacts	16
	4.1	Social Impact Assessment	16
	4.2	Crime Risk Assessment	18
	4.3	Visual Impacts	18
5	Par	king Impacts	19
	5.1	Parking Demand – Existing Development	19
	5.2	Parking Demand – Proposed Development	20
	5.3	Proposed Parking Provision	20
	5.4	Summary of Parking Impacts	20
6	Trat	ffic Impacts	21
	6.1	Traffic Levels – Existing Development	21
	6.2	Traffic Levels – Proposed Development	21
	6.3	Capacity of Intersections	22
	6.4	Summary of Traffic Impacts	22
7	Noi	se Impacts	23
8	Eco	logical Impacts	24

1 Description of Proposal

1.1 Development Proposed

It is proposed to provide a major extension to the existing Port Macquarie Indoor Sports Stadium including:

- A court hall containing three basketball courts (in addition to the existing three courts),
- A PCYC activity centre,
- A kiosk and ancillary café,
- Amenities, stadium management areas and other ancillary areas, and
- Relocation and extension of the parking area to accommodate 167 car spaces, plus 130 overflow spaces, and a bus drop off area for 5 buses.



1.2 Location

The site is located on the corner of Hastings River Drive and Hibbard Drive, Port Macquarie, in the south eastern corner of Stuart Park.



Source of Base Map: Google Maps



Source of Base Map: NSW LPI SIX Viewer

2 Requirements of Environmental Planning and Assessment Regulation

Part 1 of Schedule 1 of the Regulation requires the following information to be provided:

2.1 Address and Particulars of Title

The development is proposed to be carried out on Stuarts Park, Hibbard Drive Port Macquarie, being Lot 81 DP 1128367 and Lot 16 DP 232044.

2.2 Indication if Critical Habitat

The land is not, nor is any part of the land, critical habitat.

2.3 Likelihood of Significant Effect on Threatened Species

Stuarts Park comprises a number of sporting fields and consequently vegetation is highly modified, dominated by exotic grasses with scattered remnant and exotic trees. The site does not contain any known threatened flora species although there are records of koala sitings in the park.

A koala habitat assessment was undertaken by ERM (June 2009) in respect to a former proposal for Stuarts Park. The assessment identified Stuarts Park as containing potential koala habitat but the report concluded the land did not contain core koala habitat.

The proposed development will require the removal of only four trees that are listed as koala food trees in SEPP 44.

Having regard to the highly modified condition of natural vegetation on the site, the assessment of the site as not containing core koala habitat, and only four koala food trees proposed to be removed, it is concluded that the development is not likely to have a significant effect on threatened species.

2.4 Concurrence Requirement

Under Clause 4.6 of Port Macquarie-Hastings LEP 2011, concurrence is required from the Director-General to allow the variation in height limit proposed (see section 3.1 of this report). The Director-General has issued "assumed concurrence" arrangements for variations of this nature. Consequently, if Council supports the proposed variation, it is able to assume the concurrence of the Director-General and there is no need to seek specific concurrence for this application.

2.5 Building Code of Australia (BCA): Design Considerations

Preliminary assessment of the design of the building, for the purpose of the provision of fire exits and toilet facilities, and other relevant aspects of the BCA, has been based on the following assumptions of maximum occupation numbers for the building. Any temporary use of function of the building that proposes greater maximum occupation will require separate assessment to determine compliance with the BCA:

Port Macquarie Indoor	Sports Stadium and PCYC D	evelopment

Use	Calculation Assumptions	Total Occupants
	6 teams x 7 players +3 officials	60
Basketball Courts (3)	Spectators: sports hall	200
	Spectators: lounge area	20
	Multipurpose room	20
	Activity/program room	30
РСҮС	Staff, police	5
PCTC	Passive recreation	5
	Meeting room	8
	Kiosk	20
	Total	368

2.6 Documents Accompanying the Application

Documents accompanying the application are:

- Site Plan, showing the location, boundaries, existing vegetation, location and use of existing buildings, parking arrangements, entry and exit points for vehicles.
- Development Application Plans, Facility Design Group, May (with June amendment) 2013, including site plan, the proposed building, height and external configuration, floor plan, elevations and sections, including the existing stadium building, and access and car parking arrangement.
- This Statement of Environmental Effects.
- Traffic Impacts and Car Parking Assessment, RoadNet July 2013.
- Acoustical Assessment, Noise and Sound Services, July 2013.
- Social Impact Assessment, All About Planning, July 2013.
- Crime Prevention through Environmental Design Assessment, NSW Police Force, May 2013.
- Stormwater Management Plan, RoadNet, July 2013.
- Koala Habitat Assessment (for Stuarts Park Rugby and PCYC Facility), ERM June 2009.

3 Environmental Planning Instruments

3.1 Port Macquarie-Hastings Local Environmental Plan 2011 (LEP 2011)

a) Zone

The land is zoned RE1 Public Recreation. The proposed development would be defined as:

- Sports Stadium: recreation facility (major), and
- PCYC: community facility.

The RE1 zone permits, with consent, sports stadiums and community facilities.

b) Height of Buildings

Clause 4.3 specifies that the height of a building is not to exceed the maximum height shown for the land on the Height of Buildings Map. The subject site has a maximum height limit of 8.5m on the Height of Buildings Map.

The proposed Stadium will have a height to the ridgeline of about 10.6m above existing ground level. The proposal does not comply, however, clause 4.6 allows Council to grant consent despite non-compliance. See following section.

c) Clause 4.6 Exceptions to development standards: Written Request

Clause 4.6 provides flexibility in applying development standards, including the height of buildings development standard.

In accordance with clause 4.6(3), it is requested that Council vary the maximum height limit of 8.5m for the following reasons:

- Sports stadiums are required to have a large building floor area and high ceiling to provide adequate clearance for sport activities and natural ventilation,
- The proposed height of the sports stadium is reasonable having regard to the floor area,
- The existing stadium has a greater height than the proposed stadium,
- There are no issues of significant overshadowing of residential properties given the location of the proposed stadium,
- The stadium is located within Stuarts Park, which is a large sporting area and the stadium will not be out of scale with this setting.

For these reasons, compliance with the development standard is unreasonable and there are sufficient planning grounds to justify contravening the development standard.

d) Flood Planning

Clause 7.3 applies to land that is shown as "flood planning area" on the Flood Planning Map.

The development site is mapped as being within the flood planning area.

Clause 7.3(3) requires that consent not be granted unless Council is satisfied that the development:

- (a) Is compatible with the flood hazard of the land, and
- (b) Is not likely to significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and

- (c) incorporates appropriate measures to manage risk to life from flood, and
- (d) is not likely to significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and
- (e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding.

Council's Environmental Projects Officer has advised that:

- the 1 in 100 year flood level in this location is 3.00m AHD,
- Council's Interim Flood Policy permits development in the Hibbard area, subject to certain requirements, as follows,
- Non-residential/non-habitable floor levels are to be at or above the 1 in 100 year flood level,
- In the absence of a suitable category for this proposal, the nearest suitable category would be "Commercial and Industrial Development" for the purposes of the Interim Flood Policy, which requires 25% of the floor area to be at or above the freeboard level, to allow storage of materials during time of flood, if necessary,
- The freeboard for this site will be 900mm (incorporating 400mm to allow for climate change effects), resulting in a freeboard level of 3.9m AHD.

Based on this advice, the following assessment under clause 7.3(3) of LEP 2011 is provided:

- (a) Council's Interim Flood Policy permits development on land in the Hibbard area indicating the development is compatible with the flood hazard of the land,
- (b) Existing site levels for the proposed stadium vary from 2.5 to 2.7m AHD, indicating flood depths of 0.3m to 0.5m in a 1 in 100 year event. Flood category is considered to be low hazard flood storage and would consist of slow moving flood flows as a result of back up waters from the main river channel. The impact of the proposed stadium development on flood waters is likely to be some very minor and localised displacement of flood storage with very localised and minimal changes to flood velocity. This is unlikely to impact on other development or properties,
- (c) Flood depth and velocities are low and do not pose a significant risk to life. Flooding in this location is able to be predicted from upper river flood peaks and there are adequate flood warning systems in place to evacuate properties if considered necessary,
- (d) The development is not in a location that would affect the environment, cause erosion, destruction of riparian vegetation or the stability of river banks or watercourses,
- (e) The floor level is set at 550mm above the 1 in 100 year flood level. While the preferred freeboard is 900mm above the 100 year flood level, this incorporates a long term allowance for climate change effects. The likelihood of a major flood event that would enter the building in any year is less than 1% at the current time. Such an event would render the sports stadium unusable for a period of time after the flood, however, this is not considered to be a significant contributing factor to social costs to the community. There would be minimal stock and materials stored at the stadium that would be affected by flood waters and with the existing flood warning system, there would be opportunity to remove stock and materials or provide temporary protection. Provided construction materials and design allows the building to recover from flood inundation economic impacts are unlikely to be significant.

3.2 State Environmental Planning Policy No 44 (Koala Habitat Protection) (SEPP 44)

SEPP 44 applies to land to which a development application has been made that has an area of more than 1ha, whether or not the application applies to the whole or only part of the land.

a) Potential Koala Habitat

SEPP 44 requires Council to be satisfied whether or not the land is potential koala habitat.

SEPP 44 defines "potential koala habitat" as areas of native vegetation where koala food trees constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.

ERM (Koala Habitat Assessment, June 2009) undertook a tree survey on 7 May 2008 of Stuarts Park between Hibbard Drive and Wood Street, an area of about 12.5ha. A total of 265 trees were identified, with 209 native trees, of which 49 were koala food trees, or about 23%.

The ERM report concluded that the land is potential koala habitat under SEPP 44.

b) Core Koala Habitat

Where Council is satisfied that the development is on land that is potential koala habitat, SEPP 44 requires Council to be satisfied whether or not the land is a core koala habitat.

SEPP 44 defines "core koala habitat" as an area of land with a resident population of koala evidenced by attributes such as breeding females and recent sightings of and historical records of a population.

ERM undertook "spot assessments", consistent with current preferred practice for identifying koala habitat. Two "spots" were selected for assessment, and are shown in the extract from the ERM report on the following page.

The proposed stadium is outside of Spot 2, however, the proposed car park is partially within it. The Spot Assessment Results revealed that within Spot 2, two of the 20 trees had koala scats underneath.

ERM concluded that while a small cluster of trees close to the centre of Spot 1 showed moderate levels of koala activity, outside of this area, activity levels were low. ERM concluded that, due to the overall low to moderate activity levels, the sparse distribution of trees and highly modified nature of the site, it does not contain core koala habitat under SEPP 44.



Legend Exotic Trees

- Other Native Trees
- SEPP 44 Koala Feed Trees
- Tree to be Removed Significant Habitat Zone

Source: © 2009 Google TM Client: Port Macquarie-Hastings Council Project: Stuarts Park Rugby and PCYC Project

Drawing No: 0099661_GIS01_R01 Drawing size: A4 Date: 29/06/2009 Drawn by: AR Reviewed by: PD Scale: Refer to Scale Bar 0 0 40 80 120m P N

Maps and figures contained within this document may be based on third party data, may not be to scale and is intended for use as a guide only. ERM does not warrant the accuracy of any such maps or ficures.

Stuarts Park: Koala Habitat Assessment

Environmental Resources Management Australia Pty Ltd Suite 3,146-148 Gordon Street, Port Macquarie NSW 2444 Telephone +61 2 6584 7155



3.3 Port Macquarie-Hastings DCP 2011

Relevant clauses of DCP 2011 are:

Community Participation and Social Impact Assessment

OB2:	DP2.1
To identify development that is 'other advertised development' within the Council area.	For the purpose of clause 5(2)(d) of the Regulation, "other advertised development" includes "major community or public facilitiesincluding sports facilities.

Development Response

Council will advertise the development application in accordance with the "other advertised development" provisions of the Regulation.

OB6	DP6.1
	A social impact assessment shall be submitted in accordance with the Council's Social Impact Assessment Policy.
To ensure adverse impacts are identified and mitigation or avoidance measures are adopted to minimise or eliminate social impact on individuals and the community.	

Development Response

A social impact assessment (All About Planning, July 2013) has been prepared and submitted with the application. See section 4 for consideration of its recommendations.

Crime Prevention

OB1	DP1.1
 Development should be designed to deter crime and vandalism and facilitate: personal and property security; casual surveillance of public areas; activity and interaction within public spaces and movement networks. 	 The development addresses the generic principles of crime prevention; Casual surveillance and sightlines; Land use mix and activity generators; Definition of use and ownership; Basic exterior building design; Lighting; Way-finding; and Predictable routes and entrapment locations; as described in the Crime Prevention Through Environmental Design (CPTED) guideline.

Development Response

A CPTED Assessment (NSW Police Force, May 2013) has been prepared and submitted with the application. See section 4.1 for consideration of its recommendations.

OB12	DP12.1
To control and manage all stormwater generated within the development. To control and manage all stormwater passing through the development from the surrounding catchment. To provide an effective legal point of discharge for all collected stormwater, from the development to a natural watercourse, Council's drainage system or approved outfall. To achieve these objectives without detrimentally affecting the environment, surface and subsurface water quality, groundwater infiltration characteristics, the adjoining landowners and other landowners downstream of the development. To provide a safe and convenient environment for pedestrians and traffic. To incorporate principles of ecological sustainable development. To provide detailed design provisions in line with ecologically sustainable development, water sensitive urban design and total water cycle management and principles. To provide an effective major and minor stormwater system that is cost effective and incorporates life cycle costs of investigation, design, operation, maintenance and replacement of stormwater infrastructure.	All stormwater infrastructure is designed in accordance with the Council's Auspec Design Specification Documents.

Development Response

A Stormwater Management Plan has been prepared and submitted identifying the design standards to be met by the development.

Preliminary assessment of stormwater flows indicates that pre-development flows for the building footprint area are able to be maintained by detention of roof water on site with a water storage or holding tank located in the sub-floor cavity of the proposed building.

Due to the nature of the site, detailed design of the car park will be required before a final design of stormwater treatment facilities are determined. This is proposed to be undertaken as part of the Construction Certificate application. As a minimum, a gross pollutant trap (GPT) will be installed at the discharge point for the car park drainage. GPTs are effective for removing coarse particulates and will significantly improve existing water quality flowing from the site. Opportunities for the installation of bioretention facilities, in the form of filter strips, rain gardens or grass swales will be investigated in the detailed design of the car park, to aid in the removal of suspended solids, phosphorous and nitrogen pollutants.

The detailed design will be in accordance with Council's Auspec Design Specification Documents.

Parking Provision

OB3	DP3.1
Adequate provision is made for off-street parking commensurate with volume and turnover of	<i>Off-street Parking is provided in accordance with Table 2: Car Parking Requirements.</i>
traffic likely to be generated by the development.	DP3.2
<i>To ensure no adverse impacts on traffic and road function.</i>	Where a proposed development does not fall within any of the listed definitions, the provision of on-site parking shall be supported by a parking demand study.

Development Response

Table 2: Car Parking Requirements in the DCP does not specify Sports Stadiums. The nearest land use is "Gymnasium" which requires 7.5 spaces per 100m².

A Traffic Impact and Car Parking Assessment (RoadNet, July 2013) has been prepared and submitted with the application. See sections 5 and 6 for consideration of its recommendations.

OB7	DP7.1		
Parking areas and access-ways are easy and safe to use by vehicles and pedestrians without conflict.			
	Internal signage (including pavement markings) should assist customers and visitors to find parking and circulate efficiently and safely through a car park.		

Development Response

The car park has been designed to provide ease of access and use. Internal pedestrian paths have been incorporated to assist efficient and safe circulation.

OB9	DP9.1
Parking is provided for other forms of transport.	Bicycle and motorcycle parking shall be considered for all developments.

Development Response

Bicycle parking is proposed at the front of the building.

Blueprint Planning Consultants

Port Macquarie Indoor Sports Stadium and PCYC Development

OB12	DP12.1		
 Parking areas are visually pleasing and easily accessible. Parking areas shall be landscaped to: provide shade; improve the visual amenity of large, unrelieved hard stand areas; provide a buffer between the road and neighbouring land uses. 	Landscaping areas shall be provided in the form of large tree planting, understorey plantings, mulch areas, mounding, lawns and the like.		
	DP12.2		
	Landscaping shall be used throughout the car park and on th perimeters of the property where it addresses the public domain.		
	DP12.3		
	 Tree planting shall: improve parking areas visually; provide shade; reflect the physical area in which they are located. 		
	DP12.4		
	 Understorey planting shall: be used to both screen parking areas and provide a layering effect; not adversely interfere with sight lines for traffic on adjacent properties or streets; shall have reduced heights adjacent to entry/exit points. 		
	DP12.5		
	 Garden beds shall: be a minimum of 3m in width between car parking areas and street boundaries; include improved garden soil to a minimum depth of 200mm; include mulching to a minimum depth of 75mm; and have sub grades ripped to allow drainage and proper root penetration. 		

Development Response

Adequate area has been provided in the car park design to incorporate landscaping, to satisfy the objectives and development provisions. Detailed landscaping plans will be provided with the Construction Certificate application to comply with these requirements.

OB17	DP17.1		
Stormwater volumes and peak flows are reduced from impervious car park surfaces.	All parking and manoeuvring spaces shall be designed to avoid concentrations of water runoff on the surface.		
	DP17.3		
	Council will not permit the discharge of stormwater directly into kerbing and guttering or table drains for any development other than that of a minor nature.		
	OB18		
	Landscaping is to incorporate water sensitive urban design principles and where practical be integrated into the water management of the site.		
	OB18.1		
	Car parking areas should be drained to swales, bioretention, rain gardens and infiltration areas.		

Development Response

The car park design, with the wide medians between the parking aisles, provides adequate scope for the inclusion of filter strips, swales and rain gardens. Detailed design of the car park will consider opportunities for the inclusion of these facilities.

Due the minimal site grades and depth to water table and tidal influences, design of the car park will require detailed investigation to determine practicality of the various water treatment devices and facilities. The detailed design will be undertaken as part of the Construction Certificate application and will ensure that the development will provide a significant improvement to existing water quality flowing from the car park.

4 Social Impacts

4.1 Social Impact Assessment

All About Planning have prepared a Social Impact Assessment (July 2013) of the proposed stadium extension. The Assessment identified the following impacts;

- Low positive impact on employment and moderate positive impact on the local economy through construction of the \$5M stadium and flow on effects,
- High positive impact on community networks and engagement through engagement between local youth service providers, the PCYC, Council, the stadium operator, the Gymnastics Club and nearby residents,
- Moderate positive impact on youth services from the new PCYC use, including mentoring and engagement with local "at risk" youth,
- High positive impact through the provision of a quality, expanded sporting and community facility,
- Moderate positive impact on public health through increased opportunity for community participation in indoor sports,
- Low **negative** impact on crime and safety, through potential for youth to be unsupervised at the site particularly after the stadium closes,
- Low positive impact on education providers and sports opportunities through increased availability of the expanded stadium,
- Moderate **negative** impact to streetscape and landscaping, although this is dependent on the provision of landscaping and tree planting details for the new development,
- Moderate **negative** impact on connectivity (public transport, bicycles and pedestrians) due to limited bus services, bicycle and pedestrian access to the stadium,
- Low positive impact on legibility of design through relocation of the main entry to the Hibbard Drive frontage with new signage and building façade.
- Neutral impact on aesthetics and function of existing stadium, with no changes proposed to the existing poor aesthetic appearance of the stadium,
- Low positive impact from the appearance of the proposed architecturally designed stadium extension,
- Moderate **negative** impact on the appearance of the parking areas subject to landscaping details being provided,
- Moderate positive impact to disabled access with the new stadium to provide disabled access complying with current Australian Standards,
- Moderate **negative** impact to Stuarts Park users during construction and from demolition of a low use toilet block,
- Moderate **negative** impact on the Gymnastics Club from disruption during construction,
- Low **negative** impact from noise from the new stadium,
- Moderate **negative** impacts from the existing stadium from noise and aesthetics are not to be addressed by the development,
- High negative impact on traffic and parking generation requiring detailed assessment,
- Moderate positive impact on bus parking with a formal bus parking area to be provided,
- High positive impact on Council Policy Direction, as the need for an expanded stadium has been identified for many years,

- Moderate positive impact on participation and lease agreements with opportunity to ensure key tenants provide quality ongoing management of the stadium and PCYC,
- High positive impact on development application conditions with the opportunity to impose current consent conditions on the proposed development.

All About Planning conclude that the proposed expansion to the stadium and the PCYC facility will, overall, provide a significant social, sporting, health, youth and economic opportunity for the Hastings community.

All About Planning provided a number of recommendations to mitigate the identified negative impacts, with the following recommendations to be addressed at the development application stage:

1. Crime Risk Assessment is to be prepared and submitted with the development application.

A Crime Prevention Through Environmental Design report (NSW Police Force, May 2013) has been prepared and submitted. The assessment identified the development as being Low Crime Risk.

2. A landscape architect is to be engaged to prepare a landscape plan including streetscape plan.

It is proposed to prepare the detailed landscaping plan with the construction certificate application. There is adequate space available within the design to provide effective screening and softening of the development.

3. A traffic assessment/traffic and parking assessment is to be submitted with the development application.

A Traffic Impact and Car Parking Assessment (RoadNet July 2013) has been prepared and submitted. The assessment guided the design of access and drop off points for the Stadium and concluded that the proposed expansion is not expected to have a significant adverse impact on the traffic operation of the Hastings River Drive/Hibbard Drive intersection or the Hibbard Drive/stadium access intersection, or a significant adverse impact on the adjacent road network.

4. An acoustic assessment of the proposed expanded stadium is to be prepared which sets out any areas of non-compliance and mechanisms to mitigate or reduce acoustic impacts on residential and other neighbours.

An Acoustical Assessment (Noise and Sound Services, July 2013) has been prepared and submitted. The report concludes that the development will not have a negative impact on the acoustic amenity of nearby residential properties, provided its recommendations are implemented.

5. A Community Engagement Plan is to be submitted with the Development Application that includes strategies to engage with residents, youth, education providers and wider community about key management, site use issues and opportunities.

The Community Engagement Plan is proposed to be prepared following completion of the public exhibition of the application and consideration of public submissions, and submitted to Council prior to the Construction Certificate application being made. This timing will ensure that all matters raised by the public during the exhibition are addressed in the Community Engagement Plan.

6. Disabled access details for the facility are to be submitted with the DA demonstrating compliance with Australian Standards including car parking that minimises distance of travel to the entry and internal design for disabled access.

The design incorporates disabled parking spaces at the nearest point of the car park to the entry, ramp access, wider entry and disabled toilet facilities. Compliance with Australian Standards for disabled access will be documented in full as part of the construction certificate application.

4.2 Crime Risk Assessment

The local Crime Prevention Officer of the NSW Police Force prepared a Crime Prevention Through Environmental Design assessment (May 2013) of the proposed stadium and concluded that the design was a Low Crime Risk.

The assessment included a number of recommendations to assist in reducing opportunities for crime, including:

- Fire exits to be flush with exterior of building to avoid hidden entrances,
- Front entrance should be well lit for surveillance,
- Keep vegetation low to maximize surveillance,
- External lighting installed in entrance, pathways and car park, turned off when centre is not in use,
- Provide drop off and pick up zone adjacent the street entrance,
- The area adjacent the large walls on western side, if accessible to public, to be planted to minimise graffiti,
- Wall facing Hibbard Drive to be painted/treated to a 7-8m height to minimise graffiti, and
- Garbage dumpster bay to consider a locked or enclosed design.

These recommendations will generally be incorporated in the detailed design of the building at construction certificate stage.

4.3 Visual Impacts

The proposed architectural design of the façade of the building, fronting Hibbard Drive, will provide an attractive appearance when viewed from Hibbard Drive. Landscaping to provide screening and softening of the car park and bus bays will be addressed through a detailed landscape plan to be submitted with the construction certificate application. Adequate area is available in the car park and surrounds to achieve these outcomes.

5 Parking Impacts

RoadNet (July 2013) have prepared a Traffic Impact and Car Parking Assessment for the proposed development. This assessment utilized the results of a parking demand assessment undertaken by RoadNet in 2006, and is described below.

5.1 Parking Demand – Existing Development

RoadNet undertook a parking demand assessment for the stadium in 2006. This survey included a count of existing parking spaces within the vicinity of the stadium and a parking survey on Wednesday 27 September and Saturday 30 September 2006.

The count of parking spaces was divided into 3 zones, shown in the diagram below. The count of spaces was:

- Zone 1: Existing car park 178 spaces,
- Zone 2: Overflow parking 139 spaces, and
- Zone 3: Hibbard Drive on street 120 spaces.



Source: RoadNet July 2013

The survey on 27 September was conducted from 4.00pm to 9.30pm, which coincided with the grand final night for the local basketball competition and was considered to represent a peak parking demand period.

The survey on 30 September was conducted from 10.00am to 8.00pm and coincided with a major carnival at the stadium, including the opening ceremony.

Occupied parking spaces were counted every 15 minutes for both surveys.

Peak parking demand at the site was 62 cars for 27 September and 87 cars for the major carnival on 30 September. The majority of cars were parked in Zone 1, as shown in the table below. Very few were in Zone 2 (overflow) with a small number in Zone 3 (on-street).



Source: RoadNet July 2013

5.2 Parking Demand – Proposed Development

RoadNet calculated peak parking demand for the existing development based on the parking survey in September 2006.

The existing stadium has a gross floor area (GFA) of $3,005m^2$, and a peak parking demand of 87 spaces. This equates to 2.9 spaces per $100m^2$ of gross floor area.

The proposed stadium extension will have a GFA of 3,658m². At 2.9 spaces per 100m², the extension requires 106 spaces. The total peak parking demand for the existing and proposed stadium is 193 spaces.

5.3 Proposed Parking Provision

The plans show a new car park with 170 spaces. However, it is proposed to provide 6 disabled parking spaces which will require a shared space between 2 disabled spaces. Three parking spaces in the new car park will be lost due to the provision of disabled spaces, resulting in 167 car spaces being available in the new car park.

A new bus parking area to accommodate 5 buses will be provided, and the existing overflow will be reduced to 130 spaces. A total of 297 off street spaces and 5 bus parking spaces will be provided.

At a peak demand of 193 spaces, the car park will be full (167 spaces) with another 26 cars to be accommodated. Adequate parking will be available to the north of the proposed new bus parking area and on street. There are about 9 on-street spaces that would be located closer to the stadium than the spaces in the overflow area.

5.4 Summary of Parking Impacts

Parking demand for the completed development will primarily be accommodated in the new 167 space car park. During major carnivals, parking demand is able to be accommodated within the existing overflow parking area. Only 9 on-street spaces are likely to be used in a major event.

It is considered that parking impacts from the proposed development will not be significant.

6 Traffic Impacts

The Traffic Impact and Car Parking Assessment for the proposed development by RoadNet (July 2013) was based on traffic counts of the intersections serving the stadium (Hastings River Drive/Hibbard Drive intersection and Hibbard Drive/Stadium car park access intersection). It also assessed the current operation of these intersections.

6.1 Traffic Levels – Existing Development

Traffic surveys were undertaken by RoadNet for two afternoon peak periods, Wednesday 15 and Friday 17 May 2013. Counts were undertaken between 3.45 and 6.00pm. Peak hours were identified from the traffic counts for each intersection. Each intersection was then analysed to determine the level of service (LOS) provided by the intersection based on the degree of saturation and the average delay for vehicles waiting to turn.

The assessment indicated that both intersections provide a "very good" to "excellent" LOS based on empirical categorisations accepted by the NSW Roads and Maritime Services (RMS).

6.2 Traffic Levels – Proposed Development

RoadNet calculated peak hour trip generation from the existing stadium based on the traffic surveys undertaken in May 2013 using the "in" and "out" vehicle movements (or "trips") to the car park entrance from Hibbard Drive. These trips were then related to the GFA of the existing stadium. This is summarised in the following table.

	Floor Area		In	Out		
	(m²)	Trips Rate/		Trips	Rate/100m ²	
Wednesday	3,005	116	3.86	71	2.36	
Friday	"	91	3.00	45	1.50	
Total		207		116		

Source: RoadNet July 2013

To determine the total trips likely to be generated by the extension to the stadium, the trip generation per 100m² of GFA was applied to the new GFA, and summarised in the table below.

Total		In		Out		Total
	Area (m ²)	Rate/100m ²	Trips	Rate/100m ²	Trips	Trips
Wednesday	6,663	3.86	258	2.36	158	416
Friday	"	3.00	200	1.50	100	300

Source: RoadNet July 2013

6.3 Capacity of Intersections

The estimated total trips for the new stadium were then used to determine the impact on the Hastings River Drive/Hibbard Drive intersection and the new Hibbard Drive/Stadium access intersection.

Modelling of the predicted increased traffic flows indicates the impact will marginally decrease the LOS for the Hastings River Drive/Hibbard Drive intersection but will continue to function at a very good to excellent LOS.

6.4 Summary of Traffic Impacts

RoadNet concluded that the proposed expansion to the stadium is not expected to have a significant adverse impact on the operation of the road intersections or road network.

7 Noise Impacts

An Acoustical Assessment has been prepared by Noise and Sound Services (July 2013).

The assessment makes recommendations for the roof structure and ventilation louvre and concludes that, if implemented, noise goals related to transmission through the stadium structure will be achieved during peak periods of operation. These design details will be incorporated in the detailed design of the structure as part of the Construction Certificate application.

Air conditioning units located above the roof between the new and old sports stadium will be required to be designed to not exceed 35dBA at the nearest residential boundaries. This is considered to be achievable and will be detailed as part of the Construction Certificate application.

Noise from the relocated and extended car park is predicted to comply with day and evening noise goals.

Predicted increase in traffic noise is less than 2dB which complies with traffic noise goals.

The report concludes that the development will not have a negative impact on acoustic amenity of nearby residential properties.

8 Ecological Impacts

The development will require the removal of 11 native trees, including four koala food trees, as shown below.

The trees are not threatened species and do not provide habitat for threatened species. The four koala trees were assessed as not being core koala habitat under SEPP 44 (see section 3.2).

Having regard to the highly modified condition of native vegetation on the site and the small number of trees proposed to be removed, it is considered that there will be no significant ecological impacts as a result of the development.

