ANNEX K

Buffer Encroachments Plan

ANNEX K1

Extent of Encroachments

Source: AUSPACIFIC Engineers Pty Ltd P1 04 - 1600 Amended May 2008

ERM

0 100m

Approximate Only

Annex K

Skinners Creek and Moonee Creek Buffer Areas - Extent of Encroachments

The Glades Estate, Coffs Harbour- Preferred Project Report

ANNEX K2

Moonee DCP Planning Strategy

OBJECTIVE

- To provide an overall plan for the area.
- To encourage quality development whilst being sympathetic to the natural environment.

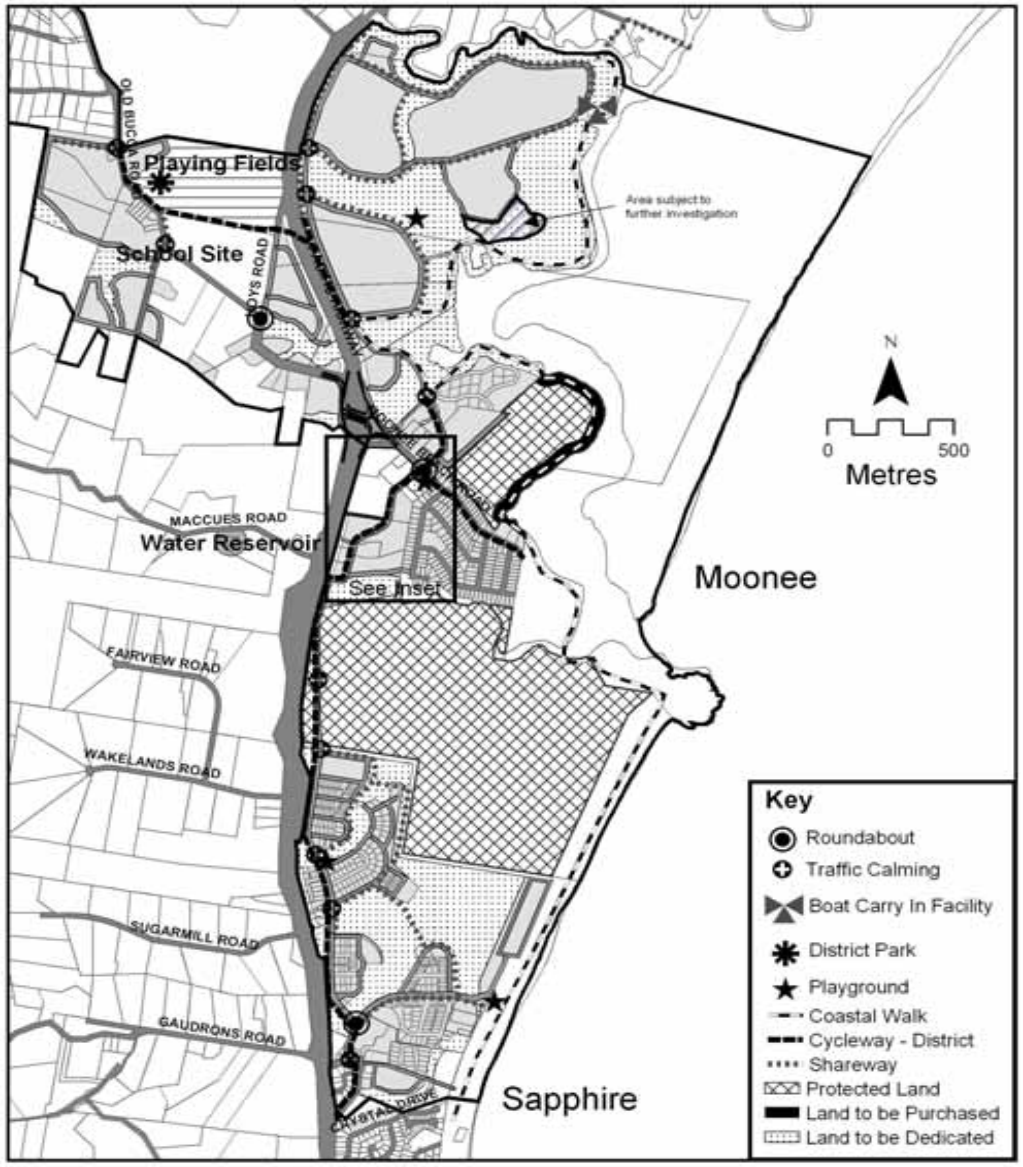
SPECIFIC STRATEGIES

Economic Sustainability

- A minimum dwelling yield of 1,686; an additional 4,558 people.
- Water is to be supplied by extending the existing water main network.
- Sewerage reticulation and pump stations are to be constructed by developers, and connected to the Moonee Water Reclamation Plant.
- Retail and commercial development is to provide district business services.
- Developers are to forward fund any works required ahead of Council's servicing plans.

Social Sustainability

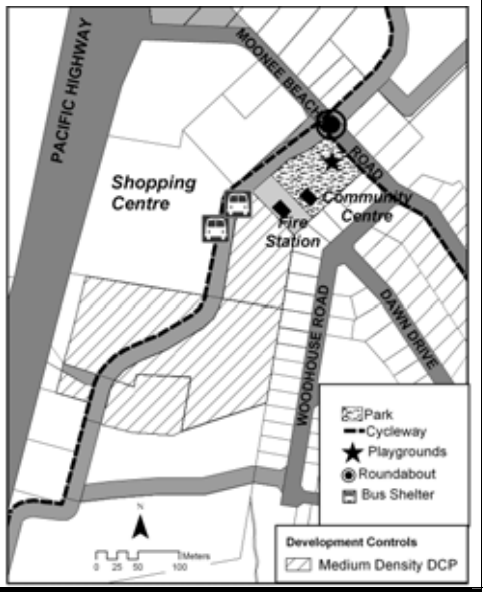
- A new multi purpose hall is to be provided in stages to reflect development progress.
- School facilities and fire station are to be provided in timely manner by State Government.
- Pedestrian paths and cycleways are to be constructed by the developer.
- A pedestrian and cycleway bridge is to be constructed over the Pacific Highway connecting residential areas to the school and sports facilities, through developer contributions.
- The collector road system will be provided through developer contributions paying for widening of local roads.
- The northern collector road will be funded through a local contribution applying to the properties it serves.
- Bus shelters to be provided so that all residential areas are no further than 400m from the nearest shelter.
- Playing fields are to be provided in Hoys Road adjacent to the proposed school.
- Children's playgrounds are to be provided so that all residential areas are no further than 500m from the nearest facility.
- A neighbourhood park to be provided adjacent to the shopping precinct.



SPECIFIC STRATEGIES

Environmental Sustainability

- Identified buffer areas for water quality protection shown on the Masterplan are to be dedicated as development occurs.
- Perimeter roads shall be provided that separate urban development from protected areas.
- The provision for bushfire asset protection zones shall not involve the clearing of native vegetation within conservation areas.
- Development is to demonstrate achievement of water quality targets specified in Council's Urban Stormwater Management Plan.
- Acoustic design will ensure highway traffic noise does not exceed acceptable levels within dwellings.
- A landscaped buffer is to be provided between the highway and residential areas, designed to incorporate essential service corridors, and associated access.



ANNEX L

Stormwater Infrastructure Maintenance Management Plan

GILBERT+SUTHERLAND
agriculture · water · environment

Stormwater Infrastructure Maintenance Management Plan
The Glades, Moonee Beach
Moonee Beach North
Coffs Harbour
New South Wales

Prepared for
The Rothwell Boys Pty Ltd

May, 2008

Document control

Document:	**GJ0339-1_MMP_RAF2F.doc**	Gilbert & Sutherland P/L ABN 56 077 310 840
Title:	**Stormwater Infrastructure Maintenance Management Plan for The Glades, Moonee Beach, Moonee Beach North, Coffs Harbour, New South Wales**	Originating Office: Robina
Project Manager:	A. Genn	Eastside 5/232 Robina Town Centre Drive, Q4226 PO Box 4115, Robina Q4230 Telephone 07 5578 9944 Facsimile 07 5578 9945 gsrobina@bigpond.com
Author(s):	M. Dixon & A. Fullagar	
Client:	The Rothwell Boys Pty Ltd	Also at Brisbane and Kawana
Client Contact:	Rod Holmes	
Client Reference:		
Synopsis:	This report describes a Stormwater Infrastructure Maintenance Management Plan for implementation by Coffs Harbour City Council during the operational phase of the proposed residential development 'The Glades', Moonee Beach, Moonee Beach North, Coffs Harbour.	

Revision History

Revision #	Date	Edition By		Approved By	
1	29/04/08	M. Dixon	A. Fullagar	L. Varcoe	A. Genn
2	06/05/08	A. Fullagar		L. Varcoe	A. Genn

Distribution

	Revision Number									
Distribution	1	2	3	4	5	6	7	8	9	10
Auspacific Engineers	5	5								
G & S File & Library	2	2								

Table of contents

1) Introduction

1.1 Background

Gilbert & Sutherland Pty Ltd (G&S) was commissioned by Auspacific Engineers Pty Ltd on behalf of The Rothwell Boys Pty Ltd to prepare a Stormwater Infrastructure Maintenance Management Plan (MMP) for The Glades, Moonee Beach, a residential development located at Lot 1 and 2 on DP725785. The proposed development and stormwater management measures are shown on Drawing No. 04-1600-P5-C (Auspacific Engineers).

This document details the Council's responsibilities, actions to be performed and when or how often they are to be performed in relation to the ongoing operation and maintenance of the Stormwater Quality Improvement Devices (SQIDS) for The Glades Moonee Beach development.

2) Stormwater infrastructure maintenance management plan

2.1 Objectives and implementation

2.1.1 Objectives

The principle objective of this Stormwater Infrastructure Maintenance Management Plan (MMP) is to provide advice on the operation and the maintenance of mitigation measures that will be installed to minimise the potential impacts of the operation of the residential development.

The monitoring and control measures detailed in this MMP have been developed to minimise impacts on the environment and achieve the following objectives:

- appropriate stewardship of natural resources
- protection of downstream flora and fauna habitats
- preservation of the existing groundwater conditions
- confirmation of the success of the control measures by the means of monitoring during the operational phase
- compliance with statutory requirements.

2.1.2 Implementation

The management plan requires the Coffs Harbour City Council (CHCC) to mitigate the potential environmental impacts associated with the operation of the residential development.

It is intended that the MMP will provide a set of performance criteria and guiding principles with which the permanent Stormwater Quality Improvement Devices (SQIDS) are to be monitored and maintained by CHCC.

2.2 MMP structure

The following list of management actions have been developed to ensure that specific infrastructure maintenance objectives are met. Each table within each section is intended to stand alone as a detachable page, detailing the provisions of the MMP relevant to each issue. The format is presented below for reference purposes.

#.# Title

Objective	A particular desired policy or process outcome.
Management techniques	Specific techniques selected to achieve the specific goal.
Performance indicators	The indicators used to determine whether the specific goal is being met.
Frequency/timing	The frequency of the techniques or the timing of their implementation.
Implementation strategy	The methods or specific tasks to be utilised to achieve the nominated performance indicators.
Reporting	The procedure for reporting to relevant authorities.
Corrective action	The actions to be implemented if monitoring indicates that performance indicators are not being met.

An objective of the tabular format is to allow for change and allow the MMP to be a working document. If items need altering, changes may be made, (after the appropriate consultation with the statutory authorities) to the individual tables.

2.3 Definitions

In this MMP the terms have the following meanings:

- **CHCC** means Coffs Harbour City Council, acting as the trustee during the operational phase, undertaking the management of the land and nominated as having the responsibility for implementing the provisions of the MMP;
- **DECC** means Department of Environment and Climate Change, NSW; and
- **MMP** means the approved Stormwater Infrastructure Maintenance Management Plan and includes any amendments that may be approved from time to time.

2.4 Stormwater infrastructure maintenance

2.4.1 General

Objective	To maintain the Stormwater Quality Improvement Devices (SQIDS) to ensure adequate performance during the operational period.
Management techniques	Visual inspections.
Performance indicators	The control measures are maintained and operational.
Frequency/timing	• Immediately after every rainfall event (25mm in 24 hours), and • Every 3 months, however the inspection/maintenance frequency may be reviewed after 12 months of operation and adjusted if desired in accordance with the procedures provided in Section 4 of this MMP.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that debris and/or sediment accumulation does not impair operation of the SQID. • Routine monitoring to inspect for surface ponding which is an indication of clogging or blockages at inlet and/or outlet points.
Reporting	• Record details of all maintenance activities. • Establish a complaints register and record details of complaints. • Results to be available to DECC at all times.
Corrective action	• Clean or maintain SQID as appropriate. • Repair or replace worn or defective components.

Commitment
Stormwater Quality Improvement Devices should be adequately maintained during the operational period to ensure continued performance.

2.4.2 Bioretention basins

Objective	To maintain the bioretention basins to ensure adequate performance during the operational period.
Management techniques	Visual inspections.
Performance indicators	The control measures are maintained and operational.
Frequency/timing	• Immediately after every rainfall event (25mm in 24 hours), and • Every 3 months.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that debris and/or sediment accumulation does not impair operation of the trash racks and vegetation growth. • Ensure accumulated sediment is not impeding overflow from the bioretention basin. • Ensure vegetation condition is maintained at an effective operating level. • Ensure erosion of buffer batters is minimised. • Undertake routine monitoring to inspect for surface ponding which is an indication of clogging of the bioretention basin or blockages at inlet and/or outlet points.
Reporting	Record details of all maintenance activities.
Corrective action	• Removal of litter, debris and accumulated sediment. • Repair damage to the bioretention basin profile resulting from scour, rill erosion or sediment deposition to the original design specifications. • Tilling of the bioretention basin surface, or removal of surface layer, and revegetating if there is evidence of surface ponding. Resetting of the bioretention basin will be required if the system fails to drain adequately after tilling of the surface. • Regular mowing of grass or slashing of vegetation to maintain operation efficiency and visual amenity. • Invasive weed species should be identified during inspections and removed by hand before they become established. • Removal of dead plants and replanting with individuals of equivalent species and size. • Monitoring and control of vegetation pest species.

2.4.3 Bioretention swales

Objective	To maintain the bioretention swales to ensure adequate performance during the operational period.
Management techniques	Visual inspections.
Performance indicators	The control measures are maintained and operational.
Frequency/timing	• Immediately after every rainfall event (25mm in 24 hours), and • Every 3 months.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that debris and/or sediment accumulation does not impair operation of the trash racks and vegetation growth. • Ensure accumulated sediment is not impeding flow direction of the swale. • Ensure vegetation condition is maintained at an effective operating level. • Ensure erosion of buffer batters is minimised.
Reporting	Record details of all maintenance activities.
Corrective action	• Removal of litter, debris and accumulated sediment. • Repair damage to the swale profile resulting from scour, rill erosion or sediment deposition to the original design specifications. • Regular mowing of grass or slashing of vegetation to maintain operation efficiency and visual amenity. • Invasive weed species should be identified during inspections and removed by hand before they become established. • Removal of dead plants and replanting with individuals of equivalent species and size. • Monitoring and control of vegetation pest species.

2.4.4 Vegetated filter zones

Objective	To maintain the vegetated filter zones to ensure adequate performance during the operational period.
Management techniques	Visual inspections.
Performance indicators	The control measures are maintained and operational.
Frequency/timing	• Immediately after every rainfall event (25mm in 24 hours), and • Every 3 months.
Implementation strategy	• Ensure that debris and/or sediment accumulation does not impair vegetation growth. • Ensure accumulated sediment is not impeding flow direction. • Ensure vegetation condition is maintained at an effective operating level.
Reporting	Record details of all maintenance activities.
Corrective action	• Removal of litter, debris and accumulated sediment. • Repair damage to the vegetated filter zone resulting from scour, rill erosion or sediment deposition to the original design specifications. • Invasive weed species should be identified during inspections and removed by hand before they become established. • Removal of dead plants and replanting with individuals of equivalent species and size. • Pruning and removal of dead vegetation material to stimulate new growth of existing species. • Monitoring and control of vegetation pest species.

3) Estimated maintenance costs

It is intended that the bioretention basins, bioretention swales and vegetated filter zones would be dedicated to CHCC. Prior to CHCC accepting the treatment measures in their operation phase, it is proposed that the developer would complete construction of these devices in one or more stages in accordance with the approved drawings and specifications. The developer would be responsible for maintaining the devices during the 'On-maintenance phase' and completion would be confirmed by acceptance of the treatment devices 'Off-maintenance' by CHCC.

The maintenance period for each device would be from its completion until 6 months after completion of the last stage of development upstream of the device. Prior to acceptance of the devices 'Off-maintenance' the developer would demonstrate, at the end of the maintenance period, that the quality of runoff discharging from the site meets the agreed water quality objectives detailed in the adopted Stormwater Management Plan entitled *Revised Stormwater Assessment, The Glades Moonee Beach, Moonee Beach North, Coffs Harbour*, prepared by Gilbert & Sutherland, September 2007. This would be achieved by demonstrating that the median values of the water sample test results over a period of 6 months meet the objectives.

Hand over of the treatment devices is expected to occur in stages, 6 months after completion of the last stage of the development upstream of each device, or sooner if requested by CHCC.

During the construction period the developer would be responsible for the maintenance of the trash racks, bioretention basins, bioretention swales, vegetated filter strips and any park areas not handed over to CHCC. After acceptance of the treatment devices and any remaining parks, CHCC would be responsible for their maintenance and upkeep.

The maintenance costs for the park areas would be well known to Council. The maintenance of the stormwater treatment devices is expected to include the activities shown in the following table together with an estimate of the likely annual cost.

Table 5.1.1 Estimated Annual Maintenance Costs

Item	Estimated Annual Cost ($)
Maintenance of bioretention devices (basins and swales), including cleaning out debris from trash racks, removal of accumulated sediment and vegetation maintenance (23,118m² @ $7.65/m²)	176,853
Maintenance of vegetated filter zones including removal of accumulated sediment (if required) and mowing (16,490m² @ $3.50/m²)	57,715
TOTAL	**$234,568**

It should be noted that the above estimate does not include;

- the long term maintenance or replacement of infrastructure items such as bioretention filter media, revetment walls, outlet structures or weirs,
- clean up after inundation by floods and
- usual mowing and maintenance of park areas.

4) Administration of the MMP

4.1 Amendment of the MMP

CHCC may amend the provisions of this MPP. CHCC shall approve any amendment provided that the proposed amendments achieve the objective of the provisions to which the amendment relates.

4.2 Incident management

CHCC and any person appointed by the CHCC as having responsibility for a control strategy set out in this MMP have clearly defined responsibilities under the Environmental Planning and Assessment Act 1979 to report any incidents likely to cause material or serious environmental harm.

ANNEX M

Advice Re: Filling of Low Lying Areas - Auspacific Engineers Pty Ltd

AUSPACIFIC ENGINEERS

AUSPACIFIC ENGINEERS PTY LTD
development consultants, civil, structural and hydraulic engineers

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E auspacifik@austarnet.com.au

ABN 85 105 205 776

3 / 20 Nerang St
NERANG Q 4211

4th April 2008

WINTEN PROPERTY GROUP
P O Box 2578
SOUTHPORT BC 4215

Attention: ***Mr Dale Holt***

Dear Sir,

THE GLADES - PROPOSED RESIDENTIAL SUBDIVISION
Lot 1 & 2 DP725785 MOONEE NSW

In response to the information request from the NSW Department of Planning for the Glades Development we are please to provide additional advice on proposed earthworks and placement of fill in parts of the site subject to "High Water Table.

A supplementary geotechnical assessment of the site has been carried out by Coffey Geosciences Pty Ltd (refer ATTACHMENT A – Response to Information Request from NSW Department of Planning dated 1 April 2008). Earthworks fill platforms are proposed over existing low-lying and predominately flood free (Q100) areas in precincts 2 and 3. The fill platforms will enable the discharge of underground stormwater drainage into bioretention swales for treatment and to ultimately discharge onto the existing surface as sheet flow without any disturbance to the existing water table or surrounding environs. To protect these sensitive areas it will be necessary for fill platforms to be set at levels 2 to 3 metres above the 1% (1 in 100 year) flood levels and the water table. (refer ATTACHMENT B - Cardno Lawson Treloar correspondence dated 11 March 2008 & Coffey Geotechnics correspondence dated 26 June 2006)

Fill for the platforms will be sourced from the existing ridges that traverse the site from west to east. Three main areas of cut are proposed as detailed on Bulk Earthworks & Noise Attenuation Barrier Plan 04-1600-P3-A, a cut to fill volume of approximately 275,000 cu m is estimated. Cuts of up to 4.5m will be required at the highest points tapering back to the natural surface at the cut limits. Structural fill will not be required to be imported to the site or exported from the site. Unsuitable materials and excess topsoil will be utilised for non-structural fill in landscaping mounds, noise attenuation berms and earth bunds adjacent to the bio-retention trenches. (refer ATTACHMENT C – Drawings 04-1600 Nos P3-A and P6-A)

Earthworks shall be carried out in accordance with the recommendations in the Coffey Geotechnics reports under the control of a suitably qualified geotechnical engineer and certified to Level 1 construction monitoring and testing as defined in "AS 3798-1996 Guidelines for Earthworks for Commercial and Residential Developments".

Yours faithfully

Rod Holmes
Director

for and on behalf of
AUSPACIFIC ENGINEERS PTY LTD

PLEASE NOTE

Attachment A is reproduced in Annex T.

Attachment B is reproduced in Annexures D and Q.

ANNEX N

Supplementary Traffic Assessment

Our Ref CE008453 :SH/DT

Contact Duncan Tjin

22 May 2008

Mr Dale Holt
WINTEN PROPERTY GROUP
PO Box 2578
Southport BC Q 4215

Cardno Eppell Olsen Pty Ltd
ABN 82 095 614 154

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Sunshine Coast
Toowoomba
Gold Coast
Gosford
Baulkham Hills
Busselton

Papua New Guinea
Indonesia
Vietnam
China
Kenya
United Arab Emirates
United Kingdom
United States

Dear Dale,

THE GLADES ESTATE DEVELOPMENT, PACIFIC HIGHWAY MOONEE BEACH RESPONSE TO DEPARTMENT OF PLANNING INFORMATION REQUEST

Reference is made to our discussions regarding the above development and specifically correspondence received from the Department of Planning (DoP) dated 29 January 2008 requesting further consideration of several traffic aspects.

This letter addresses the DoP information request issues as well as two items identified by the Winten Group relating to internal development layout matters. The issues are summarised as follows:

1. Clarification of the timing for the closure of the proposed interim Pacific Highway development access intersection. An extract from the relevant item in the DoP request reads:

   "…inadequate consideration has been given to the establishment of a definitive time frame for the closure of the proposed interim access to the Pacific Highway and establishment of alternative access via the proposed collector road and upgraded Moonee Beach Road/Pacific Highway intersection taking into account the design capacity constraints of the proposed intersection and the need to ensure that it will only be an interim arrangement.

   The capacity constraints also need to take account of possible connections to future development and release of lots to the south of the site, prior to future connection south to an upgraded intersection at Moonee each Road and the Pacific Highway…"

2. Consideration of the appropriate provision for town and school bus services within the development (eg. lay-bys and shelters);
3. Assessment of the need for, or otherwise, local area traffic management devices for the control of traffic speeds within the development street network.

Development Access Strategy

The Moonee Beach catchment is currently only serviced by one major access from the Pacific Highway which is provided at Moonee Beach Road, south of the subject site. This intersection currently comprises a form which can be generally described as an at grade unsignalised AUSTROADS Type C arrangement.

Use of this intersection in its current form for access to the subject development (and surrounding catchment) is not sustainable in the longer term given the limited spare capacity and existing safety related deficiencies. The RTA has therefore committed to upgrade this intersection to improve road network efficiency and development connectivity, which will involve construction of a grade separated interchange facility. It is understood that the timing of this interchange is dependant upon development uptake and RTA construction commitments. At this stage the envisaged interchange construction opening year will be 2015. To service the catchment, which includes the Glades Estate, a collector road is also proposed in the Moonee DCP which will facilitate access to Moonee Beach Road. At present, there is uncertainty regarding the timing of construction of the collector road.

Hence, in accordance with the above strategic direction, it is proposed that the Glades Estate will access the Pacific Highway by way of an interim intersection until such time as the collector road connecting to Moonee Beach Road is constructed. Following construction of the collector road the interim intersection will no longer be required.

Pacific Highway/Interim Access Intersection

For the interim, this intersection will provide a connection between the Moonee Beach development and the Pacific Highway. The intersection configuration at this location is proposed as an unsignalised seagull intersection. The form and operational aspects of this access intersection have been analysed to ensure consistency with Roads and Traffic Authority (RTA) standards.

The traffic assessment documented in the application material was prepared on the basis of the collector road commencing construction at the 200th lot and operational by the 400th lot.

This assessment also indicated that sufficient operational capacity would be achieved at this location beyond the 2015 year design horizon. The basis of this assessment was an expected peak hour traffic generation equivalent to 500 vehicles trips at this intersection. It is noted that the 500 trips was calculated on the basis of an approximate catchment yield of 625 lots, which is made up of the proposed 525 lots within the Moonee Beach development and a further 100 external lots located to the south. The peak hour generation adopted is a reasonable estimate of the maximum demands likely to be generated by this catchment and which will utilise the interim access.

In addressing the DoP information request, a sensitivity analysis has been undertaken to investigate a scenario whereby the construction of the collector road and the upgrade to the Pacific Highway/Moonee Beach Road intersection are not completed by the year 2020. This assessment therefore considers whether the interim access intersection can accommodate the expected traffic demands at the later year.

Adopting the same development generation methodology and growth rates documented in the original traffic report, SIDRA Intersection 3.2 was utilised to assess the interim intersection operational performance at this design year. Table 1 (and details attached) provides a summary of the results at the year 2020.

Pacific Highway/Interim Access Intersection

Table 1 ***Intersection Operating Performance***

Design Year	AM Peak			PM Peak		
	Degree of Saturation	Critical Delay (s)	Critical Queue (m)	Degree of Saturation	Critical Delay (s)	Critical Queue (m)
2020	0.73	13	41	0.78	12	45

The results in Table 1 indicate that the access intersection will readily accommodate the traffic demands estimated at the 2020 year design horizon based upon an assumed catchment traffic demand of 500 peak hour movements.

It is noted that the closure of the interim access will not be determined by the performance of the development intersection, as spare capacity is expected to be achieved. Therefore the closure of the interim intersection should be determined by the timing of the construction of the collector road.

The Glades Estate

It is noted that at this stage of the subdivision bus facilities have not been detailed however sufficient road provision does exists to accommodate the required public transport provisions. Again at the detailed design stage Local Area Traffic Management can be incorporated within this development layout to maintain a low speed environment should it be deemed necessary.

Please contact Shane Healey or myself should you have any queries in relation to the above.

Yours sincerely

Duncan Tjin
Traffic Engineer
for **Cardno Eppell Olsen**

Encl. Pacific Highway/Interim Access Intersection, SIDRA detailed results

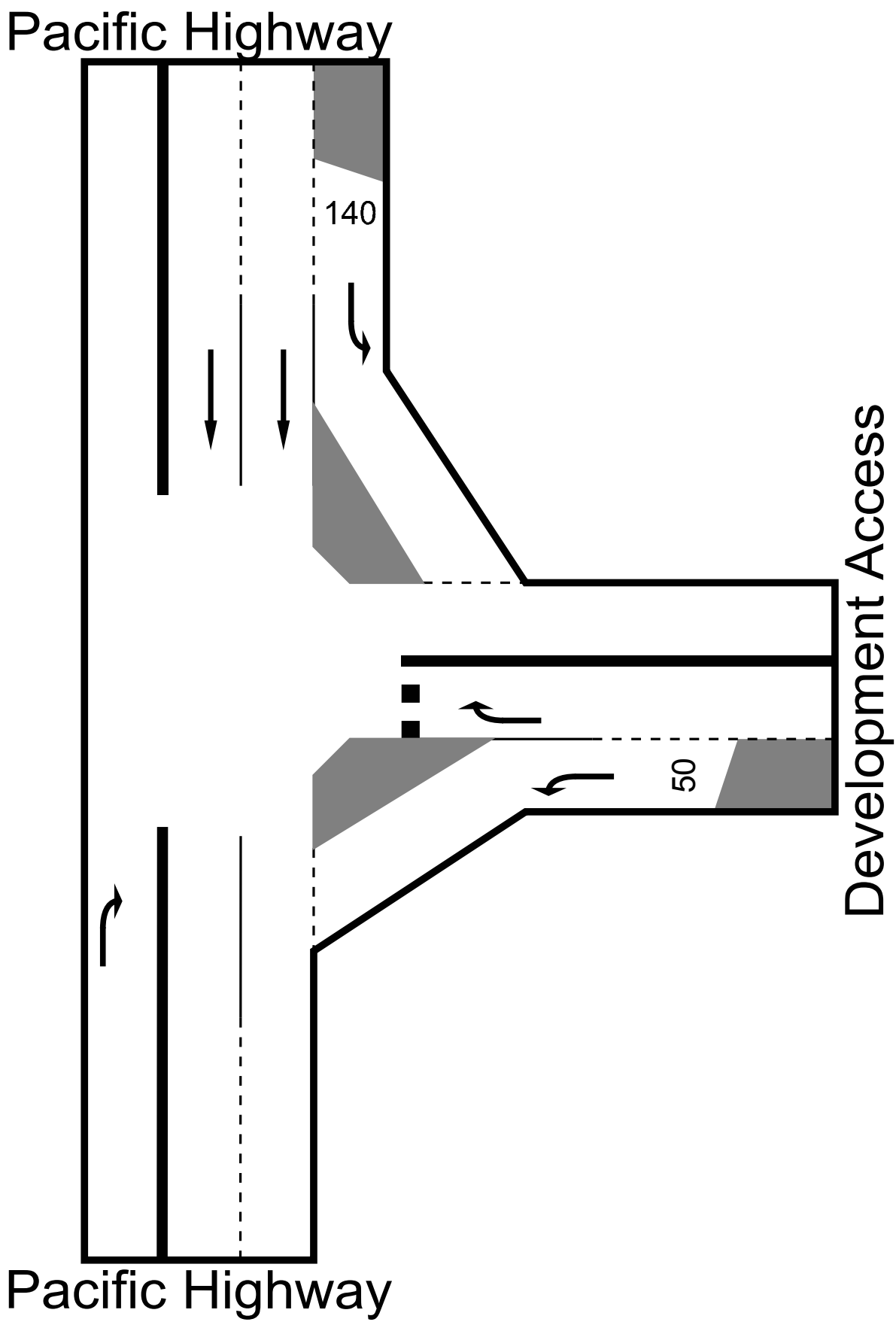
Pacific Highway
140
Development Access
50
Pacific Highway

Table S.14 - Summary of Input and Output Data

8245 Moonee Beach, Pacific Highway/Dev Access
2020 AM Background + Development Traffic Volumes
Intersection ID: .
Give-Way Sign Controlled Intersection

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Pacific Highway												
1 R			180	180	5				0.341	16.3	14	500
	0	0	180	180	5				0.341	16.3	14	
East: Development Access												
1 L	249			249	5				0.726	28.1	41	50
2 R			75	75	5				0.472	39.5	17	500
	249	0	75	324	5				0.726	30.7	41	
North: Pacific Highway												
1 L	25			25	4				0.018	13.1	1	140
2 T		516		516	5				0.288	6.1	0	500
3 T		516		516	5				0.288	6.1	0	500
	25	1031	0	1056	5				0.288	6.3	1	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	1560	5	0.726	12.5	41

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Table S.14 - Summary of Input and Output Data

8245 Moonee Beach, Pacific Highway/Dev Access
2020 AM Background + Development Traffic Volumes
Intersection ID: .
Give-Way Sign Controlled Intersection

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Pacific Highway												
1 R			243	243	5				0.776	33.3	45	500
	0	0	243	243	5				0.776	33.3	45	
East: Development Access												
1 L	83			83	5				0.248	18.5	8	50
2 R			25	25	4				0.194	35.2	5	500
	83	0	25	108	5				0.248	22.4	8	
North: Pacific Highway												
1 L	75			75	5				0.052	13.4	2	140
2 T		511		511	5				0.285	6.1	0	500
3 T		511		511	5				0.285	6.1	0	500
	75	1022	0	1097	5				0.285	6.6	2	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	1448	5	0.776	12.3	45

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.