



Attachments

Ordinary Meeting

Notice is hereby given that an Ordinary Meeting of Council will be held at Council Chambers, 1 Belgrave Street, Manly, on:

Monday 3 June 2013

Commencing at 7.30pm for the purpose of considering items included on the Agenda.

Persons in the gallery are advised that the proceedings of the meeting are being taped. However, under the Local Government Act 1993, no other tape recording is permitted without the authority of the Council or Committee. Tape recording includes a video camera and any electronic device capable of recording speech.

Copies of business papers are available at the Customer Service Counters at Manly Council, Manly Library and Seaforth Library and are available on Council's website:

www.manly.nsw.gov.au

TABLE OF CONTENTS

Item	Page No.
------	----------

CORPORATE SERVICES DIVISION**Corporate Services Division Report No. 11**

Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year
Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

AT1: Delivery Program Third Quarter Matrix 2

AT2: KPI Graphs for the Third Quarter 32

AT3: QBRS_Mar 2012-2013 44

Corporate Services Division Report No. 12

Mayors' and Councillors' Fees - Determination of Local Government Remuneration
Tribunal - 2013 - 2014

AT1: Remuneration Tribunal Report..... 57

CIVIC AND URBAN SERVICES DIVISION**Civic and Urban Services Division Report No. 3**

Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

AT1: Norfolk Island Pine Management Plan..... 67

******* END OF ATTACHMENTS *******

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter				
Goals	Strategy	Four Year Plan	One Year Plan	KPI
1. Improve Many's community safety	1.1 Work with key stakeholders to address alcohol culture and crimes	1.1.1 Implement Many's Crime Prevention Plan 2011-2013, in particular by developing strategies for late night transport, education, regulation and enforcement, planning and community engagement.	1.1.1.1 Implement Crime Prevention Plan actions in consultation with key stakeholders and the Community Safety Committee.	Number of initiatives within Many Crime Prevention Plan implemented and evaluated.
				75%
			1.1.1.2 Address culture of drinking by promotion of non-drinking activities.	Participation levels, satisfaction surveys, and cost-benefit analysis for events completed.
			1.1.1.3 Provision of drug and alcohol free under 18 events.	Published statistics on alcohol consumption for Many area (annual report).
			1.1.1.4 Continued participation in Many Precinct Liquor Accord (Hassle Free Nights)	Effectiveness of agreements with NSW agencies and local stakeholders in reducing alcohol related incidents in Many area (measured by survey data).
			1.1.1.5 Provision of civic and cultural events in accordance with determined community needs.	Events undertaken to meet community needs.
				75%

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GNU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 Delivery Program Third Quarter Matrix

A. SOCIAL					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete	Comment on KPI
2 A healthy and active Manly community	12 Work with the community to ensure Manly is a safe place	1.2.1 Develop Community Safety Plan 2012-2015.	1.2.1.1	Implement community safety actions in consultation with the Community Safety Committee.	HSF	100%	All Community Safety Plan recommendations endorsed by Committee are underway or completed.
				Number of practical safety actions implemented and evaluated through the Community.	HSF	100%	Improvements from Late night safety observation studies implemented including transport signage, lighting, code of conduct for night time users, and signage being reviewed. Homelessness protocol adopted, training for staff implemented. 'Move Mindfully' in Manly cycling safety campaign. Cycling signage on beachfront audited – action requests underway.
				Improvement of Safety Committee	HSF	75%	All CS Committee recommendations are underway or completed. Progress to be continued to when committee reconvenes.
	13 Work with key stakeholders to improve road safety	1.3.1 Develop and implement Council's Five Year Road Safety Strategic Action Plan.	1.3.1.1	100% of plan item implemented.	CUS	50%	Plan item prepared. Consultation with key stakeholders to take place and document finalised in final quarter of year.
				100% of practical safety actions and initiatives implemented.	CUS	80%	Pedestrian safety and speed management campaigns to be delivered in final quarter.
				Number of rescues and preventable actions.	HSF	100%	Rescues (212) and Preventable actions (10,282).
	21 Provide safe swimming facilities and beaches in Manly	2.1.1 Providing professional lifeguard services Manly Ocean Beach to ensure public swimming safety, and public risk management.	2.1.1.1	Annual update of lifeguard proficiency.	HSF	100%	All lifeguard updates complete.
				Percentage of actions on the beach resulting in litigation.	HSF	100%	Nil actions.
				Number of visitors to Manly Swim Centre.	HSF	75%	96,944 (Jan - March 2013) YTD 192,966
	22 Promote healthy and active living programs	2.1.2 Delivery of Aquatic Services and review of services at Manly Swim Centre and the associated equity and access in relation to the wider community users.	2.1.2.1	Operation of the Manly Swim Centre in accordance with Public Health regulations, operating plan and budget requirements.	HSF	ongoing	Safety Rating Score of 95.48% Received from NSW RLSSA.
				Compliance with risk management.	HSF	75%	Nil Drowning.
				Safety record of nil drowning.	HSF	100%	All lifeguard updates complete.
	22 Promote healthy and active living programs	2.2.1 Development of health living program and initiatives, as well as through lifestyle activities through committees and local partnerships.	2.2.1.1	Provision of a broad range of sporting programs and activities.	HSF	75%	Vacation Care now provided by Primary OSH-Care and continues to undertake sporting programs. Weekly fitness program provided for young mothers (up to four mothers participating in program).

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

A. SOCIAL					January - March 2013 Quarter	
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	Comment on KPI
2 A healthy and active Manly community (cont'd)			2.2.1.2	Promote opportunities to participate in physical activities (e.g. sporting clubs, surf clubs etc).	Managing programs and activities.	75% Weekly Young Mothers Fitness Program provided through Youth Services. Local sporting and surf clubs provided through the Manly Council Community Directory.
			2.2.1.3	Encourage and support commercial opportunities that cater to the health and well being needs of young people.	Managing programs and activities.	On-going Manly Council supports fitness trailers (there is a fitness trailer at Manly beach, football, cricket, surfing).
			2.2.2.1	Evaluation of current programmes.	Audits of smoke free signage and smoke free zones amongst residents completed in annual customer satisfaction survey.	Audits ongoing.
			2.2.2.2	Continued participation on Smoke Free Outdoor Areas Working Party.	Working Party meetings attended. Assistance provided to other Councils and organisations.	75% Council provided advice and resources to various Councils and Area Health Services on their smoke free zones programmes.
			2.3.1.1	Active after school care (e.g. sporting x 2 weekly, healthy eating, sun safety, immunisation, child protection awareness).	Council has ceased operating Before and After School Care - this service is now managed by the school via a parent committee.	75% Healthy lifestyles promoted in early learning and care centres. Immunisation clinic operates monthly.
			2.3.1.2	Develop Youth & School Age Children's activities website for SHOROC region.	Managing programs and activities.	0% Not progressing with SHOROC.
			2.3.2.1	Develop Youth & School Age Children's activities website for SHOROC region.	Managing programs and activities.	0% Not progressing with SHOROC.
			2.3.3.1	Continued seniors support program, such as Keeping Them Well, Providing connections in seniors' lives, intergenerational contacts, aerobic activity, lifelong learning.	Managing programs and activities.	75% Seniors Week held 17-24 March with a range of programs and activities. Successful Active ageing programs in place at Manly Club For Seniors. 200 volunteers support the Manly IMOW program.
			2.4.1.1	Implementation of remaining actions from 5 Year Playground Strategy. Service 31 playgrounds to maintain Australian Standard.	100% of Proposed actions for 2012/13 implemented from Strategy. 100% of maintenance schedule implemented to Australian Standard.	100% 100% of actions from the 5 year strategy now completed. North harbour playground replacement equipment completed. All audit inspection for this quarter carried out and relevant repairs carried out.
			2.4.1.2	External independent audit of playgrounds carried out each year.	100% of asset information updated. 100% of external audit process completed. 100% of proposed audit actions completed.	100% 100% of prescribed audits carried out this quarter. External cost effective.
			2.4.1.3	Manage and work with Playground Committee.	Number of Playground Committee meetings held.	50% First meeting carried out in February.

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

A. SOCIAL					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete	Comment on KPI
3 Liveable Manly neighbourhoods	3.1 Provide well utilised, maintained and managed community, open space and sports facilities that meet community needs	2.4.2 Develop a 10 Year strategy for all playgrounds in Manly LGA inclusive of council childcare centres, upgrading and maintaining playgrounds through appropriate standards.	2.4.2.1 Draft 10 Year Playground Strategy. Gain endorsement from Council in 2013. Implement actions from an endorsed strategy. 2012-22.	100% of draft 10 Year Strategy document completed. 100% of proposed public consultation completed. 100% of 1st year's proposed actions from 10 Year Strategy for 2013 completed.	CUS	40%	Workshopping with Playgroup committee, North Harbour playground additional consultation carried out. 1st year's actions from strategy will be 2014.
		2.4.3 Source future grant funding for projects.	2.4.3.1 Determine what grant funding is available to Council for recreational projects.	Number of grant fundings obtained.	CUS	25%	Grant Application for Exercise Equipment LM Graham Reserve (\$20,000) and for Equipment Sport & Recreation.
3 Liveable Manly neighbourhoods (cont'd)	3.1 Provide well utilised, maintained and managed community, open space and sports facilities that meet community needs (cont'd)	3.1.1 Construct and maintain public open space and recreation facilities to cater to a range of community groups & supports increased future usage needs and is safe and accessible.	3.1.1.1 Utilise capital funds or available grant funding to improve existing infrastructure and facilities. Develop projects to cater for future need in line with Recreational Strategy and asset management principles. LM Graham Reserve Landscape Masterplan, major upgrading of oval, improvements to oval lighting and LSP project, second stage of Manly Oval spectator seating.	100% of determined actions from strategy for 2012-13 implemented. 100% of determined sportsfields capital improvements completed. 100% of proposed actions from LM Graham Reserve Landscape Masterplan completed. 100% of major landscaping completed.	CUS	0% 100% 50% 100%	Change of season grounds maintenance and changes carried out. Sports fields renovation works carried out. Stage 3 works for LM Graham Reserve completed off site. New path installation and park furniture.
		3.1.2 Provide, manage and maintain community facilities and improve service facilities, marketing and management processes. Providing recreational facilities that promote play and improve physical fitness. Involve young people in developing the aesthetic of public space such as: • Public gardens	3.1.2.1 Manage filming approvals, event approvals, community centre bookings and reserve bookings. 3.1.2.2 Manage the use of public space in the Manly CBD Corridor, including licenses, entertainment, clarity approvals, and banner placements.	Number of bookings taken per type of facility. Filming/Wedding approvals granted each year. Review of local residents' complaints logged. Observed quality customer service.	HSP/GMU	Ongoing	Reviewing procedures, Fees and Charges, Forms, Legal Agreements & webpages.
3 Liveable Manly neighbourhoods (cont'd)	3.2 Keep Manly public spaces and gardens well managed, clean and sustainable	3.2.1 Improve irrigation systems to achieve more efficient systems and investigate possible future water savings.	3.2.1.1 Audit irrigation systems to ascertain standard and status. Investigate possible improvements to services and savings that may be achieved.	100% of audit is systems completed. 100% of possible improvements investigated.	CUS	35% 25%	Audit of water usage and for Poles carried out. Identification of leaks completed. Re establishment of water tracking through Natural Resources branch.
		3.2.2 Manage Manly public spaces, including gardens and streetscapes by improving civic amenity, plantings, maintaining trees and cultural heritage.	3.2.2.1 Maintain civic gardens, and cultural heritage. Implementation of public spaces programs.	100% of scheduled regional cycle maintenance completed.	CUS	100% for this quarter	Cycles for this quarter completed.
3 Liveable Manly neighbourhoods (cont'd)	3.3 Involve young people in design aspects and developing the aesthetic of public spaces such as gardens, art and landscape facilities.	3.1.3.1 Involve young people in design aspects and developing the aesthetic of public spaces such as gardens, art and landscape facilities.	3.1.3.1.1 Construction and participation of facilities that cater to young people, such as Keble Park at Sleaford, dedicated youth spaces. Develop Youth and Children's services, promote youth programs.	Report on progress and outcomes.	CUS/HSE	75%	Youth Services actively involved in ongoing youth programs through participation in Youth Council - 2 meetings held in 3rd quarter.
		3.1.3.2 Ensure that there is community consultation in planning of public open spaces so that access to the needs of young people and is visually appealing to them. The actions from the Recreation Policy and Strategy (unstructured activity) are implemented in conjunction with this process. Maintain standard of synthetic and grass surfaces on sports ovals and grass playing field surfaces to meet standard.	3.1.3.2.1 Ensure that there is community consultation in planning of public open spaces so that access to the needs of young people and is visually appealing to them. The actions from the Recreation Policy and Strategy (unstructured activity) are implemented in conjunction with this process. Maintain standard of synthetic and grass surfaces on sports ovals and grass playing field surfaces to meet standard.	100% of proposed consultation implemented. 100% of proposed actions from Recreation Policy and Strategy for 2012/13 implemented. 100% of grass and synthetic surfaces maintained within the required standard.	CUS	No Consultation required for this quarter. No approved actions carried out this quarter. 100% of synthetic surface maintained this quarter.	Repairs to synthetic surfaces completed for Keble Park, Sleaford oval, Keble Park.

CUS - Civic Urban Services, LS - Landuse Sustainability, HSE - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

A. SOCIAL				January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete
			3.22.2	Programs for the following projects are implemented: • Develop an Ivanhoe Park Masterplan for botanic gardens; • Improve Corso gardens; • Implement signs of a remote supervision program; • Improve East Esplanade grass areas; • Improve East West Esplanade grass areas; • Implementation of the Tree Management Policy and Strategy actions.	100% Draft of Landscape Masterplan for Ivanhoe Park; 100% implementation of proposed actions from signs of a remote supervision; 100% of proposed East Esplanade turf improvements completed; 100% of proposed East West Esplanade turf improvements completed.	30% 10% 70% 40%
			3.22.3	Implement proposed actions from the Tree Management Policy & Strategy. Develop and adopt a street tree program to involve local community in caring for trees.	CUS	10% 0% 0%
	3.2	Keep Manly public spaces and gardens well managed, clean and sustainable, cont	3.22.4	Continue Tree Maintenance Cycle Works program. Endorsement of draft Norfolk Island Pine Management and Maintenance Plan. Implementation of actions from Plan.	CUS	100%
		3.2.3	Manage Manly public spaces, including gardens and streetscapes by improving civic amenity, plantings, maintaining trees and cultural heritage, cont	100% of Draft Norfolk Island Pine Management and Maintenance Plan endorsed by Council. 100% of proposed 1st year actions from Plan implemented.		
			3.23.1	Implement mowing services inline with contract intervention levels.	CUS	100% of cycles for this quarter completed
		3.2.4	Develop plan and program for expanding business opportunities for internal tree works.	100% of scheduled mowing cycles completed and 100% of moving intervention levels met.		
			3.24.1	Continue to develop an Internal Tree Maintenance Program for smaller trees. Review intervention rates to improve services. Seek opportunities for in-house services if cost effective.	CUS	10%
4	4.1	Provide improved community development initiatives and programs	4.1.1	Provision of formal and informal leisure programs to cater for young people's interests including arts and culture based activities.	HSF	75%
			4.1.1.2	Include young people in the planning and implementation of broader community events.	HSF	75%

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 Delivery Program Third Quarter Matrix

January - March 2013 Quarter				
Goals	Strategy	Four Year Plan	One Year Plan	Report quarterly
A. SOCIAL			4.1.1.3 Use of emerging technologies to ensure Council connects and listens to young people.	Report quarterly.
				75%
				75%
				100%
A. SOCIAL			4.1.1.4 Provide opportunities for young people to participate and recognise their contributions and achievements.	Report quarterly.
				75%
				75%
				100%
A. SOCIAL			4.2.1 Continued development of the provision of Library and Information Services, especially on line services, Shorlink network, specialist local studies, strategic partnerships, new technology, upgrading building services.	Report quarterly.
				75%
				75%
				100%
A. SOCIAL			4.2.2 Provision of services and maintenance of facilities at the Many Art Gallery and Museum, such as Many Arts Festival, public arts program, fund raising, maintaining best practice standards, gallery shop management, collect artworks, and variety of public programs.	Report quarterly.
				75%
				75%
				100%
A. SOCIAL			4.3.1 Development of place making and neighbourhood development community development initiatives.	Report quarterly.
				75%
				75%
				100%
A. SOCIAL			4.3.2 Manage a program of family friendly interactive events to deliver community spaces at various locations across Many LGA.	Report quarterly.
				75%
				75%
				100%

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GNU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

A. SOCIAL					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete	Comment on KPI
4 A connected & culturally vibrant Manly (cont'd)	4.1 Assist the community in their educational needs	4.3.2 Engage in cultural exchanges with other Councils and government organisations nationally and internationally.	4.3.2.1	Further development of new Friendship City program with Yeongpo, Korea.	New Programs developed.	Ongoing	Programs ongoing. Council staff member currently participating in Exchange Program for 3 months with Yeongpo. Council with the objectives of cooperation, friendship, cooperation, networking and cultural exchange.
			4.3.2.2	Continuation of Staff Charity Fundraising Committee.	Committee managed.	Ongoing	Charity support continuing.
			4.3.2.3	Continuation of East Timor support project.	Project managed.	Ongoing	Continued support for friendship through fund raising, etc.
			4.3.2.4	Continued support for Manly / Decusse Friendship.	Project managed.	Ongoing	Continued support for friendship through fund raising, etc.
5 A socially inclusive, equitable and supportive Manly	5.1 Provide a range of children and youth community support services	5.1.1 Continue delivery of programs and services for children and families such as Family Day Care, Preschools & Immunisation Clinic services in accordance with community needs.	5.1.1.1	Assisting through the delivery of existing education programs and services and other services, such as Libraries, and Art Gallery.	Updates on range of programs conducted.	100%	Public programs 68 (including 24 school programs).
			5.1.1.2	Continued children services delivery at Roundhouse Roundhouse and Harbour View Long Day Care, Harbour View Occasional Care, Family Day Care, Ivanhoe Park and Kangaroo Street Pre-schools, and Vacation Care.	Updates on range of programs conducted.	75%	Long Day Care Services and Occasional care continue to provide care for child and family day. Preschool provides care and education for 60 children per day in school term.
			5.1.1.3	Operate and maintain the Immunisation Clinic.	Updates on range of programs conducted.	75%	Continues monthly with an average of 23 children per month.
			5.1.1.4	Locate a multi use facility to accommodate an Early Childhood Health And Parenting Centre in Manly.	Report on progress.	75%	New Centre located in Manly. Currently waiting for funding and fit out, officially opened 12/3/13.
	5.2 Continue programs and services for youth, including youth strategy.	5.2.1	5.2.1.1	Continued Youth Service delivery at Kangaroo Street Youth Centre. Supported by Manly Youth Council, Providing Recreation & Leisure program for youth.	Updates on range of programs conducted.	75%	Jazz / Arts Festival event held in Library Forecourt. Manly Youth Council monthly provides community program. Young mum's fitness program.
			5.2.1.2	Provision of Adolescent and Family Counselling.	Updates on range of programs conducted.	75%	AFC continues to provide individual counselling and support to adolescents and their families and consults with an average of 42 clients per month.
			5.2.1.3	Develop a GL@M program and activities for GLTBQ young people	Updates on range of programs conducted.	75%	The group continues to meet fortnightly and averages 10 attendees. A combined with GALH@M group in Hornsby for GL@M end of year party. - took 12 young people on a Ghost tour at North Head.

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

CS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GNU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

A. SOCIAL		January - March 2013 Quarter		Responsible Lead Division	KPI	One Year Plan	Four Year Plan	Strategy	Goals
		% Complete	Comment on KPI						
		75%	Council provides Cub-Friday a weekly recreation program for intellectually disabled people, as well as Meals On Wheels, Cub Scouts and disabled people. Cub services provide GLGEM a recreational program for young people identifying as gay or lesbian or questioning their sexuality.	HSF	Updates on range of programs conducted.	Provide programs or funding, that actively engage excluded groups.	5.2.1.7		

CUS - Civic Urban Services, LS - Land-use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter					
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division
1	A diversified and balanced economy that caters for locals and visitors alike	1.1.1 Work in partnership with the community to develop strategies to diversify and broaden Manly's economy	1.1.1.1 Progress activation of laneways and pedestrian streets through improved urban design measures.	Regular community newsletters; Visitor surveys; Measure success of local programs (satisfaction indicators).	Manly 2015 Masterplan incorporated into Draft CSP document. Key aims and objectives of the plan and diversification of service retail mix within Manly CBD. Short Street Plaza redevelopment planned to commence in June 2013.
2	Tourism is recognised as a critical part of the local economy	2.1 Develop a Manly tourism management strategy to protect and preserve local environmental heritage	2.1.1.2 Continue developing partnerships with local and regional stakeholders.	Report on activities quarterly.	On-going
		2.1.1 Develop Manly tourism development and management strategy to review the social, economic and environmental impact of tourism on Manly, considering its composition, current and future needs and opportunities, and local management requirements.	2.1.1.1 Review data for preparation of draft Tourism Plan and draft following survey of key stakeholders.	Completion of Plan. Actions proposed. Community involvement and consultation in strategy.	25%
		2.2 Promote Manly as a visitor destination, and provide local tourism and visitor services	2.2.1 Manage Manly's Visitor Information Centre (VIC).	Measure success of local programs (satisfaction indicators); Community and cost in construction and building of VIC; Visitor numbers at Manly VIC; Observed Quality customer service; Generated income; Project planning Visitation numbers.	75%
			2.2.2 Review Manly's VIC current and future accommodation needs for purpose and capacity of service business.	Project completed on time and to budget.	50%
			2.2.3 Working in partnership with Tourism NSW and local businesses.	Report on forum conducted.	25%
		2.3 Deliver events and activities to entertain, educate and involve Manly's community	2.3.1 Continued organisation of Manly Council events as per events program; (b) Facilitate event approval for non-council organisers; (c) Conduct surveys and monitor audience participation in events; (d) Manage and coordinate the events application and approval process; (e) Management and delivery of Manly Arts / Craft Market and Farmer's Market.	Programs and events delivered within approved budget; Outcome of Sponsorship income as sourced for major events; Number of events; Quality of delivery of event presentations (by number of attendees); Audience numbers; Sponsorships attained; Generated income (per event); Media coverage (per event); Review of events reported to Council.	100%
			2.3.2 Develop an overall strategy to manage Events Programs.	Review of events reported to Council.	50%

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter							
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete	Comment on KPI
3. Manly has a variety of sustainable transport and car alternatives	3.1. Improve Manly's Transportation Programs	3.1.1. Improvements in the Local Area Traffic Management (LATM), by completion of various LATM schemes in the Manly LGA.	3.1.1.1	(A) Develop and implement a program of LATM projects to avoid budget. (B) Implement actions from Traffic Committee. (C) Undertake audit program of all traffic signs, road markings and facilities, from audits develop program of maintenance works. (D) Develop road safety campaigns to target issues raised by crash analysis and black-spot program. (E) Identify and develop road safety measures to improve road safety at accident hot spots.	(A) 100% of LATM projects implemented up to available budget. (B) 100% of approved items implemented. (C) 100% of audit program completed. (D) 100% of planned campaigns undertaken. (E) Completed annual accident hot spot analysis and bidding process.	A) 85% complete. Implementation program for 4th Quarter. B) 100% complete. C) 80% complete. D) 50% complete. E) 75% complete.	(A) Projects to be implemented in 4th Quarter. (B) Approved for 4th Quarter. (C) Audits undertaken. (D) Identifying actions up to 100% of available funding works to be implemented in 4th Quarter. (E) Road safety action plans to be completed by June 2013. (F) Completed in July 2012 in accord with RMS funding bid timetable.
			3.1.2	Review the resident permit parking schemes and the designated parking availability.	100% of Trial completed.	90%	New online application system in development for Manly Resident Card.
			3.1.2.1	Trial of electronic permit parking system.	100% completion of a area wide parking study for selected Precinct(s).	0% complete	Review of parking conditions within the precincts and week opportunities to increase parking supply. To be undertaken in 3rd Quarter.
			3.2.1	Working with SHOROC and other agencies to deliver improved regional transport networks.	Report on number of State and Commonwealth grants received for road infrastructure improvements.	75%	Block grant from RTA received. R2S only progress payments.
			3.2.2	Further development of Manly's regional transport linkages.	(A) produce a Bike Plan for the 10 year period 2013 to 2023. (B) complete actions from cycleway audits. (C) develop strategic cycleway signage to better connect local networks to regional cycle network. (D) develop a PAMP for 2013 through to 2023.	A) 10%, B) 50%, C) 10% D) 10%	A) Bike plan for 2012-2023 contingent upon funding from RMS. Application for funding submitted. B) Cycleway maintenance works in progress. C) Preparation work for improved strategic cycle signage commenced. D) Preparation of PAMP is dependent on funding from RMS. Application for funding submitted.
3.3. Develop alternative and sustainable transport choices in Manly	3.3.1. Planning and developing implementation of alternative transport methods (bikes, public transport links, etc);	3.3.1.1	Installation of approximately 50 cycle racks at Manly Wharf and at other key sites within the CBD.	100% of cycle facilities program completed.	CUS	100%	Racks installed to the west of the wharf, at the Belgrave Street bus stop and at the intersection of Raglan Street/Procter Road.
		3.3.2.1	Community bus network improvements by: (a) Develop marketing and revenue plan for community buses. (b) Continuous improvements in services and operations (Sustainable Transport Committee, Chamber of Commerce).	Measure success of local programs and use of Hop Skip Jump Bus service (satisfaction indicators). Increasing usage numbers during week. (Sustainable Transport Committee, Chamber of Commerce).	GMU	complete	94851 users of Hop, Skip, Jump services this quarter, and 150,732 for the year to date (July to December 2012). This indicates satisfaction remains high.
		3.3.3	Attaining increased sponsorship and patronage for service.	Source new sponsorship. Report quarterly on success and outcomes.	GMU	On-going	Search is on-going.

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

B. ECONOMIC					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division	% Complete	Comment on KPI
4.1 Improved amenities and services in physical infrastructure Manly	Manage infrastructure and assets to ensure financial sustainability and meet community expectations	4.1.1 Implementing Asset Management Plan and Policy for Infrastructure Assets. In line with Department of Local Government guidelines. Infrastructure Assets. Condition assessments. Safety assessments. Roll out of 10 year Urban Services works program schedule. Establish service levels for required works based on available funding to meet community expectation.	4.1.1.1 Asset Management Plan - Condition Ratings (a) Roads (b) Footpath (c) Drainage (Pipe, Pit, GRT) using CCTV (d) Buildings (Parks and Recreations) (e) Parks and Recreations Works Program as per Asset Management Plan (a) Roads (b) Footpath (c) Drainage (Pit, Pipe, GPT) (e) Parks and Recreation.	100% implementation of Asset Management Plan and Policy. 100% of all other areas required to be included in Asset Management Plan (e.g. footpaths & drainage). Quarterly reports on progress of all Annual Maintenance and Works programs. % reduction in number of accidents reported on Council footpaths.	GMU	(a) 100% (b) 90% (c) 90% (d) 90% (e) 50% (a) 40% (b) 44% (c) 2% (e) 80%	Condition assessment has been carried out for Roads, Parks and Recreations, LGA. Other assets such as Drainage, Buildings, parks & recreation condition assessment are underway. Roads and footpath works programming have been completed based on the visual condition assessment within Manly LGA.
		4.1.2 Roads resurfaced and rehabilitated to standard.	4.1.2.1 (a) Annual Road re-sheeting program development. (b) Annual Road resheeting program implementation.	Completion of annual roads program on time and within budget. Road network condition remains the same level or improves. Condition assessment undertaken for road network (2.5% annually).	CUS	(a) 100% (b) 40%	(a) All the resheeting works have been programmed as per the visual condition assessment on site. Road network works scheduled to commence in the third quarter. (b) Resheeting works at Wanganilla Street, Judith Street, Willows St, Vista Av, Gilbert St, Eustace St, and Battle Bde have been completed.
		4.1.3 Review of Civic Plant and Equipment purchasing policy to provide a safe, efficient, cost effective and environmentally sustainable fleet that meets operational needs.	4.1.3.1 Review Civic Plant and Equipment Fleet Purchasing Policy to: (a) incorporate green fuel reductions (carbon footprint reduction strategy); (b) document achievements re purchasing fuel charges; (c) undertake a fleet rationalisation usage; (d) undertake a budgeted review.	Reduction of Plant, Fleet and Equipment Life Cycle Costs. Annual review of Leaseback vehicles completed.	CUS	70%	Number of asset vehicles have been increased. Fleet rationalisation complete.
4.2 Deliver major infrastructure projects to ensure safety, sustainability and improve public amenity		4.2.1 Delivery of Projects in Capital Works Program.	4.2.1.1 Capital Projects (a) Program and scoping (b) Investigation and design (c) Implementation Recurrent Projects (maintenance) (a) Program and Scoping (b) Implementation Seaforth TAFE and Seaforth Town Centre Redevelopment. Ocean Beach Stage 5 – Queenscliff surf club & LMUD Committee. Manly Aquatic Centre upgrade – (uncertain dependent on funding). CEB Railways and urban design improvements. Input to Council's Floodplain Management Study and modelling. New Dringby Storage Facilities at Sandy Bay.	100% Delivery of Projects in Capital Works Program on time and within budget. Number of accidents related to Plant (a) 95% (b) 90% (c) 90% (d) 90% Vehicle downtime / running costs. Recurrent works -75%	CUS	Capital Projects (a) 95% (b) 90% (c) 90% (d) 90% Roads-40%, footpath 44%, drainage 2% Recurrent works -75%	Design and works program have been completed for year 2012/13. Program of recurrent works completed. Roads-40%, footpath 44%, drainage 2% Recurrent works -75%

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter					
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division
B. ECONOMIC		4.2.2 Major Projects planned, exhibited, designed, delivered: Manly Aquatic Centre; Seaford TAFE site redevelopment; Redevelopment for Baby Health Centre site; CBD revitalisation projects as approved by Council.	4.2.2.1 Roder Manly 2015 Masterplan to the newly elected Council post September 2012 elections for its consideration and action as appropriate. Detailed consideration and action of Manly Aquatic Centre. Finalising of detailed proposal for former Seaford TAFE and acquisition. Detailed design and commencement of new community facility on former Raglan Street Baby Health Centre site	Projects progressed and delivered on time and to budget and desired specification. Projects endorsed to proceed by Council.	80% Comment on KPI Aquatic Centre Consultation Phase being progressed and finalising obtained. Seaford TAFE Redevelopment works proceeding and leasing options being looked at. Streetscapes within CBD being progressed and financial feasibility assessment undertaken in relation to Manly 2015
	4.2 Improved amenities and physical infrastructure services in Manly (cont'd)	4.2.3 Deliver major infrastructure projects to ensure safety, sustainability and improve public amenity, cont	4.2.3.1 Annual capital drainage projects (a) Forward Works Program and Scheduling (b) Investigation and Design (c) Implementation Annual recurrent drainage projects / works (a) Pit and pipe cleaning schedule (b) Reactive drainage works (c) Climate change mitigation measures to address. Drainage Modelling for each sub catchment and identify the flooding spots Map of flood-prone areas for storm floods and localised floods to determine the finish floor levels with adequate freeboard of 500mm for riverine floods and 300mm for localised flooding for any development within Manly LGA. Review of stormwater management policy and guidelines (a) Review DSPLAN and mitigation strategies; (b) Council to respond in concert with nominated combat agencies and other agencies to ensure that training exercises in accordance with the above. Continue to meet with Commonwealth and State agencies (quarterly per annum) to represent Manly's interests. Stormwater Management Plan and Policy implemented.	90% Reduction in number of customer complaints and claims. Completion of annual maintenance and capital drainage works program on time and within budget. 30% Reduction in number of flooding claims/flooding. Length of pipelines constructed / reconstructed.	CUS (a) 100% (b) 20% (c) 30% (a) 75% (b) 30% (c) 7% Drainage capital works have been scoped and programmed for 2012/13. Few of the capital works (have been investigated/ designed. 1 Kangaroo Street drainage improvements. 2 Clontarf foot area drainage pipe replaced. Pit and Pipe schedule works are in place depends on the location and type of drainage pit (Sag or On-grade)
	4.3 Improve public amenities, footpaths and pedestrian mobility to ensure safety and meet the needs of the community	4.3.1 Implementation of pedestrians and footpaths infrastructure improvements.	4.3.1.1 Pedestrians and footpaths network improvements, including: (a) Review of annual (Urban Services) audit of the footpath network to identify localpath conditions. (b) Implementation of audit to construct new footpaths, on priority works basis, as well as condition ratings and capital funds available. (c) Identifying new links and construction of new footpaths based on identified community needs. (d) Implementing Traffic Committee recommendations relating to traffic devices and road safety. (e) Undertaking maintenance and repair of footpaths, buildings and facilities as per Council's Asset Management strategy and as identified in its Capital Works Program. (f) Upgrading public toilets as per plan and maintenance requirements.	100% completion of footpath audit. 75% reduction in complaints, trip claims, injuries and damage to footpaths. 100% of agreed infrastructure projects completed. (e-25mm) Footpath Conditions. Condition Assessment of Footpath Network. 25% annually. Areas of footpath repaired/constructed. Number of complaints/ insurance claims.	CUS (a) Footpath condition audit have been completed for all footpaths. (b) 44% (c) 75% (d) 75% (e) 20% (f) 20% (a) Footpath recurrent works have been programmed based on the priority basis. (c) Linkages with new footpaths have been identified in some areas of Balgownie Heights.
	4.4 Develop emergency plans to protect community, natural environment and built assets	4.4.1 Preparation and review of Emergency DISPLAN for the Manly area.	4.4.1.1 Review DSPLAN and mitigation strategies; (b) Council to respond in concert with nominated combat agencies in official emergency situations and conduct training exercises in accordance with the above. Continue to meet with Commonwealth and State agencies (quarterly per annum) to represent Manly's interests.	Plan implemented. Attendance at external committee (quarterly). Review completed.	CUS 90% Regular meeting has been attended and noted for future references for action plan.

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

B. ECONOMIC					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete	Comment on KPI
4.5 Improved amenities and physical infrastructure services in Manly (cont'd)	4.5 Provide community facilities, assets, and public parking that are accessible, clean, fit and habitable	4.5.1 Maintain Buildings and Facilities to a sustainable and functional standard.	4.5.1.1 (a) Undertake regular maintenance and upgrading of change and facilities as per Council's Asset Management to act, and as identified in its capital works program; (b) Upgrading public toilets as per plan and maintenance requirements.	Regular site inspections and condition audits being completed and 100% of requests responded to for Building Maintenance within required timeframes.	CWS	90% Condition Audit Reports completed and 100% of requests responded to for Building assessment.	Building and Facility Services Standards met for Scheduled Inspections and service.
		4.5.2 Maximise return to Council by appropriate utilisation of Community facilities and properties.	4.5.2.1 Provide an accessible booking system of all council's facilities available for hire and/or use by members of the general public.	Implementation of accessible booking system. Satisfaction with community facilities (via survey information and condition assessments).	CS	On-going	Quote for online booking system obtained.
		4.5.3 Manage acquisition and divestment of property in accordance with Council policy and planning frameworks (adopted documents) and in accordance with statutory requirements.	4.5.3.1 Manage Council's property portfolio to maximise access and return to Council and appropriate maximize the return on Council's assets.	Facilities rented to achieve market rental of a return to the community as appropriate.	CS	On-going	All of Council's properties are rented to the community. Valuations are undertaken at the end of each rental term.
		4.5.4 Providing public parking facilities within the Manly LGA and managing and improving usage across Council's four public car parking facilities.	4.5.4.1 (a) Manage, operate and maintain Council's four parking facilities at Whistler St, Pacific Waves building, Peninsula building, Manly National building. (b) Develop marketing plan to improve usage. (c) Respond to community complaints in writing by phone, etc. (d) Management of Council's parking meters at the Ocean Beach Front.	Acquisition and divestment of property in accordance with statutory requirements and Council resolutions. This to include the acquisition of 40 Stuart Street Manly.	CS	On-going	Property at 40 Stuart Street has been acquired.
		4.6 Work with community stakeholder groups to better understand infrastructure improvements needed	4.6.1 Community infrastructure partnerships to ensure delivery improvements.	4.6.1.1 (a) Manage committees and stakeholder input (e.g. Manly Scenic Walkway Committee). (b) Manage community expectations and data. (c) Respond to community complaints in writing, by phone, etc.	GNU	100% for this quarter.	333,918 vehicles have used council parking stations this quarter, of this number 260,305 were parked under two hours (78%).
		4.6.2 Develop plan and policies to respond to infrastructure community concerns.	4.6.2.1 Develop and refine current infrastructure plans with community input.	100% of Community complaints responded to within allocated time frame; 100% of Committee commitment met.	CWS	100% for this quarter.	Revenue raised from parking meters is at 10% of ytd budget, and expected to improve in the summer months.
				100% of consultation process carried out; 100% of proposed plans completed.	CWS	100% for this quarter.	Community consultation process has been in place for all the capital works. Ex. Sandy Bay Road Sealwork Construction and associated Civil works

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter						
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division	% Complete
1. Natural heritage, bushlands and biodiversity is protected and preserved for future generations	1.1 Promote the protection of the environment as the key to a sustainable future	1.1.1 Preparation of a State of the Environment Report for Manly 2012/13 under the new (IP&R framework).	1.1.1.1 Prepare for new reporting form at for 2012/13 SE Report.	Crat list of appropriate indicators.	LS	100%
		1.1.2 Implementation of all relevant actions in the Manly Sustainability Strategy (MSS).	1.1.2.1 Progress towards implementation of relevant MSS actions.	Report on completion of actions.	LS	ongoing
		1.1.3 Administer Environmental Levy and report on this to the community.	1.1.3.1 Administration of Environmental Levy, including Environmental Levy budget, annual and community reporting.	Completion of EL Annual Report and community newsletter. Number of Environment Levy funded projects implemented on time and to budget.	LS	ongoing (25%)
1.2 Deliver and enhance environmental regulation services to protect natural environment	1.2.1 Specific Contaminated Site Management in liaison with DECCW	1.2.1.1 Contaminated Site Management at Advertiser Road (Stage 1 remediation).	1.2.1.2 Advice provided on private and public contaminated lands in referred Development Applications.	Report on contaminated site management progress.	LS	0%
			1.2.1.2 Provision of advice in accordance with the Contaminated Land Policy	Provision of advice in accordance with the Contaminated Land Policy	ongoing	
1.3 Undertake projects in partnership with community stakeholders that protect, preserve and manage Manly's bushlands, biodiversity, geo-diversity, coastal and estuary environments and water-cycles to benefit future generations.	1.3.1 Undertaking Biodiversity and terrestrial management environments programs that protect threatened species, habitat and populations such as:	1.3.1.1 Participation in and implementation of threatened species recovery programs and projects (including Bandicoot Education Project).	1.3.1.2 Undertaking threatened species assessments & projects.	Progress towards implementation of recovery programs and projects, publication of annual threatened species data.	LS	ongoing (60%)
				Number of OAS assessed in relation to threatened species issues.	LS	ongoing (75%)
				Progress priority outstanding recommendations.	CUS	60%
				Stage one of the Biodiversity Strategy completed.	LS	30%
				Reporting on initiatives undertaken.	LS	50%
				Progress towards actions and planning controls.	LS	100%
				Number of actions funded and implemented	LS	50%
1.3.7 Seek funding for revision of Manly Green Beach CMP and engage consultant, if funded.	1.3.7.1	Funding received and consultant engaged.	0%	LS	0%	
			0%	LS	0%	
			0%	LS	0%	
Comment on KPI						
2011/12 SE Report prepared and submitted to the DLO.						
Ongoing and long term program						
2012/13 Funding allocated, 2013/14 Bids to be prepared in line with budget timeline						
Project is on hold as requested by executive						
Advice provided in accordance with Regulation.						
Phase 1 completed of the Long Island Bandicoot Education Project and Phase 2 commenced.						
8 threatened species assessments completed (including two in critical habitat)						
Study being progressed						
Feedback received from relevant staff on draft project brief						
Management plan under review.						
Report completed and submitted to the Department of Planning in conjunction with the final LEP preparations.						
Ongoing - Planning Engineering for seagrass mapping and health assessment to be completed in 2013						
Ongoing - Identification of Coastal Erosion & Inundation Study, completed grant offer of \$44,000 received from CEH to assist with revision and implementation of CMP						

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter							
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Officer	% Complete	Comment on KPI
1. Natural heritage, bushlands and biodiversity is protected and preserved for future generations. (cont'd)	Undertake projects in partnership with community stakeholders that protect, preserve and manage Manly's bushlands, biodiversity, geo-diversity, coastal and estuary environments and water-cycles to benefit future generations. (cont'd)	1.3.8 Undertake measures for coastal protection and implement Emergency Action Plans.	1.3.8.1 Undertake estuary hazard study for Cottesloe/Banby Bay area.	Funding received and consultant engaged.	LS	50%	Funding received and consultant engaged.
		1.3.9 Aquatic Reserve Management Plan preparation & implementation.	1.3.9.1 Assist NSW DPI in adoption and implementation of the Cabbage Tree Bay Aquatic Reserve Management Plan.	% of proposed actions implemented.	LS	75%	Draft Plan submitted by NSW OEH.
		1.3.10 Landscape Masterplan for reserves in coastal foreshores.	1.3.10.1 Implement adopted Sand Bay North and/or and Every's Point Reserve Landscape Masterplan.	% of proposed actions implemented.	CUS	75%	Plans being implemented ongoing on the reserves.
		1.3.11 Assess and plan water access facilities & infrastructure.	1.3.11.1 Develop long term plan for marine infrastructure & boat storage, seek funding for new boat storage and other marine infrastructure.	Complete and fund sought.	LS	100%	Plans completed. Funding being sought for implementation from Shire of Sydney Harbour Access Program.
		1.3.12 Establish and manage coastal erosion risk areas.	1.3.12.1 Incorporate identified coastal risk areas into LEP.	Coastal Erosion and Inundation Risk area incorporated into LEP.	LS	90%	Relevant studies completed by VTRL incorporated into LEP and pending NSW Govt Stage 2 Coastal Reforms underway.
		1.3.13 Delivery of Water Cycle Management Plans, Projects and Strategies.	1.3.13.1 Delivery of SHOROC Regional Groundwater Resource Investigation Consultancy Brief.	Number of certificate prepared and issued.	LS	0%	see 2.1.4.2
		1.3.14 Development of a new 4 year Fitable Water Savings Action Plan (2012/13) subject to ongoing statutory	1.3.14.1 Completion of assessment of adopted 2008/09 - 2012/13 Water Savings Action Plan by 2012/13.	Completion of SHOROC Regional Groundwater Resource Investigation.	LS	100%	SHOROC Regional Groundwater Study Draft report finalised.
		1.3.15 Continued development and implementation of sustainable alternate water re-use schemes at Council facilities.	1.3.15.1 Stormwater harvesting feasibility assessment for key reserves (e.g. M. Graham as per adopted Masterplan).	Number of Council alternate water sourcing schemes (rainwater, stormwater, groundwater) Probable water saved.	LS	25%	LM Graham Stormwater Harvesting Design work approved by General Manager 21/6/2013. Outlets to be sought and project commenced.
		1.3.16 Ongoing implementation of Manly Lagoon Integrated Catchment Management Strategy in partnership with Warringah Council.	1.3.16.1 Ongoing Operations Maintenance shared with Warringah Council, including (1)VML, Raintail and Water Level Monitoring (2) Low Flow Pipe Management (3) Scour Channel Entrance Management, and (4) Lagoon Boom Maintenance.	Continuance of Ongoing Operations Maintenance shared with Warringah Council for pollution and flood risk management.	LS	35%	Projects underway and ongoing. Detailed Design underway for Manly West Park Sediment Basin, construction planned end 2013.
		1.3.17 Development of a Manly LGA & Manly Lagoon Catchment Flood Study, Floodplain Risk Management Study, and Floodplain Risk Management Plan (2014).	1.3.17.1 Development and adoption of a Manly LGA & Manly Lagoon Catchment Flood Study (12-24 month project duration).	Development and adoption of appropriate Manly LGA & Manly Lagoon Catchment Flood Risk Management documents.	LS	65%	Manly Lagoon Flood Study complete and on public exhibition (May). Manly LGA Study Stage 1 & 2 underway.
		1.3.18 Development of a Water Sensitive Urban Design (Stormwater) Plan, and Improved Stormwater & Sewer Pollution Control.	1.3.18.1 Development of WSUD (Stormwater) Plan, implement new stormwater pollution control devices & detention systems. Continue Dry Weather Sewer Leak Investigation Program.	Development of a WSUD (Stormwater) Plan Number of GPTs. Number of basestation systems. Ongoing Dry Weather Sewer Leak Investigation.	LS	60%	Plan graphics and relevant objectives, principles, considerations and guidelines in LEPOCCP. Now on hold in WCM Team due to project resourcing.
		1.3.19 Bushland management, restoration works and maintenance on Council lands.	1.3.19.1 Development a 4 year bushland works program to provide strategic direction and implementation.	100% of proposed 4 year work's program actions implemented and works performance risk status met.	CUS	85%	Draft review of current document underway, and nearing completion.
			1.3.19.2 Restoration of bushland reserves and corridors.	Number of bushland reserves under active management. 100% of maintenance cycle for quarter complete. Number of native plants used to revegetate bushland corridors.	CUS	100% for this quarter	100% of maintenance cycle completed this quarter.

QUS - Qvile Urban Services, US - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMTU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter					
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Function
1. Natural heritage, bushlands and biodiversity is protected and valued for future generations (cont'd)	1.3 Undertake projects in partnership with community stakeholders that protect, preserve and manage Manly's bushland, biodiversity, geo-diversity, waterways, estuary environments and waterholes to benefit future generations. (cont'd)	1.3.19 Bushland management, restoration works and maintenance on Council lands (cont'd)	1.3.19.1 Enforce noxious weed control on private property. Provide community education on impact of noxious weeds. Participate in regional strategies of noxious weed management through involvement with Sydney North Regional Weeds Committee.	Number of noxious weed inspections, notices issued, and percentage compliance to notifications. Provision of education materials and services at all Council managed environmental events. All Sydney North Regional Weeds Committee meetings attended.	CUS
		1.3.19.2 Maintain and upgrade bushland track on the Manly Shire Wayway and other bushland reserves.	1.3.19.2.1	Under metrics of walking track, upgraded and maintained.	CUS
		1.3.19.3 Implementation of Bushland Environment Levy projects.	1.3.19.3.1	100% completion of Bushland Environment Levy projects.	CUS
		1.3.19.4 Develop and implement a four year rabbit control program across Council land and private land.	1.3.19.4.1	100% of cycle of rabbit control completed. Noxious weed control programs implemented.	CUS
		1.3.19.5 Work co-operatively with neighbouring councils and land managers.	1.3.19.5.1	Reduction in rabbit population identified by survey and Rabbit Density Index measure. Attendance at Urban Feral Animal Action Group meetings.	CUS
		1.3.19.6 Support volunteer participation in managing Council bushland areas. Continue to support and develop volunteer Bushcare Program. Review program yearly.	1.3.19.6.1	Number of volunteer Bushcare hours worked annually. Number of volunteer hours per quarter. Number of percentage of volunteer works carried out.	CUS
		1.3.19.7 Undertake bushfire fuel reduction works on Council land and private land in accordance with the Bushfire Management Plan.	1.3.19.7.1	100% implementation of Bush Fire Risk Management Plan.	CUS
		1.3.19.8 Develop and implement of bushfire education strategy coordinated by Manly Mosman North Sydney Bushfire Committee.	1.3.19.8.1	100% of bushfire education strategy developed. 100% of actions from bushfire education strategy implemented.	CUS
		1.3.20 Continued environmental advocacy and advice such as:	1.3.20.1	Environmental advocacy and advice such as:	LS
		1.3.21 Providing internal sustainability advice on major development assessments, and Council's Reviews of Environmental Factors, policy/ strategic sustainability planning as required.	1.3.21.1	Provision of advice for DAV REFs, strategic sustainability planning as required.	LS
		1.3.22 Working with SHOROC on regional sustainability projects as required.	1.3.22.1	Provide input to the SHOROC Shaping Our Future regional strategy, and make advice to the community.	LS
		1.3.23 Continued Community & Environmental Partnerships.	1.3.23.1	Continued Community & Environmental Partnerships. Programs developed and implemented.	LS
				Input provided as required.	LS
				Input provided into SHOROC Shaping Our Future Regional Strategy.	LS
				Programs developed and implemented.	LS
				Staff attended SHOROC workshops and participated in relevant SHOROC working groups.	LS
				DIG Mainly program finished for the year.	LS
				100%	LS

CUS - Civic Urban Services, LS - Landuse Sustainability, HS - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter							
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division		
1. Natural heritage, bushlands and biodiversity is protected and preserved for future generations (cont'd)	Undertake projects in partnership with community stakeholders that protect, preserve and manage Manly's bushlands, biodiversity, geo-diversity, coastal and estuary environments and water-cycles to benefit future generations. (cont'd)	1.3.24 Update Manly Council Education for Sustainability Strategy to reflect latest best practice in education for sustainability.	1.3.24.1 Demonstrate leadership in sustainability through interpretative signage and other relevant educational tools for Council's sustainability-oriented projects, such as solar panels and environmental restoration projects.	Number of programs / events per quarter.	LS		
		1.3.25 Capacity-build community members to become capable of leading community-based sustainability initiatives.	1.3.25.1 Share knowledge on education for sustainability methods with SHOROC Councils and work collaboratively on joint initiatives where appropriate.	Measure success of local programs (satisfaction indicators)	LS		
		1.3.26 Continue to provide sustainability engagement programs targeting schools, businesses, Council staff and community.	1.3.26.1 Develop and implement CEP programs.	Programs developed and implemented.	LS		
		1.3.27 Manly Environment Centre (MEC) management of "shopfront" for the purpose of information exchange, advocacy and research, events, activities and projects, and volunteers.	1.3.27.1 Promote awareness of Manly Environment Centre and Council's successful projects via International Sister Centres Network.	Expand on MEC international program for global project.	LS		
		1.3.28 Relocation of MEC;	1.3.28.1 Planning to secure a permanent long term venue for MEC and consult appropriate stakeholders.	Progress with plans.	LS		
		1.3.29 Move towards a more environmentally sustainable Manly working together with Councils and NGO's;	1.3.29.1 Celebrate 2012 as 20th Anniversary Year of World Environment Day and undertake public programs on key environmental topics to engage new groups.	Evaluate progress made since 1992 Council Community Conference - Meeting the Challenges.	LS		
		1.3.30 Maintain and promote the social and environmental networks;	1.3.30.1 Generate the International Year of Co-operatives to develop new partnerships local, national and globally.	Celebrate social and environmental networks through the What's On and attending other environmental events.	LS		
		1.3.31 Increase the numbers of interns and volunteers;	1.3.31.1 Continue to promote volunteer and internship programs.	Number of volunteer hours per quarter.	LS		
		1.3.32 Promote eco tourism, and	1.3.32.1 Continue to encourage visits from overseas delegations and universities to promote MEC & Council's projects.	Number per quarter.	LS		
		1.3.33 Promote MEC's role in addressing Climate Change issues in Manly	1.3.33.1 Working with local and national stakeholders to run events to celebrate 2012 International Year of Sustainable Energy for All.	Working more closely with environment groups and communities on sustainable energy.	LS		

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 Delivery Program Third Quarter Matrix

C. ENVIRONMENT							January - March 2013 Quarter	
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Officer	% Complete	Comment on KPI	
2. Create liveable neighbourhoods and more affordable housing choices by better managing population growth	2.1 Work in partnership with the community to better plan new and existing development of the built and natural environment	2.1.1 Refining & improving local character and built environment through the provision of Council urban design and planning services statutory requirements including:	2.1.1.1 Changes to Planning Instruments to retain and improve local character. Comments to the Department on proposed changes to legislation.	Council submissions to various legislation changes to the Department.	LS	75%	Write Paper on planning reforms related April 2013 including Exposure Draft of Planning Bill 2013 and Planning Administration Bill 2013 for consultation. Proposed reforms related to Council and Submissions being prepared.	
		2.1.2 Compliance with NSW planning legislation.	2.1.2.1 Finalise comprehensive LEP, DCP and other plans.	Refining and development of new comprehensive LEP and DCPs to meet local & community planning requirements.	LS	100%	Draft LEP Planning Proposal certified by Department, being exhibited and consulted.	
	2.1.3 Provision and preparation of Environmental Planning Instruments (EPis), Strategic Land Use Planning advice and development plans (LEP, DCPs, etc).	2.1.4 Provide strategic planning advice internally	2.1.3.1 Provision and preparation of Environmental Planning Instruments (EPis), Strategic Land Use Planning advice and development plans (LEP, DCPs, etc).	2.1.3.1.1 Arrange and manage public exhibition of EPis and address submissions.	Delivery of planning instruments in accordance with agreed schedule.	LS	100%	LEP and DCP commenced 19 April 2013 and initial draft amendments being progressed. DCP Amendment 1 prepared, exhibited and adopted.
			2.1.4.1 Consideration of the planning implications of the Metropolitan Strategy, draft North East Sub-regional Strategy, 2008 SHORC sub-regional Employment Strategy and other changes to Planning Instruments.	Planning advice provided within timelines.	LS	75%	Draft Metropolitan Strategy for Sydney to 2031 released March 2013 for consultation and Manly Council Submission to be made before 31 May 2013.	
2. Create liveable neighbourhoods and more affordable housing choices by better managing population growth (cont'd)	2.1 Work in partnership with the community to better plan new and existing development of the built and natural environment (cont'd)	2.1.5 Non statutory Landuse Planning Actions.	2.1.5.1 Non statutory actions as approved by Council e.g. Strategic plans, coastline plans and heritage projects for reserves.	Represent land use planning interests on various committees and working groups as required (no of inquiries, submissions etc).	LS	100%	Referrals to Committee reviewed, contributing to minutes and attending meetings as required.	
			2.1.5.2 Provision of planning advice to progress the delivery of Council community infrastructure improvements and strategic land use planning matters such as Part 5 Applications.	Correspondence is prepared and issued within agreed timelines and Council standards.	LS	Ongoing	Issued on agreed timelines.	
			2.1.6 Develop and implement Masterplans for major projects.	2.1.6.1 Completion of non statutory actions as approved by Council e.g. Strategic plans, coastline plans and heritage projects for reserves.	Reporting on statutory actions undertaken per quarter.	LS	100%	Plans completed on time.
			2.1.7 Develop and implement Plans of Management for Community Lands.	2.1.7.1 Progress implementation of Plans of Management and associated Landscape Masterplans, eg. LM Graham Reserve and Little Mary Reserve.	Actions implemented from adopted Masterplans.	LS	To be done	Masterplans yet to be identified.
			2.1.8 Upgrade reserves, town centres and urban and community infrastructure.	2.1.8.1 Submissions on State land use and environmental planning policies as required.	Planning advice provided within timelines.	LS	Ongoing	Provided as required.
			2.1.9 Work with the NSW government to ensure public benefits from future development of former Sealoth TAFE site.	2.1.9.1 Communicating general planning policy to stakeholders, including within Council and community.	Planning advice provided within timelines.	LS	Ongoing	Provided as required.
			2.1.10 Heritage Planning by providing a strategic approach to dealing with all types of heritage in Manly including built, natural, Aboriginal, maritime, parks and gardens and moveable heritage.	2.1.10.1 Heritage Planning by providing a strategic approach to dealing with all types of heritage in Manly including built, natural, Aboriginal, maritime, parks and gardens and moveable heritage.	Using activities undertaken on a quarterly basis.	LS	100%	Preparation of Statement of Environmental Effects.
			2.1.11 Statutory planning requirements are adhered to.	2.1.11.1 Preparation of Grant applications.	Grants achieved to assist planning and heritage.	LS	100%	N/A this quarter.
			2.1.12 Identification and protection of Manly's heritage items.	2.1.12.1 Management of bi-monthly Heritage Committee, including report preparation and monitor outcome.	Provision of timely advice on heritage matters.	LS	100%	All enquiries responded to within given timelines. AHO given an opportunity to present to the Heritage Committee.
			2.1.13 Statutory planning requirements are adhered to.	2.1.13.1 Management of bi-monthly Heritage Committee, including report preparation and monitor outcome.	Heritage input to LEP and DCP planning as required on time.	LS	100%	Heritage Committee set up and operational. Bi-monthly meetings are held to schedule.
2.1.14 Identification and protection of Manly's heritage items.	2.1.14.1 Provision of heritage advice on development proposals.	Provision of heritage advice.	LS	100%	All enquiries responded to within given timelines. AHO given an opportunity to present to the Heritage Committee.			

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

C. ENVIRONMENT							January - March 2013 Quarter	
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division	% Complete	Comment on KPI	
3. Create liveable neighbourhoods and more affordable housing choices by better managing population growth (cont'd)	21. Work in partnership with the community to better plan new and existing development of the built and natural environment (cont'd)	21.1 Maintaining Corporate Geographic Information System (GIS) and Land Information Systems (LIS) services. Linking disparate databases and datasets relating to Marly's natural resources (e.g. groundwater, acid sulphate soils, biodiversity, geodiversity, coastlines) via geographic location using GIS. Continued Council regulation of development in accordance with sound and consistent local planning controls.	c. Provide support for the Aboriginal Heritage Office.	Provision of heritage advice.	LS	100%	All enquiries responded to within given timeframes. AHO given an opportunity to present to the Heritage Committee.	
			d. Assume responsibility for the Marly Cemetery.	Completion and implementation of Marly Cemetery Heritage Review recommendations.	Report on progress.	LS	100%	Ongoing.
			e. Reporting on heritage maintenance and acquisition.	Management of Council's Local Heritage grants program.	Grants achieved to assist planning and	LS	50%	Two of the four grants paid this year.
			f. Development of education programs for locals and visitors to better understand Marly's environmental heritage.	Support and coordinate the activities of the Aboriginal Heritage Office.	Activities table via AHO annual report process and updating GIS information.	LS	100%	Ongoing.
			g. Infrastructure improvements to protect Marly's heritage.	Reports to Council on heritage matters.	Reports to Council on heritage matters.	LS	100%	Ongoing as required.
			h. Development of new communication strategies regarding Marly's heritage.	Reports to Council on heritage matters.	Reports to Council on heritage matters.	LS	100%	Ongoing as required.
			i. Continued heritage advice on Marly Cemetery maintenance activities including the Marly Cemetery Grounds Maintenance specification including;	Continued heritage advice on Marly Cemetery maintenance activities including. Implement actions from the Marly Cemetery Grounds Maintenance specification.	Provision of heritage advice. 100% of the cemetery maintenance cycle completed. 100% of proposed weed control effected.	LS/CUS	100%	Ongoing as required.
			j. Provide security measures to prevent vandalism;	Manage conservation program. Implement actions from the Cemetery Conservation Management Plan.	Provision of heritage advice. 100% of proposed recommended improvements were completed.	LS/CUS	100%	Ongoing as required.
			k. Provision of funding to implement maintenance and restoration of graves as identified in the Cemetery Conservation Management Plan.	Progress the restoration of grave sites on the iconic Graves List in consultation with the Heritage Committee.	100% of proposed grave rectification works recommended by Heritage Committee completed.	LS/CUS	100%	Ongoing as required.
			21.11 Provision of design and specifications for Council architectural and landscape projects as required. Design of Street scape plantings & playgrounds.	21.11.1 Preparation of designs, consultation and approval of construction. 21.11.2 Provision of designs, plans and specifications for urban public domain and community infrastructure improvement projects as required.	Design advice provided within timeframes. Design advice is provided within timeframes.	CUS	100% for this quarter 100% for this quarter	Comments and advice improvement in local playground and plantings also detailed in social initiatives. Advice given improvement in local playgrounds and plantings; also detailed in social initiatives and Marly Swim Centre.
21.12	21.12.1 Ensure that the GIS is available to staff to assist Council business and customer service functions. 21.12.2 Complete a comprehensive list of existing databases and datasets, and identify additional data required e.g. location and list of threatened species in LGA.	GIS advice within timeframes. List of existing databases and additional data compiled.	CUS	100% 15%	All GIS advice provided on time as required. Plan has commenced. The new layer will be created based on the available information in the threatened species within the Marly LGA. In consultation with natural resources branch.			
21.13	21.13.1 Continued provision of Building Compliance services development in accordance with sound and consistent local planning controls.	a. Assess and approve development.	Number of mandatory building inspections (pa).	LS	100%	Ongoing. Approximately 80 complaints investigated per month.		
		b. Review of DA approval process.	Number of Construction Certificates (pa).	LS	100%	Ongoing. Approximately 28 Construction Certificates issued and received each month.		
		c. Provide comments for Development Application proposals.	Manage safety complaints (number pa).	LS	100%	All work safety complaints investigated within 24 hours.		
		d. Building Compliance & complaints and illegal use (number pa).	Manage Cooling Tower complaints.	LS	100%	All cooling towers are tested on an annual basis.		
		e. Swimming Pool Compliance & Fire Safety.	Water quality testing of public swimming pools (number pa).	LS	100%	Ongoing. Public pools tested in Summer periods.		
		f. Manage Trust Fund Deposits.	Customer requests investigated.	LS	100%	Register completed.		
		g. Provide Advisory Service.	Number of notices and orders issued.	LS	100%	Approximately 10 Notices and Orders issued each month.		
		h. Provide customer requests investigated.	Number of customer requests investigated.	LS	100%	All enquiries answered within 14 days.		

CUS - Civic Urban Services, LS - Land Use Sustainability, HS - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

C. ENVIRONMENT					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Staff	% Complete	Comment on KPI
1	21.14	Work in partnership with the community to better plan new and existing development of the built and natural environment (cont'd)	Continued Council regulation of Environmental Health Services in accordance with the local, state and national legislation.	21.14.1 Continued Environmental Health (EH) services	Conduct Environmental Health inspections and audits of local businesses in relation to food preparation and sun penetration (number per)	90%	400 Health Food Shop premises inspected
				21.14.2 Conducting public health inspections.	Completion of annual EH inspections	10%	Shored Accommodation complete. Reminder to be initiated 2013.
				21.14.3 Compliance with NSW Food Safety Standards.	Monitor Ocean and Harbour water quality.	0%	Program to commence in Summer period.
				21.14.4 Regulation and pollution prevention program relating to air, water and noise.	Number of customer requests investigated.	100%	All requests investigated within 14 days
				21.14.5 Implement Many Scores on Doors Food Safety Rating Program for restaurants.	Report on program quarterly.	100%	All food premises inspected have been provided with Certificate.
				21.14.6 Provide comments for Development Application proposals.	Report quarterly.	100%	All DA comments provided within 10 days.
				21.14.7 Conduct Food Handling Seminars.	Report quarterly.	100%	Food handling courses provided each year.
				21.14.8 Acoustic testing as required for Environmental related noise complaints.	Report quarterly.	100%	All noise complaints measured within 28 days.
	21.15	Continued Development Services & Assessment and Control services.	Assessment and review of all development applications received by Council in accordance with State legislation, Planning Instruments, current Council plans and policies.	21.15.1	Number of DA assessed per annum.	75%	There were 84 development applications assessed in the third quarter, slightly over the 56 assessed in the previous period.
	a	Provide advice to customers (applicants, property owners, residents) relating to development.	Update systems to incorporate changes in legislation and Environmental Planning Instruments.	21.15.2	Number of days to assess a DA.	65%	The average number of days to determine applications was 74.5 days in the second quarter, slightly decreased from previous quarter despite complex applications received.
	b	Promote appropriate development in accordance with legislation, Council Policies and Plans.	Update systems and implement New Many/Lot all Environmental Plan and Development Control Plan.	21.15.3	Value of development proposals.	55%	The value of development proposals for the second quarter was \$10,677,000 whilst the number of applications received decreased by 25%.
	c	Provide information and advice to stakeholders during the assessment period.	Review and assess development applications and make application applications in accordance with State legislation, Planning Instruments, Council Control Plans and policies.	21.15.4	Number of Pre-Submission meetings held.	100%	The number of Pre-Submission meetings requested and held indicates resourced development activity through this quarter.
	d	Achieve a balanced outcome that benefits residents whilst maintaining the quality of the natural and built environments.	Provide training to assessing planners in order to implement changes in legislation and implement the New Many/Lot all Environmental Plan and Development Control Plan.	21.15.5	Number of staff attending training.	100%	All Assessment Planners have attended meetings and programmed training.
	e	Protect the public interest with respect to development.	Provide feedback to Council's Strategic Planning section on development and measures necessary to ensure the environment is enhanced/administered.	21.15.6	Percentage of development Code. Percentage of appeals dismissed.	75%	Number of Appeals increased this quarter. Percentage available to Strategic Planning section.
	3.1.1	Implement mitigation and adaptation measures identified in Council's Carbon Emissions Reduction Plan (CERP) and Climate Change Adaptation Action Plan.	Finalisation of the Climate Change Adaptation Action Plan (CCAAP) and Carbon Emissions Reduction Plans for Council and the community.	3.1.1.1	Completion of CCAAP and Carbon Emission Reduction Plans.	60%	Limited progress made on Adaptation Action Plan - responsibility of Environmental Planner (vacant since April 2011).
3	3.1	Work in partnership with key stakeholders to improve Many's ability to adapt and respond to climate change	Identify and commence implementation of priority actions in the CCAAP and CERP.	3.1.1.2	Progress towards implementation of the Council CERP, the Many Community CERP and the Many CCAAP (once finalised).	50%	Priority actions implemented in draft CCAAP. Completed CERP priority actions including replacement of failing voltage reduction units in carparks and replacement of street lighting for installation of solar street water in identified facilities. Preliminary Report not cited carbon emissions target achieved for Council Corporate.
	3.1.1.3	Continue partnerships with the SCCG, LUSA and universities with seek to provide Council with best practice management responses to climate change	Partnerships with the SCCG, LUSA and universities etc continued.	3.1.1.3	Partnerships with and support provided to SCCG, universities etc continued.	ongoing (75%)	Ongoing and case study projects regularly undertaken and partnerships with key groups.

QUS - Qvile Urban Services, US - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMTU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

C. ENVIRONMENT							
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division	% Complete	January - March 2013 Quarter
4 A clean Manly with zero waste	Work in partnership with the community to minimise waste & undertake public cleansing programs	4.1.1 Continued waste and cleansing programs such as:	4.1.1.1 Managed waste services continued, such as:	Continued managed Waste Services.	LS	ongoing	Ongoing provision of responsible waste and responsive waste services to the community.
		4.1.2 Waste Avoidance program by reducing material entering the waste stream, including increases in diversion rates.	4.1.2.1 Domestic garbage collection, waste minimisation education to increase waste avoidance, recycling and composting rates and increase awareness and use of alternatives to disposable nappies.	Garbage and recycling rates (kg/capita/annum (KCA))	LS	80%	Council has continued support for the EPA Love Food Hate Waste Program and has continued to encourage residents to use green waste bins to unit blocks as of January 2013 - vegetation bins for unit blocks are not mandatory at this stage. Residents can keep their bins in their own yards to keep them out of the street. Council has continued to support the Manly Resource Recovery Centre anytime.
		4.1.3 Cleaning public places, facilities, parklands, beaches, road reserves and stormwater catchments.	4.1.3.1 Cleansing Services continued such as:				
			4.1.3.1 Beach Cleaning.	Clean Beaches awards.	LS	ongoing	Ongoing beach preparation as per beach cleaning program
			4.1.3.2 Street Sweeping.	Street sweeping litter collected.	LS	ongoing	107 tonnes collected from streets in quarter
			4.1.3.3 Public Toilet Cleaning.	Reduced urinals.	LS	ongoing	Costs within budget.
			4.1.3.4 Facilities Cleaning.	Reduction in accidents.	LS	ongoing	No accidents reported in this quarter
			4.1.3.5 Reserve Cleaning.	Report quarterly.	LS	ongoing	Approx 150 tonnes per month collected from reserves
			4.1.3.6 Public Place Cleaning.	Report quarterly.	LS	ongoing	243.76 tonnes of waste collected during the reporting period
			4.1.4 Extending the range of recyclable materials suitable for collection within Council services.	4.1.4.1 Vegetation, paper and container recycling and kerbside collection service. The range of recyclable materials has been extended. Continue to educate residents on this change to encourage increased recycling & recovery of resources.	Report quarterly.	LS	60%
	4.1.5 Pursue partnerships to facilitate regional and SHOROC-wide common waste collection systems.	4.1.5.1 Introduce a green waste collection bin to all residents.	Financial viability reports.	LS	65%	Senior waste officer has always attended SHOROC meetings. Council is now rolling out green waste bins to unit blocks as of January 2013 - vegetation bins for unit blocks are not mandatory at this stage. Vegetation tonnes = 653.20	
	4.1.6 Undertaking Community and Environmental Partnerships to increase composting by residents, and educate and implement sustainability programs.	4.1.6.1 Continue to sell compost bins, worm farms and accessories to residents at cost price. Continue education for residents through DIO Sustainability workshops and other programs. Continue to support Resilience Make available waste and sustainability workshops to schools.	Report quarterly.	LS	60%	Council continue to sell compost bins and worm farms at a discounted price. Provision of advice on composting when residents are using the bins to help fix problem composts.	

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

D. GOVERNANCE					January - March 2013 Quarter		
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division	% Complete	Comment on KPI
1. Transparent and accountable decision making	1.1 Provide transparent and accountable corporate governance	1.1.1 Develop and apply effective governance systems for monitoring and evaluating policies and procedures to ensure they are up to date, relevant and effective.	1.1.1.1 Review relevant Codes and Policies required following local government election.	Payment of Expenses and Provision of Facilities to Councillors Policy, Council's Code of Conduct and Code of Meeting Practice reviewed.	GMU	75%	Payment of Expenses and Provision of Facilities to Councillors updated November 2013. New Model Code of Conduct adopted and commenced on 1 March 2013.
			1.1.1.2 Review Council's Policy Register.	Policy Register updated.	GMU	65%	Comprehensive Policy review of all policies commenced.
			1.1.1.3 Provide awareness raising activities / relevant training on revised Codes and Policies	Report to GM quarterly on awareness / training activities undertaken.	GMU	50%	Report completed.
			1.1.1.4 Review relevant best practice guidelines.	Report quarterly.	GMU	100%	Reviewed as required and recommendations for improvements made as identified.
			1.1.1.5 Report on governance systems implemented, policies and procedures reviewed, and updates/revisions made.	Report on actions furnished.	GMU	100%	Reported as identified.
		1.1.2 Ensure that Council has access to and use of quality professional advice internally and externally.	1.1.2.1 Maintain a register of professional advice provided internally and externally.	Register is maintained, accurate and up-to-date.	GMU	100%	Completed. Ongoing maintenance.
			1.1.2.2 Review the quality, timeliness and value for money of advice provided internally and externally.	Report quarterly.	GMU	100%	Legal panel survey results analysed. Review of internal advice ongoing.
		1.1.3 Transitioning Council to an integrated Strategic Planning framework and reporting systems within Council business and service delivery units that align the Community strategic plan, Delivery Program and Operational Plan.	1.1.3.1 Manage IPR documents and plans to produce Quarterly updates to Councillors on Delivery Program 4 year actions and 1 year Operational Plan actions and key performance indicators.	Monitoring the achievement of 10 Year Community Strategic Plan strategies.	Strategy	100%	End of Term Report reviewed as per DLG requirements. Community engagement completed. Operational Plan CSP Beyond 2021, New Plan prepared.
				Monitoring and Reporting on the achievement of Four Year Delivery Plan actions.	Strategy	100%	Preparation of quarterly reports to Council on this plan.
				Monitoring and Reporting on the achievement of One Year Operational Plan actions.	Strategy	100%	Preparation of quarterly reports to Council on this plan.
	1.2 Continue to meet legal and ethical obligations	1.2.1 Develop and apply governance systems that ensure that Council is meeting its legal and ethical obligations.	1.2.1.1 Monitor legislative compliance processes and reporting program.	Legislative and reporting requirements delivered on time and as required under various legislation.	GMU	75%	Ongoing. Budget bid placed for electronic monitoring system for 2013/2014.
		1.2.2 Develop and apply governance systems that prevent and detect fraudulent, dishonest and unethical behaviour.	1.2.2.1 Monitor effectiveness of organisations systems in detecting fraudulent, dishonest and unethical behaviour.	Report quarterly.	GMU	100%	Policy and plan in draft, and will be part of the comprehensive policy review.

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

January - March 2013 Quarter				
Goals	Strategy	Four Year Plan	One Year Plan	KPI
1.3	Provide organizational support to Councilors, employees and staff, and information to the community as required	1.3.1 Continued provision of support services to Councilors.	1.3.1.1 Production of Business Papers and Councillor information packages.	Production of Business Papers/Councillor Information Packages distributed by close of business Thursday
			1.3.1.2 Monthly Briefing Report to Councilors.	Production of Monthly Briefing Report to Councilors.
			1.3.1.3 Manage Corporate Diary and Civic Events.	Corporate Diary and Civic Events updated and distributed by close of business Thursday
			1.3.1.4 Ensure that Council Chambers and meeting areas are serviced.	Report quarterly
				Chambers services have hosted the following functions and Business meetings in the Cove, Cir Room and in the Main Chambers: • 34 x Committee Meetings • 73 x Meetings e.g. staff training sessions, interviews, staff meetings • 10 x functions, including offsite functions • 6 x Council Meetings/Cir Workshops • 7 x Citizenship Ceremonies Special Functions/Events Functions, events, functions etc. have been well administered and serviced via the staffing and planning undertaken in this area
			1.3.1.5 Coordinate an information program for community members wishing to stand for local government.	Information provided for those wishing to stand for local government.
			1.3.1.6 Conduct Local Government Elections.	Local Government elections conducted as required
				Information provided last quarter and completed.
				Elections held and managed by NSW Electoral Commission. Action complete.

CUS - Civic Urban Services, LS - Land Use Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

D. GOVERNANCE		January - March 2013 Quarter				
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead Division	% Complete
1. Transparent and accountable decision making (cont'd)	1.3 Provide organizational support to Councillors, employees and staff, and information to the community as required (cont'd)	1.3.1 Continued provision of support services to Councillors, cont	1.3.1.7 Review and implement Councillor Induction Program.	Induction Program delivered for all Councillors following local government election.	CS	100%
			1.3.1.8 Coordinate training program for Councillors.	Training provided for all Councillors following local government election.	CS	100%
		1.3.2 Access by the community to Council reports and information.	1.3.2.1 Manage Council meetings.	Action items arising out of Council meetings carried out within agreed timeframe.	CS	100%
			1.3.2.2 General promotion of Council services and activities.	Production and public availability of Business Papers and Minutes by close of business Thursday.	CS	100%
		1.3.4 Manage Council's records in accordance with the State Records requirements.	1.3.4.1 Continue to maintain comprehensive records systems for Council's records including TRIM EDMS implemented and training continuing.	Records systems are up to date and comprehensive. TRIM EDMS operating effectively.	CS	100%
		1.3.5 Network and technical infrastructure has the capacity to support the increasing demand.	1.3.5.1 Upgrades to core business software to improve the effectiveness and efficiency for the delivery of IT services.	Upgrades delivered.	CS	75%
		1.3.6 Provision of Information Systems that meet business and administrative demands of the Council and optimise access to information systems to meet staff and public requirements.	1.3.6.1 Management and implementation of rollover system for technology infrastructure.	Rollover managed.	CS	75%
			1.3.6.2 Identification and mitigation of risk for Council's technology investments.	Identification of risks.	CS	75%
		1.4 Maintaining quality customer services and dispute resolution processes	1.4.1 Investigate feasibility for centralisation of Customer Service Centres – CSC Kiosk in Balgownie or Seaford.	Disaster Recovery testing carried out this quarter and planning for Payment Card Industry (PCI) Compliance progressed to achieve compliance in 4th quarter.	GMU	0%
		1.4.2 Introduction of Customer Service objectives in all position descriptions and performance reviews.	1.4.2.1 Revise all staff position descriptions and performance review documents to incorporate standard customer service objectives.	Position Description templates have been reviewed for need to update Customer Service objectives as part of annual performance appraisal system.	CS	90%
		1.4.3 Upgrade of customer area in Town Hall to provide greater access to Council information.	1.4.3.1 Improved layout of Town Hall foyer brochure stands, seating, displays, computer access, lighting.	Improved customer service facilities.	GMU	Ongoing
				Only maintenance funds available this budget year. No carpet planned for next quarter.		

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

CUS = Civic Urban Services, LS = Landuse Sustainability, HSF = Human Services Facilities, CS = Corporate Services, GMU = General Manager Unit

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

D. GOVERNANCE		January - March 2013 Quarter			
Goals	Strategy	Four Year Plan	One Year Plan	KPI	Responsible Lead/Division
1.6	Identify and manage risk to Council, take appropriate action to eliminate or minimise Council's risk exposure. Minimise loss to Council by proactive claims management and pursuing recoveries	1.6.1 Completion of Enterprise Risk Management for whole of Council. Increase awareness to risk or risk avoidance. Completion of HIH recovery and Lehmann's alternative dispute resolution process. Reduction in number and quantum of claims.	1.6.1.1 Finalise climate change adaptation plan with assistance Landuse & Sustainability Division and of Stolenode. Continuous process of establishing enterprise risk management. Proactive in-house management of under recovery claims. Review of recoveries. Promote minimisation of risk throughout Council.	Completion of Climate Change Action Plan (CCAP). Completion of risk rating in Council's risk register. Ensure adequate insurance coverage in place to decrease as far as possible the number and quantum of claims. All possible recoveries pursued.	GMU
1.7	Ensure Council's workforce is recruited, trained, managed and rewarded fairly and equitably	1.7.1 Develop incentives to attract and retain skilled employees. 1.7.2 Provide employees with a voice on workplace matters. 1.7.3 Operation of salary Administration System. 1.7.4 Increase representation of young persons within workforce. 1.7.5 Manage Corporate Training Program.	1.7.1.1 Optimise relationship between pay and performance to increase employee satisfaction with pay. 1.7.2.1 Provide a Staff Consultative Committee. 1.7.3.1 Award compliance. 1.7.4.1 Develop and expand graduate, trainee and apprenticeship program. 1.7.5.1 Individual training and development plans that meet the needs of employees and Council.	Number of media inquiries services. Completion of Climate Change Action Plan (CCAP). Completion of risk rating in Council's risk register. Ensure adequate insurance coverage in place to decrease as far as possible the number and quantum of claims. All possible recoveries pursued. HR Ratio of acceptance to offers made, and Bi-Annual Staff Climate Survey. Frequency of Joint Staff Consultative Committee meetings. Number of wage-related grievances received. Ratio of graduates, trainees & apprentices to employee population. Ratio of performance appraisals conducted, and return on investment of learning initiatives.	GMU
1.8	Provide a workplace that ensures the health, safety and well-being of employees, workers & volunteers	1.8.1 Workforce planning to retain professional staff. 1.8.2 Monitor work practices & identify strategies to minimise WH&S risk. 1.8.3 Provide a WorkLife Balance Program.	1.8.1.1 Succession plans developed, and flexible work options provided. 1.8.2.1 Conduct WH&S audit program of work sites. 1.8.3.1 Implement staff wellbeing worklife balance program.	HR plans developed and implemented in all Departments. Number of WH&S incidents, and injury claims. Employee usage of work-life programs.	CS
1.9	Workplace diversity is valued and embraced	1.9.1 Support injured workers to return to pre-injury duties. 1.9.2 Strategies implemented to improve representation of EEO target groups.	1.9.1.1 Manage the rehabilitation of injured workers. 1.9.2.1 Monitor representation by EEO categories.	Claims by age, and cost of claims to Local Government Industry. Ratio of EEO target groups to employee population.	CS
			1.9.1.1 Monitor representation by EEO categories. 1.9.1.2 Learning opportunities provided to EEO categories.	Updated EEO employee survey will be administered – Date TBA To be collated from training application forms.	CS

CUS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

CUS = Civic Urban Services, LS = Landuse Sustainability, HSF = Human Services Facilities, CS = Corporate Services, GMU = General Manager Unit

ATTACHMENT 1

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

Delivery Program Third Quarter Matrix

Goals		Strategy	Four Year Plan		One Year Plan	KPI	Responsible Lead Division	% Complete	Comment on KPI		
4	Advocate to State and Federal Governments	4.1	Lobby for more resources and funding of public programs and projects in Manly and regionally	4.1.1	Pursue cost savings and resource sharing through regional procurement initiatives.	4.1.1.1	Participate with SHOROC Procurement Group.	Savings achieved through SHOROC procurement actions.	CS	Ongoing	Continuing work and savings results with SHOROC.
			4.1.2	Working with SHOROC in lobbying for improvements and fundings for transport, health, social services and environmental projects.	4.1.2.1	Refine strategies in working with SHOROC Executive.	Report on achievements gained through SHOROC initiatives.	CS	Ongoing	Continuing work and savings results with SHOROC.	
					4.1.2.2	Participation by relevant senior staff at SHOROC Executive and Regional forums.	Report actions and achievements undertaken quarterly in agreed SHOROC initiatives.	GMU	Ongoing	Attendance and input to SHOROC project continues to be carried out by staff.	
January - March 2015 Quarter											

CS - Civic Urban Services, LS - Landuse Sustainability, HSF - Human Services Facilities, CS - Corporate Services, GMU - General Manager Unit

ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

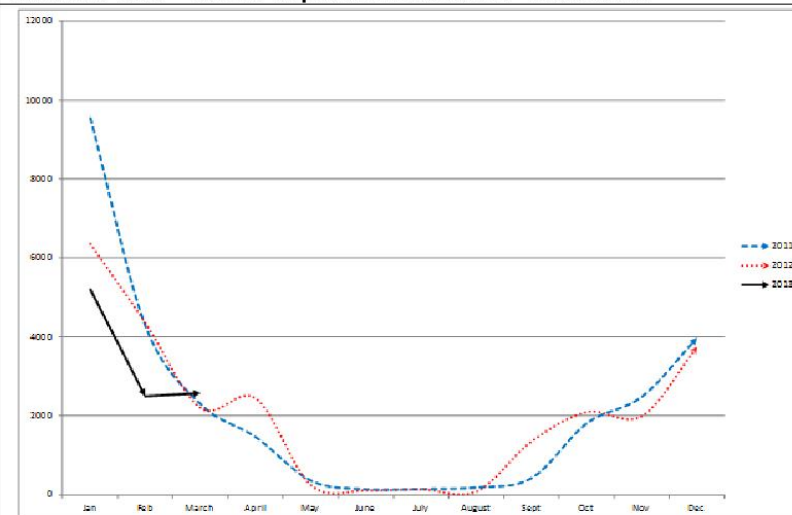
KPI Graphs for the Third Quarter

Third Quarter Progress Report 2012-13

Progress with Operational Plan 2012-13 and Delivery Program 2011-2015

Social 2.1.1

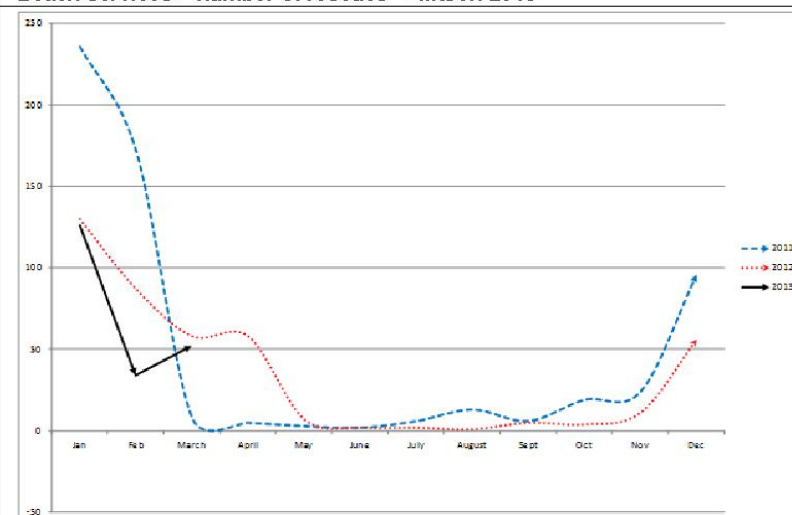
Beach services – number of preventative actions – March 2013



COMMENT: Figures reflect seasonal quarterly trends.

Social 2.1.1.1

Beach services – number of rescues - March 2013

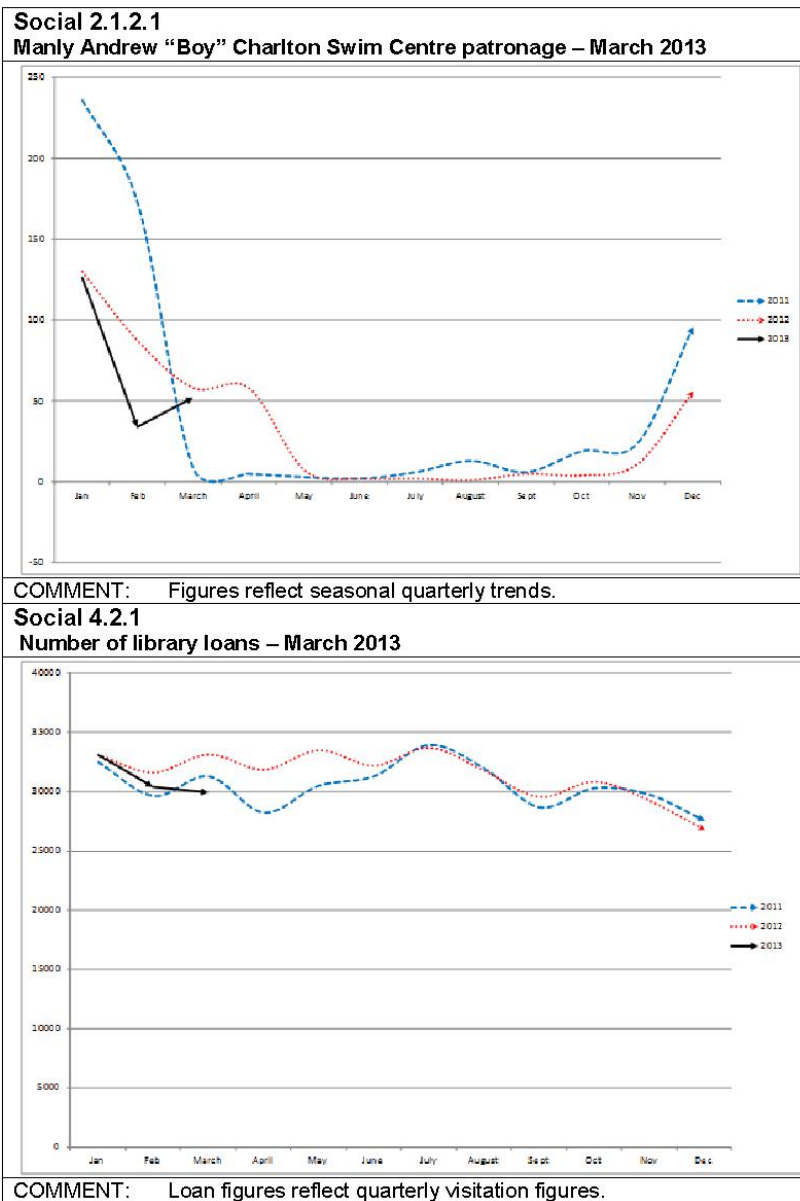


COMMENT: Figures reflect seasonal quarterly trends.

ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

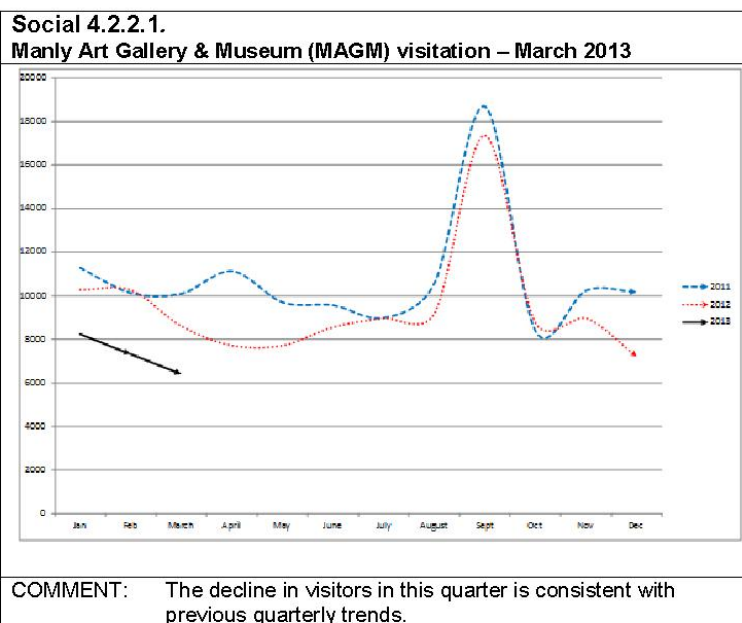
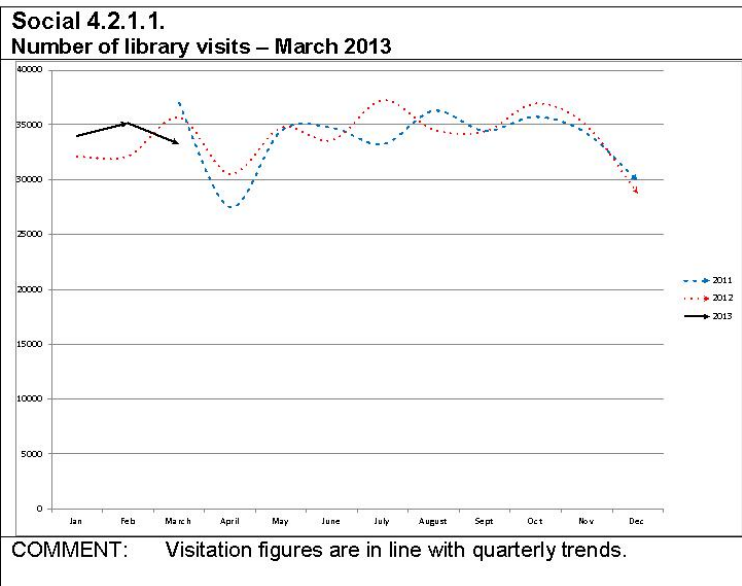
KPI Graphs for the Third Quarter



ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

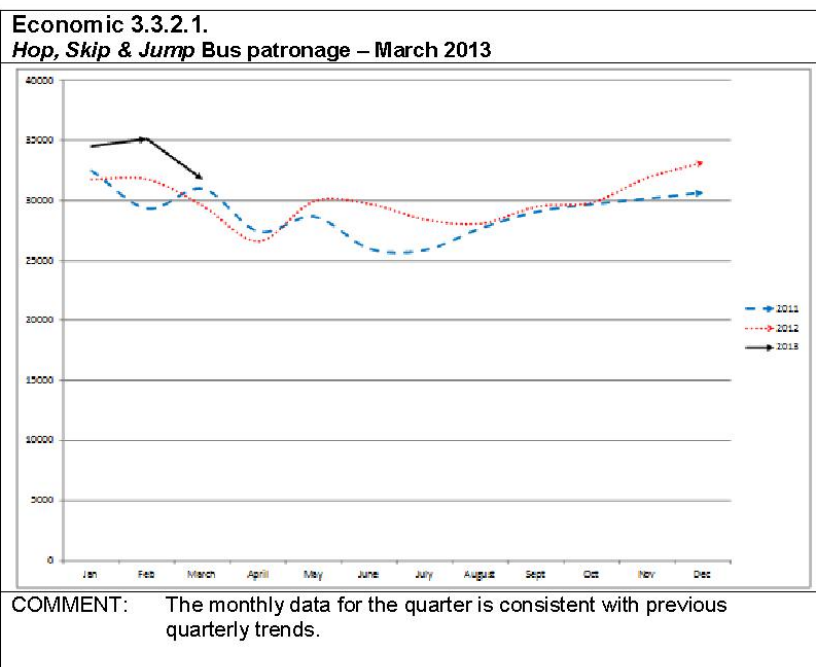
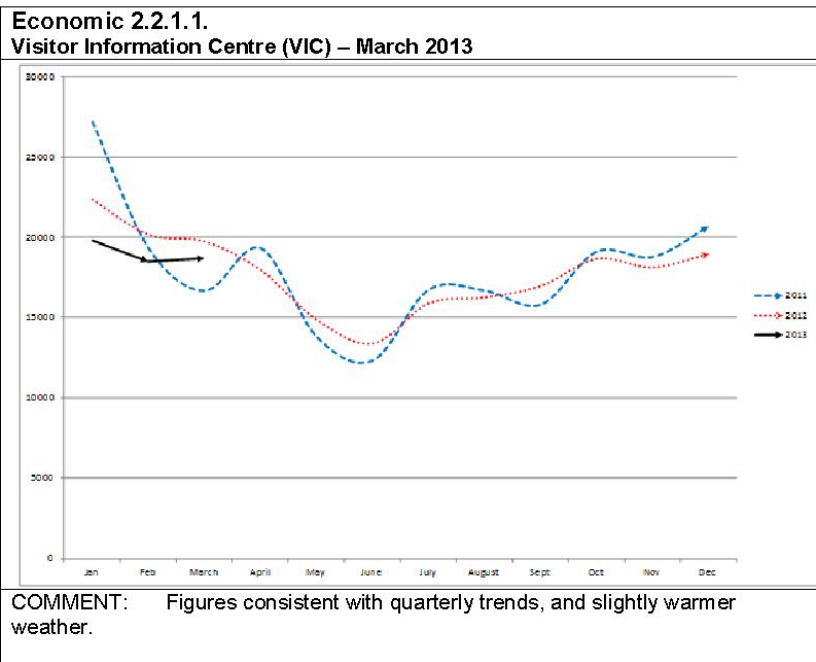
KPI Graphs for the Third Quarter



ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter



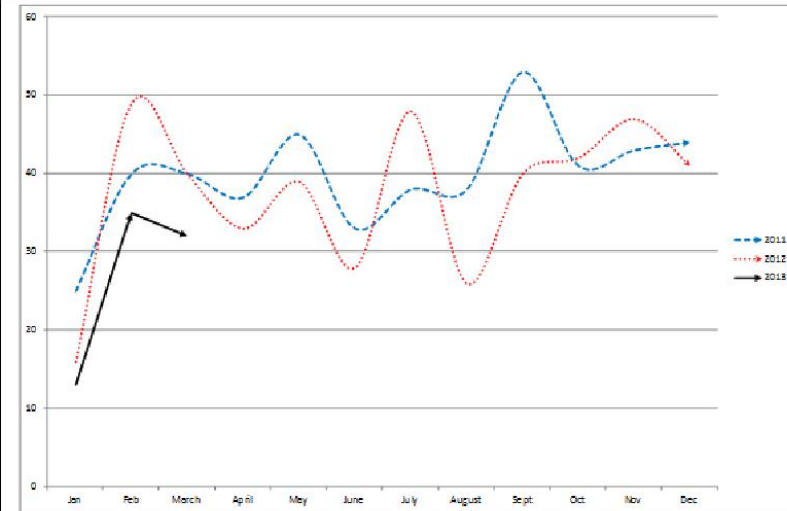
ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter

Environment 2.1.15.2.

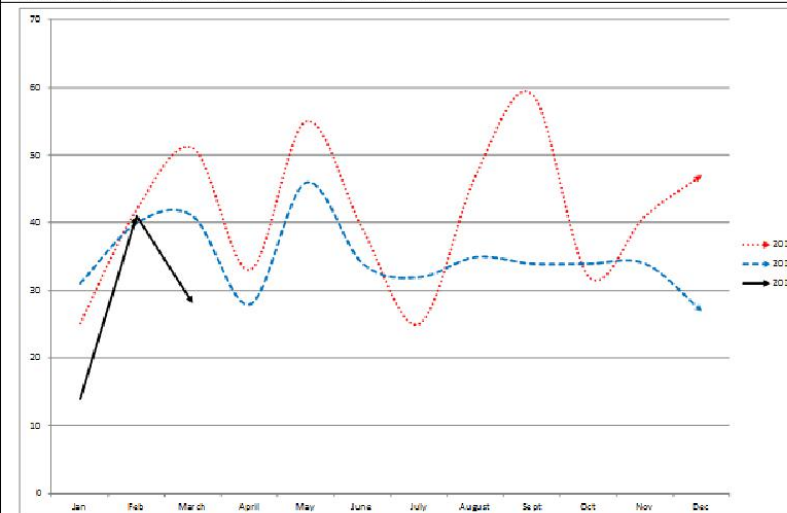
Number of DAs submitted – March 2013



COMMENT: There was a slight decrease of DAs submitted in the quarter compared to previous quarterly trends.

Environment 2.1.15.1.

Number of DAs determined – March 2013



COMMENT: Approval rates remain similar to previous quarterly trends.

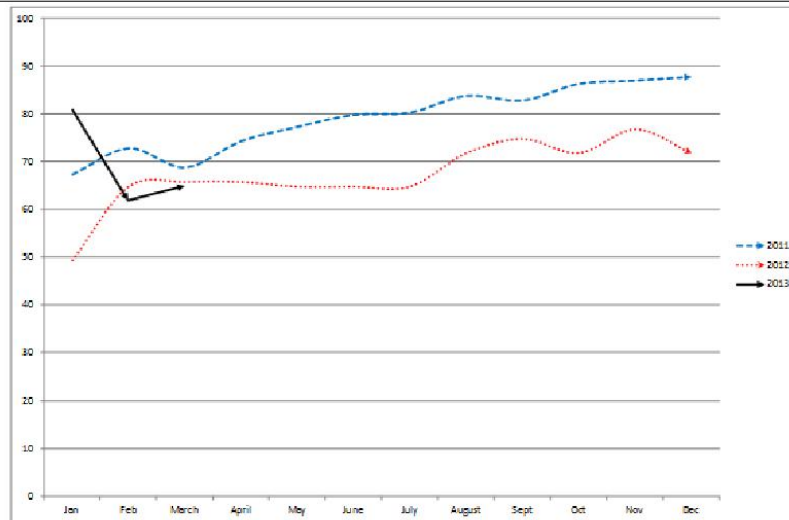
ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter

Environment 2.1.15.2.

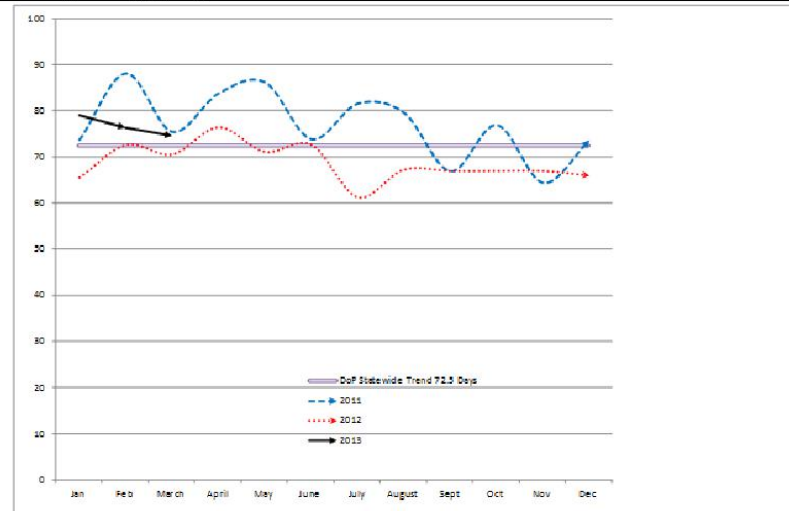
Year To Date Median days turnaround time of a DA – March 2013



COMMENT: Development Application turnaround times decreased in the quarter is consistent with previous quarterly trends.

Environment 2.1.15.2.

Mean (Average) days turnaround time of a DA - March 2013



COMMENT: Slight decrease in the quarter is still under DOP average.

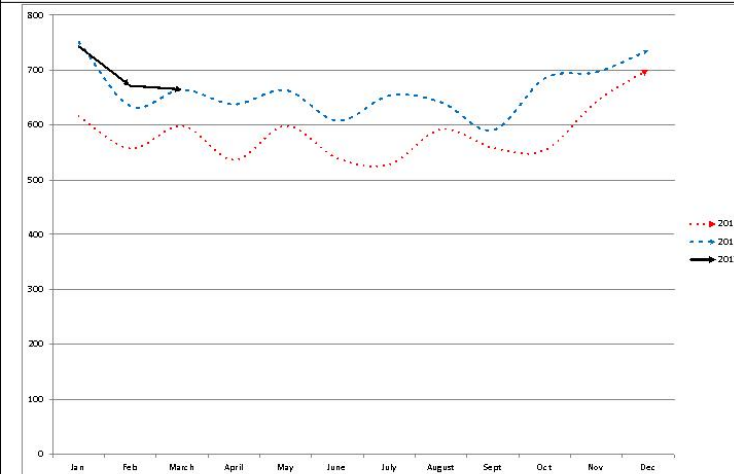
ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter

Environment 4.1.2.1.

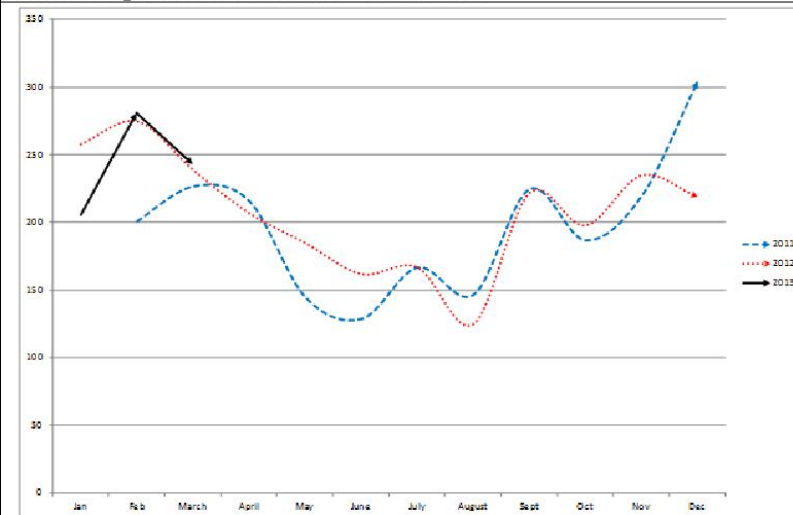
Tonnes of domestic garbage collected – March 2013



COMMENT: A slight decrease in collections for the quarter is in line with other quarterly trends.

Environment 4.1.5.1.

Tonnes of green waste collected - March 2013



COMMENT: A slight decrease in tonnage collected for the quarter is due to seasonal changes.

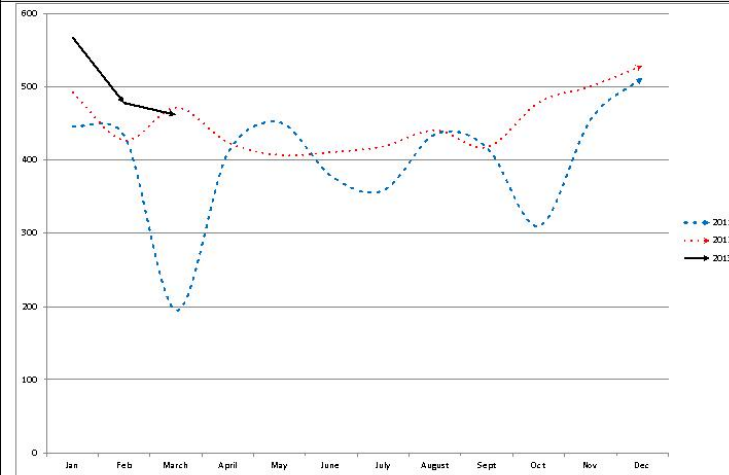
ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter

Environment 4.1.4.1.

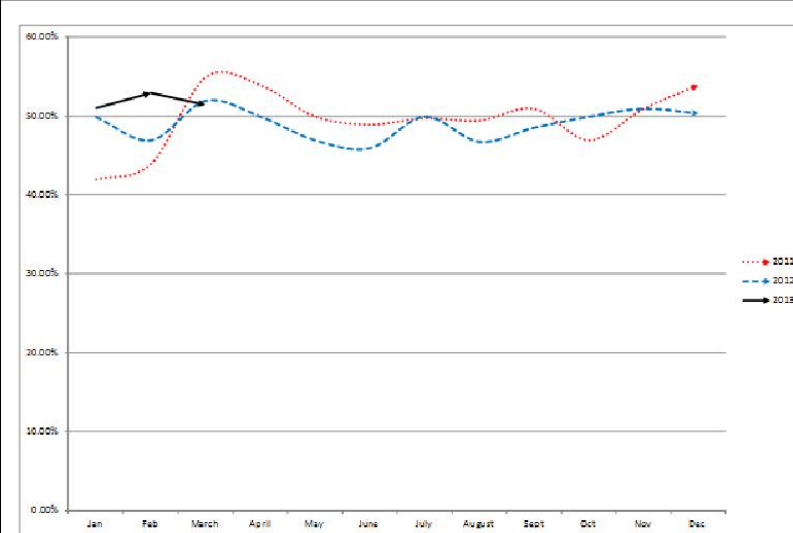
Tonnes of domestic recycling collected - March 2013



COMMENT: Collections were in line with previous yearly trends for the quarter.

Environment 4.1.7.1.

Landfill diversion rate - March 2013



COMMENT: Landfill diversion rates in March were similar to previous quarterly trends.

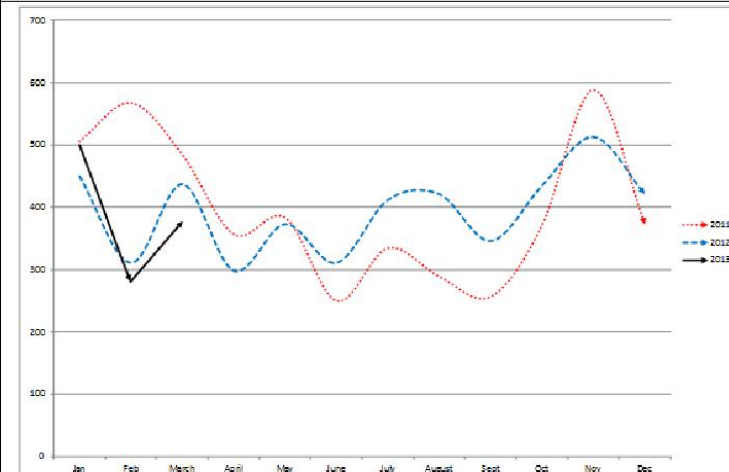
ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter

Environment 4.1.3.1.

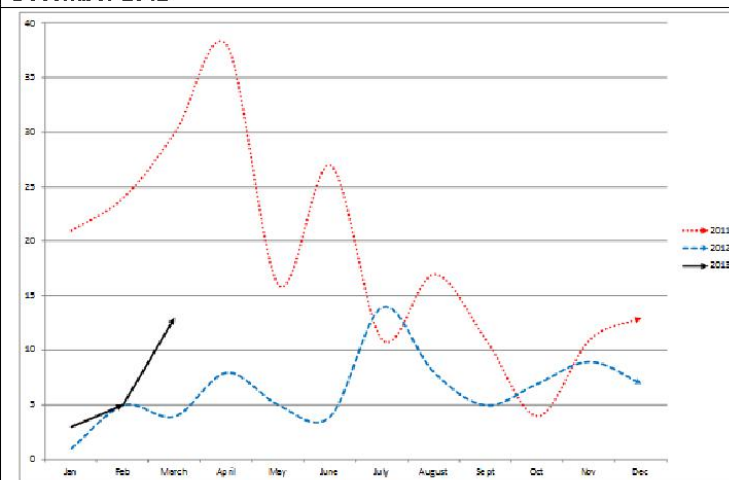
Street sweeping – litres collected – March 2013



COMMENT: All streets sweeping collections were in line with previous season quarterly trends.

Environment 2.1.13.1.

Number of regulatory and compliance Notices and Orders issued – December 2012

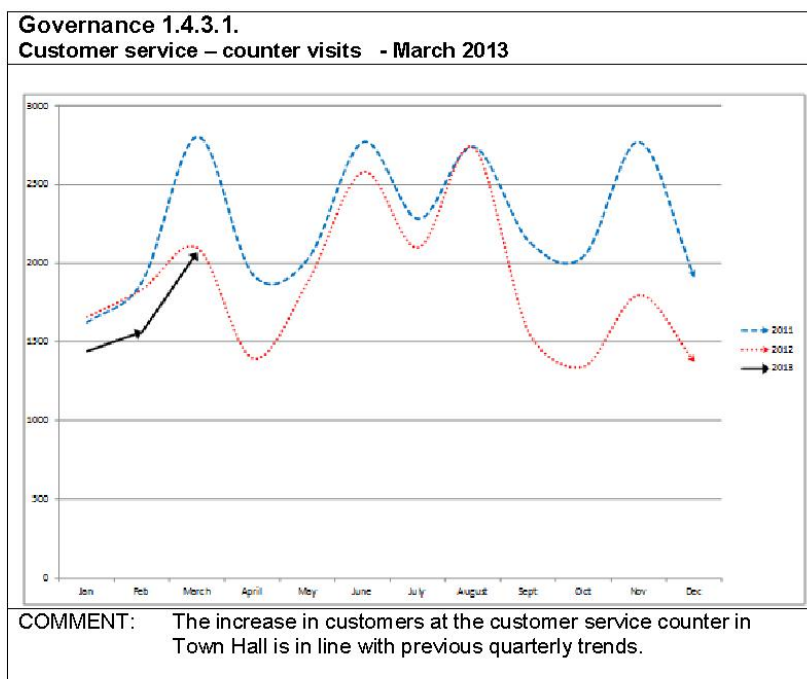
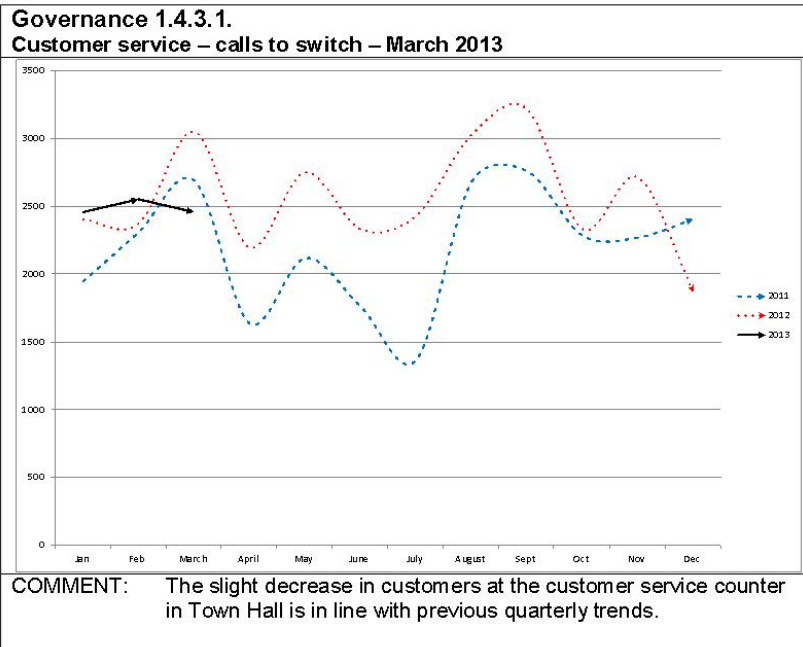


COMMENT: Notices and Orders issued increased slightly in the quarter compared to previous quarterly trends.

ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter



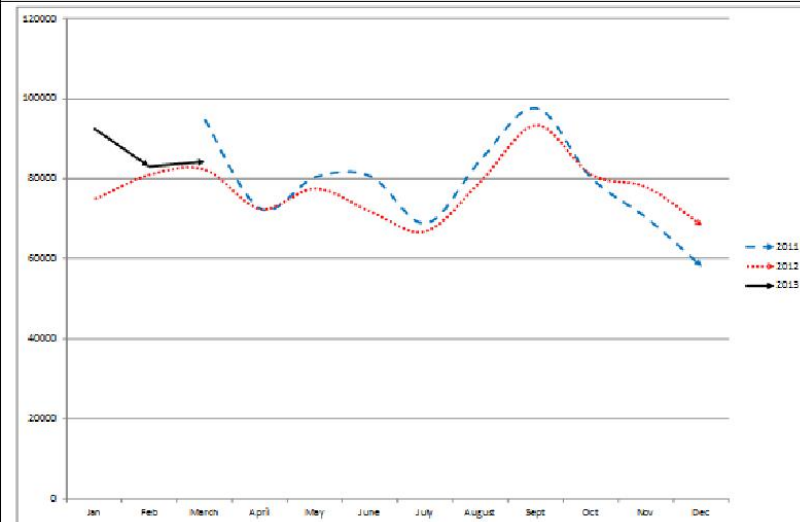
ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter

Governance 1.4.5.1.

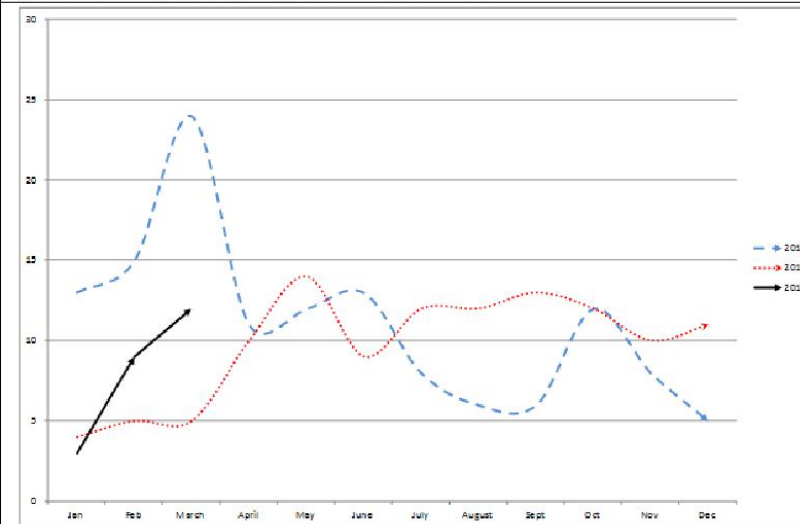
Number of Page Views on Council Website – March 2013



COMMENT: For the quarter, there was a small decrease in page views for the area.

Governance 1.5.2.1.

Number of media releases issued – March 2013

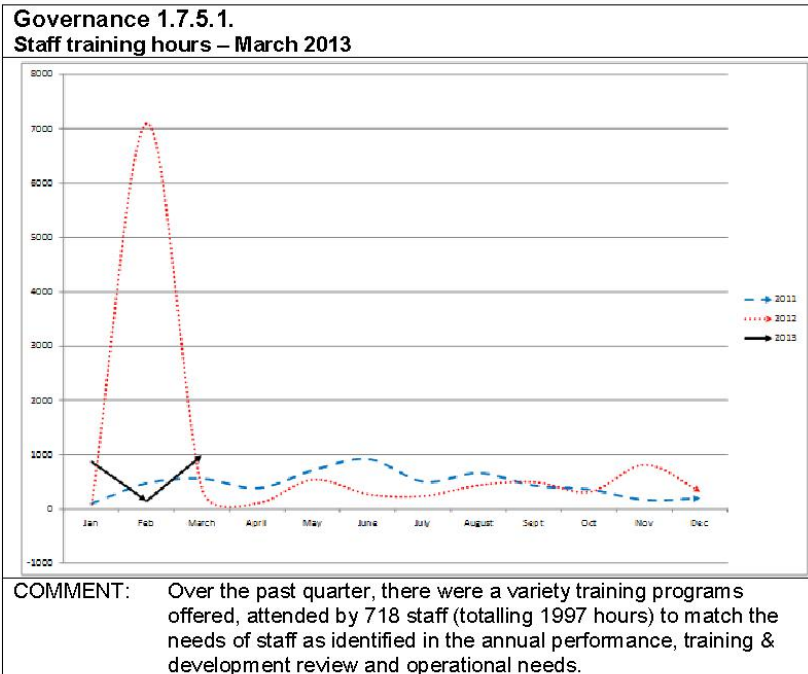


COMMENT: The number of releases provided during the quarter is slightly higher than in the same quarter in 2012 and reflects the organisation's activities. Media releases are an effective communication tool used to promote Council's activities.

ATTACHMENT 2

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

KPI Graphs for the Third Quarter



ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13
QBRs_Mar 2012-2013

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Table of Contents	page
1. Responsible Accounting Officer's Statement	1
2. Income & Expenses Budget Review Statement's - Variation Details	2 3
3. Capital Budget Review Statement - Variation Details	4 5
4. Cash & Investments Budget Review Statement - Variation Details	6 7
5. Key Performance Indicator (KPI) Budget Review Statement	8
6. Contracts Entered into during the September Quarter - Variation Details	9 10
7. Consultancy and Legal Expenses Statement	11
8. Capital Expenditure List	12

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13
QBRs_Mar 2012-2013

Quarterly Budget Review Statement
for the period 01/01/13 to 31/03/13

Report by Responsible Accounting Officer

The following statement is made in accordance with Clause 203(2) of the Local Government (General) Regulation 2005.

It is my opinion that the Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13 indicates that Council's projected financial position at 30 June 2013 will be satisfactory at year end, having regard to the projected estimates of income and expenditure and the original budgeted income and expenditure.

This assessment is supported by Council's auditors Hills Roger Spencer Steer who described Council's financial position as satisfactory at 30 June 2012, having regard to its available working capital, unrestricted current ratio and debt servicing.

Signed :



Jenny Nascimento
Responsible Accounting Officer

Date: 29-May-13

Page 1

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 QBRs_Mar 2012-2013

Manly Council		Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13					
Income & Expenses Budget Review Statement							
Budget review for the quarter ended 31 March 2013							
(\$'000's)	Original Budget 2012/13	Approved Changes		Revised Budget 2012/13	Variations for this Mar Qtr	Projected Year End Result	Actual YTD figures
		Other than by a QBRs	Sep QBRs	Dec QBRs			
Income	35,368					35,368	34,646
Rates and Annual Charges	11,968		4	10	7	11,989	11,048
User Charges and Fees	912		(252)		120	780	601
Interest and Investment Revenues	5,931		48	14	30	6,023	3,974
Other Revenues	3,849			15		3,864	2,473
Grants & Contributions - Operating	645				160	805	264
Grants & Contributions - Capital	-				-	-	-
Net gain from disposal of assets	-				-	-	-
Share of Interests in Joint Ventures	-				-	-	-
Total Income from Continuing Operations	58,673	-	(200)	39	317	58,829	53,006
Expenses	29,644		(65)		(40)	29,539	22,417
Employee Costs	1,092		(252)			840	417
Borrowing Costs	12,895		134	35	(88)	12,976	10,045
Materials & Contracts	8,366					8,366	6,275
Depreciation	474			50	320	844	625
Legal Costs	526					526	219
Consultants	5,365					5,365	4,633
Other Expenses	-					-	-
Interest & Investment Losses	-					-	-
Net Loss from disposal of assets	-					-	-
Share of Interests in Joint Ventures	-					-	-
Total Expenses from Continuing Operations	58,362	-	(183)	85	192	58,456	44,631
Net Operating Result from Continuing Operations	311	-	(17)	(46)	124	372	8,375
Discontinued Operations	-					-	-
Net Operating Result from All Operations	311	-	(17)	(46)	124	372	8,375
Net Operating Result before Capital Items	(334)	-	(17)	(46)	(397)	(433)	8,111

Page 2

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 QBRs_Mar 2012-2013

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Manly Council

Income & Expenses Budget Review Statement Recommended changes to revised budget

Budget Variations being recommended include the following material items:

Notes	Details	
INCOME		
1	Recognition of income increase from Complying Development Certificates, Construction Certificates and Annual Fire Safety	\$ 6,800
2	Recognition of interest income increase from 11am investment	\$ 120,000
3	Recognition of rental income from 40 Stuart Street	\$ 30,000
4	Recognition of additional income from Section 94 Contribution	\$ 160,000
		\$ 316,800
EXPENDITURE		
5	Reduce employee cost to fund additional recycling bins purchase	- 40,000.00
6	Reduce waste cost to fund additional recycling bins purchase	- 80,600.00
6	Reduce security maintenance expense to fund new CCTV purchase for Library	-\$ 7,000
7	Increase budget for legal expenses	\$ 320,000
		\$ 192,400
	NET VARIATION	\$ 124,400

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 QBRs_Mar 2012-2013

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Manly Council Capital Budget Review Statement

Budget review for the quarter ended 31 March 2013

(\$'000's)	Original Budget 2012/13	Approved Changes Other than by a QBRs	Approved Changes Sep QBRs	Dec QBRs	Revised Budget 2012/13	Variations for this Mar Qtr	Notes	Projected Year End Result	Actual YTD figures
Capital Expenditure									
New Assets									
- Plant & Equipment	6,030		425	850	7,305	-		7,305	63
- Land & Buildings				46	46			46	
- Other Structure									
Renewal Assets (Replacement)									
- Plant & Equipment	3,044			24	3,068	128	1	3,196	1,125
- Furniture & Fittings	11				11			11	30
- Office Equipment	603				603			603	346
- Land Improvements - Depreciable	-				-			-	427
- Land & Buildings	300				300	396	2	696	3,047
- Roads, Bridges, Footpaths	920				920			920	268
- Storm Water	553		30		553			553	8
- Other Structures	2,174				2,174			2,174	824
- Library Books	270				270			270	167
- Art Works & Other Heritage	34				34			34	-
Total Capital Expenditure	13,939	-	455	920	15,314	524		15,838	6,305
Capital Funding									
Rates & Other United Funding	2,570			56	2,626			2,626	1,263
Rates - (Special Rates / Infrastructure Levy)	1,546				1,546			1,546	4,298
Storm Water Levy	370				370			370	8
Capital Grants & Contributions	645				645			645	268
Reserves:									
- External Restrictions/Reserves	600		425		1,025	146	3	1,171	-
- Internal Restrictions/Reserves	200			864	1,064	250	4	1,314	-
New Loans	7,030				7,030			7,030	-
Receipts from Sale of Assets									
- Plant & Equipment	978				978			978	468
- Land & Buildings	-				-			-	-
Total Capital Funding	13,939	-	425	920	15,284	396		15,680	6,305
Net Capital Funding	-	-	(30)	-	(30)	(128)		(158)	-

Page 4

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 QBRs_Mar 2012-2013

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Manly Council

Capital Budget Review Statement Recommended changes to revised budget

Budget Variations being recommended include the following material items:

Notes Details

CAPITAL EXPENDITURE

1	New CCTV purchase for Library	\$	7,000
1	Additional recycling bins purchase	\$	120,600
2	Deposit for purchase of 360-364 Sydney Road	\$	75,000
2	Capitalisation of Seaforth TAFE building and site works	\$	250,000
2	Cost for Early Childhood Centre Relocation	\$	71,000
		\$	523,600

CAPITAL FUNDING

3	Capital funding for purchase of 360-364 Sydney Road from Section 94 contribution reserve	\$	75,000
3	Increase capital funding for Early Childhood Centre Relocation from Section 94 contribution reserve	\$	71,000
4	Increase capital funding for Seaforth TAFE building and site works from internal reserves	\$	250,000
		\$	396,000

NET VARIATION

		\$	127,600
--	--	----	---------

Page 5

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13

QBRs_Mar 2012-2013

Manly Council

Cash & Investments Budget Review Statement

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Budget review for the quarter ended 31 March 2013

(\$000's)	Closing Balance 2011/12	Original Budget 2012/13	Approved Changes Other than by a QBRs	Approved Changes Sep QBRs	Dec QBRs	Revised Budget 2012/13	Variations for this Mar Qtr	Notes	Projected Year End Result	Actual YTD figures
Externally Restricted ⁽¹⁾										
Developer Contributions - General	4,878	4,653		(425)	(16)	4,228	14	1	4,242	4,082
Specific Purpose Unexpended Grants	980	900		(51)		833			833	833
Domestic Waste Management	-	266				266			266	266
Other	720	720				720			720	720
Total Externally Restricted	6,578	6,539	-	(476)	(16)	6,047	14		6,061	5,901
(1) Funds that must be spent for a specific purpose										
Internally Restricted ⁽²⁾										
Infrastructure Replacement	1,903	1,900				1,900	(100)	2	1,800	1,800
Employees Leave Entitlement	1,328	1,250				1,250			1,250	1,250
Deposits, Retentions & Bonds	1,588	1,600				1,600			1,600	1,600
Balgowan Area Improvements	280	356				356			356	356
Depot Redevelopment	152	150				150			150	150
Environment Levy	122	-				-			-	-
Manly Wharf Forecourt	50	50				50			50	50
Manly Youth Council	6	6				6			6	6
Meals on Wheels	349	350			(14)	336			336	336
Shelly Beach Improvements	9	9				9			9	9
Unexpended Loans	573	1,000			(850)	150	(150)	3	-	-
Total Internally Restricted	6,360	6,671	-	-	(864)	5,807	(250)		5,557	5,557
(2) Funds that Council has earmarked for a specific purpose										
Unrestricted (ie. available after the above Restrictions)	1,405	-	-	-	-	-	-		-	3,854
Total Cash & Investments	14,343	13,210	-	(476)	(880)	11,854	(236)		11,618	15,312

Page 6

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13
QBRs_Mar 2012-2013

Manly Council

Quarterly Budget Review Statement
for the period 01/01/13 to 31/03/13

Cash & Investments Budget Review Statement

Budget Variations being recommended include the following material items:

Notes	Details	
1	Transfer from Section 94 contribution reserve to fund deposit on purchase of 360-364 Sydney Road	-\$ 75,000
1	Transfer from Section 94 contribution reserve to fund Early Childhood Centre Relocation	-\$ 71,000
1	Recognition of additional income from Section 94 Contribution	\$ 160,000
2	Transfer from infrastructure reserve to fund Seaforth TAFE building works	-\$ 100,000
3	Transfer from loan saving from deferred settlement of Seaforth TAFE site	-\$ 150,000
	NET VARIATION	-\$ 236,000

Comment on Cash & Investments Position

Investments

Investments have been invested in accordance with Council's Investment Policy and Section 625 of the Local Government Act 1993 and also the DLG Circular 11-01 - Ministerial Investment Order dated 12 January 2011.

Council's Investment Portfolio report for the month of March 2013 shows a total market value of cash and investments held as at 31 March 2013 of \$15,312,451.

Cash

The value of Cash at Bank which has been included in the Council's Investment Portfolio Report for March totals \$216,833.

Cash at Bank General Ledger has been reconciled to Council's physical Bank Statements. The date of completion of this bank reconciliation is 05/04/13.

Page 7

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13
QBRs_Mar 2012-2013

Manly Council

Quarterly Budget Review Statement
for the period 01/01/13 to 31/03/13

Key Performance Indicators Budget Review Statement

Budget review for the quarter ended 31 March 2013

The Council monitors the following Key Performance Indicators:

1. Unrestricted Current Ratio

Current Assets less all External Restrictions

Current Liabilities less Specific Purpose Liabilities

2. Debt Service Ratio

Debt Service Cost

Income from Continuing Operations excluding Capital Items & Specific Purpose Grants/Contributions

3. Rates & Annual Charges Outstanding Ratio

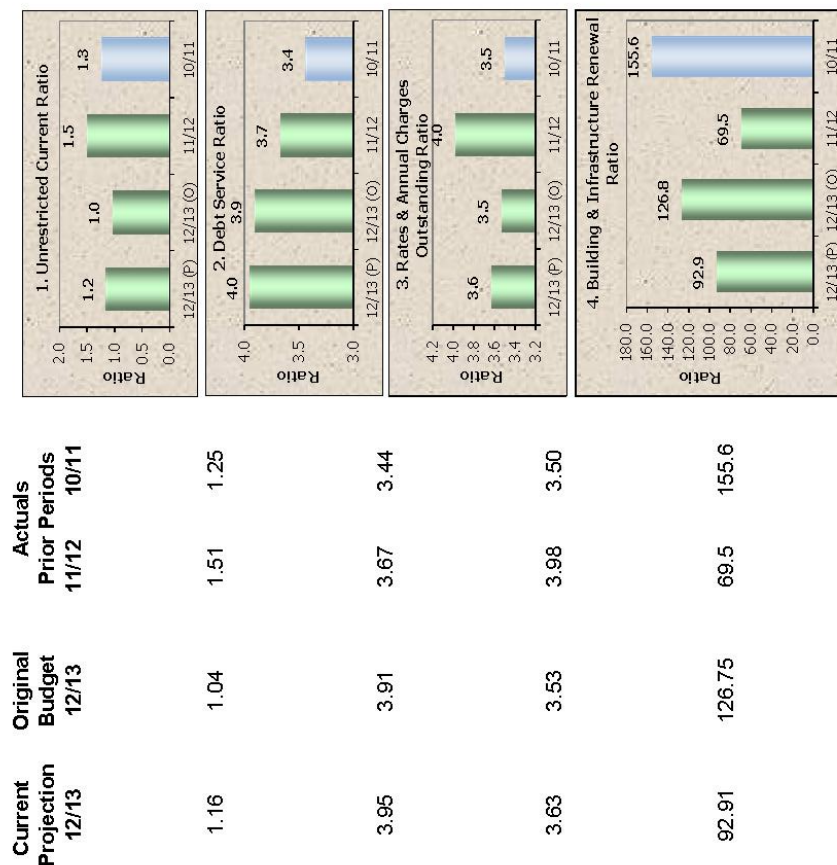
Rates & Annual Charges

Income from Continuing Operations

4. Building & Infrastructure Renewal Ratio

Annual Renewals (Building & Infrastructure)

Depreciation, Amortisation & Impairment (Building & Infrastructure Assets)



Page 8

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 QBRs_Mar 2012-2013

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Manly Council

Contracts Budget Review Statement

Budget review for the quarter ended 31 March 2013

Part A - Contracts Listing - contracts entered into during the quarter with a value greater than \$50,000

Contractor	Contract detail & purpose	Contract Value	Start Date	Finish Date	Budgeted (Y/N)
Plateau Tree Service Pty Ltd	Cyclic Tree Works & Selected Works	\$ 668,000	30/04/2013	30/04/2017	Y
Volvo Group Australia Pty Ltd	Supply Volvo Side Loader Cab Chassis	\$ 370,610	21/01/2013	21/02/2013	Y
KPMG	Commercial and Financial advice for Triangle site and Manly Car Park	\$ 60,000	01/02/2013	28/02/2013	Y

Page 9

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13
QBRs_Mar 2012-2013

Mainly Council

**Contracts Budget Review Statement
Comments & Explanations relating to Contractors Listing**

Note Details

- 1 Contracts listed are those entered into during the quarter being reported and exclude contractors on Council's Preferred Supplier list.
- 2 Contracts for employment are not required to be included.
- 3 All contracts listed have been provided for within current budget allocations. If additional funding is required this will be reported in the following Quarter Budget Review.

Quarterly Budget Review Statement
for the period 01/01/13 to 31/03/13

Page 10

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13
QBRs_Mar 2012-2013

Quarterly Budget Review Statement
for the period 01/01/13 to 31/03/13

Manly Council

Consultancy & Legal Expenses Budget Review Statement

Consultancy & Legal Expenses Overview

Expense	YTD Expenditure (Actual Dollars)	Budgeted (Y/N)
Consultancies	218,957	Y
Legal Fees	624,751	Y

Definition of a consultant:

A consultant is a person or organisation engaged under contract on a temporary basis to provide recommendations or high level specialist or professional advice to assist decision making by management. Generally it is the advisory nature of the work that differentiates a consultant from other contractors.

Legal Cost above include LEC court related costs of \$499,356. Some of which were not captured in the budget due to the uncertainty of their timing and final amount.

Page 11

ATTACHMENT 3

Corporate Services Division Report No. 11.DOC - Third Quarter Report (1 January to 31 March 2013) – Progress with Four Year Delivery Program 2011-2015, Operational Plan 2012-2013 and Budget 2012-13 QBRs_Mar 2012-2013

Manly Council

Quarterly Budget Review Statement for the period 01/01/13 to 31/03/13

Capital Expenditure List

Description	2012-2013 Original Budgeted	2012-2013 Budget at Dec QTR	2012-2013 YTD Actual as at 31 Mar
IT Systems - Infrastructure & Software Total	625,000	625,000	314,206
Furniture & Equipment Purchases Total	55,000	55,000	62,013
Building New / Renewal Works Total	226,000	1,100,000	970,611
Acquisition Properties Total	6,030,000	6,455,000	4,302,324
Land Improvement Program Total	-	8,000	226,504
Library Books & Periodicals Total	263,800	263,800	166,943
Library Equipments Upgrade Total	66,500	66,500	52,177
Art Gallery Collections Total	34,000	34,000	-
Swim Centre Upgrade Total	250,000	250,000	337,530
LM Graham Reserve - Masterplan Upgrade Total	410,000	410,000	131,849
Parks & Reserves - New/Renewal Total	283,000	283,000	68,262
Manly Cemetery - Conservation & Improvements Total	35,000	35,000	2,250
Netted Pools Upgrade Total	50,000	50,000	10,291
Regulatory Compliance Infrastructure & Equipments Total	170,000	170,000	101,938
Plants & Fleets Replacement Total	2,090,000	2,090,000	938,632
Roads Infrastructure - New/Renewal Total	547,995	547,995	198,255
Ancillary Infrastructure Works Total	1,754,500	1,784,000	397,380
Footpath Construction - New/Renewal Total	240,000	240,000	70,131
Parking Meters Upgrade Total	50,000	50,000	-
Car Park Facilities Upgrade Total	95,000	95,000	75,896
Garbage & Recycling Equipemnts Total	-	-	31,753
Drainage Construction - New/Renewal Total	185,000	185,000	262
Stormwater Management - New/Renewal Total	369,852	369,852	7,952
Public Amenities - New/Renewal Total	100,000	100,000	5,231
Grand Total	13,930,647	15,313,147	8,535,388

ATTACHMENT 1

**Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees -
Determination of Local Government Remuneration Tribunal - 2013 - 2014
Remuneration Tribunal Report**

REPORT

and

DETERMINATION

of

THE LOCAL GOVERNMENT REMUNERATION TRIBUNAL

under

SECTIONS 239 AND 241

of the

LOCAL GOVERNMENT ACT 1993

8 April 2013

**Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees -
Determination of Local Government Remuneration Tribunal - 2013 - 2014
Remuneration Tribunal Report**

Local Government Remuneration Tribunal
2013 Report

Section 1 Background

1. Pursuant to Section 241 of the *Local Government Act 1993* (the LG Act) the Local Government Remuneration Tribunal hereby determines in each category of council, the maximum and minimum amount of fees to be paid to mayors and councillors of councils, as well as chairpersons and members of county councils.
2. On 3 December 2012 the Tribunal wrote to all mayors advising of the commencement of the 2013 Annual Review. In respect of this Review the Tribunal advised councils that it would be undertaking a review of the minimum and maximum fee levels for each category.
3. In determining the minimum and maximum fees payable to each of the categories, the Tribunal is required, pursuant to section 242A of the LG Act, to give effect to the same policies on increases in remuneration as those that the Industrial Relations Commission is required to give effect to under section 146C of the *Industrial Relations Act 1996*, when making or varying awards or orders relating to the conditions of employment of public sector employees.
4. The current policy on wages pursuant to section 146(1)(a) of the *Industrial Relations Act 1996* is articulated in the Industrial Relations (Public Sector Conditions of Employment) Regulation 2011. The effect of the Regulation is that public sector wages cannot increase by more than 2.5 per cent, and this includes the minimum and maximum fees payable to councillors and mayors.
5. The Tribunal's Report and Determination of 2012 provided a general increase of 2.5 per cent which was consistent with the NSW Wages Policy.
6. The Tribunal also advised councils that it would not be reviewing the categories of councils during the 2013 Review. In accordance with Section 239 of the LG Act the Tribunal is required to determine the categories of councils and mayoral offices at

**Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees -
Determination of Local Government Remuneration Tribunal - 2013 - 2014
Remuneration Tribunal Report**

Local Government Remuneration Tribunal
2013 Report

least once every 3 years. The Tribunal last undertook a fundamental review of the categories of councils in 2012. In undertaking that review the Tribunal found that there was no strong case to significantly alter the current categories of councillor and mayoral office or to move individual councils between categories.

Section 2 2013 Annual Review

7. The Tribunal is aware that a number of initiatives are currently under way to improve the strength and effectiveness of local government in NSW. These include:
 - the appointment of the Independent Local Government Review Panel to drive key strategic directions identified in the Destination 2036 initiative
 - the appointment of the Local Government Acts Taskforce to review the *Local Government Act 1993* and the *City of Sydney Act 1988*
 - the engagement of the NSW Treasury Corporation (TCorp) to report on the financial sustainability of Local Government in NSW.
8. Given the significant work being undertaken by both the NSW Government and local councils to drive and deliver local government reform, and the limitations placed on the Tribunal in respect of determining increases in fees, the Tribunal did not call for general submissions from individual councils as part of the 2013 Annual Review. While general submissions were not required, the Tribunal advised councils that they were still able to raise any issues of concern relevant to the review.
9. The Tribunal also wrote to the Presidents of the Local Government and Shires Associations (the Associations merged on 1 March 2013 to become Local Government NSW (LGNSW)) in similar terms.

**Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees -
Determination of Local Government Remuneration Tribunal - 2013 - 2014
Remuneration Tribunal Report**

Local Government Remuneration Tribunal
2013 Report

10. The Tribunal received three submissions from individual Councils. The submissions sought consideration of the following matters:
- the Tribunal to determine the maximum statutory increase of 2.5 percent as permitted by the legislation
 - the Tribunal to benchmark mayoral and councillor fees with that of a State Member of Parliament
 - the Tribunal to introduce a professional remuneration structure for councillors to improve accountability and performance.
11. The Tribunal also received a submission and met with representatives of LGNSW. Given the statutory limitations in place LGNSW has requested that councillor and mayoral remuneration should be increased by the full 2.5 per cent for 2013-14.
12. In addition to requesting the maximum increase of 2.5 percent, LGNSW has sought a professional remuneration structure to ensure that local government attracts appropriately qualified people. LGNSW continues to advocate that elected representatives face increasing challenges, associated with managing council workload, family responsibilities and paid work, and that the significant time involvement is not appropriately recompensed through the current remuneration levels.
13. LGNSW also provided the Tribunal with an overview of the current reform initiatives and their expected impact on the role and responsibilities of councillors and mayors. The anticipated changes will, in the opinion of LGNSW, warrant a review of the remuneration structure, and a subsequent increase in fees.
14. The Tribunal wishes to place on record its appreciation to LGNSW for its participation and assistance during the 2013 Annual Review process.

**Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees -
Determination of Local Government Remuneration Tribunal - 2013 - 2014
Remuneration Tribunal Report**

Local Government Remuneration Tribunal
2013 Report

Section 3 Findings

15. The Tribunal has been advised that significant progress has been made in developing proposals for local government reform in NSW.

16. The Independent Local Government Review Panel undertook an extensive consultation program with stakeholders across NSW during 2012. Its third discussion paper "Future Directions", which is due at the end of April, will include ideas for reform – including suggestions for better governance, improved financial management, stronger regions and boundary changes. The Panel is expected to make its final report to the Minister for Local Government, the Hon Don Page MP, in July/August 2013.

17. During 2012 the Minister for Local Government also announced that the legislative framework for local government in NSW would be rewritten and modernised. A Local Government Acts Taskforce was appointed to consult with stakeholders and the public to make recommendations for a new Local Government Act that is responsive to the current and future needs of the community. The Taskforce will take into account the outcomes and recommendation of the Independent Local Government Review Panel and is expected to release a discussion paper in late April with further consultation to occur throughout the year.

18. The Tribunal continues to support initiatives which will bring about improvements in the local government sector. In addition, the Tribunal welcomes the collaborative approach taken by the Government and the local government sector to bring about reform. The Tribunal notes that the Panel's discussion paper "Future Directions" and the reports of the Taskforce and TCorp, which are expected to be published in April 2013, were not available as at the time of the Tribunal making the 2013 annual determination. The Tribunal will monitor the progress of these initiatives over the coming year.

ATTACHMENT 1

Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees - Determination of Local Government Remuneration Tribunal - 2013 - 2014 Remuneration Tribunal Report

Local Government Remuneration Tribunal 2013 Report

19. As outlined at the beginning of the report the Tribunal is now required to have regard to the Government's wages policy when determining the increase to apply to the minimum and maximum fees that apply to councillors and mayors. The public sector wages policy currently provides for a cap on increases of 2.5 per cent.
20. The Tribunal has reviewed the key economic indicators, including the Consumer Price Index and Wage Price Index, and finds that the full increase of 2.5 per cent available to it is warranted. On that basis, and having regard to the above, and after taking the views of the Assessors into account, the Tribunal considers that an increase of 2.5 per cent in the fees for councillors and mayors is appropriate and so determines.

Local Government Remuneration Tribunal

(signed)

Helen Wright

Dated: 8 April 2013

ATTACHMENT 1

Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees - Determination of Local Government Remuneration Tribunal - 2013 - 2014 Remuneration Tribunal Report

Determinations of the Local Government Remuneration Tribunal effective on and
from 1 July 2013

Determination No 1- Pursuant to Section 239 of Categories of Councils and County Councils Effective From 1 July 2013

Category - Principal City (1)
Sydney

Category - Major City (3)
Newcastle
Parramatta
Wollongong

Category - Metropolitan Major (2)
Blacktown
Penrith

Category - Metropolitan Centre (16)		
Bankstown	Hurstville	Sutherland
Campbelltown	Lake Macquarie	Warringah
Fairfield	Liverpool	Willoughby
Gosford	North Sydney	Wyong
The Hills	Randwick	
Hornsby	Ryde	

Category - Metropolitan (21)		
Ashfield	Holroyd	Marrickville
Auburn	Hunters Hill	Mosman
Botany	Kogarah	Pittwater
Burwood	Ku-ring-gai	Rockdale
Camden	Lane Cove	Strathfield
Canada Bay	Leichhardt	Waverley
Canterbury	Manly	Woollahra

ATTACHMENT 1

Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees - Determination of Local Government Remuneration Tribunal - 2013 - 2014 Remuneration Tribunal Report

Determinations of the Local Government Remuneration Tribunal effective on and
from 1 July 2013

Category - Regional Rural (32)		
Albury	Dubbo	Orange
Armidale Dumaresq	Eurobodalla	Port Macquarie-Hastings
Ballina	Great Lakes	Port Stephens
Bathurst	Goulburn Mulwaree	Shellharbour
Bega Valley	Queanbeyan	Shoalhaven
Blue Mountains	Greater Taree	Tamworth
Broken Hill	Griffith	Tweed
Byron	Hawkesbury	Wagga Wagga
Cessnock	Kempsey	Wingecarribee
Clarence Valley	Lismore	Wollondilly
Coffs Harbour	Maitland	

Category - Rural (77)		
Balranald	Gloucester	Narromine
Bellingen	Greater Hume	Palerang
Berrigan	Gundagai	Parkes
Bland	Gunnedah	Oberon
Blayney	Guyra	Richmond Valley
Bogan	Gwydir	Singleton
Bombala	Harden	Snowy River
Boorowa	Hay	Temora
Bourke	Inverell	Tenterfield
Brewarrina	Jerilderie	Tumbarumba
Cabonne	Junee	Tumut
Carrathool	Kiama	Upper Hunter
Central Darling	Kyogle	Upper Lachlan
Cobar	Lachlan	Uralla
Conargo	Leeton	Urana
Coolamon	Lithgow	Wakool

ATTACHMENT 1

Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees - Determination of Local Government Remuneration Tribunal - 2013 - 2014 Remuneration Tribunal Report

Determinations of the Local Government Remuneration Tribunal effective on and
from 1 July 2013

Category - Rural (77) - Cont		
Cooma-Monaro	Liverpool Plains	Walcha
Coonamble	Lockhart	Walgett
Cootamundra	Mid-Western	Warren
Corowa	Moree Plains	Warrumbungle
Cowra	Murray	Weddin
Deniliquin	Murrumbidgee	Wellington
Dungog	Muswellbrook	Wentworth
Forbes	Nambucca	Yass Valley
Gilgandra	Narrabri	Young
Glen Innes Severn	Narrandera	
TOTAL GENERAL PURPOSE COUNCILS		152
Category - County Councils Water (5)		
Central Tablelands	Riverina Water	
Goldenfields Water	Rous	
MidCoast		
Category - County Councils Other (9)		
Castlereagh – Macquarie	Richmond River	
Central Murray	Southern Slopes	
Far North Coast	Upper Hunter	
Hawkesbury River	Upper Macquarie	
New England Tablelands		
TOTAL COUNTY COUNCILS		14

ATTACHMENT 1

Corporate Services Division Report No. 12.DOC - Mayors' and Councillors' Fees - Determination of Local Government Remuneration Tribunal - 2013 - 2014 Remuneration Tribunal Report

Determinations of the Local Government Remuneration Tribunal effective on and
from 1 July 2013

Determination 2 - Pursuant to Section 241 of Fees for Councillors and Mayors

Pursuant to s.241 of the *Local Government Act 1993*, the annual fees to be paid in each of
the categories to councillors, mayors, members and chairpersons of county councils
effective on and from 1 July 2013 are determined as follows:

Category	Councillor/Member Annual Fee		Mayor/Chairperson Additional Fee*	
	Minimum	Maximum	Minimum	Maximum
Principal City	\$23,830	\$34,950	\$145,810	\$191,860
Major City	\$15,880	\$26,220	\$33,760	\$76,390
Metropolitan Major	\$15,880	\$26,220	\$33,760	\$76,390
Metropolitan Centre	\$11,910	\$22,240	\$25,320	\$59,100
Metropolitan	\$7,930	\$17,490	\$16,890	\$38,160
Regional Rural	\$7,930	\$17,490	\$16,890	\$38,160
Rural	\$7,930	\$10,480	\$8,430	\$22,870
County Council – Water	\$1,580	\$8,740	\$3,380	\$14,350
County Council - Other	\$1,580	\$5,230	\$3,380	\$9,540

*This fee must be paid in addition to the fee paid to the Mayor/Chairperson as a
Councillor/Member (s.249(2)).

Local Government Remuneration Tribunal

(signed)

Helen Wright
Dated: 8 April 2013

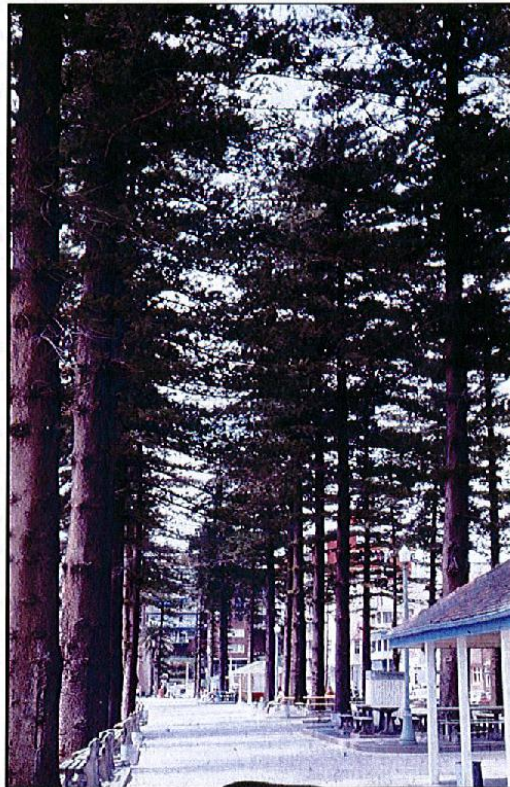
**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

**BACKGROUND TO THE PLAN
FOR THE MANAGEMENT AND CONSERVATION
OF COASTAL NORFOLK ISLAND PINES
WITHIN MANLY COUNCIL REGION**

*Prepared for Manly Council
by
Marcia Lambert and John Turner*

*Forsci Pty Ltd
Suite 4.05 Delhi Corporate
32 Delhi Road, North Ryde NSW 2113*

February 2009



*Avenue of healthy Norfolk Island Pines along the ocean
beachfront at South Steyne in Manly - 1996*

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

The Authors

Marcia Lambert and John Turner are Directors and Principal Research Scientists in the forest research company, Forsci Pty Ltd established in 1996 to undertake forestry research within Australia and Internationally. The company specialises in technical, developmental and research aspects of exotic and native forests in Australia and overseas, including feasibility studies for forest projects, plantation development, product development, and environmental impacts of forestry. A major focus is analysing potential plantation areas and defining species and management regimes to provide desired commercial and/or environmental outcomes, especially in relation to the management of soils and nutrition, work on sustainability, certification requirements, comparison of Codes of Forest Practice and limitations on forest management practices. The main fields of research have included soils, forest nutrition, nutrient requirements of tree species, nutrient cycling, nutrient/environment interactions, impacts of forest management on sites, use of fertilizers, chemistry of forest products, and reviews of the science underpinning and/or supporting forest management for sustainable timber production.

Marcia Lambert (ASTC, BScHons, MScHons, FRACI, MJIFA) commenced her career in the Research Division of the Forestry Commission of NSW in 1959 and was classified as Research Officer until 1979 when she was promoted to Senior Research Scientist by the NSW Government Scientific Qualifications Committee and worked on a range of research projects including chemical analysis of forest materials, tree nutrition, nutrient cycling, impacts of forest management and was responsible during the 1970s for the organisation's research on the deterioration of Norfolk Island Pines on the coast of NSW. From 1986 to 1996 she was Assistant Director of the Research Division of State Forests of NSW. She is a Member and a Registered Professional Forester of the Institute of Foresters of Australia, a Fellow of the Royal Australian Chemical Institute, and since 1975 has been a chemical assessor with the National Association of Testing Authorities. During her career, she has had other affiliations and representations during her career. For the period 1990-95, she was elected to the Executive Board of the International Union of Forest Research Organisations (IUFRO), representing the Western Pacific Region and the first female to be elected to the Board since the inception of IUFRO in 1882. She has more than 130 refereed scientific publications.

John Turner (BScFor, PhD, MIFA, MSSSA, MAIB) commenced his career in the Forestry Commission in 1966 and was promoted to Research Officer in 1970. Between 1972 and 1975, he undertook Doctorate studies at the University of Washington in Seattle on nutrient cycling in Douglas fir forests and worked with the International Biological Program and the Forest Management Cooperative. On his return to Australia, he worked on a wide range of research projects and was promoted during this period to Senior Research Scientist by the NSW Government Scientific Qualifications Committee. The results of his research led to his involvement in a number of key environmental issues and resultant legal proceedings and court enquiries. They included rainforest disputes, the Terania Creek inquiry, integrated harvesting in the South East Forests, and inquiries into pine plantation establishment. From 1987 to 1996, he was Director of the Research Division of State Forests of NSW and responsible for a wide range of research programs. He also developed State Forests of NSW Sustainability Program, worked on policy development related to forest management and conservation, and was directly involved in biodiversity programs, allocation of reservation areas, development of carbon accretion studies and utilisation of plantation grown eucalypts. He is a Registered Professional Forester of the Institute of Foresters of Australia and has a wide range of other affiliations. In 2005 he was awarded the IUFRO Scientific Achievement Award. He has 180 refereed scientific publications.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

Executive Summary

This is a Background to the Plan the Management and Conservation of Norfolk Island Pines in Manly. These Pines along the Manly Ocean beachfront were listed in 1992 by the Australian Heritage Commission to the Register of the National Estate in recognition of their importance to the community and the Nation. First plantings occurred on the sand dunes in the 1860's with increased plantings in the 1880's followed by additions through the 1900's. They formed stately Avenues and became a recognisable part of the character of the area. These stands were threatened from the 1950s when trees started to deteriorate in health with crown scorching and dieback and young replacement trees died. Eventually, a significant number of affected trees were removed for safety reasons. The same process was occurring along other beaches (primarily at Bondi Beach where about 320 large Pines died and were removed, and similarly in Newcastle and Wollongong). However, in the 1970's it was demonstrated that the protective waxy coating on the foliage was removed by "hard" detergents originating from the cliff-side ocean outfalls of the sewage system and blown in on the surf. Hard detergents replaced soaps in the early 1950's and were greatly reduced in usage in the early 1980's. The loss of the protective wax allowed entry of salt into the trees and caused major detrimental effects. The species can normally tolerate large amounts of salt by rejecting salt uptake through either roots or foliage. The reduction in the use of hard detergents plus the commissioning of deep ocean sewage outfalls reduced the detergent loading and the remaining trees began to recover in the early 1980s. Since that time, management has been undertaken to further improve tree health and to undertake replanting of trees. A separate Plan of Management serves as a model for monitoring and managing the recovery and maintenance of coastal tree systems.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

Table of Contents

	Page
<i>The Authors</i>	2
<i>Executive Summary</i>	3
1. <i>Introduction</i>	5
2. <i>Planting History of Norfolk Island Pines in the Manly Area</i>	6
3. <i>Genetic Variation within the Planted Population</i>	11
4. <i>Deterioration of the Pines during the 1950's and 1960's</i>	13
5. <i>Processes causing the Deterioration</i>	17
6. <i>Soils</i>	21
7. <i>Recovery of the Health of the Pines after the Deterioration Period</i>	22
8. <i>Bibliography</i>	24

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

1. Introduction

Manly Council and the local community have long recognised the environmental, social and historical value of the Pines growing along the ocean beachfront and in other areas in the Manly area. They are primarily Norfolk Island Pine (*Araucaria heterophylla* (Salisbury) Franco) a species native to Norfolk Island and introduced into Australia in the mid 1900s.

The Ocean Beach in Manly (part of the National estate) and the associated Pines (Heritage Listed) are world famous and were described in a Planting Layout Report by EDAW Landscape Architects and Environmental Planners (1995) - *"it has been a popular surfing beach for many decades and epitomises the Australian beach culture – a crescent shaped beach enclosed by headlands, golden sands, rolling surf, life-savers, sunbathers and surfers. The crescent of Norfolk Island Pines which extend for almost the full two kilometre length of the beach is synonymous with Manly"*.

It became obvious during the late 1950's and 1960's that many of the well-established Norfolk Island Pine trees along Sydney's metropolitan beachfronts were dying. Efforts to replace them with young trees were unsuccessful. The problem was most severe in the area from Bondi where most of the trees died or were removed because they had become dangerous, southwards to Maroubra. This also occurred at the northern end of Manly Beach (from North Steyne to Queenscliff) and at Harbord. Similar symptoms were also seen in trees at a few other areas along the Sydney and New South Wales coastline (for example, at Newcastle and Wollongong) where trees were exposed to the sea. In 1971, a Committee was formed by the then Premier (Hon. R.W. Askin) to investigate the deterioration of the Pines on metropolitan beaches in Sydney. The members of the Committee were drawn from the Manly and Waverley Municipal Councils, Department of Environment, Forestry Commission of NSW, NSW Institute of Technology, Public Service Board, Health Commission, Metropolitan Water Sewerage and Drainage Board, Royal Botanic Gardens and Sydney University. Investigations were initiated and subsequent research carried out by the Forestry Commission of NSW, the State Pollution Control Commission, Sydney University and the Health Commission (see Sections 2.3 and 2.4 of this report for the detail).

The research found that deterioration of the Pines was as a result of the presence of hard detergents (surfactants) in sea spray removing the protecting wax from the foliage and allowing the input of salt and deterioration/deaths of some of the trees due to salt toxicity. Surfactants are present in sewage and were discharged into the sea at the base of coastal cliffs. The subsequent identification of the processes causing the disorder led to a number of actions to protect and manage the trees in the long term. 'Hard' slowly degrading surfactants were gradually replaced with 'soft' highly biodegradable surfactants. The NSW Government also commissioned deep ocean outfalls to replace the three major outfalls in Sydney so that sewage effluent was discharged distant from the land. Manly Council embarked on a successful re-planting program for the beachfront. As a result of these re-plantings of Pines in the late 1980's and 1990's, the crescent of Pines has been generally restored and due to the efforts of Manly Council, the health of the trees has gradually been improved.

Our ongoing monitoring and general reporting on the trees and close association with Manly Council staff has resulted in the development of nutritional and protection programs for the Pines and proposals for longer term management. Their recovery is a case study in urban forest management.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

2. Planting history of Norfolk Island Pines in the Manly Area

Tree planting in the sands on Manly ocean beach was initiated in the mid to latter 1800s, and later within street tree plantings, and at the Queenscliff Lagoon and the Harbour front. The early plantings were very well tended being boxed-in by large wooden guards for protection (see Photos 1 and 2), and regularly weeded and fertilized with nightsoil from the surrounding villages. Other than providing shade, the specific purposes of the plantings were not documented. The Pines along the ocean beachfront are planted in stately avenues of trees and are an important feature to be maintained and extended (Photos 3, 4, 5, 6, 7 and 8).

A report from a frequent visitor to Manly from 1865 onwards, stated that *"originally there were sand hills 6 to 8 ft high along the ocean beach, with ti-tree, honeysuckle, etc growing on them. About 1880, the sand hills were removed by the Municipal Council and the Norfolk Island Pines were planted by employees of the Council"*.

It was reported that Pines were brought from Norfolk Island by George Thornton in 1857 and he caused some to be planted. Many of the elegant pine avenues in the streets of Manly owe their origin to Henry Gilbert Smith who acquired an early land grant in 1852 and began laying out a township. He also initiated tree planting of Norfolk Island Pines along the beach and induced fellow residents to follow his good example. This included Mayor Charles Hayes who was responsible for the pine trees *'gracing the ocean beach'* and who also made extensive plantings of Norfolk Island Pines and other trees along the harbour beachfront, in particular around the beach of the former Manly Pool/Baths which was pounded by violent storms in the 1970s and finally dismantled in 1976. Those Pines still remain. Some of the Pines at West Esplanade were planted in 1937 to commemorate Manly's diamond jubilee.

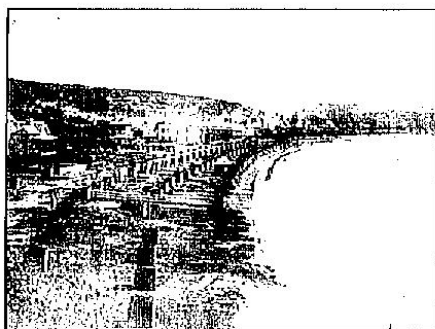


Photo 1. View north along Manly Ocean Beach in 1880 with early NIP plantings.

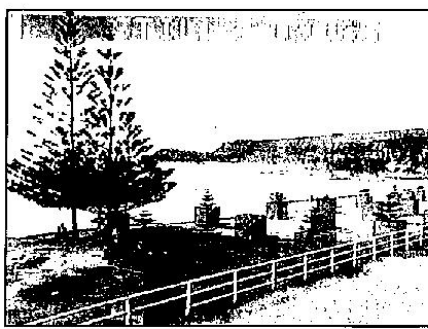


Photo 2. Newly planted Pines along Manly Ocean Beach in 1886.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan



Photo 3. Manly Ocean Beach in about 1910.



Photo 4. Manly Ocean Beach in about 1915.

About six Pines were planted in 1858 (quite widely separated) and the two of these which remain today had an average diameter at breast height over bark (dbhob) of 131 cm in 2007. They were followed by a Tree Planting Beautification Scheme which was initiated by Henry Smith in 1877. Of the '1880 group', 24 Pines remain between South and North Steyne and most of these are very healthy despite being continuously subjected to large volumes of pedestrian traffic around their roots. Their average dbhob in 2007 was 105.6 cm. It is most likely that the Pines planted in Manly in the 19th Century are among the oldest and largest in mainland Australia. Their survival and good health is a mark of the care and attention taken by the Council and the local community to ensure they are well looked after.

There are now considerable differences in the ages and sizes of the Pines along the ocean beachfront and it will never now be possible to achieve a continuous uniform crescent of Pines as planted in the early 1900s. Young Pines will mature and older Pines will need to be removed as they die or become a safety concern. With suitable management, it is possible to continue to develop and maintain a grove of trees with additional extensions of different ages, representing the values required by the local community.



Photo 5. South Steyne in 1920.



Photo 6. South Steyne in 1925.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan



Photo 7. 1925-1930. View from the north along North Steyne Promenade.

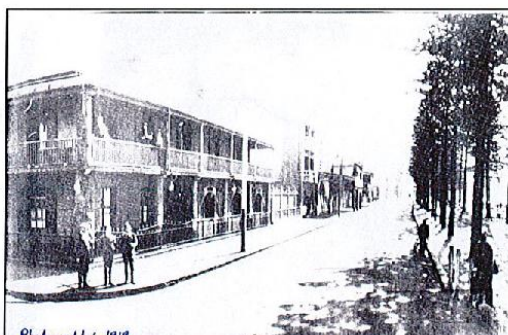


Photo 8. Manly Ocean Beach near The Corso in 1919.

The number of Pines along the ocean beachfront has varied over time. Approximately 530 Pines were planted between 1858 and 1900 to enhance the seaside resort atmosphere of the village of Manly but more than 300 of these died over the years. By 1930 with additional plantings, there was a total of 341 Pines. Subsequently, there were tree removals to improve the sightlines for machine gunners during World War II and tree deaths later as a result of natural causes and their deterioration in the 1960s (see Section 2.3 for details). In about 1950, a number of the Pines were also washed out by a storm in the area near the North Steyne Surf Club. In total, up to 150 trees were removed between 1940 and 1997.

Consideration of the various age classes of the Pines is important since stress factors, such as water and nutrition, vary depending on the different ages/sizes of the trees. The present surviving distribution of Pines planted between 1858 and 1930 along the ocean beachfront (excluding the harbour-side trees, street trees and those at the Lagoon) is shown in Figures 1.

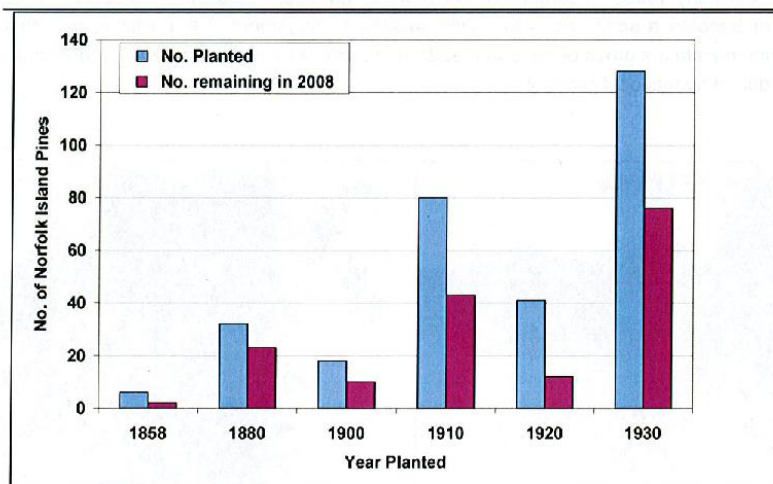


Figure 1. Number of Norfolk Island Pines planted between 1858 and 1930 along the ocean beachfront at Manly together with the corresponding number of these Pines remaining in 2008.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

Of the current 317 Norfolk Island Pines along the Manly ocean beachfront in 2008, 52% were planted in the period from 1858 to 1930 and can be considered as a mature population of trees. They formed a block planting and originally extended along the beachfront from South Steyne to Queenscliff but their subsequent deterioration in the 1960s had a greater impact at the northern end of the beach where many trees had to be removed due to safety concerns for the general public.

Most of the 96 replacements in 1991 (8) and 1992 (88) (Stage 1 Plantings) were planted in the original grid pattern and currently 90 remain. Approx 28 of these were planted outside the original grid along the sea wall north of Denison Street to Queenscliff SLSC. The sea wall in the North Steyne area was not constructed until the period from 1932 to 1938 and it is unlikely that any plantings were located in that area which would have had a more natural and irregular edge between the sand and the grass. A further 65 trees were planted in 1996 (Stage 2) and currently 59 remain. The trees planted from 1991 onwards (Figure 2) still need to be classified as juvenile or developing trees.

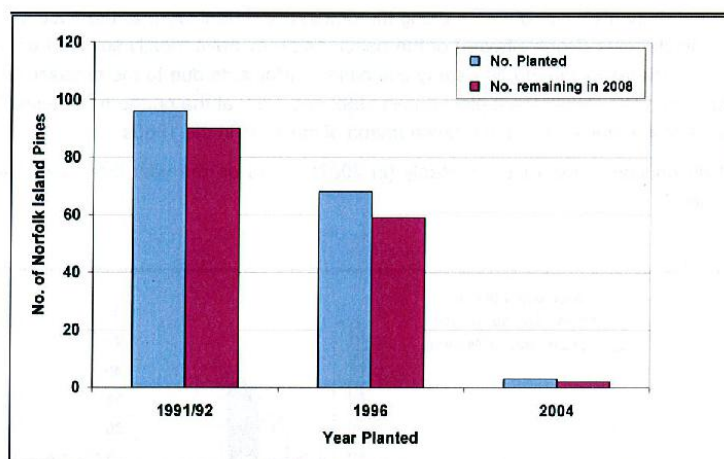


Figure 2. Number of Norfolk Island Pines planted between 1991 and 2004 along the ocean beachfront at Manly and the current number in 2008.

In 1982, 1,000 seedlings were grown by Manly Council for planting along beaches. The seeds were obtained from three sources, namely Manly Municipal Council (from the existing population of mature Pines along the ocean beachfront), Queensland stock and 'Civic' stock. It was thought that approximately 45% of the seed was sourced from Norfolk Island and 45% from mature Norfolk Island Pine at Manly (a total of 90% originating from Norfolk Island) and 10% from unknown sources in Victoria. Inspections indicate that not all were Norfolk Island Pines as documented below.

Ninety six (96) of the above Pines were planted along the ocean beachfront in August 1991 and May 1992. They were then approximately 10 and 11 years of age respectively at the time of planting. To stimulate root development, all trees were treated regularly with Hormone 20 and initially fertilized each alternate month with Seasol and Aquasol. This was complemented with various other minerals and fertilizers. A watering regime, involving hosing down of the trees,

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

commenced to ensure the removal of any salt/surfactant precipitated from aerosols. Some of the trees sustained physical damage at the time of planting and this is still obvious due to the extended dieback of the lateral branches. The trees were fertilized from August 1992 to April 1995 when regular fertilization ceased. The trees had a protective square timber guard which was covered with shade cloth on the sides. The guards were removed about mid 1995 and the posts removed at the end of 1995.

In 1996, 51 'super advanced trees' (100-Litre minimum container) were supplied for planting (4 in paving; 36 in grassed areas; 11 in garden beds). These Pines were 8 years of age when planted. There was temporary protection with stakes and shade cloth to the height of the tree (about 2 metres). Maintenance included regular hosing down and weed control for 13 months. The guards around these trees were very much narrower than the previous ones. They were necessary for protection from vandalism and pedestrian traffic but were so small that they had to be removed within a few years. Other Pines planted in 1996 (about 10) were 4 years of age when planted.

Most of the very early plantings of Pines along the ocean beachfront were at the southern (South Steyne) and middle parts (North Steyne) of the beach and they have mostly survived as they are protected from onshore winds and sea spray containing surfactants due to the encased headland and the geography. The more recent plantings in 1992 and 1996 at the northern (Queenscliff) part of the beach were introduced due to the deterioration of the trees in the 1960s.

The current distribution of the Pines at Manly (in 2007) based on the year they were planted is shown in Figure 3.

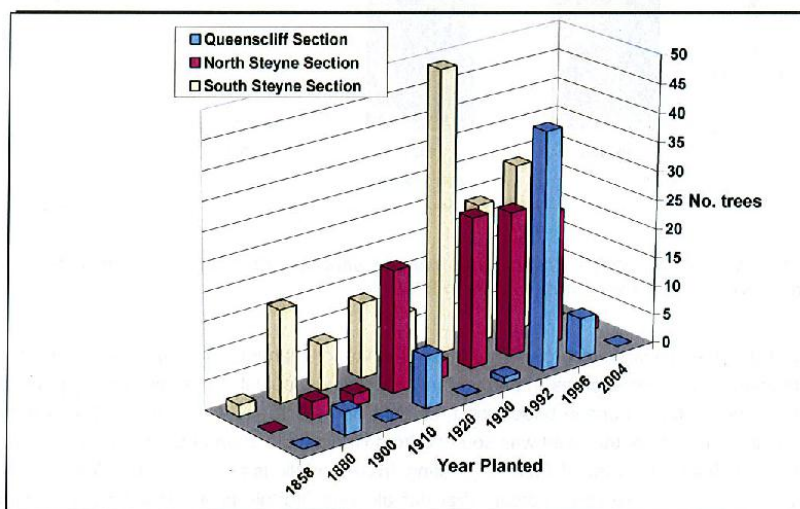


Figure 3. Distribution of the various ages of Norfolk Island Pines in 2007 in the three sections along the ocean beachfront at Manly.

Key Points: The Pines are of variable age and size and the environment in which many have been planted (soils/landscape/environment) has changed over time.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

3. Genetic Variation within the Planted Population

The original Pines that were planted in Manly in the period of 1858-1930 all appear to be Norfolk Island Pine (*Araucaria heterophylla* (Salisbury) Franco), or as the species would have been known at time of planting, *Araucaria excelsa*, and had the typical pyramidal crown of that species as seen in its native environment on Norfolk Island. This form was modified in many of the Pines by damage in the 1960's.

Norfolk Island Pine is one of nineteen species in the genus, *Araucaria*, from Australasia and South America. It is a very beautiful tree, endemic to Norfolk Island where it grows abundantly on basalt sea cliffs and dominates the interior rainforests, reaching heights of 60 m and diameters in excess of 2.4 m. It has a very symmetrical form, with regularly whorled branches on which the branchlets form two rows with a V-shaped trough between. Young trees are branched down to the ground, old trees have a long clear bole and a flattened crown.

- The main branches are horizontal, in regular whorls of 4 to 7.
- Lateral branches are horizontal or pendant.
- The outer bark peels off in thin flakes.
- Two kinds of leaves, those on juvenile or later branches are soft, awl-like, incurved, bright green and 1.2 cm long, those on older and fertile shoots are dense, overlapping, broadly ovate with an incurved horny point.
- Cones often have more width (up to 12-15 cm wide) than length (10-12 cm long).
- Seeds (2.5 to 3 cm long and 1.2 cm wide) are exclusive of well-developed wings, the apex of each scale being a soft, flat, triangular spine (1.25 cm long and 0.75 cm wide at the base).

The wood of *Araucarias* is yellow-brown with pronounced growth rings, straight grain and fine texture. Owing to its limited supply, it has very little commercial value but has been planted rather extensively in South Africa and other sub-tropical countries. It is very popular as an ornamental tree in the Mediterranean region, the Azores and other areas with a similar climate. It was introduced to England in 1793 where it is not hardy but used extensively as a pot plant for greenhouse and room decoration. Many are occasionally seen out of doors in gardens in Cornwall.

A. heterophylla is most nearly allied to Cook Island Pine, also known as New Caledonian Pine (*Araucaria columnaris* (Forst.) Hook. = *A. cookii* R. Brown ex Endl.) from which it differs due to the more plumose habit and coarser foliage of *A. heterophylla*. There are indications that later plantings in the 1990's along the ocean beachfront at Manly included some trees which probably are *A. columnaris*, a species endemic to New Caledonia, Polynesia, the Isle of Pines and the Loyalty Islands, and discovered by Captain Cook during his second voyage in the Pacific.

A. columnaris differs from the similar *A. heterophylla* in that it is a narrowly conical tree up to 60 m tall and forms a narrow dense column with short side branches that are crowded, not whorled. The trunk often leans in the lower part, but curves back towards the vertical in the upper section. The broad blunt leaves overlap so closely that the branchlets, arranged in flat sprays, resemble plaited ropes about 12 mm thick. The bristly seed cones are about tennis-ball size. A second species, *Araucaria luxurians*, is growing around southern New Caledonia but differs from *A.*

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

columnaris due to more loosely overlapping leaves. It sometimes reaches 30 m in height with a strong columnar form. In the younger stage, the foliage is slightly drooping.

- The trunk is clear, then numerous short shoots later.
- The bark is grey, papery, exfoliating in thin strips.
- Branchlets are cord-like, growing in one plane.
- Juvenile leaves are needle-like, adult leaves, scale like.
- Male cones are oblong-cylindrical, 5-10 cm long by 16-22 cm wide; scales triangular, finely toothed. Female cones are 10-15 cm long by 7-11 cm wide.
- Seeds are 3 to 3.5 cm long.

The differences between species are important where the objective is to achieve a reasonably uniform, decorative stand of trees with distinctive crown formation.



Photo 9. Cook Island Pine (left) and Norfolk Island Pine or a hybrid (right).



Photo 10. Norfolk Island Pine (left) and Cook Island Pine or a hybrid (right) at the Queenscliff Surf Life Saving Club.

Key Points: The early plantings and some later ones are recognised as Norfolk Island Pine but some of the trees in the later plantings in 1992 are a different species (mainly Cook Island or Caledonian Pine). Future plantings should be Norfolk Island Pine.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

4. Deterioration of the Pines during the 1950's and the 1960's

The first observations of the deterioration of Norfolk Island Pines located along parts of some beaches in NSW were made in about 1950, shortly after the major introduction and use of surfactants (detergents) for domestic and commercial purposes. These areas were within 200 metres of the sea and primarily in Sydney where the problem was most severe at Bondi, Manly, Malabar and Mona Vale (the last of these to a lesser extent). As time went by, the health of the trees in the earliest affected zones continued to deteriorate and the disorder spread to other parts of the coast in Sydney, in particular at Newcastle and Wollongong, both heavily urbanised regions. By 1966, it had been observed in the Sydney region that not only were the older seaside Norfolk Island Pines continuing to decline in health, but it was no longer possible to establish young Pines or other coastal species of trees using techniques previously found successful. Young Pines brought to the seaside deteriorated if left unprotected, but they could grow when protected, while deteriorating trees could recover if they were removed from the seaside. Almost all the mature Pines at Bondi had died by 1974. A 1959 photograph of Bondi Beach (Photo 11) shows scores of Norfolk Island Pines but by 1974 (Photo 12), there were only 4 remaining and they were well back from the beach at the southern end (only 2 of them remain today). Similarly, most Pines had also been removed on the beaches southwards to Maroubra, as well as many of the most exposed Pines along the Manly beachfront north of North Steyne and at Harbord.

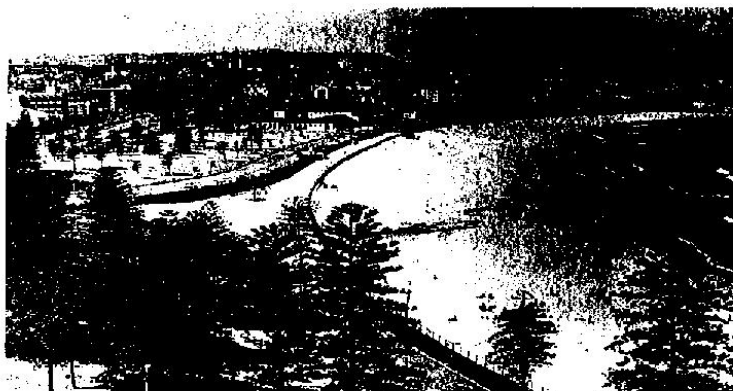


Photo 11. Scores of healthy Norfolk Island Pines in 1959 - Bondi Beach.



Photo 12. Bondi Beach in 1974 after deaths of the Pines in Photo 11.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

The disorder was characterised in the large Pines by gradual loss of foliage from the crown of the tree until eventually there were so few green shoots left that the tree did not recover and then died (see Photos 13 to 19). Typically, the branches and foliage on the seaward side were more seriously affected than those on the side away from the sea. The damage started as a browning of the tips of fronds then foliage began to diminish in the lower part of the crown. Subsequently, the damage extended upwards on the seaward side of the tree and finally the whole crown was affected. New shoots continued to appear but then died on branches or on the main stem until the tree was moribund. The tips of the uppermost branches, and the leading shoot and epicormic shoots on the main stem were usually the last green shoots on the crown. In young trees, especially when newly planted, deterioration was so rapid that, following browning of the foliage, they usually died before producing new shoots.

Since many Norfolk Island Pines of all ages are growing vigorously in unsheltered conditions very close to the sea edge on the NSW coast, it was unlikely that normal sea spray alone could be the main cause of the deterioration.

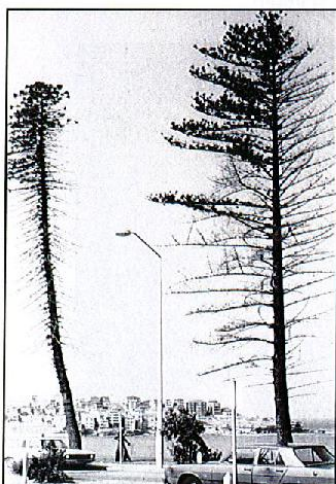


Photo 13. Deteriorating Pines at Bondi Beach in 1970. Only one remains today.



Photo 14. Northern part of Manly Ocean Beach in 1972. Some of these trees died.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan



Photo 15. Manly Ocean Beach at North Steyne in 1972. These three trees subsequently died.



Photo 16. Manly Ocean Beach at North Steyne in 1972. Some of these trees have also died.

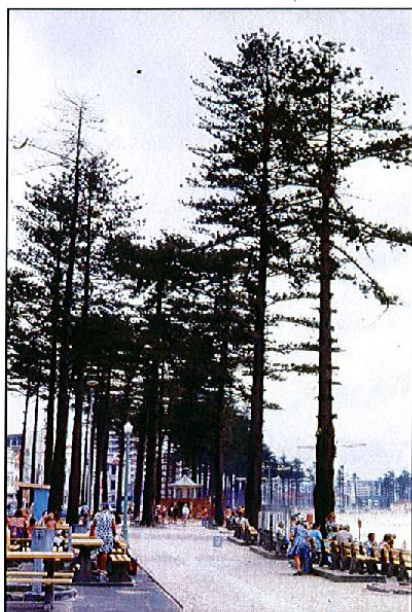


Photo 17. Manly Ocean Beach at North Steyne in 1972.



Photo 18. Deterioration of a mature Pine at Manly Ocean Beach in 1972.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan



Photo 19. *Branchlet dieback due to salt damage.*

Key Points: *In the 1950s and 1960s, some Norfolk Island Pines within 200 metres of the coast and exposed to the sea, deteriorated.*

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

5. *Process causing the Deterioration*

A detailed survey of Norfolk Island Pine trees along the New South Wales coast was undertaken in 1973 to determine the distribution and degree of damage, and to relate this to environmental factors. For each sample tree, a number of parameters were recorded, including the bearing and distance to the sea, the degree of shelter, height above sea level and the distance from sewage outfalls. Chemical analyses of sodium, potassium and chloride contents in foliage were also undertaken as well as a number of other elements such as boron, zinc, phosphorus, aluminium, calcium, magnesium and iron.

The research studies (Dowden and Lambert 1979) showed that:

- Affected areas, recognised by visible damage to tree crowns (as discussed in the previous Section 2.3), were close to large marine sewage outfalls and had greater exposure to the sea than unaffected areas.
- Seriously affected trees occurred in the Sydney metropolitan coastal areas only in the zones where large marine outfalls which discharge sewage with minimum treatment, were located.
- Damage associated with the 'dying pine' problem was due to the presence of surfactants (detergents), a component of sewage, discharged into the sea. The presence of surfactant in sea spray and onshore winds in areas with a sewage outfall, facilitated the uptake of excess salt into the foliage of the affected trees.
- Greater foliage damage/dieback was associated with higher salt (sodium and chloride) concentrations in the affected trees.
- Conversely, healthy populations of mature trees were noted on the coast but not near outfalls and/or were protected from exposure to them and they had low salt levels in their foliage (Brunswick Heads and Botany Bay are examples).
- The disorder could not be related to any known insect pest or fungal conditions.
- The disorder could not be related to air pollutants (such as sulphur dioxide, hydrogen sulphide or ozone, etc) or other factors (dogs, motor vehicles, etc).

Norfolk Island Pines thrive on the coast not because they tolerate high levels of salt in their tissues but by avoiding uptake of salt. The Pines restrict the uptake of sodium and chloride using mechanisms which minimise uptake of salt through either their roots or foliage. The leaves have a thick waxy layer on the surface (the cuticle) that is impermeable to salt diffusion (and to water). Gases diffuse into or out of the leaves. The small size of the pores and water-repellent waxy cuticle give the foliage the same kind of resistance to penetration by liquid water as water-proofed cloth, or duck feathers. In Norfolk Island Pines, the stomata are also covered by a mesh of waxy fibres and it is thought that these fibres also prevent very small droplets of sea spray from moving into the stomatal pores.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

It was proposed that the damage was caused indirectly by the active components of domestic and commercial detergents (surfactants) released into the sea from the sewage outfalls with very little treatment. One of the three major outfalls in Sydney is located at North Head approximately 2 km from Manly Beach (the other two are at Bondi and Malabar) and at that time, sewage was discharged into the ocean at the base of the sandstone cliffs with neither biodegradational processes (including for detergents) nor tertiary treatment. The deterioration began shortly after the major introduction of surfactant detergents from domestic and commercial use. They were known to be present in large amounts in metropolitan sewage and, unlike the soaps which they largely replaced, are very effective at lowering the surface tension of sea water. As spray is formed in the sea, the concentrated surfactant in the surface layer is caught up into the small spray droplets, and carried to the foliage.

The surfactants facilitated the entry of the salt into the foliage, by breaking down the waxy protection. The hypothesis that damage to trees was related to the presence of surfactant was further tested in glasshouse trials. Trees sprayed with surfactant alone or with sea water alone were unaffected. The sodium chloride content of the foliage sprayed with sea water plus surfactant increased to levels similar to those at which deaths occurred along the beachfronts and was closely related to the degree of damage. Hence surfactant facilitated the entry of sea spray into the leaf and the salt then killed the foliage.

Sewage is known to contain surfactants, present though in low concentrations in sea water. Samples of sea spray (where surfactants concentrate) were collected at different beach sites using specially designed gauges (harps). Concentrations of surfactant in sea spray at North Steyne at Manly were between 3 and 25 ppm and these levels were sufficient for surfactant to cause damage based on the results from the glasshouse trials. It was also predicted from the known concentrations of surfactant in sewage and from the area of the outfall sewage field, that the concentration of surfactant in sea spray would be expected to be in the above measured range and in fact, could at times be as high as 50 to 100 ppm. At Palm Beach (further up the coast and distant from an outfall and with no affected trees), the surfactant concentrations were 0.5 to 1.5 ppm.

Sewage, in particular from industrial sources, also generally contains heavy metals, such as copper and zinc, in larger quantities than those found in the natural environment. Kim and Zeitlin (1971) showed that heavy metal ions could be recovered from sea water with high efficiency by adding surfactant and bubbling air through water. Very similar processes occur naturally in the sea (Lemlich 1972) so that aerosol particles carrying metals can reach the land from the sea. Evidence that material from the sewage outfalls reached the foliage came from measurements of zinc concentrations in foliage. Sea water contains very low concentrations of zinc but the levels of zinc in foliage from Pines close to and exposed to the outfalls (60 to 135 ppm), was very much higher than in foliage from those distant from the outfalls (35 to 45 ppm). However, while the level of zinc could be used as an indicator, it was not sufficiently high to account for the damage.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

Re-plantings of young trees in the 1970's and 1980's were generally unsuccessful. Screens were erected to protect these young trees from prevailing ocean winds and sea spray but when removed, the trees deteriorated. After the problems were identified in the 1970's and actions were taken to reduce causative effects, successful replantings occurred in the 1990's and continue to the present.

Damage to foliage is not restricted to the Norfolk Island Pines on the metropolitan coast though their plight has been most evident. Dieback of trees also became evident in the 1970's and 1980's at various places inside Sydney Harbour. In one case at Ashton Park, where trees were dying, there were reasons to consider that surfactant-laden sea spray may have been responsible. Under certain weather conditions, some of the discharged sewage was carried into Sydney Harbour and also at times, surfactants were used to combat oil spills. The subsequent spray led to localised tree deterioration. Marine harbour vessels, particularly hydrofoils helped to deposit spray (containing surfactant) over land. The affected trees were mainly *Angophora costata* and some *Banksia serrata*. Further afield on the west coast of Italy, deaths of pine trees have been associated with surfactants in sea water (Bussotti *et al.* 1997).

By 1996, partly as a specific result of the above research, there had been some changes to the coastal environment in Sydney. These included:

- The commissioning in 1990 of deep ocean sewage outfalls at the three major outfalls in Sydney, namely at North Head, Bondi and Malabar (previously the outfalls were at the base of the cliffs). This resulted in sewage being discharged further out to sea and beyond the continental shelf into a much large volume of sea water.
- Major replacement of "hard" (slowly degrading detergents) with "soft" (highly biodegradable) surfactants.
- Increased levels of sewage treatment.
- Increased quantities of sewage being discharged.

The first three of these factors would positively affect the tree health and growth while the fourth could intensify detrimental affects.

Since the introduction of the submarine sewage outfalls, the disorder symptoms have rarely recurred. Occasionally, following large onshore storms, some of the Pines have shown browning on their seaward side but have then recovered. There has been some physical damage (lightning strikes or high winds), man-made damage (motor vehicles), some instances of pest and pathogen effects on some individual trees, and also nutritional problems leading to deficiency symptoms.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

These changes represent a history of effects on trees and this is retained in the trees themselves via their tree rings, as an example. A mature Pine at the northern end of the ocean beachfront near Queenscliff was damaged in a storm in 2001 and died. When it was felled, a basal disc of wood was obtained and the tree rings were measured. The width or the area of a tree ring is a general measure of annual tree growth and health. In normal circumstances, the area of the annulus varies due to changes in climate (rainfall, temperature) and sometimes due to changes in nutrients. However, in this particular case, the growth of tree rings in the period which was greatly affected by the presence of surfactants from sewage outfalls (late 1950's to early 1980's) had greatly reduced (Figure 4) and there was related deterioration of this Norfolk Island Pine and others in the area.

Hard detergents are surfactants containing phosphates and borates and were introduced to the market in the 1950's and they replaced many of the soaps used previously. The hard detergents were non biodegradable. They were then gradually replaced according to new legislation, by biodegradational anionic and cationic detergents, from about the early 1980's.

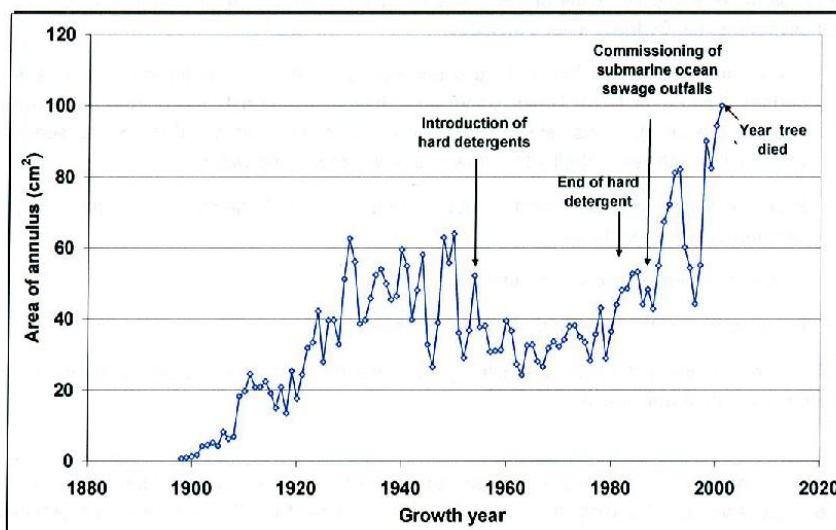


Figure 4. Area of each annulus estimated from tree ring widths across a basal wood disc of a mature Norfolk Island Pine (Tree No. 291 planted in 1880) along the beachfront near Pacific Street at Manly. The tree had died in 2001 due to damage from a storm. In the approximate period from 1955 to 1985 where the areas of the rings were less than 40 cm², they should have remained between approximately 40 and 70 cm² as in the period from 1930 to 1950.

Key Points: In the 1950's and 1960's, trees exposed to and in the vicinity of coastal ocean sewage outfalls started to deteriorate and it was found that the deterioration was related to the presence of surfactants in sewage being carried from the outfalls to the coast and breaking down the normal protection mechanisms of the trees, thus allowing the entry of salt and deterioration of the trees due to salt toxicity. These factors have largely now been overcome.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

6. Soils

The soils in the Manly area where Pines have been planted, are very variable in terms of substrate, physical attributes and chemistry. Their nutritional status varies from nutritionally adequate, albeit with imbalances, to being nutrient deficient (Table 1). Root development varies according to soil type. On soils formed *in situ* (shales, sandstone), the main root development is near the surface of the soil profile which means the trees are vulnerable to damage but also amenable to traditional fertilizer treatments on the soil surface. Trees on beach sands (siliceous or calcareous) develop roots down to the freshwater lens located over the top of saltwater infiltration, that is, a significant proportion of fine roots may be found at a depth of 1 to 2 metres in the soil. These factors result in the basic nutrition being highly variable spatially and temporally. Soil analyses undertaken in 1991-1992, revealed a generally low level of nitrogen and potassium and under the paved area at South Steyne, there was an excess of phosphorus which would indirectly restrict the availability of iron.

On the beachfront at Manly, there are areas with siliceous beach sand, calcareous soils resulting from high shell inputs, and nearer to the Lagoon, organic or swampy sands in areas which would have originally carried swamp vegetation communities. The street trees on the flatter areas are mainly on deep siliceous sands albeit altered by impacts of roading gravel. Away from the flats, the trees are on *in situ* soil derived from sandstone or in some cases, on modified soils (where fill has been transported to the area). Some soils were noted as changing, mainly from compaction due to pedestrian traffic and changes in the soil surface.

Table 1. Chemical analyses of surface soils (0-10 cm) supporting coastal beachside Norfolk Island Pines at Manly and in other locations on the NSW coast. Underlined values are high, those in **bold** are sufficiently low to result in problems (such as nutritional deficiencies in trees).

Location	Soil Parent Material	pH	Total N (%)	Total P (ppm)	Avail. P (ppm)	Exchangeable (me%)			
						Ca	Mg	Na	K
Manly	Quartz sand with shells	<u>7.81</u>	0.06	505	11	<u>6.35</u>	0.76	0.25	0.16
Manly	Sandstone	4.10	0.04	59	2	0.15	0.21	0.14	0.30
Manly	Sandstone	5.26	0.11	133	1	2.55	1.61	0.05	0.21
Manly	Calcareous sand	<u>6.90</u>	0.09	1080	11	<u>5.89</u>	1.75	0.56	0.19
Narrabeen	Shale	4.43	0.12	183	12	0.28	0.39	0.13	0.92
South Coast	Fine quartz sands	5.70	0.02	29	4	1.29	0.68	0.17	0.13
South Coast	Coastal sediments	4.48	0.17	27	5	0.70	2.00	0.20	0.33
South Coast	Quartz sands	4.92	n/a	40	n/a	0.81	0.44	0.49	0.10
North Coast	Beach sands	4.15	0.01	16	1	0.36	0.14	0.04	0.01
<u>High levels</u>		<u>6.50</u>	-	-	-	<u>5.00</u>	-	<u>1.00</u>	-
Low levels		4.50	0.075	-	10	0.5	0.25	-	0.20

Key Point: Soils in which Norfolk Island Pines are planted are variable and there will be a range of nutritional situations and morphological responses from trees, greatly different from those in their natural environment.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

7. Recovery of the Health of the Pines after the Deterioration Period

The three submarine sewage outfalls in Sydney (one at North Head) were commissioned by 1990, and the Pines along the ocean beachfront at Manly have been assessed almost annually since 2000. The assessed parameters reflect changes in health which together with stem growth has been restored (see Photos 20 to 23). The sodium and chloride levels have declined from toxic levels to acceptable concentrations where they generally remain to the present (Figure 5). In molar terms, the sodium and chloride are now generally equivalent, that is, they are in the free salt form whereas this was not the case when the trees were deteriorating (sodium was preferentially accumulated). Other nutrients are changing over time, the rate of decline or change depending primarily on the soil or substrate of the trees. For example, nitrogen and potassium are declining in foliage with time and fertilization needs to be increased.

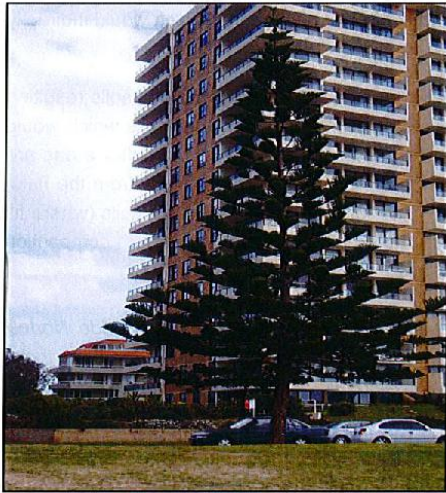


Photo 20. Healthy well-formed Pine at Queenscliff in 2005.

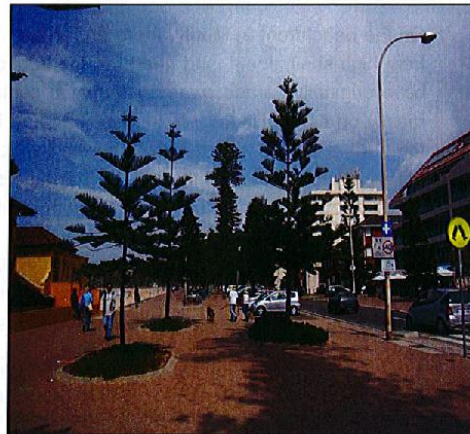


Photo 21. Healthy Pines (6-years-old) at North Steyne in 2002.

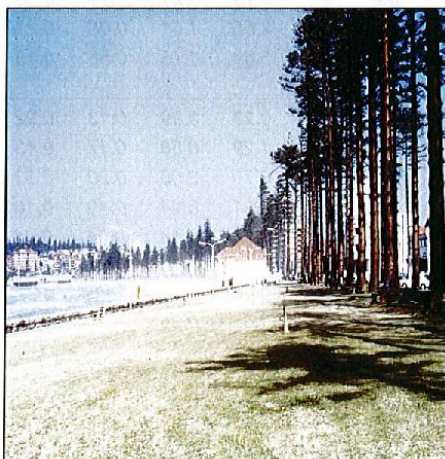


Photo 22. 1994. Recovering Pines at the northern end of Manly Ocean Beach.

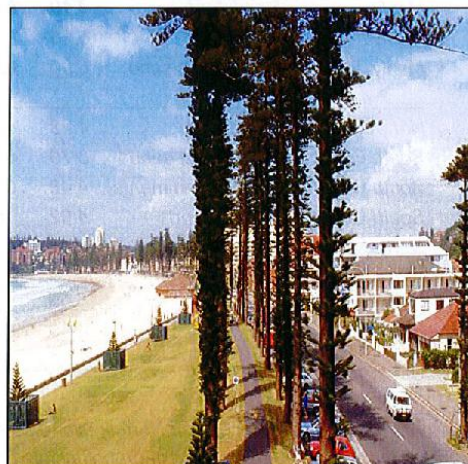


Photo 23. 1998. New epicormic growth on mature Pines. Young Pines surrounded by tree guards.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

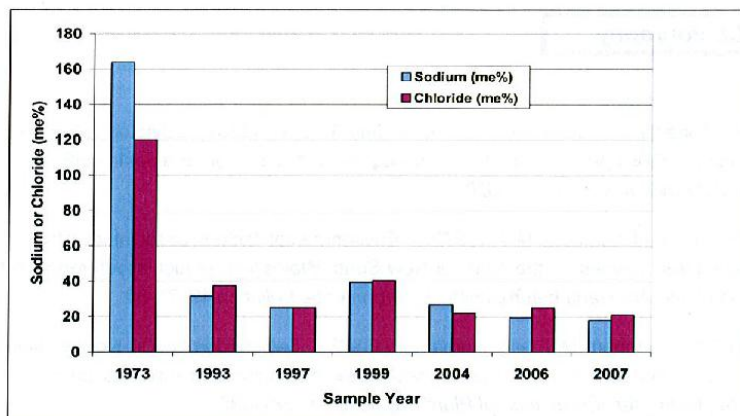


Figure 5. Sodium and chloride concentrations in foliage of Norfolk Island Pines along the ocean beachfront at Manly in 1973 at the time of severe deterioration compared with the period since 1993 after the commissioning of the submarine ocean outfalls.

Young trees are especially susceptible to nutritional problems due to limited root development and related high nutrient requirements. The trees in the very early plantings were each boxed and regularly fed with nightsoil collected from the surrounding villages in the late 1800s and early 1900s (high-level regular fertilizing) and hence there was very high nutrient supply. The current trees need regular fertilizer treatments, especially as their sandy soils have little nutrient retention capacity. In particular, the levels and ratios of nutrients need to be adjusted for the stage of tree development. Trace element deficiencies are a problem especially on some calcareous sands with high pH (there are different soils involved across the plantings). Foliar manganese levels in the Pines over time are shown in Figure 6. They are deficient when less than 30 ppm and these levels were evident in the yellow appearance of those trees, particularly at the top of their crown.

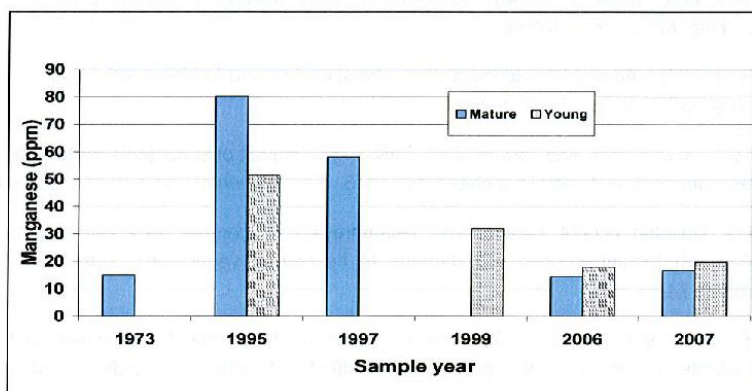


Figure 6. Manganese concentrations in foliage of mature and young Pines over time along the ocean beachfront at Manly.

□ **Key Points:** Since the removal or reduction of the early stress factor (occasioned by the presence of surfactant from the outfall), tree health has improved. However, there are indications that some trees suffer from specific nutritional stresses.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

8. Bibliography

- Bussotti, F., Bottacci, A., Grossoni, P., Mori, B. and Tani, C. (1997). Cytological and structural changes in *Pinus pinea* L. needles following the application of an anionic surfactant. *Plant, Cell and Environment* 20: 513-520.
- Dowden, H.G.M. and Lambert, M.J. (1979). Environmental factors associated with a disorder affecting tree species on the coast of New South Wales with particular reference to Norfolk Island pines, *Araucaria heterophylla*. *Environmental Pollution* 19: 71-84
- Dowden, H.G.M., Lambert, M.J. and Truman, R. (1978). Salinity damage to Norfolk Island pines caused by surfactants. II. Effects of sea water and surfactant mixtures on the health of whole plants. *Australian Journal Plant Physiology* 5: 387-395.
- EDAW Landscape Architects and Environmental Planners (1995). Manly ocean beach, Norfolk Island Pines planting layout report. Manly Council Report, March 1995. 32 pp.
- Grieve, A.M. and Pitman, M.G. (1978). Salinity damage to Norfolk Island pines caused by surfactants. III. Evidence for stomatal penetration as the pathway of salt entry to leaves. *Australian Journal Plant Physiology* 5:397-413.
- Kim, Y.S. and Zeitlin, H. (1971). Separation of trace-metal ions from seawater by adsorptive collou flotation. *Chemical Communications* 672.
- Lambert, M.J. (1976). Methods for chemical analysis. Forestry Commission of NSW Technical Paper No 25. 187 pp.
- Lambert, M.J. (1997). Foliage analyses of Norfolk Island Pines planted at Manly. Report prepared for Manly Council.
- Lambert, M.J. and Turner, J. (2000). Commercial forest plantations on saline lands. CSIRO Publishing, Melbourne. 198 pp.
- Lemlich, R., (1972). Adsubble processes: foam fractionation and bubble fractionation. *Journal Geophysical Research* 77: 5204-5210.
- Moodie, E.G., Stewart, R.S. and Bowen, S.E. (1986). The impact of surfactants on Norfolk Island Pines along Sydney coastal beaches since 1973. *Environmental Pollution* 41: 153-164.
- Pitman, M.G., Dowden, H.G.M., Grieve, A.M., Humphreys, F.R., Lambert, M.J. and Scheltema, H. (1977). Surfactant induced salt damage to beachfront vegetation. *Australian Natural History* 9: 74-81.
- Truman, R. and Lambert, M.J. (1978). Salinity damage to Norfolk Island pines caused by surfactants. I. Nature of the problem and effects of potassium, sodium and chloride concentration on uptake by roots. *Australian Journal Plant Physiology* 5: 377-85.

**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

PLAN

FOR THE MANAGEMENT AND CONSERVATION

OF COASTAL NORFOLK ISLAND PINES

WITHIN MANLY COUNCIL REGION

Prepared for Manly Council
by
Marcia Lambert and John Turner
Forsci Pty Ltd
Suite 4.05 Delhi Corporate
32 Delhi Road, North Ryde NSW 2113
February 2012



1994 Norfolk Island Pines at the northern end of Manly Ocean Beach

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

The Authors

Marcia Lambert and John Turner are Directors and Principal Research Scientists in the forest research company, Forsci Pty Ltd established in 1996 to undertake forestry research within Australia and Internationally. The company specialises in technical, developmental and research aspects of exotic and native forests in Australia and overseas, including feasibility studies for forest projects, plantation development, product development, and environmental impacts of forestry. A major focus is analysing potential plantation areas and defining species and management regimes to provide desired commercial and/or environmental outcomes, especially in relation to the management of soils and nutrition, work on sustainability, certification requirements, comparison of Codes of Forest Practice and limitations on forest management practices. The main fields of research have included soils, forest nutrition, nutrient requirements of tree species, nutrient cycling, nutrient/environment interactions, impacts of forest management on sites, use of fertilizers, chemistry of forest products, and reviews of the science underpinning and/or supporting forest management for sustainable timber production.

Marcia Lambert (ASTC, BScHons, MScHons, FRACI, MIFA) commenced her career in the Research Division of the Forestry Commission of NSW in 1959 and was classified as Research Officer until 1979 when she was promoted to Senior Research Scientist by the NSW Government Scientific Qualifications Committee and worked on a range of research projects including chemical analysis of forest materials, tree nutrition, nutrient cycling, impacts of forest management and was responsible during the 1970s for the organisation's research on the deterioration of Norfolk Island Pines on the coast of NSW. From 1986 to 1996 she was Assistant Director of the Research Division of State Forests of NSW. She is a Member and a Registered Professional Forester of the Institute of Foresters of Australia, a Fellow of the Royal Australian Chemical Institute, and since 1975 has been a chemical assessor with the National Association of Testing Authorities. During her career, she has had other affiliations and representations during her career. For the period 1990-95, she was elected to the Executive Board of the International Union of Forest Research Organisations (IUFRO), representing the Western Pacific Region and the first female to be elected to the Board since the inception of IUFRO in 1882. She has more than 140 refereed scientific publications.

John Turner (BScFor, PhD, MIFA, MSSSA, MAIB) commenced his career in the Forestry Commission in 1966 and was promoted to Research Officer in 1970. Between 1972 and 1975, he undertook Doctorate studies at the University of Washington in Seattle on nutrient cycling in Douglas fir forests and worked with the International Biological Program and the Forest Management Cooperative. On his return to Australia, he worked on a wide range of research projects and was promoted during this period to Senior Research Scientist by the NSW Government Scientific Qualifications Committee. The results of his research led to his involvement in a number of key environmental issues and resultant legal proceedings and court enquiries. They included rainforest disputes, the Terania Creek inquiry, integrated harvesting in the South East Forests, and inquiries into pine plantation establishment. From 1987 to 1996, he was Director of the Research Division of State Forests of NSW and responsible for a wide range of research programs. He also developed State Forests of NSW Sustainability Program, worked on policy development related to forest management and conservation, and was directly involved in biodiversity programs, allocation of reservation areas, development of carbon accretion studies and utilisation of plantation grown eucalypts. He is a Registered Professional Forester of the Institute of Foresters of Australia and has a wide range of other affiliations. In 2005 he was awarded the IUFRO Scientific Achievement Award. He has 190 refereed scientific publications.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

Executive Summary

This Plan provides a framework and specific requirements for the Management and Conservation of Norfolk Island Pines in Manly, including the Pines along the ocean beachfront (elevated in 1992 by the Australian Heritage Commission to Heritage-listed on the Register of the National Estate), and those at East West Esplanade and those in the vicinity of the Manly Lagoon at Queenscliff. The Norfolk Island Pines in the Manly area are a community asset and one objective of the Plan is to maintain and improve them into the future. Another objective is to also ensure tree health and to plan for the overall maintenance and enhancement of the significant cultural landscape of the populations of Pines on an ongoing basis.

The Plan follows from a period in the 1950s and 1960s when trees were deteriorating and dying as a result of the stripping of their protective foliar waxes by surfactants originating from sewage outfalls, followed later by the banning of the use of "hard" surfactants, commissioning of submarine ocean outfalls and then replanting and maintenance of the existing trees. It is this ongoing management stage which we have now reached.

The management program serves as a model for monitoring and managing the recovery and maintenance of coastal tree systems. The Plan identifies the need for (and problems involved in) maintaining projects associated with the interaction between nutritional and physiological studies in the long term, and especially in areas which have high visibility and are heavily populated.

It is anticipated that the Plan will be a 'Work in Progress' and will be regularly revised once every 5 years. As the work progresses and more information becomes available, there may be additional and/or different aspects which will need to be included or changed on an annual basis. The Plan is presented to include the history and description of the stands of Pines and their key characteristics.

In order to implement the approved future management, the following documents are required as backup:

- *A data base with incorporated historical information and ongoing actions.*
- *A simple prescription/ description/ direction/ timetable for field staff.*
- *A register of actions undertaken by field staff.*
- *A map of the groups of Norfolk Island Pines being monitored and the most affected zones in the 1950s and 1960s due to outputs from the sewage outfall.*

There is ongoing concern about the presence of the sewage plant at North Head and it is recommended that the Plan be presented to Plant Managers at Sydney Water's North Head Sewage Plant with a proposal that the Manager of Parks and Reserves, Manly Council be advised of any periods of elevated outputs from the North Head Sewage Plant and the particular areas in Manly that could be most at risk.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Table of Contents

	Page
<i>The Authors</i>	2
<i>Executive Summary</i>	3
1. <i>Recommendations and Actions</i>	6
2. <i>Environment and Threats to Tree Health</i>	7
3. <i>Environmental Threats, Future Threats and Climate Change</i>	7
4. <i>Droughts or Variations in Water Availability</i>	8
5. <i>Air-borne Pollutants</i>	9
5.1 <i>Particulate Pollutants</i>	9
5.2 <i>Acidic Gaseous Air Pollutants</i>	10
5.3 <i>Primary Gaseous Air Pollutants</i>	10
5.4 <i>Hydro-fluorocarbons</i>	11
5.5 <i>Photochemical Pollutants</i>	11
5.6 <i>Coal Gas</i>	11
5.7 <i>Man-made Associations</i>	11
6. <i>Physical Damage</i>	12
6.1 <i>Soil Compaction</i>	12
6.2 <i>Soil Erosion</i>	12
6.3 <i>Lightning</i>	12
6.4 <i>Vehicles</i>	12
6.5 <i>Vandalism</i>	12
6.6 <i>Mowing and Whipper-Snippering</i>	12
7. <i>Management of the Norfolk Island Pines in the Manly Area</i>	13
8. <i>Health and Nutritional Monitoring and Amendments</i>	14
8.1 <i>Nutrient Availability</i>	15
8.2 <i>Methods of Foliage Sampling</i>	15
8.3 <i>Interpretation of Results</i>	16

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

9.	<i>Future Management and Practices</i>	19
10.	<i>Development of Timetables and Requirements</i>	21
10.1	<i>New Tree Planting</i>	21
10.2	<i>Cultural Practices for Existing Trees</i>	21
10.3	<i>Staking and Protection (Tree Guards, etc)</i>	22
10.4	<i>Protection of the Soil Surface</i>	22
10.5	<i>Pruning</i>	22
10.6	<i>Tree Nutrition Uptake</i>	23
10.7	<i>Fertilization</i>	25
	10.7.1 <i>Schedules for Fertilizer Applications</i>	25
10.8	<i>Pest and Disease Control</i>	26
10.9	<i>Detrimental Activities</i>	26
11.	<i>Updates of the Data Base on the Growth and Health of the Norfolk Island Pines</i>	27

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

1. Recommendations and Actions

The objective of the Plan is to maintain a healthy actively growing Norfolk Island Pine resource with limited safety risk for the use of the community. The best management practices established by Manly Council need to be maintained, developed and documented. To this end, short and long term actions are recommended as follows:

1. Council endorse the Plans of Management for the Norfolk Island Pine to ensure long term support of the programs.
2. Undertake a re-assessment in 2012 of the condition of the population of pines along the ocean beachfront and prepare a summary report with specific recommendations relating to specific aspects listed below.
3. The above survey should identify and document Pines which need to be removed and replaced over the next five years. Criteria for removal are:
 - a) The tree is dead, or nearly so, and poses a long term safety risk.
 - b) The tree has sustained external damage/injury and parts of the tree (for example, large branches) will develop into long term safety risks.
 - c) There is evidence of significant internal stem damage, such as rot, which cannot be readily corrected and hence there is a longer term risk of the tree falling over. [Note some rot will occur in trees and this can be treated in various ways].
 - d) The tree is malformed or damaged and will not develop into the expected stature or form.
 - e) The tree is not typical of Norfolk Island Pines, or is not a Norfolk Island Pine, and hence should be replaced.
4. Establish a long term plan for new plantings along the ocean beachfront and Manly Lagoon.
5. With regard to replacements and new plantings, it is expected an average of at least six new trees will be required each year.
6. With regard to new plantings, there is a need to identify planting stock from suitable seed source(s). This may include seeds from Manly or considering climate change, from other locations such as the NSW North Coast. Planting stock should be at least about 3 m tall when planted and meet Council quality protocols. It will be necessary that new stock are watered regularly after planting to reduce water stress, and be regularly fertilized.
7. The survey will need to include foliage nutrient assessments to refine recommendations of fertilizer requirements and treatments.
8. An improved mapping of broad soil types is recommended as a basis for improving the nutrient management plans.
9. An action listing/table and data base need to be finalised to ensure assessments and treatments are on schedule together with any issues noted (by Council Staff, contractors, etc).

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

2. Environment and Threats to Tree Health

In the 1950s and 1960s when it was observed that Norfolk Island Pines were deteriorating, a number of hypotheses and opinions were proposed. They were tested, however, the disorder could not be related to any known insect pest or fungal pathogen, nor could it be associated with drought, soil conditions, the age of the trees, physical damage, tree nutrition, gaseous pollutants, particulate or liquid pollutants, dogs or motor vehicles. Each of these factors have specific signs and symptoms either within the trees themselves or from other information.

Hypotheses continue to be raised periodically and are considered.

3. Environmental Threats, Future Threats and Climate Change

The environment where the Norfolk Island Pines are growing is undergoing constant change in the short, medium and long term. Such variation is a result of both natural and anthropogenic causes and leads to variations in rainfall (quantity, intensity and seasonality), temperature regime, extreme events (wind, tides, etc) and water table fluctuations. This is in addition to localised impacts discussed in other sections such as soil compaction, irrigation, fertilizers, etc.

Over the length of their life, the trees have been subjected to variations in environment, including high stress, and yet they have recovered. The species is extensively planted across Australia (from S.E. Queensland south down the east coast and around the southern coast to South Australia, in northern Tasmania and south west Western Australia) and this involves large variations in rainfall regime, moisture stress, temperature, soils and management impacts. The Norfolk Island Pines actively grow through this high variation although there are differences within the species. It is proposed that this national resource be evaluated to provide long term sources of future planting material and information on tree performance for the future management of Norfolk Island Pines at Manly. Further, management needs to recognise that long term changes will occur and that there are risks of short term event impacts such as breakage from high wind events.

It is proposed that actions to be undertaken, include:

1. Keeping up to date on predictions from the Australian Bureau of Meteorology on potential long term changes of weather and sea levels.
2. Identify the better performing trees growing in conditions typical of potential future environmental changes (drier, hotter, etc) and use that genetic material as sources for long term tree replacement. This could include assessments and collections from trees further north along the coast (for example, the grove of Pines at Brunswick Heads).
3. Monitor long term data on the water table to evaluate possible increases in long term moisture stress to be managed with tree replacement and irrigation.
4. Support studies on extensive plantings of Norfolk Island Pines to determine indicators of long term stress to provide information for managers.
5. Monitor levels of emissions from industrial sources.

Key Points: *The Norfolk Island Pines have undergone and continue to undergo, stresses which affect short and long term tree health. Some may be mitigated against and hence management needs to recognise potential effects.*

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

4. Drought or Variations in Water Availability

Variations occur in availability of water for tree growth as seen by the recent drought and they cause stress within trees. Drought was not an issue associated with the deterioration of the Pines in the 1950s and 1960s as there was relatively high rainfall in the post WWII period (1950 to 1964) (Figure 6). Also, changes in patterns of rainfall did not explain why Pines immediately adjacent to the coast were those most seriously affected, while those protected or inland were not, nor did it explain the broad geographical variation (within the State).

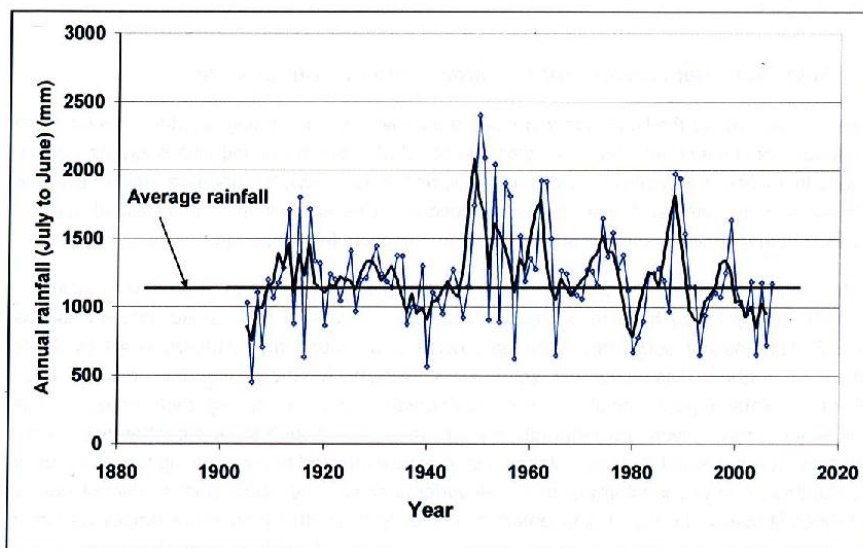


Figure 6. Annual rainfall (growing season from July to June) for the Manly environment. No trend was noted in relation to the deterioration. The trend in black is the annual rainfall and the blue line is the moving average.

At the time of the installation of an Atlantis Ecological Stormwater Filtration System in the section of reserve to the north of North Steyne, an improved drainage system was also installed in the area around Smith Street. At our request, the soil and bitumen were excavated around one Norfolk Island Pine in Smith Street, Manly (planted in 1880) to examine the distribution of the tree's roots. Rather than finding that fine roots were concentrated near the soil surface as occurs in many forest situations, the roots were considerably deeper and were probably utilising a fluctuating watertable or fresh water lenses. Many of the large Pines are less affected by rainfall variation as they use groundwater whereas smaller trees can be more prone to drought conditions through limited root development. With few exceptions, only the very mature Pines (more than 100 years of age) have buttressed bases and some roots on the surface.

Key Point: Low rainfall is not a cause of decline in tree health but can impact on tree growth.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

5. Air-Borne Pollutants

Residents have raised Sydney Water's North Head Sewage Plant as a significant risk for production of air-borne pollutants, particularly sulphur compounds (including hydrogen sulphide). The plant was one of four which, at the time of the deterioration of the Norfolk Island Pines in the Sydney Region, was discharging effluent containing surfactant, from cliff-based outfalls. That situation was significantly improved by the reduction of hard detergents and the building of the submarine ocean outfalls. Recent discussions with Sewage Plant staff indicate that the plant produces gases during the digestion process and recovery of biosolids. These gases are constantly monitored at the plant and are provided in reports to the community. The plant has been and is continuing to improve equipment and this leads to constant improvement in the levels of emissions (for example, removal of the Thiess Scrubber in September 2007 has essentially removed ammonia outputs). The gases that are produced are very low in concentration and very localised in extent, specifically in close proximity to the plant. The levels of hydrogen sulphide (H₂S) and chloride (Cl) and chemicals such as mercaptans are so low that even if Norfolk Island Pines were growing within the plant boundaries, tree growth or health would not be affected. There is no perceived risk from this source for the existing pines and no pattern of symptoms related to the plant.

From the time that deterioration of the Norfolk Island Pines was first noticed, a number of possible causes were proposed, mainly related to different air pollutants. They included car exhausts (presence of lead), aircraft and ozone, hydro-fluorocarbons, and emissions from the Sewage Plant and industrial plants. These hypotheses were eliminated as primary causes as they did not explain the cause of the damage which was limited to specific areas of beachfronts (that is, there were localised effects), elevated levels of the pollutants could not be detected in proximity to the trees and/or the symptoms did not match those described for those pollutants.

The following pollutants have been raised periodically as a possible cause of some specific problems. There are two main components of air pollutants, namely gaseous and particulate. The gases which occur in their emitted state as primary pollutants include sulphur dioxide, ammonia, hydrogen chloride and nitrogen oxide. The oxidation of these primary pollutants leads to aerosols (in the case of SO₂, this is as partially or fully neutralised sulphate).

5.1 Particulate Pollutants

Particulates exist in the atmosphere in many forms. They can range from sub-micron aerosols to visible dust particles. Some are derived from natural sources, while others are due to human activities. The relative impact that particulates have on vegetation depends on their individual size, cumulative quantity and their chemistry. However, there is still too little known about some types of particulates and how different levels of deposition affect plant communities over varying time periods. Critically in their analysis, a source of the pollutants needs to be identified.

Among the atmospheric pollutants which are largely found in the particle phase are the heavy metals including lead (Pb), cadmium (Cd), zinc (Zn) and copper (Cu). These potentially toxic heavy metals are mainly emitted from metal processing industries and large combustion sources, however, car exhausts and tyres can be some sources (particularly, Pb and Cd).

Generally, lead has been found to have been elevated in wood and foliage of trees near main roads, having been taken up through foliage or from depositions on soil, but this is a universal problem and the levels are not high enough to cause any damage to vegetation.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

In the Manly area, there is no industrial source of heavy metal particulate pollutant and there is no evidence that levels from car exhausts are an ongoing issue for tree health.

5.2 Acidic Gaseous Air Pollutants

Pollutant gases which are highly reactive with vegetation are highly acidic gases, namely nitric acid (HNO_3), hydrochloric acid (HCl) and hydrofluoric acid (HF). They are derived from specific industrial sites. The specific symptoms (such as necrotic spotting on foliage of all vegetation) have not been noted in coastal areas of NSW and no industrial sources are in the vicinity of Manly. These are unlikely to be an issue for Norfolk Island Pines in the future.

5.3 Primary Gaseous Air Pollutants

Sulphur dioxide (SO_2) and ammonia (NH_3) are two of the most important pollutant gases as they can react with the external surfaces of vegetation and are also exchanged with the internal surfaces of foliage following diffusion through stomata. In low amounts, sulphur dioxide and ammonia may act as sources of nutrients (sulphur and nitrogen), however, in high amounts damage can occur to plants. The main sources of these gases are from industry and power generation and they have been studied extensively in the Northern Hemisphere in relation to the issues of acid rain.

The most abundant impurity in fossil fuels is sulphur. It is present in very small quantities in natural gas, a few tenths of 1% compared with 2% in crude oil and between 1% and 6% by weight in coal. During combustion, sulphur in fuels is oxidised to sulphur dioxide (SO_2). Chlorine is an impurity present in coal, combustion of which leads to emissions of hydrogen chloride (HCl) gas. A dozen or more other elements are present as impurities in coal and oil and usually are at levels of only parts per billion. Impurities participate in the combustion process not only from the fuel but also from the atmosphere which, of course, is not pure oxygen. During combustion, abundant atmospheric nitrogen (N_2) is oxidised to nitrogen oxides (NO_x).

Ambient concentrations of SO_2 are extremely low in Australia, and have also declined substantially in Europe and North America during the last three decades. The main interests in these concentrations are in effects on human health, and damage to vegetation and buildings. The deposition of atmospheric sulphur to croplands also provides nutritional requirements for the majority of crops. With the decline in concentrations and deposition of atmospheric sulphur, the potential for effects on higher plants has largely disappeared, and the requirement for fertilizer application of sulphur to sustain crop yield and quality has emerged. No major sources of these compounds are in the Manly area.

A wide survey of the literature leads to the conclusion that under prevailing atmospheric conditions of volatile organic compounds, there is little evidence for direct damage by any one compound. However it would be prudent to keep an open mind on such Environmental Issues and monitor any changes or increases in this regard.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

5.4 Hydro-fluorocarbons

Hydro-fluorocarbons were proposed as a cause of dieback in the 1970s as a result of a number of studies at the time. The localised effect of the problem and no detection of localised accumulation of these compounds ruled them out as a significant causative agent and no evidence has been produced in more recent times.

5.5 Photochemical Pollutants

Ozone is the main photochemical or potential secondary air pollutant. Initially, it was suggested that aircraft were generating high levels of ozone and this was a cause of the problem for the Norfolk Island Pines. However, excessive levels of ozone were not detected and the Pines around Botany Bay where there is large air traffic, were essentially unaffected.

Testing of ozone fumigation by the Environment Protection Authority in the 1960s showed that trial Norfolk Island Pines were resistant to ozone when it was present in amounts equivalent to severe air pollution. There have been many thorough reviews of the different areas of biochemical, molecular and physiological responses of plants to ozone.

5.6 Coal Gas

One early theory suggested that coal gas leaked from pipes into the soil and spread readily through the beach sand causing damage to tree roots. Testing, using biological means within the soil found no coal gas present. No reported instances of coal gas damage have been reported.

5.7 Man-made Associations

Gas leaks along East esplanade in the early 1980's affected the trees near the wharf and in some associated streets.

Key Points: *A number of theories on the causes of deterioration of Norfolk Island Pine have been proposed in relation to air pollutants. The proven one relates to the impacts of sewage-derived surfactant being carried in aerosol to foliage, resulting in subsequent salt damage. A range of other pollutants have been proposed but the overall evidence indicates that in coastal NSW in general, there have been no sources for the pollutant (or only at low levels), the pollutant has not been detected in significant quantities and/or the symptoms have not been compatible with the proposed pollutants. There should be continuing vigilance in this regard.*

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

6. Physical Damage

6.1 Soil Compaction

Soil compaction is occurring around the base of some Pines as a result of pedestrian traffic. Where obvious tracking is occurring under some trees, a barrier restrictions should be inserted. The Pines are growing in a range of materials (roading asphalt, paving, grass, etc) and soil compaction can have effects on growth and health, particularly of young trees, and is overcome by mulching or providing other protective barriers, such as tree guards (see Section 6.2).

6.2 Soil Erosion

Soil erosion has occurred around some young trees adjacent to beach pathways. This is limited in extent and requires retention structures.

6.3 Lightning

Lightning strikes have damaged trees in the past, and by their nature, can be expected to occur from time to time in the future. They are unpredictable but will generally require the removal and replacement of some trees. General decline of the population of Pines has not resulted.

6.4 Vehicles

Vehicles cause damage by driving into trees and damaging basal bark and wood. This can be followed by disease resulting in wood rot and needs to be monitored. Smaller areas of damage can be treated. However, more extensive damage may require tree removal for safety reasons. (High impact damage has severely damaged trees in the past). These events are random and little planning can be undertaken to reduce the effects.

6.5 Vandalism

This is ongoing and as a result, there is scarring on large trees and branches or crown damage on smaller trees. Effects are random and, other than vigilance, difficult to overcome. There is the potential for vandalism by residents where trees impact on views and this would need to be monitored by Council.

6.6 Mowing and Whipper Snipping

Protection of the stems of the smaller Pines is necessary at establishment and until they are 3 to 5 years of age to avoid mechanical actions which will affect their trunks. Larger trees are usually not so affected by the same mechanical damage.

Key points: *Physical damage occurs to trees, generally on a random basis. (The history of past events needs to be taken into account when planning for actions to be implemented).*

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines

Norfolk Island Pine Management Plan

7. Management of the Norfolk Island Pines in the Manly Area

Management of the Norfolk Island Pines requires a definition of resources, regular monitoring and assessment of tree condition, and resulting practices to maintain the health and safety of the trees, and in some cases to replace some Pines. The existing Pines along the ocean beachfront at Manly have all been mapped and numbered to allow for specific identification. Since 2000, they have been measured and assessed (diameter, height, general status) almost annually to provide indications of tree health and vigour. That Data Base also includes tree age (year of planting), their ground environment (paving, grass, bitumen, etc) and changes in the area around each tree.

The Pines are growing in a range of different soils and it is recommended that the soils be mapped to assist with interpretation of their nutritional status. Their distribution according to year planted and diameter in 2007 is shown in Table 2. The low end of the diameter range indicates long term stress or restriction on growth.

Table 2. Distribution of Norfolk Island Pines in the population existing along the ocean beachfront at Manly, together with the range in diameters in 2007 according to year of planting.

Year Planted	Age (yrs) in 2007	No. of trees	Range in Diameter (cm)
1858	150	2	129.8 - 132.0
1880	128	23	92.8 - 117.8
1900 approx.	108	10	83.2 - 96.8
1910 approx.	98	43	49.7 - 97.8
1920 approx.	88	12	71.3 - 82.1
1930 approx.	78	76	40.5 - 88.9
1991-1992 *	26-27	90	19.7 - 37.6
1996 **	16-18	59	8.0 - 24.4

* 10 or 11 years of age when planted

** 4 or 8 years of age when planted

Towards the end of 2007, an intensive assessment was undertaken of the health of all the Norfolk Island Pines along the ocean beachfront due to concerns about some Pines showing signs of risks to the safety of people in their vicinity, heavy damage, deformities, or strong ugly appearance consistent with the characteristics of Cook Island Pine in contrast to those of Norfolk Island Pine. The Pines which need to be replaced immediately or reviewed for possible replacement within the next five years are listed in Appendix 1.

It is planned that the data base be extended to cover the Norfolk Island Pines on the East-West Esplanade, in the vicinity of the Manly Lagoon at Queenscliff and some street trees (with Council agreement including appropriate numbering). The outcome will be categorisation of trees according to health and form and also into environmental groups (basic soils, and immediate environment around the trees) to provide a basis for future nutritional monitoring and amendments.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

8. *Health and Nutritional Monitoring and Amendments*

Monitoring of the trees provides an indication of their health and a basis for management recommendations. Three main types of monitoring have been routinely used. The first is visual assessment of the stem and crown (and associated environment), the second uses monitoring of growth through regular measurements, and the third is through the use of foliage analysis. Each is of value individually and when they are combined, there is a high level of benefit.

Selections of young and older trees have been monitored regularly for their nutrient status. Based on this, general recommendations on fertilizer requirements have been provided. It is recognised that the requirements differ for the younger and older trees and that there is some variation in levels and nutrient balance according to broad soil types.

The basic plan has been to monitor information on nutrition on an ongoing basis (albeit on a smaller number of trees each year) to be incorporated into the Data Base and allow for assessment of trends over time. Due to the extension of the population to include those at the Lagoon, at East-West Esplanade on the Harbour side, and the street trees, the range of soils/substrates will need to be extended beyond that along the ocean breachfront. Hence, it is recommended that Pines on key sites (different soils/substrates) be selected and used for ongoing nutritional monitoring.

Health assessments and growth measurements are readily applied, but are of most value when there are long-term records (which we have developed) of the same trees. Foliage analysis of large trees poses a problem due to access and cost and hence is undertaken more irregularly. Foliage samples were collected for chemical analysis in May 2006 from a selection of mature Pines. This sampling was the most comprehensive of any ever undertaken on the mature Norfolk Island Pines along the beachfront at Manly (even more extensive than the initial survey of the mature trees in 1973). Some of the younger Pines planted in 1992 and 1996 were also sampled in 2006 and they were repeats of samples collected in previous years.

An objective of Manly Council is to ensure the continued sound health of the Norfolk Island Pines. Their health will be, and has been directly affected, by a number of factors including:

1. Rainfall and water availability.
2. External environmental factors (for example, outfall effects, etc)
3. Physical impacts (for example, storms, cars).
4. Soil conditions (for example, surface compaction).
5. Nutrient form and availability.
6. Tree age.
7. Pests and diseases.

Sound nutrition (nutrient availability) assists in maintaining other areas of health (such as salt impacts, pests and diseases) and is also a key component that can be managed. Nutrition interacts with factors such as soil compaction and tree age and they need to be included in any interpretation of the condition of the trees.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

8.1 Nutrient Availability

A major factor affecting nutrient availability is the soil type and/or condition. Along the Manly Beachfront and adjacent areas, there are several major soil types and they are basically related to the original soil parent material, that is, sandstone, siliceous beach sand, calcareous sand, and organic sands or muds associated with old drainage lines. While the different soil types are recognised, they are not mapped in detail and their composition has been affected by weathering over time. A few relevant soils have been sampled at various times and summary results (see Table 1) demonstrate some important issues relevant to the nutritional status of the trees. Importantly, the pH levels of the sands are high especially when compared with the sandstones, shales and siliceous sands from the South Coast. Norfolk Island Pine will grow in a healthy manner in soils with pH near 4 to 6. Above that level, there are few problems with macronutrients, however, micronutrients such as manganese and iron become much less available.

The rooting depth and root proliferation vary with the soil type and often become more limited on sandstone and shale soils although other factors, such as their clay levels and moisture availability are better than in the sands. In forest trees, the highest density of feeder roots is near the soil surface (top 20 cm) and this is the case for the younger Norfolk Island Pines (those planted in 1992 and 1996) and those associated with the *in situ* sandstone soils. However, excavation and other studies have shown that the mature trees have fine roots much deeper in the soil and they are usually associated with the watertable.

8.2 Methods for Foliage Sampling

Chemical analysis of foliage samples for nutrient concentrations is a proven method for interpretation of tree nutrient status. Critical to its success, is the use of standard systems of foliage sampling together with availability of baseline information for interpretation of the data. The current program has the additional benefit of comparison with previous samplings and hence trends over time can be evaluated.

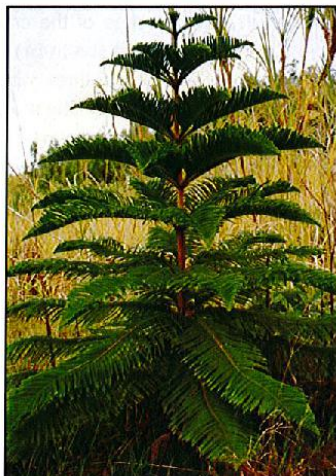
The foliage sample has to be recent fully-formed foliage located in an open area of the crown (where there is plenty of light such as towards the end of the branch distant from the trunk). In young trees (up to 15-20 years of age), the foliage is collected from within the top three whorls while in larger more mature trees, it is collected from within the top 25% of the crown. The mature trees in 2006 were sampled using a cherry-picker. The foliage from each sample was placed in a paper bag, labelled and then prepared for chemical analysis.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

8.3 Interpretation of Results

Interpretation of the results of chemical analyses of foliage can be complex for three reasons:

1. Various types and ages of foliage are available for sampling, specifically seedlings, juvenile foliage and adult foliage.
2. Pines are in various stages of competition, from totally open grown to a stand situation comparable with a normal forest.
3. The substrates and growing conditions are very variable.



Photos 24. Healthy fronds (above) and healthy young Norfolk Island Pine (photo to the left). Note the full retention of foliage and the dark green colour.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

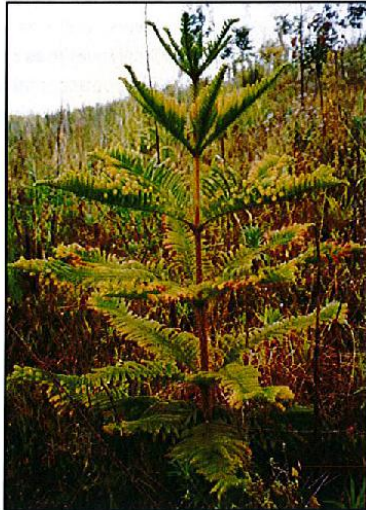


Photo 25. Young Norfolk Island Pine with magnesium deficiency.



Photo 26. Young Norfolk Island Pine with potassium deficiency.



Photo 27. Young Norfolk Island Pine with manganese deficiency.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Interpretations of chemical analyses include the application of specific levels for nutrient deficiency, extreme nutrient deficiency, ratios of elements, excess nutrient levels, patterns of changes over time, and relationships with growth and health. (Note the term "critical level" has not been used as it can be interpreted in a number of different ways). Deficiency levels or acceptable levels to maintain health and growth vary according to tree age and especially, between immature and mature trees (Table 3).

Table 3. Levels of nutrient deficiency, acceptability and toxicity in seedlings, immature (juvenile stage) and mature Norfolk Island Pine.

	<u>Seedlings</u>	<u>Immature Pines</u>		<u>Mature Pines</u>	
	Acceptable	Deficient	Acceptable	Deficient	Acceptable
Nitrogen (%)	2.5	1.2	1.5	1.0	1.2
Phosphorus (%)	0.30	0.20	0.25	0.12	0.20
Potassium (%)	1.5	0.6	1.00	0.5	0.70
Calcium (%)	1.0	1.0			1.0
Magnesium (%)	0.4	0.3			0.25
Manganese (ppm)	40	25	30 20	25	
Iron (ppm)	60	30	50 25	40	
Zinc (ppm)	30	15	25 15	25	
Copper (ppm)	4	3	4 3	4	
Boron (ppm)	25	15	20 12	15	
Sodium (%)	<0.3	<0.7	<1.0		
Chloride (%)	<0.5	<0.8	<1.0		

The chemical analyses are assessed in two groups, primarily related to tree age. The review over time of younger trees (less than 20 years of age) for which there is at least four sampling periods, indicated there was a general pattern of decline in nutrients, especially nitrogen and the trace elements. The mature trees are low, primarily in nitrogen. There are several trees which are low in potassium but at this time, there does not appear to be a systematic pattern. Further, there are trees which are low in zinc, boron and manganese. The levels of these trace elements, especially manganese, are probably a function of the high pH of the soils. A fertilizer regime was outlined later and it is proposed that nutritional monitoring be undertaken of a few trees on a regular basis.

Key Points: Monitoring of tree nutrition using chemical analyses of foliage is valuable and should be undertaken on selected Pines (about 20-30 trees across the population) annually or at least once every two years. The differences in root distribution will lead to differences in responses and response times when nutrients are applied as fertilizers.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

9. Future Management and Practices

The management program involves the restoration, maintenance and/or enhancement of a significant component of the cultural landscape in Manly, namely the Norfolk Island Pines. This recognises that the better the level of spatial and temporal information on the population of Pines, the better the chance of maintaining the ongoing health of the Pines. In order to implement an approved future management plan, the following systems are essential to ensure long term continuity and consistency:

1. A data base with annual updates of the entire Pine population including tree data, historical information, and any activities or actions related to the trees.
2. A simple outline of objectives, with prescriptions and timetables for field staff.
3. A register of management activities undertaken by field staff.

The population of Norfolk Island Pines needs to be monitored more explicitly than would be used in broadscale forest plantations or native forests but it still needs to be recognised as a population of trees as opposed to a single or a few individual trees. Ecological problems have two strands. One is that only the species being studied is affected (in this case the Norfolk Island Pines) or secondly, other species are as well.

Management should focus initially on maintaining sound information on the condition of the Pines and how this is changing over time. The assessment system includes key factors to broadly ensure that the overall health and appearance of the existing population is maintained and improved and/or expanded. This involves regular assessments of tree health (crown colour, dieback, presence of pests and diseases, breakages, stem damage, etc) and identification of any remedial action. Such assessments should consider changes in environmental conditions, most specifically the environment around the base of the tree (compaction, paving, grass, etc). Key factors include:

- Identification of Pines which have health risks or declining health. These individual trees may then need to be identified for removal and replacement according to categories and levels of damage. Considerations for removal involve poor health, poor form, damage, dismal appearance, inappropriate species in the *Araucaria* genus, etc.
- Recommendations for the production of replacement trees (including specific genetics, specific minimum size and health/vigour at planting, and necessary protection of the trees at time of planting).
- Planting requirements (in-ground soil preparation and development) including protection and spacing (about 10 metre centres). [The gap in the Pines at the Corso need to be retained to enable the view from the harbour through to the ocean].
- Management of the surface medium around each tree (such as grass, mulch, paving, etc).
- Pruning and trimming.
- Fertilizer requirements.
- Irrigation system (with notes on functioning, specific trees and possible inputs of nutrients).
- Other recommendations for ongoing management of the Pines (cultural, nutritional, etc).

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

Information on soil texture and other characteristics has not been routinely collected over the area but based on various assessments, it is assumed that there are very sandy soils on a considerable part of the ocean beachfront at Manly. This means the soils are highly permeable and low in nutrients. Further, there are few mechanisms available for the soils to retain nutrients that are applied to the system such as through fertilizer applications. Also, the normal nutrient cycling processes occurring in forests (basically through litter return) are not functioning because litter generally is and needs to be removed. Consequently, the trees require regular fertilizer applications. The older trees, when first planted were regularly treated with nightsoil from the local community, and this, over an extended period of time provided a very high input of nutrients.

Considerations of fertilizer applications include the quantities being applied, their form and their availability to the trees. Soluble fertilizers, watered in, are immediately available to trees, however, they are also very readily and rapidly leached from the soil. Dry forms of fertilizer are less available immediately but regular applications will build up some reserves in the soil. This will be enhanced with the application of organic forms of fertilizer, specifically Dynamic Lifter in this case. Applications of other mulches could also be used to help with the accumulation of organic matter.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

10. Development of Timetables and Requirements

10.1 New Tree Planting *(New plantings and replacements of removed trees)*

New plantings need to be well planned. The trees for planting need to be at least 2 metres in height and an insurance is needed that they are Norfolk Island Pines. Species need to be checked prior to purchase to ensure they are the correct species and that they are purchased from an approved supplier.

For new plantings:

- Each location may need to be stabilised to minimise erosion (as occurs on the beach side of Pines and the sides of path edges).
- Excavate a large hole and ensure there are no impediments which will limit vertical root development.
- Utilise good, highly organic soil imported to the area. The soil should have additions of controlled release fertilizer. The soil should be well watered prior to planting.
- Area to be boxed-in for protection.
- Prior to planting, roots need to be checked to ensure they are not constrained, J-rooted, bound, or otherwise restricted. Roots are to be spread out in the planting hole and any deformed roots trimmed. The soil is to be re-filled and packed down so there are no air pockets, then watered.
- The soil surface needs to be well mulched to assist in moisture infiltration (such as fine bark mulch).
- After planting, the trees are to be regularly watered (at ground and also overall to wash off accumulated salt on the foliage), fertilized with both controlled release fertilizers and as necessary, with foliar sprays. Weeds are to be controlled.
- Tree height, diameter and age at planting need to be recorded and the tree photographed.
- Twelve months after planting, foliage samples need to be collected from selected typical trees for nutrient chemical analysis.

10.2 Cultural Practices for Existing Pines

Cultural or horticultural practices cover a wide range of factors, including watering, fertilizing, weeding, removal of leaf litter, which need to be carried out for various reasons. Activities which are carried out, need to be documented. Those activities scheduled but not implemented also need to be documented.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

10.3 Staking and Protection (Tree Guards, etc)

Staking and other protection (such as a substantial protective timber guard enmeshed in shade cloth) should be established around young trees to restrict access to the base of the tree and consequent soil compaction and vandalism, and reduce the effects of wind, salt, sun and maintain tree stability. Young trees have thin bark and can be easily physically damaged so a form of protection is valuable at that stage. Staking may take various forms but usually would be a minimum of three stakes around the tree. Location, appearance and safety are important in the selection of tree guards.

10.4 Protection of the Soil Surface

Sound condition of the soil surface around the tree is critical for long term health. Large trees may have deep roots and are less affected by surface conditions but young trees are critically affected. In young trees, it is recommended that in order to avoid grass competition, a zone around each tree equivalent to at least crown width should be maintained grass-free and preferably mulched. The mulching will assist in reducing the grass competition and help retain surface moisture. For appearance purposes, fine bark mulch may be suitable or a mixture of fine, composted material on the soil surface covered by a coarser bark mulch. Many areas have paving and the issue there is to ensure moisture can pass through the paving into the soil and that there is some system to allow for application of fertilizer. Extensive areas of concrete or thick asphalt are not recommended.

Note edge areas, such as those adjoining paths, which are eroding and need stabilisation and/or restoration.

10.5 Pruning

Pruning removes both dead and live branches for health, safety and aesthetic purposes. Dead branches should be removed for safety reasons and to limit access of decay into the tree. Pruning of live branches is for the removal of damaged branches and to help the shape and appearance of the tree. Cutting should always leave a flat surface near the trunk. In young trees, first pruning will be to remove the bottom two whorls when the tree is about 5 m tall. This is to allow limited access for clearing under the tree and to remove branches which tend to be poor in appearance. When the tree is taller the next pruning will be to two metres. This is aimed at access but needs to be done in such a way that the appearance of the tree is enhanced. Where there are heavy branches leading to a misshapen appearance, pruning should be undertaken at any time to improve the straightness and appearance of the tree.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

10.6 Tree Nutrient Uptake

The Pines require a constant supply of nutrients. In a natural forest, this would be in part, through the re-cycling of nutrients in litter etc but this is basically eliminated in the present situation. The population of Norfolk Island Pines consist of trees with different ages and sizes and consequently the requirement and uptake of nutrients vary depending on these factors. The requirement for growth has been estimated by calculating the quantity of organic matter produced in a year (using the re-measurement data) and applying tissue concentrations. The tissues include foliage, litter, sapwood, heartwood and bark. The calculations are shown in Table 3 and Figures 7 and 8 (note the different scales in the Figures). The quantities of nutrients provide an estimate of the quantities that need to be applied to ensure growth, however, factors accounting for the efficiency of uptake also need to be included. See Section 10.7 for fertilizer prescriptions.

Table 3. Average quantities of nutrients required annually by Pines of different sizes. The aboveground requirements were calculated from available data and a 20% loading was included to account for roots. The quantities are grams/tree/year.

Nutrient (g/tree/yr)	Tree diameter (dbhob in cm)		
	21	40	75
<i>Nitrogen</i>	9.30	62.50	164.00
<i>Phosphorus</i>	0.99	6.41	16.46
<i>Potassium</i>	9.40	65.20	162.90
<i>Calcium</i>	26.5	215.6	574.8
<i>Magnesium</i>	5.70	40.40	110.60
<i>Iron</i>	0.32	2.50	6.60
<i>Manganese</i>	0.05	0.30	0.80
<i>Zinc</i>	0.05	0.36	0.93
<i>Copper</i>	0.01	0.06	0.17
<i>Boron</i>	0.04	0.26	0.69

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

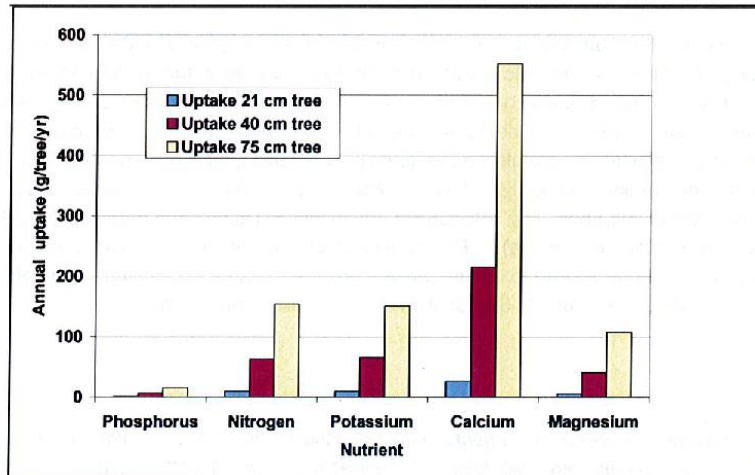


Figure 7. Total uptake (grams/tree/year) of phosphorus, nitrogen, potassium, calcium and magnesium by three different sized Norfolk Island Pines with diameters at breast height of 21 cm, 40 cm and 75 cm.

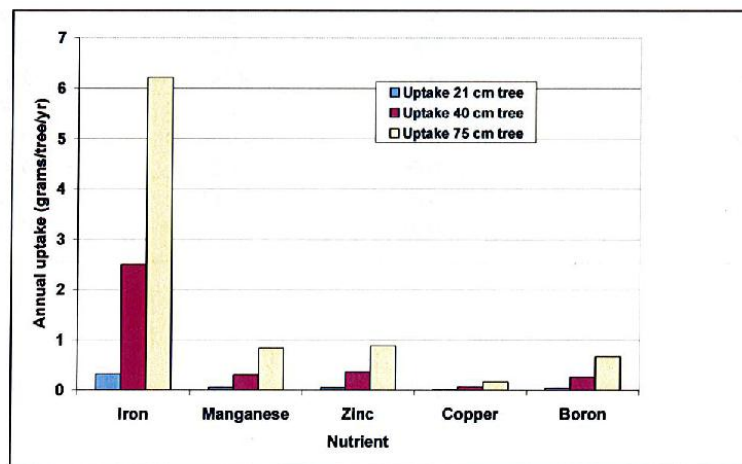


Figure 8. Total uptake (grams/tree/year) of iron, zinc, manganese, copper and boron by three different sized Norfolk Island Pines with diameters at breast height of 21 cm, 40 cm and 75 cm.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

10.7 Fertilization

The form of fertilizer has a direct affect on the availability of the contained nutrients. Highly soluble mineral fertilizers have a peak of availability and then there is trailing off. Part of the material is leached through the soil profile. Alternatives are to use organically-based or controlled-release fertilizers and/or foliar-applied fertilizers. They are all proposed for routine management with the possibility of mineral fertilizers in instances where immediate uptake is required.

In addition to plant uptake and environmental considerations with the selection of a fertilizer, the factor of constant public access needs to be considered. As a rule of thumb, the quantity of nutrients to be applied annually needs to be at least twice that which is taken up by the tree (Table 4). They are a guide to the minimum amounts that need to be applied annually.

10.7.1 Schedules for Fertilizer Applications

[Note: The fertilizers in this section have been selected due to their known formulation and performance but the listing of specific products should not be interpreted as their endorsement or promotion].

10.7.1.1 Recently planted and young trees (to 20 cm diameter at breast height)

- First application. 350 g/tree of prilled **Dynamic Lifter mixed** with 50 g/tree of **Scotts Osmocote Exact** applied evenly to the surface around the tree and covered with mulch. *[Note: Application of Dynamic Lifter in significant quantities on the surface has been a concern due to the odour].*
- Second application. After 2 months, repeat first application.
- After 4 months, the condition of a few trees will be assessed using foliage analysis and allow for adjustments by Forsci Pty Ltd to the ongoing fertilizer treatments.
- Follow-on treatments at two-monthly intervals of **Scotts Osmocote Exact** or equivalent applied in 3 holes (15 g product/hole) around the tree. The holes should be 20 cm deep and 30 cm distant from the tree. The fertilizer needs to be covered with a depth of 10 cm soil.
- Assessment of nutritional status of a few trees by Forsci Pty Ltd in May-June each year using foliage analysis to allow for any adjustments to later fertilizer treatments.
- Where foliage analyses indicate there are low levels of micronutrients, it will be recommended that foliage be sprayed with **Scotts Micromax** or equivalent at the recommended dosages.

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

10.7.1.2 Medium trees (up to 40 cm diameter at breast height)

- First application - 700 g/tree of prilled *Dynamic Lifter mixed* with 50 g/tree of *Scotts Osmocote Exact* or equivalent applied evenly to the surface around the tree and covered with mulch.
- Every 2 months, apply *Scotts Osmocote Exact* in 4 holes (20 g product/hole) around the tree. The holes should be 20 cm deep and 30 cm distant from the tree. The fertilizer needs to be covered with a depth of 10 cm soil.
- After 4 months, the condition of a few trees will be assessed by Forsci Pty Ltd using foliage analysis to allow for planning for any adjustments to later fertilizer treatments.

10.7.1.3 Large trees (greater than 40 cm diameter at breast height)

- Apply 30 g/tree of *Scotts Osmocote Exact* in each of four (4) locations around each tree every two months for 12 months, after which the treatments will be reviewed. In the case of very large trees, 20 g product in each of 6 holes around the tree will be appropriate. The holes should be 20 cm deep and 50 cm distant from the tree. The fertilizer needs to be covered with a depth of 10 cm soil.
- After 12 months, the condition of a few trees will be assessed by Forsci Pty Ltd using foliage analysis to allow for planning for any adjustments for later fertilizer treatments.

10.7.1.4 Other Norfolk Island Pines

- At this time, the trees at the Lagoon, those on the harbour side and large street trees have not been routinely assessed. Initial assessments of the Lagoon trees, however, indicate a generally healthy status.

Table 4. Summary of fertilizer prescriptions with respect to the size of the Norfolk Island Pine.

Tree age (yrs)	21		40		75	
	Dynamic Lifter	Osmocote Exact	Dynamic Lifter	Osmocote Exact	Dynamic Lifter	Osmocote Exact
First application	350 g/tree	50 g/tree	700 g/tree	50 g/tree	0	120 g/tree
Second application, 2 months after first	350 g/tree *	50 g/tree	0 *	80 g/tree	0	120 g/tree
On-going applications 2-monthly	0	45 g/tree	0	80 g/tree	0	120 g/tree

* Trees to be visually assessed before the second application, at which time the quantities of fertilizer may be revised.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

10.8 Pest and Disease Control

Regularly (at least monthly) check for stem and foliage pests and diseases and record and treat as appropriate.

10.9 Detrimental Activities

A number of activities can be detrimental to the health of trees and they include:

- Excavations for brick footings for garden edges (tree roots).
- Excavations for gutters (tree roots can be damaged).
- Removal of concrete prior to paving (possible root or stem damage).
- Removal and destruction of surface roots during re-paving and bedding of pavers.
- Plumbing and services installations (possible damage to roots and potential for erosion).
- Cementing and concreting of seats, stanchions, bollards, light poles, etc.
- Bitumen encasing the trunk at ground level.
- Destabilisation of the sea wall.

Any activity that intrudes into the root zone of the trees should be assessed by experts and carefully restored. There may need to be additional activities including watering, mulching and/or fertilizer applications.

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

11. Updates of the Norfolk Island Data Base

The data bases (see Appendix 1) needs to be regularly updated (preferably annually in May-June) and commentary included. The information in the data base includes:

- **Tree monitoring and assessments.**
 - *Tree Identification*
 - *Diameter and height measurements*
 - *Health status of tree crown*
 - *Tree trunk assessment*
 - *Obvious surface root condition.*
- **Nutritional assessments.**
 - *Assessment of symptoms and colour*
 - *Foliage sampling.*
- *Identification of trees which need to be removed and replaced and reasons noted.*
- *Development of young trees to be used as replacements.*
- *Soil/substrate mapping.*

LISTING OF NORFOLK ISLAND PINES OCEAN BEACHFRONT

ATTACHMENT 1

**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

<i>(file 2001/manly tree locations aug29)</i> TABLE 1b Total Listing of Norfolk Island Pines along the Ocean Beachfront at Manly in September 2001 NORFOLK ISLAND PINE DATA BASE Data input in Aug/Sept 2001									
REGION: MANLY LOCATION: MANLY LOCATION DESCRIPTOR: Along the Ocean Beachfront at Manly									
# (Y = Tree number plaque is present; X = Tree number plaque is missing)									
Row	Manly Council No.	Tree No. in 1973 Survey	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in 2001 (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green
S	22		Y	1858	143	0.80	128.0	Bare earth surrounded by paving	Yellow
S	104		Y	1858	143	0.95	127.2	Bare earth & paving	Yellow
S	46		Y	1880	121	0.80	112.4	Very small circle surrounded by paving	
R	289	356	X	1880	121	0.70	111.4	Blumen, grass	
S	99		Y	1880	121	0.90	109.6	Square with cement edge surrounded by paving	
S	143		X	1880	121	0.85	106.2	Grass 60%	
S	116		Y	1880	121	0.90	106.1	Bare earth	
S	17	348	X	1880	121	0.60	105.2	90% succulent surrounded by paving	
R	286		Y	1880	121	0.75	104.8	Partial path, partial grass & bare earth	
S	40	350	Y	1880	121	0.85	102.5	Small circle surrounded by paving	
R	23		X	1880	121	0.90	101.8	100% succulents in garden bed	
S	1		Y	1880	121	0.80	100.8	Bare earth surrounded by paving	
S	84	351	Y	1880	121	0.90	100.8	Bare earth surrounded by paving	
S	49		Y	1880	121	0.80	99.9	Small circle surrounded by paving	
S	148	353	X	1880	121	0.85	99.7	Grass 50%	
S	43		Y	1880	121	0.80	99.4	Small circle surrounded by paving	
M	278		X	1880	121	0.90	97.6	Grass	
S	121		Y	1880	121	0.90	96.8	Bare earth	
M	271		X	1880	121	0.90	95.3	Grass	
M	255		X	1880	121	0.90	95.1		
R	178		Y	1880	121	0.90	94.2	Surrounded by bitumen	
R	12		X	1880	121	0.85	93.3	100% succulents in garden bed	
M	184		Y	1880	121	0.90	93.2	Grass + half bare earth	
S	31		Y	1880	121	0.75	91.8	50% succulent surrounded by paving	
M	27		X	1880	121	0.85	91.7	Bare earth in circular garden bed	
M	273		X	1880	121	0.90	90.9	Grass	
M	128		Y	1900	101	0.95	90.7	Grass + Half path	
M	132	238	Y	1900	101	0.70	90.0	Grass + Half path	
M	161		X	1900	101	0.80	89.6	Grass + Half path	
M	171		X	1900	101	0.75	89.6	Grass	
M	136		X	1900	101	0.70	88.4	Grass + Half path	
M	117		Y	1900	101	0.60	87.3	Grass + Half path	

Page 1

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Manly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in 2001 (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
M	39		Y	1900	101	0.80	87.0	10% succulents in circular garden bed			Broken top, respouted
M	44		Y	1900	101	0.70	86.6	Bare earth in circular garden bed			
M	52		Y	1900	101	0.80	83.8	Bare earth in circular garden bed			
M	108		Y	1900	101	0.70	82.2	Bare earth			
R	226	239	Y	1910	91	0.85	93.3	Bare earth in rectangular garden bed			Butt damage
R	268		X	1910	91	0.90	88.4	Grass, bitumen, bare earth			
R	282		X	1910	91	0.85	87.0	Partial paving, partial grass, bare earth			
R	59		X	1910	91	0.85	85.7	50% succulents in garden bed			Massive resin production on stem
R	103		X	1910	91	0.80	85.3	Surrounded by bitumen			Major rot damage
S	125		Y	1910	91	0.80	84.4	Grass			
R	89		X	1910	91	0.90	82.7	Round garden bed surrounded by paving			Broken top
S	25		Y	1910	91	0.70	83.3	Bare earth in very small bed, paving around			
R	168		Y	1910	91	0.80	82.5	Surrounded by bitumen			Some butt damage
R	261		X	1910	91	0.90	81.8	Grass & bare earth			Minor butt damage
M	263		X	1910	91	0.95	81.8	Grass			Significant large butt scars
M	185		X	1910	91	0.75	81.4	Grass + half bare earth			
S	130		Y	1910	91	0.85	81.0	Grass 70%			
M	19		X	1910	91	0.80	80.9	80% succulents in circular garden bed			Previously broken top
R	232		Y	1910	91	0.75	80.7	Bare earth in rectangular garden bed			
R	201		Y	1910	91	0.70	79.5	Bare earth in garden bed			
M	85		X	1910	91	0.80	79.2	40% succulents in circular garden bed			
S	135		X	1910	81	0.85	79.0	Grass			
R	252		Y	1910	91	0.90	78.8	Grass & bare earth			Minor butt damage
M	11		Y	1910	91	0.80	78.7	20% succulents in circular garden bed			
R	63		Y	1910	91	0.70	78.3	50% succulents in garden bed			
M	153		Y	1910	91	0.90	78.1	Grass + Half path			
R	50		Y	1910	91	0.90	78.0	Shrubs 1m height in garden bed			Approximate diameter
R	277		X	1910	91	0.90	77.9	Bitumen, bare earth			
M	96		X	1910	91	0.80	77.7	Bare earth in circular garden bed			Minor butt damage
R	254		Y	1910	91	0.65	76.6	Grass & bare earth			Significant stem damage
M	285	355	X	1910	91	0.80	74.3	Grass & bare earth			Partial butt damage
R	265		Y	1910	91	0.90	71.2	Grass & bare earth			Long term butt damage
R	263		Y	1910	91	0.90	71.1	Grass & bare earth			Minor butt damage
M	248		Y	1910	91	0.85	69.6	Bare earth			Butt damage
R	198		Y	1910	91	0.80	68.9	Bare earth in garden bed			
R	247		X	1910	91	0.80	66.8	Bare earth			Previous broken top
R	272		X	1910	91	0.90	65.3	Bitumen, bare earth			
R	204		Y	1910	91	0.80	63.7	Bare earth in garden bed			
R	208		Y	1910	91	0.80	63.6	Bare earth in full width garden bed			
R	244		X	1910	91	0.75	63.2	Circular garden bed, paving surround			
R	224		Y	1910	91	0.70	61.8	Bare earth in rectangular garden bed			
R	249		X	1910	91	0.90	60.4	Bare earth			
R	275	354	X	1910	91	0.90	58.6	Bitumen, bare earth			Significant butt damage
R	211		Y	1910	91	0.70	58.2	Bare earth in smaller garden bed			

Page 2

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Mainly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
R	206		Y	1910	91	0.75	55.8	Bare earth in garden bed			Previous broken top
R	192		X	1910	91	0.80	51.6	Bare earth in garden bed			Previous broken top, minor butt damage
R	191		X	1910	91	0.80	48.3	30% ground cover in garden bed			Some basal damage
M	58		X	1920	81	0.70	76.3	Bare earth in circular garden bed			
R	66		X	1920	81	0.90	76.0	90-100% succulents in circular garden bed			
S	157		Y	1920	81	0.85	75.5	Grass 50%			
S	113		Y	1920	81	0.85	75.2	Bare earth			
R	10		X	1920	81	0.90	74.8	100% succulents in garden bed			
S	3		Y	1920	81	0.70	73.2	Bare earth surrounded by paving			
M	61		X	1920	81	0.70	71.9	Bare earth in circular garden bed			
R	56		X	1920	81	0.75	71.8	50% succulents in garden bed			
M	47		X	1920	81	0.70	71.8	Bare earth in circular garden bed			
S	133		Y	1920	81	0.85	70.4	Grass 70%			
M	156		X	1920	81	0.85	69.6	Grass + Half path			
M	159		Y	1920	81	0.85	68.4	Grass + Half path			
R	183		Y	1930	71	0.70	76.8	Surrounded by bitumen			Damage to surface roots
M	102		Y	1930	71	0.70	76.7	Bare earth in square garden bed			Nos 202, 207, 215, 222 etc must have been older than other 1996 trees when planted
M	203		X	1930	71	0.75	71.7	Grass			
S	88		Y	1930	71	0.70	71.5	Bare earth surrounded by paving	Memorial plaque		
M	178		X	1930	71	0.85	71.4	Grass			
M	126		X	1930	71	0.90	70.3	Grass + Half path			
M	98		Y	1930	71	0.70	69.9	Bare earth in square garden bed			
S	77		X	1930	71	0.90	69.5	Bare earth surrounded by paving			
S	91		X	1930	71	0.80	69.0	Bare earth in circular garden bed			
M	30		X	1930	71	0.85	68.8	70% succulents in circular garden bed	Slightly larger circle than above		
R	186		Y	1930	71	0.70	68.6	Bitumen one side, path on 2 sides, some grass			Previous broken top
M	94		X	1930	71	0.80	68.2	Bare earth in circular garden bed			Tree has had a broken top
M	124		Y	1930	71	0.85	66.9	Grass + Half path			
M	196		X	1930	71	0.60	66.9	Grass			
S	28		Y	1930	71	0.80	66.3	25% succulent surrounded by paving			
R	147		Y	1930	71	0.85	66.0	Surrounded by bitumen			
R	39		X	1930	71	0.80	65.6	Shrubs 1m height in garden bed			Broken top, resprouted
M	175		X	1930	71	0.80	65.4	Grass			Major butt damage
R	109		Y	1930	71	0.70	65.3	Surrounded by bitumen			
S	37		Y	1930	71	0.70	64.8	Slightly larger circle surrounded by paving			
R	45	349	Y	1930	71	0.95	64.3	Shrubs 1m height in garden bed			
M	200		X	1930	71	0.85	64.3	Grass + half path			
M	14		Y	1930	71	0.85	64.1	Bare earth in circular garden bed			
R	15		Y	1930	71	0.95	64.0	100% succulents in garden bed			Recent butt damage
M	167		Y	1930	71	0.80	63.8	Grass + Half path			
M	182		X	1930	71	0.85	63.8	Grass			Damage to surface roots
R	179		Y	1930	71	0.70	63.5	Bare earth in large garden bed			Significant butt damage
M	64		X	1930	71	0.60	63.5	Bare earth in circular garden bed			

Page 3

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Manly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in 2001 (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
S	101	352	Y	1930	71	0.80	63.4	Square with cement edge surrounded by paving			Good growth, tree branches only 1.1 m in length, resprouting top
M	173		X	1930	71	0.75	63.4	Grass			
M	190		X	1930	71	0.75	63.3	Grass + half path			
R	43		X	1930	71	0.70	63.2	Shrubs 1m height in garden bed			
M	24		X	1930	71	0.95	62.9	Bare earth in circular garden bed			
M	193		Y	1930	71	0.80	62.4	Grass + half path			
R	169		Y	1930	71	0.60	62.2	Surrounded by bitumen			
R	5		Y	1930	71	0.95	61.7	Some succulent in tiny circle			Previous broken top
R	97		X	1930	71	0.80	61.6	Surrounded by bitumen			
M	210		X	1930	71	0.70	61.2	Grass			
S	34	11	X	1930	71	0.60	60.9	80% succulent surrounded by paving			
R	172	361	X	1930	71	0.60	60.6	Surrounded by bitumen			
R	18		X	1930	71	0.90	60.0	100% succulents in garden bed	Approx diameter		
M	142		Y	1930	71	0.80	59.0	Grass + Half path			
S	92		Y	1930	71	0.80	58.5	Bare earth in circular garden bed	Badly damaged butt		
R	155		Y	1930	71	0.80	58.4	Surrounded by bitumen			Extensive butt damage - half butt bark lost
M	140		X	1930	71	0.80	58.3	Grass + Half path			
R	134		Y	1930	71	0.65	57.8	Surrounded by bitumen			
M	194		X	1930	71	0.80	57.4	Grass			Extensive butt damage
R	95		X	1930	71	0.70	57.3	80% succulents in circular garden bed, surrounded by paving			
R	186		Y	1930	71	0.60	57.2	Surrounded by bitumen			
R	105		Y	1930	71	0.60	56.5	Surrounded by bitumen			
M	122		Y	1930	71	0.80	56.3	Grass + Half path			
R	78		X	1930	71	0.75	56.2	90-100% succulents in circular garden bed			
R	93		X	1930	71	0.90	55.4	Round garden bed surrounded by paving			
M	149		X	1930	71	0.65	55.4	Grass + Half path			
M	151		Y	1930	71	0.75	55.3	Grass + Half path			
R	100		Y	1930	71	0.10	54.9	Surrounded by bitumen			Butt damage
M	195		Y	1930	71	0.65	54.5	Grass + half path			Major dead top
R	26		Y	1930	71	0.60	53.5	100% succulents in garden bed			
R	158		Y	1930	71	0.60	53.5	Surrounded by bitumen	Nos 25-50 have road on west & paving on east		
M	187		X	1930	71	0.90	52.8	Grass + half bare earth			
M	197		X	1930	71	0.65	52.3	Grass + half path			
R	144		Y	1930	71	0.80	51.0	Surrounded by bitumen			Butt damage
R	137A		X	1930	71	0.65	50.3	Surrounded by bitumen			Butt damage
R	163		X	1930	71	0.60	50.0	Surrounded by bitumen			Major butt damage
M	90		X	1930	71	0.60	49.6	Bare earth in circular garden bed			Broken top, butt damage on > 50 % stem
R	42		Y	1930	71	0.90	48.8	Shrubs 1m height in garden bed	Very advanced stock grown very slowly		
R	131		Y	1930	71	0.70	48.8	Surrounded by bitumen	Tree Nos 90-102 surrounded by paving		
R	55		X	1930	71	0.60	48.8	Bare earth in circular garden bed	Unpruned		
M	180		Y	1930	71	0.45	48.2	Surrounded by bitumen			Broken top, resprouted
R	63		X	1930	71	0.60	47.2	Shrubs 1m height in garden bed			Broken top and butt damage
											Damage to surface roots

Page 4

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Manly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in 2001 (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
R	137		Y	1930	71	0.80	47.0	Surrounded by bitumen			Major butt damage
M	16		X	1930	71	0.90	45.5	Bare earth in circular garden bed			Broken top, resprouted
R	21		X	1930	71	0.85	45.0	100% succulents in garden bed	Approximate diameter		Butt damage, broken top, resprouted
M	129		X	1930	71	0.40	44.7	Grass + Half path			Significant butt damage
M	106		X	1930	71	0.80	43.4	Bare earth	Path starts from here to the north		Major butt damage, resinosis
R	152		Y	1930	71	0.70	43.0	Surrounded by bitumen			Very major butt damage - half circumference
R	141		Y	1930	71	0.50	37.9	Surrounded by bitumen			
S	221		X	1991	20	0.85	29.2	Grass 60%		Yellowish	
S	213		X	1991	20	0.75	28.3	Grass 50%		Yellowish	Basal crown salt damage
M	4		X	1991	20	0.85	27.8	Bare earth in circular garden bed	Turnaround Tree	Yellowish	Basal crown salt damage
S	205		X	1991	20	0.80	27.7	Grass 50%		Yellow	Basal crown salt damage
S	217		Y	1991	20	0.85	27.4	Grass 15%		Yellowish	Basal crown salt damage
S	227		X	1991	20	0.90	23.1	Grass 90%		Yellowish	
S	233		X	1991	20	0.70	19.0	Grass 90%		Yellowish	
R	312		X	1992	19	0.95	34.4	Very large garden bed with concrete edge			
R	310		X	1992	19	0.90	32.6	Large garden bed with concrete edge			
R	302		X	1992	19	0.90	32.3	Large garden bed with concrete edge			
R	316		X	1992	19	0.80	30.5	Boxed garden bed in bitumen or paving			
R	308		Y	1992	19	0.80	30.3	Large garden bed with concrete edge			
M	219		X	1992	19	0.75	30.3	Grass			
R	314		X	1992	19	0.90	30.2	Grass			
R	315		X	1992	19	0.95	29.3	Boxed garden bed in bitumen or paving			
R	317		X	1992	19	0.80	29.2	Raised unboxed garden bed			
R	306		X	1992	19	0.90	29.0	Large garden bed with concrete edge			
R	304		X	1992	19	0.80	28.9	Large garden bed with concrete edge			
R	218		X	1992	19	0.90	28.5	Bare earth in rectangular garden bed			
M	216		X	1992	19	0.85	28.5	Grass			
S	165		X	1992	19	0.80	28.4	Grass 80%			Basal crown salt damage
R	33		X	1992	19	0.90	28.0	Shrubs 1m height in garden bed			
M	220		X	1992	19	0.75	28.0	Grass			
S	303		X	1992	19	0.85	27.4	Grass			
M	32		X	1992	19	0.96	27.4	Bare earth in circular garden bed			
R	2		Y	1992	19	0.95	27.2	Bare earth in small circle			
R	300		X	1992	19	0.85	27.2	Grass			
S	6		Y	1992	19	0.85	27.1	Bare earth surrounded by paving			Minor salt damage
R	223		X	1992	19	0.75	27.0	Lush ground cover in rectangular garden bed			Basal scorching
R	292		X	1992	19	0.20	26.8	Grass			Broken top at 6 m ht, resprouted
M	8		Y	1992	19	0.95	26.8	40% succulents in circular garden bed	Tree Nos. 4-54 surrounded by paving		
M	296		X	1992	19	0.80	26.8	Grass	Next to input pipe from roadway drainage system		
R	297		X	1992	19	0.85	26.6	Small garden & concrete edge, 90% succulent			
S	313		X	1992	19	0.90	26.3	Boxed garden bed, grass surround			
R	36		X	1992	19	0.90	26.3	Shrubs 1m height in garden bed			
S	305		X	1992	19	0.75	26.2	Grass			

Page 5

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Mainly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in 2001 (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
S	307		x	1992	19	0.80	26.2	Grass			
M	264		x	1992	19	0.95	25.8	Grass		Yellow	Re-sprouting from broken top
S	174		x	1992	19	0.70	25.7	Grass 80%			Salt affected on seaward side
S	301		y	1992	19	0.80	25.7	Grass			Heavy salt damage
S	259		x	1992	19	0.75	25.6	Grass 90%			
S	189		y	1992	19	0.70	25.5	Grass 50%			
S	181		x	1992	19	0.70	25.4	Grass 10%, next to playground			
S	154		y	1992	19	0.80	25.1	Grass 80%			
S	308		x	1992	19	0.90	24.9	Boxed garden bed, grass surround			
M	288		x	1992	19	0.60	24.9	Grass			
M	299		x	1992	19	0.80	24.9	Grass	Next to input pipe from roadway drainage system		
S	189		x	1992	19	0.55	24.8	Grass			
M	212		x	1992	19	0.70	24.8	Grass			
M	257		x	1992	19	0.70	24.7	Grass			Broken top, resprouted
M	225		x	1992	19	0.85	24.5	Grass			
S	237		x	1992	19	0.80	24.2	Garden bed, grass surround			
R	238		y	1992	19	0.85	23.8	Some ground cover in rectangular garden bed			
M	280		x	1992	19	0.85	23.8	Grass			Base of crown salt affected
M	112		x	1992	19	0.85	23.6	Bare earth			
S	287		y	1992	19	0.80	23.5	Grass			
R	29		x	1992	19	0.90	23.5	Shrubs 1m height in garden bed			Base of crown is salt affected
R	72		x	1992	19	0.95	23.5	90-100% succulents in circular garden bed			
M	290		x	1992	19	0.20	23.5	Grass			
M	203A		x	1992	19	0.80	23.5	Grass			Roadside branches sheared off by falling big
S	110		y	1992	19	0.80	23.4	Grass			
S	9		y	1992	19	0.85	23.3	Bare earth surrounded by paving			Minor salt damage
S	294		y	1992	19	0.85	23.2	Grass			
R	214		y	1992	19	0.85	23.2	Bare earth in rectangular garden bed			Scorching, loss of foliage in mid crown
M	76		x	1992	19	0.65	23.2	Grass	Very unusual crown loss midway		Crown missing on road side due to foliage being stripped when No.269 blew down
M	293		x	1992	19	0.70	23.1	Grass			
S	311		x	1992	19	0.90	22.5	Boxed garden bed, grass surround			
R	235		x	1992	19	0.85	22.3	Some ground cover in rectangular garden bed			
M	67		x	1992	19	0.70	22.3	Grass			Recently died top
S	298		x	1992	19	0.70	22.2	Grass			Damage on seaward side
S	80		x	1992	19	0.90	22.1	Bare earth surrounded by paving			
S	251		x	1992	19	0.60	22.0	Grass and bare earth			
R	81		x	1992	19	0.80	22.0	Garden bed			Mid crown loss
S	295		y	1992	19	0.60	21.9	Grass			Lost top third of tree a few years ago
S	13		x	1992	19	0.80	21.8	Bare earth surrounded by paving			
S	146		x	1992	19	0.60	21.7	Grass 50%			Heavy scorching on sea side of tree
R	284		x	1992	19	0.90	21.4	Grass			
S	129		x	1992	19	0.80	21.3	Grass 60%			Basal crown salt damage

Page 6

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Manly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
S	274		X	1992	19	0.50	20.9	Grass			
S	266		X	1992	19	0.70	20.6	Boxed garden bed, grass surround	Plaque commemorates re-plantings in May 1992	Yellowish	Damaged on seaward side, plaque 2/05/92
M	145		Y	1992	19	0.85	20.0	Grass + Half path			Butt damage
S	71		X	1992	19	0.85	19.8	50% succulent surrounded by paving			
R	230		X	1992	19	0.60	19.1	70% ground cover in rectangular garden bed			
M	283		X	1992	19	0.65	19.0	Grass			
S	281		Y	1992	19	0.70	18.8	Grass	Beach volleyball courts start		Lost top - lost half tree height
S	127		X	1992	19	0.80	17.6	Grass 70%			
R	123		X	1992	19	0.85	17.5	Compacted garden bed next to road			
M	222		Y	1996	13	0.80	12.1	Garden bed surrounded by grass	Unpruned		
M	236		X	1996	13	0.80	12.1	Garden bed surrounded by grass			
M	70		X	1996	13	0.80	11.8	Grass			
M	229		X	1996	13	0.70	11.8	Garden bed surrounded by grass			
R	74		X	1996	13	0.60	11.6	50-100% succulents in circular garden bed			
M	234		X	1996	13	0.70	11.6	Garden bed surrounded by grass			
M	73		X	1996	13	0.90	11.2	Grass			Re-sprouting
S	118		Y	1996	13	0.80	11.1	Grass	Succulent ground cover		
R	246		X	1996	13	0.80	11.1	Circular garden bed, paving surround			Re-sprouting top
S	60		X	1996	13	0.80	10.9	90% succulent surrounded by paving	Unpruned		
S	170		X	1996	13	0.90	10.9	Grass 60%	Unpruned		
M	228		X	1996	13	0.60	10.9	Garden bed surrounded by grass			
S	68		X	1996	13	0.80	10.7	60% succulent surrounded by paving			Lost growing top, resprouting
R	83		X	1996	13	0.85	10.6	100% succulents in circular garden bed			
M	207		X	1996	13	0.90	10.5	Garden bed surrounded by grass	Unpruned		
M	260		X	1996	13	0.70	10.3	Garden bed surrounded by grass			Damaged growing tip
S	111		X	1995	13	0.60	10.2	Grass	Unpruned		
R	256		X	1996	13	0.80	10.2	Boxed garden bed, grass & roadway surround			
M	262		X	1996	13	0.80	10.2	Garden bed surrounded by grass			Previous broken top, resprouted
M	231		X	1996	13	0.85	10.0	Garden bed surrounded by grass			
R	256		X	1996	13	0.60	9.9	Boxed garden bed, grass & roadway surround			
M	215		X	1996	13	0.70	9.9	Garden bed surrounded by grass	Unpruned		
S	162		Y	1996	13	0.85	9.8	Grass 60%			
S	57		X	1996	13	0.85	9.7	90% succulent surrounded by paving			
S	107		Y	1996	13	0.70	9.7	Grass			
S	119		Y	1996	13	0.85	9.6	Grass			
R	240		X	1996	13	0.90	9.5	Circular garden bed, paving surround	Succulent ground cover		
M	79		Y	1996	13	0.70	9.4	50% succulents in circular garden bed			Basal scorching
S	65		X	1996	13	0.70	9.1	90% healthy succulent surrounded by paving			
M	267		X	1996	13	0.70	9.0	Garden bed surrounded by grass			
M	269		X	1996	13	0.70	8.9	Garden bed surrounded by grass			Broken top
R	69		X	1996	13	0.70	8.8	90-100% succulents in circular garden bed			Bent and short
S	62		X	1996	13	0.60	8.4	50% succulent surrounded by paving			
S	75		X	1996	13	0.70	8.1	50% succulent surrounded by paving			
M	120		X	1996	13	0.60	8.1	Grass + Half path			Base of crown is salt affected

Page 7

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Manly Council No.	Tree No. in 1973 Survey	#	Planting Year *	Tree age in 2001 (yrs)	Crown Health Rating in 2001	Diam in 2001 (cm)	Details of Local Environment around the Tree	Other Comments on the Tree in 2001	Colour when different from green	General Comments on the Condition of the Tree in 2001
R	86		X	1996	13	0.75	8.0	100% succulents in circular garden bed	Plaque to Matthew Lineham	Yellow	Tree has recently lost its growing tip
S	20		X	1996	9	0.60	7.9	90% succulent surrounded by paving		Yellow	
M	276		X	1996	9	0.60	7.8	Boxed garden bed, grass surround			
R	279		X	1996	9	0.60	7.6	Boxed garden bed in bitumen and paving			
S	54		X	1996	9	0.60	7.5	90% healthy succulent surrounded by paving	Memorial plaque		
S	87		X	1996	9	0.70	7.4	90% succulent surrounded by paving			
R	7		X	1996	7	0.70	7.4	100% succulents in garden bed			
R	270		X	1996	9	0.60	7.4	Boxed garden bed, grass & roadway surround			
S	51		X	1996	9	0.65	7.3	90% healthy succulent surrounded by paving		Yellowish	Broken top, resprouted Problems due to manganese deficiency?
M	202		Y	1996	9	0.50	7.3	Garden bed surrounded by grass	Unrained	Yellow	Broken top
R	242		X	1996	9	0.60	7.2	Circular garden bed, paving surround	Succulent ground cover	Yellowish	Top broken out, resprouted
M	114		Y	1996	9	0.40	7.2	Bare earth		Yellowish	
R	188		X	1996	9	0.80	7.1	Garden bed with grass surround		Yellowish	
R	180		X	1996	9	0.80	6.9	In roadway next to box on west side		Yellowish	
M	35		X	1996	9	0.55	6.8	10% succulents in circular garden bed		Yellowish	
M	82		X	1996	9	0.70	6.8	60% succulents in circular garden bed			
M	164		X	1996	9	0.75	6.1	Bare earth with surrounding grass		Yellowish	
R	150		X	1996	9	0.70	6.0	Large enclosure in roadway			
M	243		X	1996	9	0.80	6.0	Circular garden bed, paving surround	Succulent pig face ground cover		Slow growing
M	138		X	1996	9	0.60	5.9	Grass + Half path		Yellowish	
R	95A		X	1996	9	0.70	5.8	Circular garden bed surrounded by paving		Yellow	
M	245		X	1996	9	0.80	5.4	Circular garden bed, paving surround	Succulent pig face ground cover		
M	115		X	1996	9	0.70	5.1	Bare earth			
M	239		X	1996	9	0.70	5.1	Circular garden bed, paving surround			
R	177		X	1996	9	0.60	4.7	Surrounded by bitumen	Succulent pig face ground cover	Yellowish	Broken top, resprouted+L40
M	41		Y	1996	9	0.45	4.7	40% succulents in circular garden bed		Yellow	Broken top, but damage
M	250		X	1996	9	0.55	4.7	Garden bed surrounded by grass			
M	241		X	1996	9	0.50	4.1	Circular garden bed, paving surround	Succulent pig face ground cover		
S	237A		X	2000	3	0.85	1.0	Boxed garden bed, grass surround			Small tree 2 m tall, 1 cm diameter
M	208							DOES NOT EXIST			
R	291							DOES NOT EXIST			
* It has been assumed that trees planted in 1858, 1880, 1900, 1910, 1920, 1930 were 0 years of age when planted											
* Trees planted in 1991 were 9 years of age when planted											
* Trees planted in 1992 were 10 years of age when planted											
* Trees planted in 1996 were 4 or 8 years of age when planted											

NORFOLK ISLAND PINE REPLACEMENT SCHEDULE

ATTACHMENT 1

**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

Appendix 1. Norfolk Island Pines which need to be replaced along the Ocean Beachfront at Manly									
Criteria for Replacement:				Dead; Safety Issue; Damaged badly; Deformed (Long term poor form)					
Row	Manly Council No.	Planting Year	Tree age in 2007 (yrs)	Diam in June 2007 (cm)	General Comments on the condition of the Tree in 2001	General Comments on the condition of the Tree in 2007	Other comments	Recommendations	
R	5	1930	77	64.8	Broken top	Showing effects of lightning strike. Heavy resin.	Need wood disc if tree is felled	Consider replacement in the near future	
S	17	1880	127	117.8	Considerable damage to butt and tree form	Same as in 2001	Need wood disc if tree is felled	Needs to be removed eventually - next 2 to 3 years	
S	43	1880	127	100.3	Serious dead topping.	Continuing to decline. Very poor crown. Safety risk to the public.	Monitor closely. Need wood disc if tree is felled	Recommend initially that the top branch be removed. Take 'resistograph' readings of the wood to	
S	60	1996	19	14.7	Broken top. No resprouting	Resprouting but new broken top.		Replace	
S	62	1992	25	22.8	Twisted top. Needs to be replaced at some time. Bent and	Cook Island Pine type. Distorted. Healthy but distorted.		Replace	
M	79	1996	19	14.5	Broken top. Resprouting. Basal scorching	Poor growth, ugly appearance		Replace	
R	81	1992	25	32.2	Mild crown loss.	Cook Island Pine type. Double leader. Heavy lean		Replace	
R	95	1930	77	60.0	Broken top. Resprouting	Review regarding risk to safety	Need wood disc if tree is felled	Review	
R	105	1930	77	57.5	Broken top	Review	Need wood disc if tree is felled	Review	
S	111	1996	19	12.8		Heavy damage		Replace	
M	114	1996	15	10.3	Bad erosion around base of tree. Resprouting	Top broken out again. Distorted.		Replace	
R	141	1930	77	40.5	Very major butt damage - 50% of circumference	Review regarding risk to safety	Need wood disc if tree is felled	Review	
R	158	1930	77	55.1	Top of crown has been removed	Heavy resin. Take 'resistograph' readings of the wood to assess how	Need wood disc if tree is felled.	Monitor but most probably need to replace for safety reasons in a storm	
R	172	1930	77	60.1	Been badly damaged butt recovering	Review	Need wood disc if tree is felled	Review	
M	202	1996	15	8.2	Yellow. Broken top	Poor tree		Replace	When
R	223	1992	25	29.6	More than half of butt is damaged. Basal scorching of crown.	As in 2001		Replace replanting, mulch and remove the mound.	

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Row	Mainly Council No.	Planting Year *	Tree age in 2007 (yrs)	Diam in June 2007 (cm)	General Comments on the condition of the Tree in 2001	General Comments on the condition of the Tree in 2007	Other comments	Recommendations
M	229	1996	19	24.2	Bad erosion around tree	Broken Top		Replace
S	233	1991	16	21.5	Bad erosion around tree	Heavy lean		Replace
M	245	1996	15	10.3		Broken top. Poor appearance		Replace
M	257	1992	25	30.5	2006 - Type T - clumpy	Review		Review
R	275	1910	97	61.5	Need to prune basal epicormics	Needs to be replaced in the long term	Need wood disc if tree is felled	Consider replacement in the next 5 years
S	281	1992	25	24.3	Lost top - only half tree height remains	Ugly appearance		Replace
M	288	1992	25	27.8	Cook Island Pine Type. Double leader has been removed	Poor appearance		Replace
R	292	1992	25	29.8	Resprouting from broken top.	If retained, ground needs restoration and tree needs basal pruning.		Replace
M	293	1992	25	25.4	Resprouts are yellow. Mn deficient	Poor appearance		Replace
S	295	1992	25	26.5	Crown missing on road side due to foliage being stripped when No. 293 was planted a few years ago. Is off-centre and will always be unstable	Ugly appearance		Replace
* It has been assumed that trees planted in 1858, 1880, 1900, 1910, 1920, 1930 were planted from seed or were very young seedlings and hence 0 years of age when planted * Trees planted in 1991 were 9 years of age when planted * Trees planted in 1992 were 10 years of age when planted * Trees planted in 1996 were 4 or 8 years of age when planted								
Additional Recommendations for Consideration								
Tree Nos. 29, 33, and 36 planted in 1982 are <u>not</u> Norfolk Island Pines and hence are not consistent with the surrounding Pines.								
Most probably they are Cook Island Pines and may need to be replaced at some stage								
Tree No. 31 is yellow in colour and needs to be monitored								
Tree No. 35 needs to be reviewed								
Tree No. 91 - remove double leader or replace								

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan

Ordinary Meeting Agenda

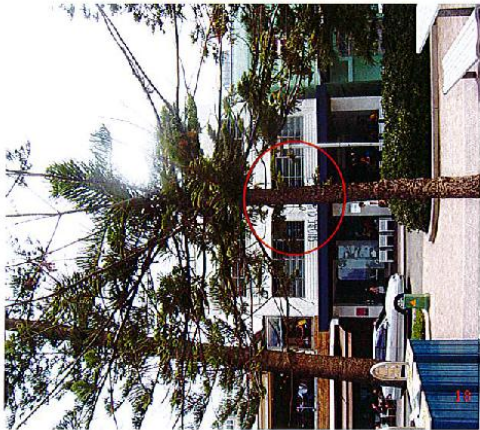
ATTACHMENT 1

**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

EXAMPLES OF NORFOLK ISLAND PINE TREES REQUIRING REPLACEMENT



ATTACHMENT 1

**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan



NORFOLK ISLAND PINE TREE FOLIAGE TESTING



ATTACHMENT 1

**Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and
Management Plan for Coastal Norfolk Island Pines
Norfolk Island Pine Management Plan**

ATTACHMENT 1

Civic and Urban Services Division Report No. 3.DOC - Draft Tree Conservation and Management Plan for Coastal Norfolk Island Pines Norfolk Island Pine Management Plan

Norfolk Island Replacement Size Range for All Installation

