



Additions to Awaba Waste Management Facility

Environmental Assessment - VOLUME 2 (Appendices A to H)

Reference: 600308/Rep2744V4

29 August 2012

Prepared for Lake Macquarie City Council
138 Main Road Speers Point NSW 2284



Additions to Awaba Waste Management Facility

Appendix A

EPBC Referral Decision



**Notification of
REFERRAL DECISION AND DESIGNATED PROPONENT – controlled
action
DECISION ON ASSESSMENT APPROACH**

**Additions to Awaba Waste Disposal Facility, Lake Macquarie, New South Wales
EPBC 2011/5973**

This decision is made under section 75 and section 87 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

proposed action	To expand the existing operational Awaba Waste Disposal Facility located on Wilton Road, approximately 4 km west of Toronto and 1.2 km south-east of Awaba, within the Lake Macquarie City Local Government Area, NSW, as described in the referral received by the department on 23 May 2011. [See EPBC Act referral 2011/5973]
------------------------	--

decision on proposed action	The proposed action is a controlled action. The project will require assessment and approval under the EPBC Act before it can proceed.
------------------------------------	---

relevant controlling provisions	Listed threatened species and communities (sections 18 & 18A)
--	---

designated proponent	Tony Farrell Lake Macquarie City Council ACN/ABN: 81 065 027 868
-----------------------------	--

assessment approach	The project will be assessed by accredited assessment under the New South Wales <i>Environmental Planning and Assessment Act 1979</i> .
----------------------------	---

Decision-maker

Name and position	Michelle Wicks Assistant Secretary Environment Assessment Branch
--------------------------	--

Signature

date of decision

17/6/2011.



Mr David Lovell
Senior Development Planner
Lake Macquarie City Council
PO Box 1906
HRMC NSW 2310

Date: 22 December 2011
EPBC ref: 2011/5973
EPBC contact: Mihkel Proos
(02) 6274 2757
mihkel.proos@environment.gov.au

Dear Mr Lovell

**Decision on variation of a proposed action
Additions to Awaba Waste Disposal Facility, Lake Macquarie, NSW**

On 29 November 2011 the Department of the Sustainability, Environment, Water, Population and Communities received a request for variation, under s156A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The variation relates to Additions to the Awaba Waste Disposal Facility, which was referred to the department 23 May 2011, and involves:

- the addition of a 3.4 km rising main (pipeline) from the Awaba Waste Disposal Facility in Lot 372 to a Waste Water Pump Station in the suburb of Rathmines, to dispose of excess leachate; and
- additional facilities in Lot 372 including a transfer station, reuse centre, wheel wash facility, weighbridge and package pumping station.

I have considered the request in accordance with the requirements of the EPBC Act and have decided to accept the varied proposal. The decision notice is attached. I have also written to Mr Christopher Holloway of Cardno (NSW/ACT) Pty Ltd to advise him of this decision.

If you have any questions about this decision, please contact the EPBC contact officer and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

Charmayne Murray
A/g Assistant Secretary
Environment Assessment Branch



**Notification of
VARIATION OF PROPOSAL TO TAKE ACTION under section 156B of the
Environment Protection and Biodiversity Conservation Act 1999
(EPBC Act)**

**Additions to Awaba Waste Disposal Facility, Lake Macquarie, New South Wales
(EPBC 2011/5973)**

This decision to accept a variation to the proposal to take an action is made under Section 156B of the EPBC Act.

Variation of proposal to take action

Proposed action	To expand the existing operational Awaba Waste Disposal Facility located on Wilton Road, approximately 4 km west of Toronto and 1.2 km south-east of Awaba, within the Lake Macquarie City Local Government Area, NSW, as described in the referral received by the department on 23 May 2011.
------------------------	--

Varied proposed action	To expand the existing operational Awaba Waste Disposal Facility located on Wilton Road, approximately 4 km west of Toronto and 1.2 km south-east of Awaba, within the Lake Macquarie City Local Government Area, NSW, as described in the referral received by the department on 23 May 2011 and the request for variation received under the EPBC Act on 29 November 2011.
-------------------------------	--

designated proponent	Lake Macquarie City Council (ABN 81 065 027 868)
-----------------------------	--

Person authorised to make decision

Name and position	Charmayne Murray A/g Assistant Secretary Environment Assessment Branch
--------------------------	--

Signature	
------------------	---

date of decision	22 December 2011
-------------------------	------------------



Additions to Awaba Waste Management Facility


Appendix B

Director General's Requirements



Mr Tony Farrell
Director City Strategy
Lake Macquarie City Council
Box 1906
HRMC NSW 2310

Attn: Mr David Lovell


Dear Mr Farrell

**Additions to Awaba Waste Disposal Facility, Awaba (MP 10_0139)
re-issue Director-General's Requirements**

As you are aware, the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities has declared the project to be a controlled action which requires an approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) has recently provided additional assessment requirements.

The Director-General's Requirements for the project have been amended to include the DSEWPaC's requirements. I have attached a copy of the amended Director-General's requirements. These requirements have been prepared in consultation with the relevant agencies, based on the information you have provided to date. Please note the Director-General may alter these requirements at any time. The additional requirements are attached in Appendix A.

I have also attached a copy of the other agencies' comments for your information (see Appendix B).

I would appreciate it if you would contact the Department at least two weeks before you propose to submit your Environmental Assessment for the project. This will enable the Department to determine the:

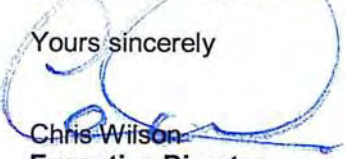
- applicable fee (see Division 1A, Part 15 of the Environmental Planning and Assessment Regulation 2000);
- consultation and public exhibition arrangements; and
- number of copies (hard-copy or CD-ROM) of the Environmental Assessment that will be required for exhibition purposes.

Once it receives the Environmental Assessment, the Department will review it in consultation with the relevant agencies (including DSEWPaC) to determine if it adequately addresses the Director-General's requirements, and may require you to revise it prior to public exhibition.

The Department is required to make all the relevant information associated with the project publicly available on its website. Consequently, I would appreciate it if you would ensure that all the documents you subsequently submit to the Department are in a suitable format for the web, and arrange for an electronic version of the Environmental Assessment to be hosted on a suitable website during the exhibition period.

If you have any enquiries about these requirements, please contact Emma Barnet on 9228 6338 or at emma.barnet@planning.nsw.gov.au).

Yours sincerely


Chris Wilson
Executive Director
Major Projects Assessment
As delegate for the Director-General

3.7.11

Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

Application Number	MP 10_0139
Project	<p>The Awaba landfill extension project including:</p> <ul style="list-style-type: none"> • Excavation of 184,000m³ soil to create two new landfill cells with capacity for 4,080,000 tonnes of putrescible waste; • Stockpiling of excavated soil ; • Removal of native vegetation; • An increase in maximum height for the entire landform on-site; • Surface, groundwater and leachate management systems; • Landfill gas monitoring and capture; • Green waste processing; and • Associated infrastructure.
Location	Lot 372 DP 723259, 367 Wilton Road Awaba
Proponent	Lake Macquarie City Council
Date of Issue	July 2011
General Requirements	<p>The Environmental Assessment (EA) must include:</p> <ul style="list-style-type: none"> • an executive summary; • a detailed description of the project including the: <ul style="list-style-type: none"> - waste strategy that underpins the development of the project; - need for the project: having particular regard to the aims, objectives, and guidance in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2007</i> and <i>DECC's Guidelines for Solid Waste Landfills</i> - a review of the project against Clause 123 of the <i>State Environmental Planning Policy (Infrastructure) 2007</i>; - alternatives considered, including a justification for the proposal on economic, social and environmental grounds; - details of any proposed building works, including engineering and/or architectural plans; - various components and stages of the project; and - the likely inter-relationship between the proposed operations and the existing operations on site including details of existing approvals, management systems and details of past environmental performance. • consideration of whether the development is consistent with the lower Hunter Regional Strategy and locational principles included in the publication <i>EIS Guideline: Landfilling</i> (Department of Planning, 1996) • a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment; • a detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment (see above), which includes: <ul style="list-style-type: none"> - a description of the existing environment, using sufficient baseline data; - an assessment of the potential impacts of all stages of the project taking into consideration any relevant guidelines, policies, plans and statutory provisions; and - a description of the measures that would be implemented to avoid, minimise, mitigate, rehabilitate/remediate, monitor and/or offset the potential impacts of the project, including detailed

	<p>contingency plans for managing any potentially significant risks to the environment.</p> <ul style="list-style-type: none"> • a statement of commitments, outlining all the proposed environmental management and monitoring measures; • a conclusion justifying the project, taking into consideration: the suitability of the sites; the economic, social and environmental impacts of the project as a whole; and whether it is consistent with the objects of the <i>Environmental Planning and Assessment Act 1979</i>, and in particular the principles of ecologically sustainable development; • a signed statement from the author of the environmental assessment certifying that the information contained in the report is neither false nor misleading.
Key Issues	<ul style="list-style-type: none"> • Waste Management – including details of the waste handling processes, the quantity and type of wastes received, classification and stockpiling, waste recovery methods (including volumes and types of wastes diverted) and monitoring programs. • Soil, Water and Leachate – including: <ul style="list-style-type: none"> – the proposed erosion and sediment controls during construction and operation; – the proposed stormwater management system, including the capacity of onsite detention systems, and measures to treat, reuse or dispose of water; – consideration of potential acid sulfate soils, salinity, soil contamination and flooding impacts of the proposal; – potential impacts on watercourses and groundwater; and – the proposed leachate management systems. • Flora and Fauna – including any threatened species, populations and ecological communities; and any native vegetation. In addition, see Appendix A for the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) specific requirements. • Air Quality and Odour – including: <ul style="list-style-type: none"> – a quantitative assessment of the potential air quality and odour impacts of the project including cumulative impacts – a demonstration that the proposal is able to comply with the <i>Protection of the Environment Operations (POEO) Act 1997</i> and the <i>POEO (Clean Air) Regulation (2002)</i> • Heritage – including an Indigenous heritage assessment • Visual – including an assessment of the potential visual impacts of the project on the amenity of the surrounding area; • Greenhouse Gas – including: <ul style="list-style-type: none"> – a quantitative assessment of the scope 1 and 2 greenhouse gas emissions of the project, and an assessment of the energy efficiency of the project in comparison to industry best practice; and – a description of the measures that would be implemented to minimise the energy use of the project including landfill gas capture and electricity generation. • Traffic and transport – including: <ul style="list-style-type: none"> – details of traffic volumes that are likely to be generated during construction and operation, and an assessment of the impact of this traffic on the safety and efficiency of the surrounding road network; and – consideration of whether transport links to the landfill are optimised. • Hazards and Risk – including a Preliminary Hazard Analysis (PHA) of the project, and an assessment of the potential bushfire risks of the project.
Other Issues	<ul style="list-style-type: none"> • Noise – including construction, operational and traffic noise

Guidelines	The Environmental Assessment must take into account relevant State government technical and policy guidelines. While not exhaustive, guidelines which may be relevant to the project are included in the attached list.
Consultation	<p>During the preparation of the Environmental Assessment, you should consult with the relevant local, State and Commonwealth Government authorities, service providers, community groups and affected landowners.</p> <p>In particular you must consult with:</p> <ul style="list-style-type: none"> • NSW Office of Environment and Heritage; • NSW Office of Water; • Mine Subsidence Board; • NSW Office of Water; and • Roads and Traffic Authority. <p>The consultation process and the issues raised must be described in the Environmental Assessment.</p>
Deemed Refusal Period	60 days

Guidelines, Policies and Plans

Aspect	Policy /Methodology
Waste	<p>Waste Avoidance and Resource Recovery Strategy 2007 (DECC)</p> <p>Waste Classification Guidelines (DECC)</p> <p>Environmental Guidelines: Solid Waste Landfills 1996 (DECC)</p> <p>Environmental Guidelines: Composting and Related Organics Processing Facilities (2004)</p> <p>Composts, soil conditioners and mulches (Standards Australia, AS 4454)</p> <p>State Environmental Planning Policy (Infrastructure) 2007</p>
Soil and Waters	
<i>Soil</i>	<p>Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC)</p> <p>National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC)</p> <p>State Environmental Planning Policy No. 55 – Remediation of Land Guidelines for Consultants Reporting on Contaminated Sites (DECCW, 2000)</p> <p>Managing Land Contamination - Planning Guidelines SEPP 55 – Remediation of Land (DUAP and EPA)</p> <p>Managing Urban Stormwater: Soils and Construction (Landcom)</p> <p>Acid Sulfate Soil Manual (ASSMAC)</p> <p>Agricultural Land Classification</p> <p>Rural Land Capability Map</p>
<i>Surface Water</i>	<p>National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)</p> <p>National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)</p> <p>National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMCC & AHMC)</p> <p>Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)</p> <p>National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMCC & AHMC)</p> <p>Managing Urban Stormwater: Treatment Techniques (EPA)</p> <p>Managing Urban Stormwater: Source Control. Draft (EPA)</p> <p>Managing Urban Stormwater: Soils & Construction (Landcom)</p> <p>Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)</p> <p>NSW Government Floodplain Development Manual – the Management of Flood Liable Land (DIPNR, 2005)</p> <p>Floodplain Risk Management Guideline: Practical Consideration of Climate Change (DECC, 2007)</p> <p>Technical Guidelines: Bunding & Spill Management (DECC)</p>
<i>Groundwater</i>	<p>National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)</p> <p>NSW State Groundwater Policy Framework Document (DLWC)</p>

	NSW State Groundwater Quality Protection Policy (DLWC)
	NSW State Groundwater Quantity Management Policy (DLWC) Draft
	Guidelines for the Assessment and Management of Groundwater Contamination (DECC) Draft
Biodiversity	
	Draft Guidelines for Threatened Species Assessment (DEC & DPI, 2005)
	Threatened Biodiversity Survey and Assessment - Guideline for Developments and Activities - DECCW 2009
	Threatened Species Assessment Guidelines: The Assessment of significance - DECC 2007
	Guidelines for Development Adjoining DECC Land (DECC, 2008)
	Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003)
	Policy and Guidelines: Aquatic Habitat Management and Fish Conservation (NSW Fisheries, 1999)
	Threatened Species Management Manual (NPWS, 1998)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Odour	
	Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
Heritage	
Aboriginal	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, 2005)
Greenhouse Gas	
	National Greenhouse Accounts (NGA) Factors 2008
	Guidelines for Energy Savings Action Plans (DEUS)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
	Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
Risk	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
Bushfire	
	Planning for Bushfire Protection 2006 (NSW Rural Fire Service)
Noise	
	NSW Industrial Noise Policy (DECC)
	Environmental Criteria for Road Traffic Noise (NSW EPA)
	Environmental Noise Control Manual (DECC)
	Draft Construction Noise Guideline 2008 (DECC)
Hazards	

Development (SEPP 33)

Planning Advisory Paper No. 6 – Guidelines for Hazardous Analysis
(DUAP)

APPENDIX A

Director-General's Requirements for the Assessment of a Controlled Action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999*

Section 75F(3) of the *Environmental Planning and Assessment Act 1979*



Environment Assessment Requirements for input into the Director-General Requirements

The delegate for the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities has declared the proposed expansion of the existing operational Awaba Waste Disposal Facility located on Wilton Road, approximately 4 km west of Toronto and 1.2 km south-east of Awaba, within the Lake Macquarie City Local Government Area, NSW (EPBC 2011/5973) to be a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as it is likely to have a significant impact on threatened species listed under the EPBC Act. This includes the Black-eyed Susan (*Tetratheca juncea*).

In accordance with the one-off accredited assessment process for this project, the environmental assessment of the impacts of the controlled action must be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Pursuant to section 75F(3) of Part 3A of the EP&A Act, the Director-General is required to notify the proponent of these requirements.

The assessment must include enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities to make an informed decision whether or not to approve the controlled action under the EPBC Act.

The following assessment requirements are to be integrated into the assessment required for part 3A of the EP&A Act. The following matters in the EPBC Act and schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* should be considered.

1. General information

The background of the action including:

- (a) the title of the action;
- (b) the full name and postal address of the designated proponent;
- (c) a clear outline of the objective of the action;
- (d) the location of the action;
- (e) the background to the development of the action;
- (f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
- (g) the current status of the action; and
- (h) the consequences of not proceeding with the action.

2. Description of the action

A description of the action, including:

- (a) all the components of the action;
- (b) the precise location of the preferred option for any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;



- (c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
- (d) to the extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including:
 - (i) if relevant, the alternative of taking no action;
 - (ii) a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
 - (iii) sufficient detail to make clear why any alternative is preferred to another.
- (e) A description of long-term and short-term economic and social considerations regarding the project.

3. A description of the relevant impacts of the action;

An assessment of all relevant impacts that the action has, will have or is likely to have on threatened ecological communities and threatened species potentially present and listed under sections 18 and 18A of the EPBC Act.

Information must include:

- (a) a description of the nature, location and extent of all vegetation types occurring on-site;
- (b) a description of the nature, location and extent of threatened species and their suitable habitat (including habitat critical to the survival of threatened species) within the site and in surrounding areas that may be impacted by the proposal;
- (c) where there is a potential habitat for EPBC Act listed species, such as *Tetratheca juncea*, surveys must be undertaken. These surveys must be timed appropriately and undertaken for a suitable period of time by a qualified person¹.
- (d) a description of the relevant impacts of the action on listed threatened species;
- (e) a detailed assessment of the nature and extent of the likely short term, long term, direct and indirect relevant impacts as a result of the action including, but not be limited to, an assessment of any habitat loss, degradation or fragmentation;
- (f) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- (g) analysis of the significance of the relevant impacts; and
- (h) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

4. Proposed safeguards, mitigation and offset measures

A description of feasible mitigation measures, changes to the action or procedures, which have been proposed by the proponent or suggested in public submissions and which are intended to prevent or minimise relevant impacts. Information must include:

- (a) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation

¹Where available, species-specific survey guidelines can be obtained on the department's *Species Profile and Threats Database*: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>



measures proposed to be taken by State governments, local governments or the proponent;

(b) a description and an assessment of the expected or predicted effectiveness of the mitigation measures;

(c) any statutory or policy basis for the mitigation measures;

(d) the cost of the mitigation measures;

(e) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including the person or agency responsible for implementing these programs and any provisions for independent environmental auditing;

(f) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;

(g) in the event that impacts cannot be avoided or mitigated, a description of any offsets to compensate for any predicted or potential residual impacts on threatened species; and

(h) the description of any offsets package should include how the offset compensates for the residual impacts, when the offset will be delivered and how the offset will be managed.

5. Other approvals and conditions

Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:

(a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:

(i) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and

(ii) how the scheme provides for the prevention, minimisation and management of any relevant impacts.

(b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the relevant Act) including any conditions that apply to the action;

(c) a statement identifying any additional approval that is required; and

(d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

6. Environmental record of person proposing to take the action

Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

(a) the person proposing to take the action; and

(b) for an action for which a person has applied for a permit, the person making the application.



7. Information sources

For information given in an environment assessment, the draft must state:

- (a) the source of the information;
- (b) how recent the information is;
- (c) how the reliability of the information was tested; and
- (d) what uncertainties (if any) are in the information.

8. Consultation

- (a) Any consultation about the action, including:
 - (i) any consultation that has already taken place;
 - (ii) proposed consultation about relevant impacts of the action; and
 - (iii) if there has been consultation about the proposed action - any documented response to, or result of, the consultation.
- (b) Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.



Additions to Awaba Waste Management Facility

Appendix C

Consultation Summary for LMCC
Waste Strategy

Future of Waste



**Community Consultation Report
Waste Strategy Project
(Processing Technology)
2010**

TABLE OF CONTENTS

1. Introduction	...	4
2. Executive Summary	...	4
2.1. Consultation Context	...	4
2.2. Overview of Consultation	...	4
2.3. Stakeholder Groups	...	5
2.4. Key Findings	...	5
2.5. Key Issues and Concerns	...	6
2.6. Next Steps	...	6
3. Consultation Details	...	7
3.1. Consultation Team	...	7
3.2. Facilitator	...	7
3.3. Framework	...	7
3.4. Communication and Media	...	10
3.5. Integration of Waste Awareness Campaign	...	11
3.6. Consultation Process and Activities	...	11
3.7. Post Exhibition Engagement Activities	...	17
4. Findings and Analysis	...	18
4.1. Submission Findings	...	18
4.2. Submission Analysis	...	19
4.3. Waste Services Community Survey Findings	...	20
4.4. NSW Department of Housing Submission	...	21
4.5. Sustainability Department Submission	...	21
4.6. Operations Group – Waste Environment and Rangers Dept. Submission	...	21
4.7. Feedback from Information Sessions	...	21
5. Conclusion and Recommendations	...	23
6. Appendices	...	24

Appendix 1: Table of Advertising and Promotion for Consultation Program

Appendix 2: Clippings of Waste Related News Stories and Twitter Posts

Appendix 3: Table of Submission Analysis

Appendix 4: Waste Services Community Survey November 2010

Appendix 5: Submission from Sustainability Department

Appendix 6: Submission from Waste Operations Group – Waste, Environment and Rangers

Glossary

CEN: Community Environment Network (local community environmental advocacy group)

GHD: consulting company contracted to project manage the Waste Awareness Campaign for Council.

LGA: Local Government Area

LMCA: Lake Macquarie Climate Action (local community environmental advocacy group)

LMCC: Lake Macquarie City Council

Three bin system: the term used to describe Council's preferred waste processing technology. It is technically known as 'Source Separated Organics, Enclosed Composting with Phased Introduction'. It includes three household garbage bins, for organic waste, (food and garden waste), recycling and non-recoverable waste. This system is implemented in two phases with the major change been the disposal of food waste into different bins:

Phase 1

Residual garbage bin: general household waste, collected weekly.

Organics bin: garden waste only, collected fortnightly

Recycling bin: collected fortnightly (alternates with organics bin)

Phase 2

Organics bin: food and garden waste, collected weekly

Residual garbage bin: general household waste (no food), collected fortnightly.

Recycling bin: collected fortnightly (alternates with residual garbage bin)

Two bin system: the term used to describe the main alternative waste processing technology that includes only two bins, one for recycling and one for all other general household waste. Technically known as Two Bin Enclosed Composting- Alternative Waste Treatment.

Rising Tide: a local environmental advocacy group

1. INTRODUCTION

This report is a supplement to the development of the LMCC waste strategy. The purpose of this report is to provide evidence that a diligent, transparent and effective process of consultation and consideration of comments has occurred. It reports on the framework, process and findings of the consultation undertaken with community and staff during the development of the Draft Waste Strategy (processing technology) 2010.

2. EXECUTIVE SUMMARY

2.1 Consultation Context

The Waste Strategy Project was initiated in November 2009 in response to a number of critical drivers such as the increasing State Government landfill levy and landfill diversion targets, the limited capacity of Lake Macquarie's one and only landfill and a likely Federal carbon pollution tax. Waste management is one of Lake Macquarie City Council's largest financial commitments, commercial risks and ratepayer service. The task of the project is to address the drivers whilst encompassing LMCC's sustainability agenda and community expectations. According to the 2009 LMCC Community Survey, waste services were rated as one of the most important services and service satisfaction is high. Consequently, community consultation is a key step in the development of the new waste strategy.

2.2 Overview of Consultation

The development and implementation of the consultation framework and process began in June 2010. The purpose of the consultation process was to engage community and staff to seek feedback to inform the development of the waste strategy and have a supportive and engaged Council and community in the eventual implementation of a final waste strategy.

Community consultation officially began 21 July 2010 and concluded 24 December 2010 with the closing of the Draft Waste Strategy (processing technology) exhibition whereby the public were asked to provide feedback via written submissions. The consultation methods included workshops, information sessions, an online discussion forum, one on one correspondence and submission forms.

The consultation framework comprised three topics of consultation; quadruple bottom line analysis weighting, preferred waste processing technologies and the Draft Waste Strategy exhibition which concluded the consultation program.

Specifically the consultations aimed to:

- Get a sense of the community's priorities, attitudes and risk thresholds associated with existing waste services and future waste management options.
- Raise awareness of Lake Macquarie's waste issues.
- Gauge community views of Council's preferred waste processing technologies (two and three bin system).
- Seek feedback on the Draft Waste Strategy to gain further knowledge on issues and concerns regarding the three bin system.

A genuine effort was made to engage the Lake Macquarie community and staff. A comprehensive communication and media plan entailed online, print and radio advertisements and cross promotion of workshops and the Draft Waste Strategy exhibition. All workshops and consultation opportunities were advertised widely.

2.3 Stakeholder Groups

Consultation with Community

Lake Macquarie residents and ratepayers were strongly encouraged to participate in the community workshops and engage in the online discussion forum. Council conducted a total of 11 workshops with the public and maintained an online discussion forum for 11 weeks. Workshops were held in each of the LGA wards (North, East and West) and were scheduled at different times to allow flexibility to attend. A total of 248 submissions were received during the exhibition of the Draft Waste Strategy.

Workshops were also held with established focus groups such as Lake Macquarie Youth Advisory Council and the Community Advisory Group. Local environmental groups (LMCA, CEN, and Rising Tide) were addressed as special interest groups for the waste strategy development and were contacted for separate workshops, although these offers were declined.

Consultation with Staff

The waste strategy team conducted a series of workshops; information sessions and staff focus forums with LMCC staff. Specific consultation and feedback was sought from Waste Operations staff from the Waste, Environment and Rangers Department and Sustainability Department due to their direct stake in Council's waste management, operations and sustainability policies.

Waste Advisory Committee

Consisting of elected Councillors, the Waste Advisory Committee is a key stakeholder group in the development of the Waste Strategy Project. Meetings with the Waste Advisory Committee were held on the third Thursday of every month and will continue as the project develops.

Project Interest Group

A LMCC Project Interest Group was formed to meet monthly to keep internal stakeholders informed and in preparation for upcoming decisions regarding the waste strategy's development. The group consisted of the Executive, Manager Sustainability, Manager Integrated Planning, Manager Customer Service and Communications and finance staff and managers from Waste, Environment and Rangers Department. The purpose of this meeting group was to openly communicate the Waste Strategy Project's progress and ensure any operational or administrative organisational implications or issues associated with the development of the waste strategy were addressed. Meetings will continue with this group as the project develops.

2.4 Key Findings

As a result of consultations conducted, findings have shown the most important consideration of the community in developing a waste strategy is the impact on the environment, and consequently significant support for the three bin system (SSO Organics) has been found.

There is majority public support for the Draft Waste Strategy and consultation and research suggests community acceptance and substantial support for a third bin for organics (food and garden waste). Whilst extensive efforts were made to engage the public in discussions, attendance at workshops was low and a total of 248 submissions were received. To supplement the consultation findings, a community survey was conducted by external research consultant Micromex Research in November 2010 to have a statistically valid sample of community views regarding the Draft Waste Strategy. The key findings are as follows:

- 69% of respondents (sample of n=1000) believed the three bin system is the best option for their household (Waste Services Community Survey November 2010)
- 64% of submissions received from the Draft Waste Strategy exhibition selected the three bin system as their preferred waste management system.
- 68% of participants voted for the three bin system in an online poll as part of the online discussion forum.
- 55% of participants in community workshops selected the three bin system as their preferred solution and 18% selected either (three or two bin system) option as viable.

- 47% staff preferred the three bin system and 8% indicated either (three or two bin system) option as a viable solution for the city

2.5 Key Issues and Concerns

The community feedback received shows the community like and support the Draft Waste Strategy based on:

- The long term environmental benefits associated with producing a high quality, contaminant free compost
- Effective management of green waste for residents
- Cheaper waste management option

Key dislikes include:

- Residents that home compost see no use in having an organics bin service and don't want to have to pay for a service they will not use
- Residents living in high density housing and multi-unit complexes see issues with storing an additional bin

Additionally, there were a number of issues raised by residents and staff that require consideration in formulating the comprehensive strategy.

- Storage space of third (organics) bin at multi-unit dwellings and high density housing areas.
- Fairness and equity issues arose with people that already home compost and see no need for a third bin for organic waste.
- Suggestions for a user pay system or rebate scheme for residents that home compost.
- Elderly residents and pensioners that made submissions indicated they had no need for a third bin because they generate a very small amount of waste and also had concerns about increasing costs.
- Assistance for elderly or physically challenged with managing an extra bin.
- More detailed costing of waste management charges for residents including the costs of the extra bin.
- Questions about supply of biodegradable bags to manage food waste and prevent odour issues.
- Will the compost from three bin system be available to residents either freely or for a reduced charge?
- Requests to increase recycling service frequency or for larger bin sizes to be made available.

2.6 Next Steps

It is anticipated that the outcomes of this consultation process will become publicly available in March 2011. The findings are expected to be published on www.ARRR.com.au and www.lakemac.com.au

The feedback provided through this consultation process is being provided to Council for consideration in their decision making regarding the Draft Waste Strategy.

3. CONSULTATION DETAILS

3.1 Consultation Team

The LMCC staff involved in the community consultation process were:

- Director City Strategy, Tony Farrell
- Group Coordinator Waste Operations, David Brake
- Project Manager Waste Strategy, Kate Barton
- Waste Strategy Officer, Katie Handford
- Waste Awareness Officer, Jenni Donaldson

External contractors involved in the consultation process were:

- Lloyd Consulting Waste Specialist, Mark Ricketts
- Mike Ritchie and Associates Waste Specialist, Mike Ritchie
- Michael Murray and Associates Facilitator, Michael Murray
- Connectivity One Facilitator, Jacqueline Upton

3.2 Facilitator

An independent facilitator was contracted to facilitate the community workshops and information sessions to ensure transparency and impartiality in the consultation process. At each workshop and information session, the facilitator managed the feedback sessions to ensure transparency in discussions.

3.3 Consultation Framework

A table of the consultation session details such as the venues, dates, attendance figures and formats can be found in section 3.6.

Round One: Quadruple Bottom Line Analysis

The framework for the first round of consultation needed to gauge the community's existing awareness and views of LMCC's current waste services. The workshop began with focus questions asking the participants what they like or dislike about LMCC waste services and what other waste services and systems they know of. Following these questions and discussions a presentation was delivered by Waste Strategy Project Manager Kate Barton and Lloyd's consultant Mark Ricketts. The presentation outlined the drivers for the Waste Strategy Project, LMCC current waste issues and the future plan to develop a waste strategy. Feedback from participants was facilitated by Michael Murray through a quadruple bottom line analysis weighting exercise. Participants were split into working groups and were asked to score environmental, social, financial and governance issues in order of importance and value. The workshops concluded with an open discussion and questions from participants. Tony Farrell closed the workshops with an overview of proposed further community consultation opportunities and project timeframes. Full details of the workshops can be found in the table in section 3.6.

Key results: satisfaction with existing waste services was found to be high and the environmental impact of a waste management system was raised as the most important factor for the community.

Round Two: Preferred Waste Processing Technologies

The framework for this round focused on conveying how Council arrived at two preferred waste processing technologies (two and three bin system) and to seek feedback on the preferred options. The workshop started with a welcome and introductions and was then followed by a detailed presentation outlining the top ten suitable waste processing technologies for Lake Macquarie. The second part of the presentation explained Council's two preferred options in detail - the two and three bin system. After the presentation, approximately 40 minutes was allocated to feedback and questions where the community were invited to indicate any aspects of the two short listed options that they liked or had concerns about. This process was facilitated by Michael Murray. There was also an opportunity for participants to ask questions with expert waste consultant, Mike Ritchie. Following this open discussion, participants were asked to indicate whether they had a clear preference for one of the two options presented, or were comfortable with either of them, or not comfortable with any option being implemented. Full details of the workshops can be found in the table in section 3.6.

Key results: preference was shown for the 3 bin system

Round Three: Draft Waste Strategy

With the Draft Waste Strategy on public exhibition, this round of consultation was structured as an information session with feedback sought in the form of written submissions. Tony Farrell conducted introductions by providing an overview of the Waste Strategy Project and waste management challenges facing Council. Mike Ritchie presented steps taken in developing the Draft Waste Strategy and the context for the preferred three bin system. Jacqueline Upton (facilitator) facilitated the questions and discussion sessions focussing on a number of key

questions to encourage participation. Full details of the information session can be found in the table in section 3.6. Key questions discussed included;

- Do you agree that Lake Macquarie is faced with a very real issue regarding waste management and the time for action is now?
- Do you understand that regardless of what future actions we take, the cost of managing waste will increase?
- What do you think about sorting your waste at home?
- Is the quality of compost that is produced an issue for you?
- What are your main concerns with the three bin system?
- Do you agree that the three bin system is the better option for Lake Macquarie for the long-term, and why?

Key results: general consensus agreed that there is a waste management issue in Lake Macquarie and the time to act is now. There were many questions and issues raised about the implementation of the three bin system.

Public debate: The Great Waste Debate

A community debate was held on 1 December 2010 at Lake Macquarie Performing Arts Centre to engage and encourage discussion with a variety of age groups on the Draft Waste Strategy. Local schools and members of community groups (Community Advisory Group and Lake Macquarie Youth Advisory Committee) were brought together to form the debating teams to debate the advantages and disadvantages of the three bin system as outlined in the Draft Waste Strategy. The debate topic was "That a three bin system is the best option for Lake Macquarie". An independent external adjudicator adjudicated the debate and approximately 40 residents and local media were in attendance. Full details of the event can be found in section 3.6.

Key results: local youth and community engaged in discussions on the Draft Waste Strategy and media interest was generated with stories reported in the *Newcastle Herald* and *Lakes Mail*.

Online Forum: Have Your Say Lake Mac- Future of Waste

An online discussion forum was set-up to engage the online community in discussions on the development of the Waste Strategy Project and to provide an alternative forum for participation for those that could not attend workshops. The forum posted a number of topics for participants to express their views and encourage discussion. The topics were similar to the community workshop focus questions that sought the public's awareness and likes and dislikes of LMCC's current waste services. As the project developed, topics became more focused on the two and three bin systems and potential implementation issues. Robust discussions were posted between participants, topics included; environmental issues with the two and three bin system; hygiene and odour concerns with the organics bin in the three bin system; costs of each system; willingness to sort waste at home for the three bin system; and ideas on the best way to communicate changes in waste services to the public. The online forum ran from 16 August to 1 November 2010.

Key results: 209 registered users participated in the forum with 5, 483 site visits.

Community Advisory Group

Three workshops were held with the Community Advisory Group over the course of the consultation. In general, the workshop topics reflected that of the broader community workshops with presentations delivered on the background of the Waste Strategy Project, the drivers for the project, a quadruple bottom line analysis weighting, the 10 suitable waste processing technologies and the two preferred waste processing technologies. At each of the sessions there was robust discussion on the advantages and disadvantages of the various solutions for Lake Macquarie with some members becoming so involved as to conduct their own neighbourly surveys on the two and three bin systems.

Key results: a well-informed and engaged group of residents providing considered feedback on the Draft Waste Strategy and proactive residents discussing Lake Macquarie's waste issues within their surrounding neighbourhood.

Lake Macquarie Youth Advisory Council

Two workshops were held with the Lake Macquarie Youth Advisory Council where a presentation was delivered with open discussion and questions. The youth group were engaged in the topic and expressed diverse views on the importance of the environment and what they thought of the impacts would be of either the two or three bin system within their own households.

Key results: a representative group of local youth informed and engaged with Lake Macquarie's waste issues and likely solutions.

Shopping Centre Visits- Mergence of Waste Awareness Campaign

Throughout the exhibition period of the Draft Waste Strategy, 15 shopping centre visits were conducted across the city to merge the Waste Awareness Campaign messages with the Draft Waste Strategy. Stalls were set-up at the city's major shopping centres to highlight the link between Lake Macquarie's waste issues and the solution Council is proposing in the Draft Waste Strategy. The visits were to also encourage feedback from the community via submissions. The stalls were manned by one LMCC staff and two staff from the GHD (Waste Awareness Campaign Project Manager).

Key results: the key result for this consultation activity was the vast amount of residents reached through direct conversation. This format encouraged engaged one on one discussions with residents and enabled Council staff to link waste issues with the Draft Waste Strategy which then gave the resident an opportunity to make an informed submission. Approximately 1700 residents were reached.

3.4 Consultation Communication and Media

A communication and consultation plan was developed to support the Waste Strategy Development Project by providing a framework for communicating and consulting with stakeholders. Whilst the community consultation and Waste Awareness Campaign were managed separately internally, they ran concurrently based on the following objectives:

- To deliver relevant information on waste minimisation and management.
- To involve stakeholders in the process of developing long-term solutions for the management of waste in Lake Macquarie.
- To ensure an understanding and well-informed community are able to participate in decision-making around waste strategy options.

The main purpose of running the Waste Awareness Campaign and the consultation program in tandem was to prepare and equip the community to be aware of the waste issues Council faces. It was designed to ensure that at the time of consultation, the community would be relatively informed about Lake Macquarie's waste issues. The Waste Awareness Campaign formally launched on 19 September 2010 and included extensive television, print and online informative advertisements. The campaign's key messages were designed to be simplified versions of the critical drivers for the Waste Strategy Project and were summarised as the following:

1. Waste costs are going up
2. Our tip is nearly full
3. What's all the interest about waste?
4. ARRR- Avoid, Reduce, Reuse, Recycle

In addition to the Waste Awareness Campaign which featured over 500 television commercials from mid September to December 2010 (details in Appendix 1), there were separate media and communication plans developed for each of the consultation rounds. These plans were developed to ensure the public and staff received reasonable notice of the upcoming workshops and feedback opportunities. Each plan detailed an internal and external communication schedule which entailed media releases for events, print and online advertisements in local and regional papers, news stories in internal publications, radio commercials and notices on Councils website and the two additional waste strategy websites (Waste Awareness: www.ARRR.com.au and Community Consultation: www.haveyoursaylakemac.com.au). Additionally, Draft Waste Strategy displays were set up at all

city libraries for the duration of the exhibition period. Full details of the advertising and communication efforts for the community consultation and Waste Awareness Campaign can be found in Appendix 1.

Advertisements of community workshops and the Draft Waste Strategy exhibition appeared multiple times in each of the following media:

- *Newcastle Herald*
- *Lakes Mail*
- *The Post*
- *The Star*
- KOFM Radio
- NXFM Radio
- www.lakemac.com.au
- www.haveyoursaylakemac.com.au
- www.ARRR.com.au

A reasonable amount of media interest was generated through media releases and direct conversations between Council’s Public Relations Officer and local journalists. Approximately 40 news stories about Council’s activities, plans for changes to waste services and community responses were reported in the local and regional papers from July to late December 2010. Approximately two interviews were conducted by ABC Radio with Director City Strategy and the Mayor on the advantages and disadvantages of the LMCC Draft Waste Strategy. Clippings of media stories relating to the Waste Strategy Project can be found in Appendix 2.

3.5 Integration of Consultation with Waste Awareness Campaign

As the project reached a more defined direction with Council’s adoption of the Draft Waste Strategy, there was an opportunity to merge the Waste Awareness Campaign with community consultation for the Draft Waste Strategy public exhibition. A series of shopping centre visits were scheduled for November and December across the city. To indicate to the community the relationship between the waste issues Lake Macquarie is faced with and the Draft Waste Strategy, these shopping centre visits were used to inform the community of Council’s intended solution with the three bin system and to seek feedback. The shopping centre displays were manned by either the LMCC Waste Strategy Officer or Waste Awareness Officer and at least two other staff from the Waste Awareness Project managed by GHD.

The reception at the shopping centres was significant and mostly positive with approximately 1700 people engaging in discussions. Many people had existing awareness of waste issues either through TV commercials or through news stories or workshops. There were also comments regarding the Draft Waste Strategy posted on the campaign’s icon, Arthur the Pirate’s social media site, Twitter, with a total of 16 posts directly relating to either consultation activities or the Draft Waste Strategy. Twitter posts included links to the online discussion forum website, promotional statements about the community workshops across the city, the mobile exhibition shopping centre visits and the Draft Waste Strategy exhibition. A full list of twitter postings can be found in Appendix 2.

3.6 Consultation Process

This table outlines each of the 53 consultation activities conducted with community and staff to seek feedback on the development of the waste strategy.

Date	Group	Location	Format	Approximate Number of Participants
15 Jun	Waste Operations (drivers)	Council Depot	-Information Presentation -Group Discussion	20

21 Jul	Community Advisory Group	Council Chambers	-Information Presentation -Group Discussion	13
30 Jul	Project Interest Group	Council Chambers	- Group discussions -Questions and Answers	21
5 Aug	Waste Advisory Committee	Council Chambers	- Group discussions -Questions and Answers	10
11 Aug	Lake Macquarie Youth Advisory Council	Council Chambers	-Directed questions -Information presentation -Group discussion -Group activity	11
16 Aug	Have Your Say on the Future of Waste	Internet	Online discussion forum, new topics posted every 2 weeks.	209
16 Aug	Charlestown Community Workshop	Charlestown Bowling Club	-Directed questions -Information presentation -Group discussion -Group activity	12
17 Aug	General Staff	Council Chambers	-Information Presentation -Group Discussion	35
18 Aug	Swansea Community Workshop	Swansea Centre	-Directed questions -Information presentation -Group discussion -Group activity	6
18 Aug	Community Advisory Group	Council Chambers	-Directed questions -Information Presentation -Group discussion -Group activity	15
19 Aug	Waste Operations (drivers and bulk waste)	Council Depot	-Information Presentation -Group Discussion	26
19 Aug	Waste Operations (parks and gardens)	Council Depot	-Information Presentation -Group Discussion	6
19 Aug	Waste Operations (Awaba Landfill staff)	Awaba Landfill	-Information Presentation -Group Discussion	9
19 Aug	Morisset Community Workshop	Morisset Country Club	-Directed questions -Information presentation -Group discussion	3

			-Group activity	
20 Aug	General Staff	Council Depot	-Information Presentation -Group Discussion	3
26 Aug	Waste Advisory Committee	Council Chambers	Information Presentation Group discussion	9
15 Sep	Waste Operations (driver and bulk waste)	Council Depot	-Information Presentation -Group Discussion	9
15 Sep	Waste Operations (parks and gardens)	Council Depot	-Information Presentation -Group Discussion	6
15 Sep	Waste Operations (Awaba Landfill staff)	Awaba Landfill	-Information Presentation -Group Discussion	9
20 Sep	Speers Point Community Workshop	Council Chambers	-Information Presentation -Group discussion and feedback table -preference vote	36
20 Sep	Charlestown Community Workshop	Charlestown Bowling Club	-Information Presentation -Group discussion and feedback table -preference vote	30
21 Sep	Morisset Community Workshop	Morisset Country Club	-Information Presentation -Group discussion and feedback table -preference vote	32
21 Sep	Swansea Community Workshop	Swansea RSL	-Information Presentation -Group discussion and feedback table -preference vote	18
22 Sep	NSW Department of Housing	Council Chambers	One on one discussion and written submission received 6 Oct 2010	1
23 Sep	Waste Advisory Committee Meeting	Council Chambers	-information presentation -group discussion	9
15 Oct	Project Interest Group	Council Chambers	-project update -group discussion	20
20 Oct	Briefing to Waste Operations Staff	Council Depot	-Information presentation -group discussion	12

			-preference vote	
20 Oct	Community Advisory Group	Council Chambers	-Information Presentation -Group discussion and feedback table -preference vote	12
21 Oct	Case Management Team	Council Chambers	-Information Presentation -Group discussion and feedback table -preference vote	22
28 Oct	Staff Focus Forums	Council Chambers	-Information Presentation -Group discussion and feedback table -preference vote	22
28 Oct	Staff Focus Forums	Council Depot	-Information Presentation -Group discussion and feedback table -preference vote	19
3 Nov	Lake Macquarie Youth Advisory Council	Council Chambers	-Information Presentation -Group discussion and feedback table -preference vote	8
5 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Charlestown Shopping Centre	-face to face discussions -Summary documents & submission forms on offer	300
15 Nov-24 Dec	Draft Waste Strategy Exhibition	Lake Macquarie LGA	-Draft Waste Strategy Summary 2010 -Submission forms	248
18 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Morisset Woolworths	-face to face discussions -Summary documents & submission forms on offer	200
23 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Mt Hutton (Lake Macquarie Fair)	-face to face discussions -Summary documents & submission forms on offer	90
23 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Swansea Woolworths	-face to face discussions -Summary documents & submission forms on offer	100

24 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Warners Bay Homemaker Centre	-face to face discussions -Summary documents & submission forms on offer	<20
24 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Morisset Square Shopping Centre	-face to face discussions -Summary documents & submission forms on offer	70
25 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Belmont Citi Centre	-face to face discussions -Summary documents & submission forms on offer	80
30 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Edgeworth Town Mall	-face to face discussions -Summary documents & submission forms on offer	90
30 Nov	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Stocklands Glendale	-face to face discussions -Summary documents & submission forms on offer	60
1 Dec	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Toronto Town Square	-face to face discussions -Summary documents & submission forms on offer	70
1 Dec	The Great Waste Debate (CAG, LMYAC, St Mary's Gateshead, Belmont High, Morisset High)	Lake Macquarie Performing Arts Centre	Formal debate	40
1 Dec	Warners Bay Information Session	Lake Macquarie Performing Arts Centre	-Information presentation -group discussion	17
1 Dec	Kahibah Information Session	Kahibah Bowling Club	-Information presentation -group discussion	8
2 Dec	Morisset Information Session	Morisset Country Club	-Information presentation -group discussion	15
2 Dec	Swansea Information Sessions	Swansea Centre	-Information presentation -group discussion	7

17 Dec	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Edgeworth Town Mall	-face to face discussions -Summary documents & submission forms on offer	90
20 Dec	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Swansea Woolworths	-face to face discussions -Summary documents & submission forms on offer	90
20 Dec	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Belmont Citi Centre	-face to face discussions -Summary documents & submission forms on offer	80
22 Dec	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Mount Hutton Lake Macquarie Fair	-face to face discussions -Summary documents & submission forms on offer	300
22 Dec	Integrated Waste Awareness Campaign and Draft Waste Strategy Exhibition	Stocklands Glendale	-face to face discussions -Summary documents & submission forms on offer	110

3.7 Post Exhibition Engagement Activities

Community engagement and consultation is an important and ongoing task within the Waste Strategy Project. Consultation and engagement with stakeholders will continue to ensure the community and staff are informed and kept up to date on issues that affect them. A new communication and education program will be developed once a complete Waste Strategy has been developed and adopted by Council. This is anticipated to happen in the first half of 2011. Further community interaction is planned with the following events.

Date	Group	Location	Format	Approximate Number of Participants
18 Jan 2011	Morisset Senior Citizens	Morisset Masonic Lodge	-Information presentation -group discussion	50
26 Jan 2011	Australia Day	Speers Point Park, Australia Day Festival	Information and Awareness Stall	250
10 Feb 2011	Waste Advisory Committee	Council Chambers	-Information presentation -group discussion	NA
24 Feb 2011	Project Interest Group	Council Chambers	-Information presentation -group discussion	NA
2 Apr 2011	Fernleigh Track	TBC	Information and Awareness Stall	NA

4. CONSULTATION FINDINGS AND ANALYSIS

4.1 Submission Findings

The majority of submissions received (158 of 248) were in support of the Draft Waste Strategy mainly citing the environmental benefits (compost quality) of a three bin system. A small number of submissions indicated that the community engagement and self-responsibility aspect of sorting waste at home with the three bin system were their reasons for supporting the Draft Waste Strategy. A minority of submissions suggested that the green bulk waste collection service cease at the introduction of the three bin system. Whilst some submissions indicated they would prefer the size of bins decrease, other submissions indicated they support the three bin system conditional on bin sizes remaining the same. A detailed analysis of each submission can be found in Appendix 3.

The most prominent comments in support of the three bin system were:

- Satisfaction and support for Council in taking an environmentally sustainable direction with waste management.
- Submissions indicated the community likes the high quality and contaminant free compost with the three bin system and the community involvement in taking responsibility for sorting their own waste.
- Submissions indicated that the benefit of the three bin system was having additional space to dispose of their green waste as they generate a sizeable amount on their property and have difficulty disposing of it.
- Submissions indicated that some residents were unable to home compost or had been unsuccessful in their attempts to home compost or could not use all the compost generated, and so the three bin system allowed them to participate in this practice.
- It is the cheaper of the two preferred options.

A number of submissions preferring the two bin system expressed views that indicated the resident was not aware of the inevitable increase of waste costs and they were also unaware that the three bin system was the cheaper of the available options. Surprisingly, only three submissions specifically indicated that nappies or medical refuse left in the non-recoverable waste bin for a fortnight were a concern for them with the three bin system (submissions 64, 59, 101). Additionally, very few submissions showed concerns over odour and hygiene issued associated with the three bin system. The most common comments against the three bin system were:

- Residents have no use for a third bin as they do not generate enough waste.
- Residents home compost and see no need for an organics bin. Many suggested Council introduce a user pays system as an incentive and reward for people that home compost.
- Residents have no room to store the third bin (most of these submission were from residents identified as living in multi-unit dwellings).
- A small number of submissions suggested the general public are too apathetic and lazy to use a three bin system properly.

Unique Comments

There were a few submissions that did not select either the two or three bin options available and made unique comments:

- Three submissions suggested Council embark on a city-wide home composting program instead of the three bin system (submission 28, 124, 146).
- One submission request Council do not act for five years from a risk management and cost perspective to see what developments happen in waste management technologies (submission 17).
- One submission request Council takes more of an advocacy role in reducing the State Government waste charges and other waste related issues (submission 24).

- A submission requested Council investigate a United States waste management system called WastAway as it appears to be a cheaper option than what Council has proposed (submission 31).
- A submission suggested that the third bin for organics should be an optional service, available to residents as a phone in request (submission 80).

Comments were received which addressed a range of other issues. In particular, there were recurring comments on the need to increase waste education for effective recycling. Requests were also received for the recycling service to be increased from weekly to fortnightly collections. Another recurring comment was the suggestion for Council to play more of an advocacy role in waste issues such as capping the State waste levy and waste avoidance strategies.

4.2 Submission Analysis

Whilst a common reason for residents favouring the two bin system was because they already home compost, there was a substantial number of submissions in support of the three bin system that also home compost.

A significant number of submissions preferring the two bin system expressed views that indicated the resident was unaware of the inevitable rise in costs for waste disposal and also that the three bin system is the cheaper option of the two.

- Out of 248 submissions, 158 residents selected the three bin system over the two bin system, of which 18 residents currently home compost.
- 24 submissions that either selected the two bin option or stated they do not want the 3 bin system indicated they already home compost and hence a three bin system is of no use to them.
- A total of 16 submission indicated that a user pays system would be their ideal system for managing waste.
- 16 of the 55 submissions that did not support the 3 bin system displayed views that indicated the resident was not aware of the inevitability of increasing waste costs.
- Submissions did not require demographic information to be supplied, however, a small number of submissions volunteered information on dwelling type. Seventeen submissions self-identified their dwelling type as a multi-unit dwelling, high density style housing or cluster (villa) style housing. The majority of these submissions selected the two bin system as their preference, with only three submissions selecting the three bin system with suggestions for a smaller amount of organic bins to be provided to the multi-unit complexes.

This table outlines the most frequent views and statistics found in submissions.

Comment	Total	Submission No.
Submission selected 3 bin system	158	
Submission selected 2 bin system	55	
Submissions that request Council consider a user pays system for managing waste collection services	16	15, 24, 60, 80, 82, 83, 126, 128, 204, 219, 235, 239, 240, 241, 242, 245,
Submissions that select 3 bin system and home compost	18	19, 61, 72, 98, 110, 132, 135, 142, 150, 151, 155, 166, 176, 186, 195, 214, 241, 249.
Submissions that select 2 bin system and home compost	24	2, 18, 20, 29, 35, 58, 64, 65, 66, 69, 90, 116, 124, 126, 128, 129, 130, 136, 141, 168, 182, 210, 237, 243.
Submissions in support of 2 bin system that held views reflecting a lack of awareness of external factors driving the increase in waste costs	16	18, 20, 32, 56, 58, 82, 102, 105, 115, 116, 124, 141, 153, 235, 237, 247
Multi Unit Dweller, High Density Housing or Villa/Cluster style Housing.	17	12, 21, 22, 23, 34, 36, 40, 53, 57, 140, 147, 166, 180, 196, 213, 231, 238,
Portion of submissions identified as multi unit dwellers that selected 2 bin system	14 of 17	12, 21, 22, 23, 34, 36, 40, 57, 140, 180, 196, 213, 231, 238,
Multi unit dweller selected 3 bin or raised issues about implementation of 3 bin system	3 of 17	53, 147, 166

4.3 Waste Services Community Survey November 2010 Findings

A community survey of 1000 residents was conducted to assist with informing Council of resident's attitudes towards the Draft Waste strategy. The survey was conducted by Micromex Research over the week commencing 10 November 2010. The full report can be found in Appendix 4.

The findings state that there is strong community preference for the 3 bin system. Sixty nine percent of respondents stated that they believed it would be the best option for their household. The prime drivers for the preference for the three bin system were essentially improved green waste management and the environmental benefits. In the raw data provided for why respondents chose the three bin system, the overwhelming majority of responses were the environmental benefits. Nineteen percent of residents preferred the 2 bin system primarily because they felt that the current system of waste collection already met their needs and requirements and a further 9% of respondents indicated they would be satisfied with either system.

Preference skews

Residents aged 35-54 had significantly higher levels of preference for a three bin system, compared to residents aged 55 and over. Similarly, residents living in a free standing house on a standard sized block were significantly more likely to prefer a three bin system than those living in multi-unit complexes or semi-detached housing. Interestingly, 50% of the people living in multi-unit complexes stated they would prefer the three bin system.

Comments for why a respondent preferred 3 bin system

“Have been waiting for Council to do this for years”

“Don't mind separating into different bins”

“It makes more sense to separate at the source”

“If we can save money and get a better product by doing it ourselves at home, we should”

“Cheaper and more environmentally friendly”

4.4 Department of Housing Submission

In an effort to ascertain potential issues with the implementation of three bin system in high needs and multi-unit complexes, Council sought a submission from the NSW Department of Housing. Housing NSW stated it is committed to supporting sustainable waste management and recycling that would assist in reducing greenhouse emissions and promote the use of recyclable material. Therefore, Housing NSW has no objections to either the three or two bin system. Their concern is for multi-unit complexes and the capacity of existing garbage bays to house further bins. Housing NSW request Council liaise with them in order to achieve a mutually acceptable number of bins for their multi-unit complexes.

4.5 Sustainability Department Submission

The Sustainability Department support the three bin system primarily due to the opportunity it provides to make the link between consumption and waste generation at the household level and the high quality compost produced by the three bin system. The full submission can be found in Appendix 5.

4.6 Waste, Environment and Rangers – Operations Group Staff Submission

The Operations Group staff support the two bin system. Their reasons are based on the risk associated with community change management and improper use of an additional organics bin resulting in contamination of input. Additionally, presentation and collections issues associated with an additional bin and the logistical and administrative issues in the delivery of the service. The full submission can be found in Appendix 6.

4.7 Information Session Comments

Four community Information Sessions were conducted at the beginning of December as a part of the Draft Waste Strategy exhibition. At these sessions, a presentation outlined in detail the two and three bin systems with open discussion following. At each session the general consensus from participants was that they understood that landfill capacity is a serious issue for Lake Macquarie and the sense of urgency to implement a solution was recognised. The questions and concerns raised at each of the sessions were generally about the implementation of the proposed waste strategy.

The main concerns about the Draft Waste Strategy at these sessions were:

- Concern about lack of awareness within the community of waste issues and waste avoidance.
- Health issues: hygiene concerns were raised about odour and potential insect activity from the organics bin; concern about disposable nappies sitting in the general waste for up to a fortnight.
- Education issues: at all sessions encouragement for broader waste education and awareness was expressed.
- Dwelling type: there were a number of issues raised on the impact the additional bin may have on multi-unit dwellings, these included:

- Storage requirements for an additional bin for each unit.
- The option for smaller sized bins.
- Is there an option to have a larger single bin for a multi unit complex?
- Negotiating on street parking with bin collection on narrow streets and high density housing.
- The issue of large waste vs. small waste contributors.
- Compost: concerns raised about the regulations on compost quality and subsequent limitations on use of compost, general consensus that the market for low-grade compost is not guaranteed, therefore the creation of premium grade compost would be preferable.
- Costs: participants expressed a need for clarification about the actual cost to the ratepayer, and what these costs included. The costs included in the Draft Waste Strategy Summary document were not clear enough for individual households.
- Processing: many questions about the location, maintenance costs and management of the proposed waste processing plant.
- Recycling: at each of the sessions there was discussion about recycling in general and Council's responsibility to encourage and educate the community to recycle more and properly.

5. CONCLUSION AND RECOMMENDATIONS

In conclusion, over the course of community consultation and research it has been found there is overwhelming community support for introduction of the three bin system. The majority of views expressed support an organics bin service and encourage Council to take an environmentally and long term sustainable direction with waste management. In response to feedback suggesting Council implement a user pay system to reward those that home compost or are small waste contributors, it is noted that only 1.5% of households present bins with no organic waste (source: EC Sustainable Bin Audit July 2010 and October 2010). Basing a waste management system that needs to divert organic waste from landfill on 1.5% of the population represents many difficulties.

This report concludes that Council act on the majority community support and encouragement to introduce a sustainable solution for Lake Macquarie's waste issues with implementing the phased three bin system.

This report makes the following recommendations:

1. In recognising the community support and encouragement, Council adopt a three bin source separated organics system with a phased introduction.
2. Integrate the Waste Awareness Campaign with a waste strategy education and communication program to prepare and inform the community of upcoming changes to their waste services and to continue explaining why these changes are occurring.
3. Investigate and advise on solutions for implementing an organics waste collection service for multi unit complexes and high density housing involving key stakeholders.
4. Council examine the supply of biodegradable bags to residents for Phase 2 of the three bin system.

APPENDICES

APPENDIX 1: TABLE OF ADVERTISING AND PROMOTION FOR CONSULTATION PROGRAM

Community Consultation

Table of Newspaper Advertisements for Community Consultation Workshops, Draft Waste Strategy Exhibition and Great Waste Debate

Round 1	Dates Advertisements Appeared
Newcastle Herald	31/07, 07/08
The Star	04/08, 11/08
The Post	04/08, 11/08
Lakes Mail	05/08, 12/08
Round 2	
Newcastle Herald	04/09, 11/09, 18/09
The Star	08/09, 15/09
The Post	08/09, 15/09
Lakes Mail	09/09, 16/09
Round 3	
Newcastle Herald	13/11, 20/11, 27/11, 04/12, 11/12, 18/12
The Star	17/11, 24/11, 08/12, 15/12
The Post	17/11, 24/11, 08/12, 15/12
Lakes Mail	18/11, 25/11, 09/12, 16/12
Debate Advertisement	
Newcastle Herald	27/11
The Star	24/11
The Post	24/11
Lakes Mail	25/11

Table of Radio Advertisements for Community Consultation Workshops, Draft Waste Strategy Exhibition and Great Waste Debate

*Radio advertisements were used in the second and third round of consultation to increase attendance numbers at workshops. After the low number of participants in the first round of consultation, advertisements and promotion of consultation opportunities were expanded to radio for wider exposure of events.

Round 2	Dates Advertisements Appeared	Frequency of Advertisements	Length of Advertisement	Total Number of Advertisements
KOFM	13 Sept – 20 Sept	Approx 3 daily	30 seconds	35
NXFM	13 Sept – 20 Sept	Approx 3 daily	30 seconds	35
Round 3				
KOFM	15 Nov – 28 Nov	Approx 4 daily	30 seconds	72
NXFM	15 Nov – 28 Nov	Approx 4 daily	30 seconds	72

Waste Awareness Campaign

Table of Television Commercial Schedule

Television Station	Dates Broadcast	Approx. Frequency of Broadcast
Channel 10	19 Sept – 11 Dec 2010	Daily
ONE HD	3 Oct – 14 Oct 2010	Daily
ELEVEN	11 Jan 2011 - ongoing	Daily
Total: Over 500 commercials broadcast		

Table of Newspaper Advertisement Schedule

Newspaper	Dates Advertisements Appeared	Frequency of Advertisements	Size of Advertisement
The Post	22 Sept – 2 Dec 2010	weekly	Half page
Lakes Mail	22 Sept – 2 Dec 2010	weekly	Half page
Total: 22 half page advertisements			

APPENDIX 2: CLIPPINGS OF WASTE RELATED NEWS STORIES

Full articles located in TRIM D02013650

NH: Newcastle Herald

ST: The Star

LM: Lakes Mail

P: Post

DT: Daily Telegraph

1. 01/07/10 'The waste of five years- plans approved to expand tip site and divert waste to other areas' LM, p5
2. 26/07/10 'An organic approach' NH, p3
3. 27/07/10 'Lake to set own target for reducing landfill' NH, p3
4. 04/08/10 'Landfill reduction' ST
5. 05/08/10 'Plan to divert food waste from landfill' LM, p16
6. 18/08/10 'Waste workshops at the lake' ST, p4
7. 14/09/10 Opinion and Analysis cartoon, NH, p11
8. 14/09/10 'Lake's homes may get 3 bins', NH, p1
9. 14/09/10 'Three-bin option in waste plan', NH, p6
10. 15/09/10 'Lake waste options' Post, p7
11. 16/09/10 'Waste strategy' LM, p6
12. 20/09/10 'Pirates hit lake to talk garrbage' NH, p14
13. 18/10/10 'Arrr, they be listenin', NH p60
14. 27/10/10 'Waste forum' ST, p4
15. 30/10/10 'Green waste to grow bins- \$1.8bn plan to improve recycling' NH, p2
16. 30/10/10 Opinion and Analysis cartoon, NH, p18
17. 02/11/10 'Three-bin strategy for Lake households' NH
18. 02/11/10 'Opening lid on trash talk' NH, p2
19. 03/11/10 'Bin plan a risk- community to comment' NH, p 23
20. 04/11/10 '3 bins good, now for bulk waste' NH, p10
21. 04/11/10 'Have your say on \$1.8 billion waste bins' LM, p5
22. 10/11/10 'Waste proposal- bin or no bin' ST, p3
23. 10/11/10 'Lake residents need to have say on 'bin or no bin' ST
24. 11/11/10 'Vote on trips to tips- council waste study takes in Perth' NH, p7
25. 11/11/10 Comment by Allan Searnt, Charlestown NH, p10
26. 11/11/10 'Rubbish revival- Landfill nears capacity' NH, p21
27. 12/11/10 'Better way to cut waste at the lake' comment by Jack Jones, Glendale NH, p10

28. 13/11/10 'Waste proposal to go on display' NH, p28
29. 17/11/10 'Great waste debate-Rubbish Solutions' St, p5
30. 18/11/10 'Third bin to boost household recycling' LM, p3
31. 24/11/10 'Newcastle considers three bins- Another bin may reduce local landfill' ST, p3
32. 24/11/10 'Three bin debate set' ST, p4
33. 25/11/10 'Waste scheme' LM, p14
34. 02/12/10 'Third bin debated- Lake waste in spotlight' NH, p19
35. 01/12/10 'Great waste debate' ST, p4
36. 09/12/10 'Three bins create a stink, student says' LM, p16
37. 17/12/10 'A waste of money- Council approach a threat to business' NH, p25
38. 15/12/10 'Residents keep quiet on the three-bin system' ST, p5
39. 22/12/10 'Green begins at home', NH, p10
40. 23/12/10 'Ban on bin food scraps' DT

Twitter Posts from Arthur's Twitter Page

Posts that relate specifically to the Consultation and Draft Waste Strategy are in **BOLD**.

1. ARRR Merry Christmas Lake Macquarie [Saturday, 25 December 2010 5:29:48 PM](#) via [Twitter for iPhone](#)
2. **ARRR Lake Macquarie, tomorrow's the last day to have your say on the 3 bins proposal for better waste management** <http://bit.ly/hkdQK9> **Thursday, 23 December 2010 2:06:13 PM** via web
3. **ARRR Lake Macquarie residents – final chance to have your say on the proposed 3 bin plan. Visit www.arrr.com.au** [Friday, 17 December 2010 12:55:19 PM](#) via web
4. **LMCC Draft Waste Strategy is on exhibition til Fri 24 Dec for residents to have their say on how many bins they'd like** <http://fwd4.me/rzX> **Wednesday, 8 December 2010 4:09:20 PM** via web
5. **Find out more about Lake Macquarie City Council's Draft Waste Strategy tomorrow at Stockland Glendale** <http://fwd4.me/q9c> **Monday, 29 November 2010 12:43:12 PM** via web
6. **ARRR come and see the Mobile Waste Exhibition – Edgeworth Town Mall tomorrow between 12.30 and 1.30pm** <http://fwd4.me/q9b> **Monday, 29 November 2010 12:42:05 PM** via web
7. **3 bins for Lake Macquarie residents – final chance to have your say** <http://fwd4.me/q9a> **Monday, 29 November 2010 12:39:17 PM** via web
8. Arrr it's National Recycling Week [Monday, 8 November 2010 6:59:52 AM](#) via [Twitter for iPhone](#)
9. ARRR Its National Recycling Week 8-14 November. Here's some tips on how you can do your bit <http://fwd4.me/ltU> **Thursday, 4 November 2010 3:43:51 PM** via web
10. arrr Lake Macquarie did you know that our tip is almost full? <http://fwd4.me/gCm> **Monday, 11 October 2010 12:11:26 PM** via web
11. Bad wrap: the high cost of convenience <http://fwd4.me/h45> - C'mon, say ARRR www.arrr.com.au **Saturday, 2 October 2010 10:52:54 AM** via web
12. @JillHallMP have they been talking about waste management? ARRR [Thursday, 30 September 2010 1:46:07 PM](#) via web [in reply to JillHallMP](#)
13. ARRR I just got the [#newtwitter](#) on me ship. That'll annoy landlubbers like @mediahunter & @the_git who don't have it yet. ARRR [Wednesday, 29 September 2010 1:54:40 PM](#) via web
14. @tbutson i though you'd be excited matey. ARRR!! [Wednesday, 29 September 2010 1:53:18 PM](#) via web [in reply to tbutson](#)
15. ARRR You might be surprised how many things around the home can be recycled once you've finished using them <http://fwd4.me/gQB> **Tuesday, 28 September 2010 12:21:50 PM** via web
16. ARRR Lake Macquarie, did you know that our tip at Awaba is almost full? <http://fwd4.me/gCm> **Monday, 27 September 2010 10:25:28 AM** via web

17. @HVGardens ARRR, ahoy there mateys [Friday, 24 September 2010 1:56:08 PM](#) via web [in reply to HVGardens](#)
18. We're looking at possible Waste Options for Lake Macquarie – Two Bins or Three? <http://fwd4.me/fk7> [Friday, 24 September 2010 12:50:56 PM](#) via web
19. @1233newcastle Bobby mcferrin [Friday, 24 September 2010 5:51:12 AM](#) via [Twitter for iPhone](#) [in reply to 1233newcastle](#)
20. Did Wil just say ARRR on #gruen ? [Wednesday, 22 September 2010 9:23:49 PM](#) via [Twitter for iPhone](#)
21. Possible Waste Options for Lake Macquarie – Two Bins or Three? <http://bit.ly/b9eadw> say ARRR! [5:00 PM Sep 22nd, 2010](#) via [TweetMeme](#)
22. @crazy_sage ARRR thank ye for the retweet. All this tweetin' is makin' me parrot jealous! [3:18 PM Sep 22nd, 2010](#) via web
23. Couldn't make it to our waste management workshops? You can still go to the online forum to have your say. www.arry.com.au [3:12 PM Sep 22nd, 2010](#) via web
24. Waste Awareness Community Workshop 7-9pm tonight at Swansea Centre RSVP 49210333 [8:58 PM Sep 21st, 2010](#) via [Twitter for iPhone](#)
25. Another Waste Awareness Community Workshop 7-9pm tonight at Swansea Centre RSVP 49210333 [11:43 AM Sep 21st, 2010](#) via web
26. Waste Awareness Community Workshop today at 10am – come along and have your say Morisset Country Club RSVP 4921 0333 [11:42 AM Sep 21st, 2010](#) via web
27. ARRR there be a Pirate special on Mythbusters tonight. [10:00 PM Sep 20th, 2010](#) via [Twitter for iPad](#)
28. If you can't make it to one of the community workshops, go to our online forum to have your say <http://fwd4.me/eyM> [5:13 PM Sep 20th, 2010](#) via web
29. More Community Workshops tomorrow: 10am – 12noon at Morisset Country Club & 7pm – 9pm at Swansea Centre RSVP 4921 0333 [5:12 PM Sep 20th, 2010](#) via web
30. Ahoy!! There's a Waste Management Community Workshop at Charlestown Bowling Club tonight 7pm – 9pm. All welcome. RSVP 4921 0333 [5:10 PM Sep 20th, 2010](#) via web
31. ARRR why don't we try to Re-Use things before throwing them out? Like this <http://fwd4.me/eWR> [5:07 PM Sep 20th, 2010](#) via web
32. lakemac RT @Crispin_BtT: RT @BangtheTable: ... Lake Macquarie waste management strategy <http://haveyoursaylakemac.com.au/#gov20#gov2au#yam> [12:31 PM Sep 20th, 2010](#) via [TweetDeck](#)
Retweeted by [say_arry](#) and 2 others
33. @coledude avast, everyday be Talk Like A Pirate Day fer me and me crew of seadogs and lusty wenches. ARRR [12:14 PM Sep 20th, 2010](#) via web [in reply to coledude](#)
34. ARRR, the words been getting out. The Herald interviewed me y'day for Talk Like a Pirate Day and some other garbage <http://fwd4.me/ewu> [11:04 AM Sep 20th, 2010](#) via web
35. @realbalance maybe you arrr [10:29 PM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to realbalance](#)
36. ARRR my ad was just on TEN during Jnr Masterchef. Cmon everybody, say ARRR. [9:47 PM Sep 19th, 2010](#) via [Twitter for iPhone](#)
37. ARRR I was just on NBN News for Talk Like A Pirate Day explaining we all need to Avoid Reduce Re-Use & Recycle. [8:09 PM Sep 19th, 2010](#) via [Twitter for iPhone](#)
38. @KKeneally what about celebrating Talk Like A Pirate Day? ARRR [4:31 PM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to KKeneally](#)
39. @mulph Arrr! see ye out at the Lake. Not much wind for me frigate today so I hope I'm not late. [11:16 AM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to mulph](#)
40. ARRR here's a bit of background on why Lake Macquarie needs to Say ARRR <http://bit.ly/coOluf> [11:15 AM Sep 19th, 2010](#) via [Twitter for iPhone](#)
41. @franksting ARRR hoist those scurvy dogs to the top of the yardarm. [11:10 AM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to franksting](#)
42. @mpesce ARRR be safe out there. Those Swedes are famous Nordic pirates. [11:09 AM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to mpesce](#)
43. Ahoy there Newcastle media. I'll be at Warners Bay rotunda 11am for a wee press conference about why we all need to say #ARRR. [10:02 AM Sep 19th, 2010](#) via [Twitter for iPhone](#)
44. @frogpondsrock arrr I undystand. [10:00 AM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to frogpondsrock](#)
45. @frogpondsrock it'd be in the ships galley. #arry [9:44 AM Sep 19th, 2010](#) via [Twitter for iPhone](#) [in reply to frogpondsrock](#)

46. @DaithiRua It's pirate Pirates like me and that pretender Jonny Depp. [#ARRR 9:44 AM Sep 19th, 2010](#) via [Twitter for iPhone in reply to DaithiRua](#)
47. [DaithiRua](#) International talk like a pirate day ... Is that Somali pirates or Software pirates? [#arr 9:11 AM Sep 19th, 2010](#) via web Retweeted by [say arrr](#) and 1 other
48. Ahoy there landlubbers, it's me favourite day of the year: International Talk Like A Pirate Day. [8:51 AM Sep 19th, 2010](#) via [Twitter for iPhone](#)
49. @karalee ARRR that be bad. Ye gonna need a pirate hat like mine on Sunday. Aye. [8:02 PM Sep 17th, 2010](#) via [Twitter for iPhone in reply to karalee](#)
50. @drdrdr09 nye, she goes all day long. ARRR [7:43 PM Sep 17th, 2010](#) via [Twitter for iPhone in reply to drdrdr09](#)
51. There be BIG swell of Lake Macquarie this weekend. Keep ye ships in the Lake and relax. ARRR [6:02 PM Sep 17th, 2010](#) via web
52. Sunday 19 September is International Talk Like a Pirate Day. Say ARRR! [5:59 PM Sep 17th, 2010](#) via web
53. @lakemac ARRR I can't wait til Sunday....the whole world'll be talking like me. [5:59 PM Sep 17th, 2010](#) via web [in reply to lakemac](#)
54. [ChasLicc](#) Stunned that the wider media hasn't chased up the big scoop headlining the Newcastle Herald site today [http://bit.ly/bK29eM 3:15 PM Sep 16th, 2010](#) via web Retweeted by [say arrr](#) and 26 others
55. @3beanespresso ARRR I would go diving for crabs. Wanna use my ketch? [4:53 PM Sep 16th, 2010](#) via web [in reply to 3beanespresso](#)
56. Here's some simple solutions for you to REDUCE your household waste [http://fwd4.me/eGK](#) ARRR [1:07 PM Sep 16th, 2010](#) via web
57. @CafeBooksNcle ARRR me matey, thanks for ye tweet [1:05 PM Sep 16th, 2010](#) via web [in reply to CafeBooksNcle](#)
58. @ermelbow hey, that's my line. Good luck in ye olde exam anyway. [6:53 PM Sep 15th, 2010](#) via web [in reply to ermelbow](#)
59. @ermelbow if yer fail ye can always become a Pirate [6:46 PM Sep 15th, 2010](#) via web [in reply to ermelbow](#)
60. Dusting off me best lingo fer International Talk Like a Pirate Day this Sunday. ARRR [6:45 PM Sep 15th, 2010](#) via web
61. @drdrdr09 Aye, Sir...I'm a very happy Pirate, and me parrot ain't half jolly too. [4:25 PM Sep 15th, 2010](#) via web [in reply to drdrdr09](#)
62. @The_Git do you mean ARRR? [2:09 PM Sep 15th, 2010](#) via web [in reply to The_Git](#)
63. Here's a few tips on how you can AVOID creating waste [http://fwd4.me/e5M](#) ARRR [12:52 PM Sep 15th, 2010](#) via web
64. ARRR This can't be good ---Federal Police in nation-wide piracy crackdown: [http://bit.ly/c3TfX6 12:02 PM Sep 15th, 2010](#) via web
65. @StephenRinaldo ARRR thanks for ye olde tweet matey [8:55 PM Sep 14th, 2010](#) via [Twitter for iPhone in reply to StephenRinaldo](#)
66. @crazy_sage we want everyone to get on board and say ARRR so retweets are welcome (although me parrot might get jealous) [5:44 PM Sep 14th, 2010](#) via web [in reply to crazy_sage](#)
67. @crazy_sage thx, its not easy talking rubbish all the time ARRR [5:32 PM Sep 14th, 2010](#) via web [in reply to crazy_sage](#)
68. [Wil Anderson](#) Breaking news: John Singleton to replace MTR presenters with pirates and rename the station MT-Arrr... [5:21 PM Sep 14th, 2010](#) via web Retweeted by [say arrr](#) and 12 others
69. @Wil_Anderson thats a great idea, why didn't aye think of that ARRR [5:29 PM Sep 14th, 2010](#) via web [in reply to Wil Anderson](#)
70. @crazy_sage aye, it could be.... [5:14 PM Sep 14th, 2010](#) via web [in reply to crazy_sage](#)
71. @josh_m that explains the burrry pictures! ARRR [5:13 PM Sep 14th, 2010](#) via web [in reply to josh_m](#)
72. @aaronkearneyaus I hear ye been doing some good work on the electric wireless, not talking any rubbish like me. ARRR [4:42 PM Sep 14th, 2010](#) via web
73. @josh_m ARRR reckon I saw ya out near the Lake last week with a very long lens on ya tripod, aye? [4:39 PM Sep 14th, 2010](#) via web
74. ARRR hello there @siobhan_curran with a name like that me thinks you can also talk like a pirate. [4:35 PM Sep 14th, 2010](#) via web
75. Looks like they're talking rubbish in Newcastle herald today. Bins that is. ARRR [http://fwd4.me/dvT 3:32 PM Sep 14th, 2010](#) via web

76. ARRR did you know that this Sunday is Talk Like a Pirate Day?!! My favourite day of the yearrrrr. [12:33 PM Sep 14th, 2010](#) via web
77. aye....chooks are great..I was hanging out with on last week ARRR [5:44 PM Sep 13th, 2010](#) via web
78. Ahoy me hearties, I've got me a website. www.arry.com.au - Avoid, Reduce, Re-Use, Recycle [5:35 PM Sep 13th, 2010](#) via web
79. [@johnvacy](#) I agree. There ARRR so many things you can compost rather than throwing them in your bin (cc [@paulbevo](#)) [5:33 PM Sep 13th, 2010](#) via web [in reply to johnvacy](#)
80. Here's where I was saying ARRR y'day - Living Smart Festival <http://fwd4.me/dZK> [5:31 PM Sep 13th, 2010](#) via web
81. It was great seeing so many of you landlubbers at Speers Point yesterday. ARRR [4:43 PM Sep 13th, 2010](#) via [Twitter for iPhone](#)
82. [@N21LA](#) ARRR thx for the hearty RT [7:27 PM Sep 12th, 2010](#) via [Twitter for iPhone in reply to N21LA](#)
83. [@JohnLCoombes](#) ARRR that's a fine photo of a nice ship [7:27 PM Sep 12th, 2010](#) via [Twitter for iPhone in reply to JohnLCoombes](#)
84. The Sustainable Living Festival is on today at Speers Point Park, Lake Macquarie. Come down and say ARRR. [8:42 AM Sep 12th, 2010](#) via [Twitter for iPhone](#)
85. Come and meet me tomorrow at the Sustainable Living Festival at Speers Point. ARRR [9:05 PM Sep 11th, 2010](#) via [Twitter for iPhone](#)
86. [@The_Git](#) they have service? That must be a new thing. [11:58 AM Sep 11th, 2010](#) via [Twitter for iPhone in reply to The_Git](#)
87. Hi there, me name be Arrrthur and aye like ta Say ARRR [6:14 PM Sep 10th, 2010](#) via [Twitter for iPhone](#)
88. ARRR [3:32 PM Sep 10th, 2010](#) via web

APPENDIX 3: TABLE OF KEY ISSUES IN SUBMISSIONS

Key Issue No.	Key Issue Description
1	selects 3 bin system
2	selects 2 bin system
3	Home composter
4	Does not want 3 bin system/ has no need for 3 bin system
5	View that households will not have enough green waste to fulfil a regular organic waste bin service
6	Request for Council to increase recycling and waste education across community
7	Likes high quality compost and environmental benefits of 3 bin system
8	Likes households having responsibility to sort waste
9	Concern with the capacity to store 3 bins (inside house and outside and also crowded roads with on street parking)
10	Concerned with elderly population having difficulty managing extra bin
11	View that the public are too apathetic/lazy and challenge to educate public too difficult to have effective 3 bin system
12	View displays misunderstanding about inevitable increasing waste taxes
13	User pays
14	Suggests smaller sized bins
15	Does not want bin size change
16	Question - why Council does not roll-out city wide home composting program

TABLE: SUBMISSION ANALYSIS

Submission No.	Key Issues	Characteristics of Party	TRIM Reference
1	1		D01977591
2	3, 4		D01977556
3	1, 5 Suggests Council provide MUDs with one large bin for green waste		D01977358
4	1		D01977289
5	1 suggests cancellation of green bulk waste collection service at the implementation of 3 bin service.	Single occupant household with large yard	D01977270
6	2, 11 – Would like occasional bulk green waste service	3 person household with large garden	D01976939
7	1	Business owner	D01976381
8	2, 11, 9		D01976372
9	1		D01976367
10	1, 7, 8		D01976364
11	1		D01976354
12	2, 4, 9	MUD	D01976348
13	2		D01976347
14	1		D01976320
15	1, 13, 14		D01976313
16	1		D01976295
17	“Recommends LMCC maintain current 2 bin system from a risk management and cost perspective for at least another 5 years”		D01976282
18	2, 3, 4, 12		D01976259
19	1, 3, 14, support for 3 bin system condition on the reduction of size of bins		D01976255
20	2, 3, 4, 12		D01976255

21	2, 9	MUD, Department of Housing Units, one couple	D01976190
22	4, 9	MUD, Department of Housing Units	D01976190
23	2, 4, 9	MUD	D01975820
24	13 – Many comments about Council should lobby State gov't to reduce waste tax and other waste related issues		D01975553
25	4, 11 - wants to know full costing per household of the 3 bin system		D01975472
26	1	Property owner	D01975347
27	1		D01975161
28	3, 6, 14, 16 Suggests Council reduce rubbish collection to fortnightly to reinforce the need to avoid waste. Enquiry into what happens with compost from waste service?	Household of 5 (2 adults and 3 school children). Have 2 recycling bins.	D01975148
29	2, 3, 6, 14		D01974063
30	2- Uses private contractor to mow lawn and dispose of green waste	Elderly pensioner lives alone and uses contractor to mow lawn who takes green waste away as part of the service.	D01973293
31	2, 9, 11, – Resident suggest WastAway System	Senior Civil Engineer	D01973285
32	2, 9, 12		D01972787
33	1		D01972490
34	4	MUD, “not	D01972473

		young and have mobility problems”	
35	3, 4, 9		D01972395
36	4, 5, Uses private contractor to mow lawn and remove green waste. Party interested in having a minimal number of organic bins for community use	MUD, single occupant	D01972099
37	2		D01972099
38	1, 15		D01971521
39	Suggestion that a 3 rd bin is not sufficient for the amount of waste people generate on 2 acre blocks in Eraring		D01971380
40	2	MUD	D01971238
41	1, Concern that if bins remain same size, it may encourage people to fill them, and increase their waste volume		D01971181
42	1, 7, 15, - Would like occasional bulk green waste collection service		D01971099
43	1, 7		D01970473
44	1, Suggests Council drop gate fees at tip to encourage legal disposal of waste		D01970465
45	1		D01970245
46	1		D01972012
47	2, Not prepared to put food scraps in paper in the bin. Will put them in ice cream containers and then in bin for health reasons. If 3 bins comes in, party will use 2 bins for green	Single occupant	D01970206

	waste and 1 bin for recycling		
48	1, 8		D01970198
49	1		D01970194
50	1, 7		D01970189
51	1		D01970124
52	1 View to use mine sites as landfill, push for greater recycling of waste- such as ethanol from waste for fuel		D01969072
53	9, 10	MUD	D01968317
54	1, issues about phase 2 with colostomy bags and nappies left for 2 weeks. Would prefer only phase 1 from DWS		D01968314
55	1		D01968308
56	2, 12		D01967477
57	2, 4, 9	Lives in villa, in physical pain with back and knees	D01967230
58	3, 4, 5, 12		D01967008
59	Concern about nappies		D01966020
60	13, 3		D01964408
61	1, 3, 7, encourages enforcing penalties on those that do not comply with proper bin usage. Enquiry into what happens with compost from waste service?	86 year olds	D01963209
62	1		D01962920
63	1		D01962904
64	3, 4		D01962895
65	3, 4		D01962883
66	3, 4		D01962864

67	1		D01962851
68	1		D01962825
69	3, 4		D01962801
70	1, 8		D01962786
71	1		D01962776
72	1, 3		D01962751
73	1		D01962738
74	1		D01962715
75	Bin is currently full of organics, having 3 rd bin would minimise use of general waste bin		D01962689
76	1		D01962670
77	1, 7, 8		D01962649
78	1	Owns 3 blocks in LM	D01962636
79	1		D01962086
80	2, 5, 13 Comment that green waste service should be a phone in request service		D01961601
81	1, suggestion that MUDs have opt out of service option or user pays		D01961370
82	4, 6, 12, 13,		D01961192
83	2, 13, 15	Dyalisis patient, has excess recycling waste due to medical needs	D01961048
84	1		D01960696
85	1		D01959479
86	4, 16, wants recycling collected weekly instead of green bin and ability to dump green waste for free at landfill		D01959475
87	1	2 occupant	D01959472

		household	
88	1		D01959208
89	1, 7, 15 (9 for MUDs)	Family of 6	D01958775
90	2, 3 advocates for community gardens		D018958673
91	1, 8		D01958651
92	1		D018958537
93	1		D01958534
94	1, 7		D01958528
95	1		D01958521
96	1		D01958508
97	1, 7		D01958497
98	1, 3, 7 Council needs to consider if/how green waste will be managed, as well as future options for bulk waste pickups. Suggests Council offer reduce waste fees to residents that home compost/worm farm if 3 bin system does not get accepted.	Family of 4	D01958495
99	1		D01958397
100	1		D01958391
101	1 will bio bags be supplied? Nappy concern- Council should ensure ALL types of odorous waste are picked up weekly	Has toddler	D01957865
102	4, 9, 10, 12	Retired resident	D01957861
103	1		D01957701
104	1, 9 for MUDs and suggests 16	Large garden	D01957699
105	2, 12 – has garden contractor	Single pensioner on corner block	D01957615

106	2, 4 has garden contractor	Aged pensioners	D01957610
107	1, 7 - has tried home composting but unsuccessful.		D01957323
108	1, 7		D01957270
109	1, 14		D01957200
110	1, 3 Concern about effectiveness/quality of biodegradable bags- has had one for 2 years in compost bin. Suggests woven or hemp paper bin liners.		D01956915
111	1		D01956185
112	1		D01955577
113	1 likes the efficiency of 3 bin system		D01955110
114	1, 7		D01955107
115	2, 12	Elderly, single occupant	D01955104
116	2, 3, 12	pensioner	D01955100
117	1, 8 and community involvement aspect		D01955097
118	2, 9, doesn't believe quality of compost in 3 bin system is realistic		D01955095
119	2, 4		D01955090
120	1		D01955080
121	1	Live on quarter acre block	D0195576
122	1- view that many people home compost		D01955072
123	1 wants recycling service increased as well	Household of 4	D01955027
124	2, 3, 12- wants city-wide home composting, wants further consultation		D01954576

	with community and exact costings of 3 bin system transparently conveyed to community before decision made.		
125	2, offer rebate for residents to buy compost bin		D01953547
126	2, 3, 13		D01953307
127	1		D01953224
128	2, 3, 13	Lives on acreage	D01953077
129	2, 3		D01953077
130	2, 3		D01953071
131	1		D01952906
132	1, 3, 7		D01952902
133	1, 14, stop green waste pick up service at introduction of 3 bin strategy		D01952454
134	1		D01951907
135	1, 3, 1, 8, 9 for people on smaller properties		D01951903
136	4, 3		D01951540
137	2	Elderly pensioner	D01951484
138	2	Household of five	D01951403
139	1		D01951392
140	2, 9	MUD	D01951354
141	2, 3, 12		D01950946
142	1, 3		D01950008
143	1		D01949572
144	Wants better e waste recycling		D01949195
145	1		D01949054
146	4, views states that there is sufficient space in LM to create		D01945174

	a new landfill and suggests city-wide home composting provided by Council		
147	1, 7, suggest that smaller amount of third bins be supplied to MUDs	MUD	D01978545
148	1		D01978691
149	<p>4, 1. A recycle pickup weekly would be more appropriate.</p> <p>2. A monthly kerbside pickup of greenwaste, as this is more reasonable to our council area which is notoriously green</p> <p>3. More emphasis on composting kitchen/garden waste</p> <p>4. Leave any unnecessary packaging with the retailers who insist on overpackaging everything and create more incentives/promotion to businesses to recycle and to use more environmentally agreeable products. These packaging products already exist, insist or encourage their use</p>	Single home owner	D01978830
150	1, 3, 7		D01979416
151	1, 3, 7		D01979421
152	1		D01979425
153	2, 12		D01979648
154	Wants Council to lobby federal and State government to cap waste taxes and introduce packaging		D01980314

	tax to producers		
155	1, 3		D01980431
156	1, 8		D01980491
157	2, 9		D01980689
158	1		D01980718
159	1		D01980719
160	1, 15		D01981863
161	1, 7		D01981870
162	1		D01981873
163	4		D01981878
164	1, 9		D01981880
165	1 – suggests Council subsidises people to home compost		D01981883
166	1-3 bins is an environmentally sensible and cheaper option. However, storing an additional bin is a huge consideration for me. I generate minimal waste as a sole occupier of a townhouse in a high density housing area. I ask that Council work with the community to address storage issues of a 3 bin system.	Town house, high density area, single occupant	D01981888
167	2		D01981893
168	2, 3		D01981896
169	1		D01981898
170	1, 7		D01982108
171	1		D01982134
172	1		D01982145
173	1		D01982180
174	1, produces much green waste but does not have ability to compost at home	Single occupant, elderly pensioner	D01982205

175	1		D01982472
176	1, 3 -also President of Toronto & Districts Garden club - 76 members, and I know they all compost but often have too much green waste	Blue dot customer,	D01982529
177	1		D01982537
178	1		D01982545
179	1, 11 – concern over odour issues		D01983287
180	2, 9- likes idea of 3 bin system but does not capacity to store 3 bins, suggests residents have choice of either option.	Cluster style housing	D01983293
181	1, likes the community engagement aspect of 3 bin system		D01984299
182	2, 3, 10		D01984340
183	1	Large block	D01984343
184	1		D01984344
185	1		D01984346
186	1, 3		D01984401
187	1- produces much green waste		D01984408
188	1		D01984560
189			D01984655
190	1		D01984777
191	1, 7, 8		D01984836
192	1		D01984846
193	1, 14		D01984850
194	1, 14		D01984858
195	1, 3, only selects 3 bin option for cost reasons.	Aged pensioner	D01984866
196	2	Small house cluster style area of housing	D01984922

197	1, 13 for residents in MUDs. Request for more e-waste drop off points		D01985003
198	13 - Wants more options- 3 bins viable for large families but not for MUDs and small blocks		D01985057
199	1, 7		D01985136
200	1		D01985698
201	1		D01985971
202	1		D01985974
203	1		D01985978
204	2, 13 such as in Dunedin City NZ.		D01986160
205	1, 7, 8		D01986158
206	2		D01986298
207	2	Small block of land	D01986370
208	1		D01986480
209	2, 3		D01986400
210	2, 13		D01986462
211	1 request for Council to supply biodegradable bags		D01986800
212	1, 15		D01986805
213	2, does not produce enough waste	MUD, aged pensioner	D01986863
214	1, 3, 7		D01986887
215	1		D01986889
216	1		D01986893
217	1		D01986918
218	1, 7, suggests MUDs can share organic bin		D01988386
219	2, 13- disadvantages home composters		D01988387
220	1		D01988388
221	1, 6, 11		D01988390
222	1		D01988487

223	1		D01988494
224	1, 7		D01988496
225	1		D01988501
226	1		D01988504
227	1		D01988511
228	1		D01988513
229	1		D01988515
230	1, 7		D01988516
231	2, 9	MUD	D01988518
232	1		D01988519
233	1		D01988523
234	1		D01988525
235	2, 13, 12		D01988549
236	9		D01988656
237	2, 3, 12		D01988840
238	2- wants city-wide home composting supported by Council	MUD	D01988922
239	1, 6, 13		D01989354
240	1 conditional on 13		D01989362
241	1, 3, 13		D01989435 Relates to D01954921
242	6, 9, 13		D01989461
243	3, 4, 10	Two occupant house, elderly pensioner	D01989941
244	3, 13 - International research has shown that introduction of a cost factor influences community behaviour, significantly reducing landfill requirements.	Single occupant, pensioner	D01989278
245	2, 12		D01990354
246	1, 6 – comment on the need to target supermarkets and food producers on their use of non-		D01990427

	reusable plastic in packaging.		
247	1, 3, 6, 7, 8		D01992639
248	2	Elderly, villa complex	D01999515



Waste Services Community Survey

November 2010

Prepared for:



Prepared by:



ABN 14 003 179 440

10/1 Bounty Close Tuggerah, NSW 2259

Postal address: PO Box 5059, Chittaway Bay NSW 2261

Telephone: (02) 4352 2388 Fax: (02) 4352 2117

www.micromex.com.au

research@micromex.com.au

The information contained herein is believed to be reliable and accurate. However, no guarantee is given as to its accuracy and reliability, and no responsibility or liability for any information, opinions or commentary contained herein, or for any consequences of its use, will be accepted by Micromex Research, or by any person involved in the preparation of this report.

Table of Contents

Introduction

Background & Methodology	1
Sample Profile	2
Summary & Conclusion	3

Results

Waste Services	4
Demographic Information	11

Appendices

A – Question 5a – 3 Bin System	
B – Question 5a – 2 Bin System	
Questionnaire	

Lake Macquarie City Council is currently investigating the opportunity to implement a 3 bin waste collection service. To assist with informing Council of resident attitudes towards the new system Micromex Research was contracted to conduct a telephone survey of 1,000 residents.

As an introduction to the survey, residents were given background information on the proposed 3 bin system. The information provided is detailed below:

The next question relates to the weekly waste collection service Council provides. Before I ask the question, I will just give you some background.

Lake Macquarie's only tip at Awaba is almost full and Council is experiencing increasing waste costs outside its control. As a result Council has been investigating opportunities to more efficiently process household waste to reduce future cost increases and is specifically looking at introducing a 3 bin waste system.

With a 3 bin system, you would separate your garden and food waste into the third bin. The contents of the third bin would be processed to produce a high quality compost product. Because the waste is separated at your home, the cost of the 3 bin system is actually slightly cheaper than the alternative 2 bin system.

With a 2 bin system, the contents of your waste bin would be separated at a waste processing plant, with the garden and food waste further processed into a low quality compost product.

Put simply, the 3 bin system requires you to do more at home and it produces a contaminant free compost. The 2 bin system allows everyone to keep doing what they have always done but it costs a little more and produces a lower quality compost.

Questionnaire

Micromex Research, together with Lake Macquarie City Council prepared the questionnaire in November 2010.

A copy of the questionnaire is provided in the Appendix.

Data collection period

The survey was conducted by telephone. The survey was conducted from 4:30pm to 8:30pm over the week commencing 10th November 2010.

Sampling error

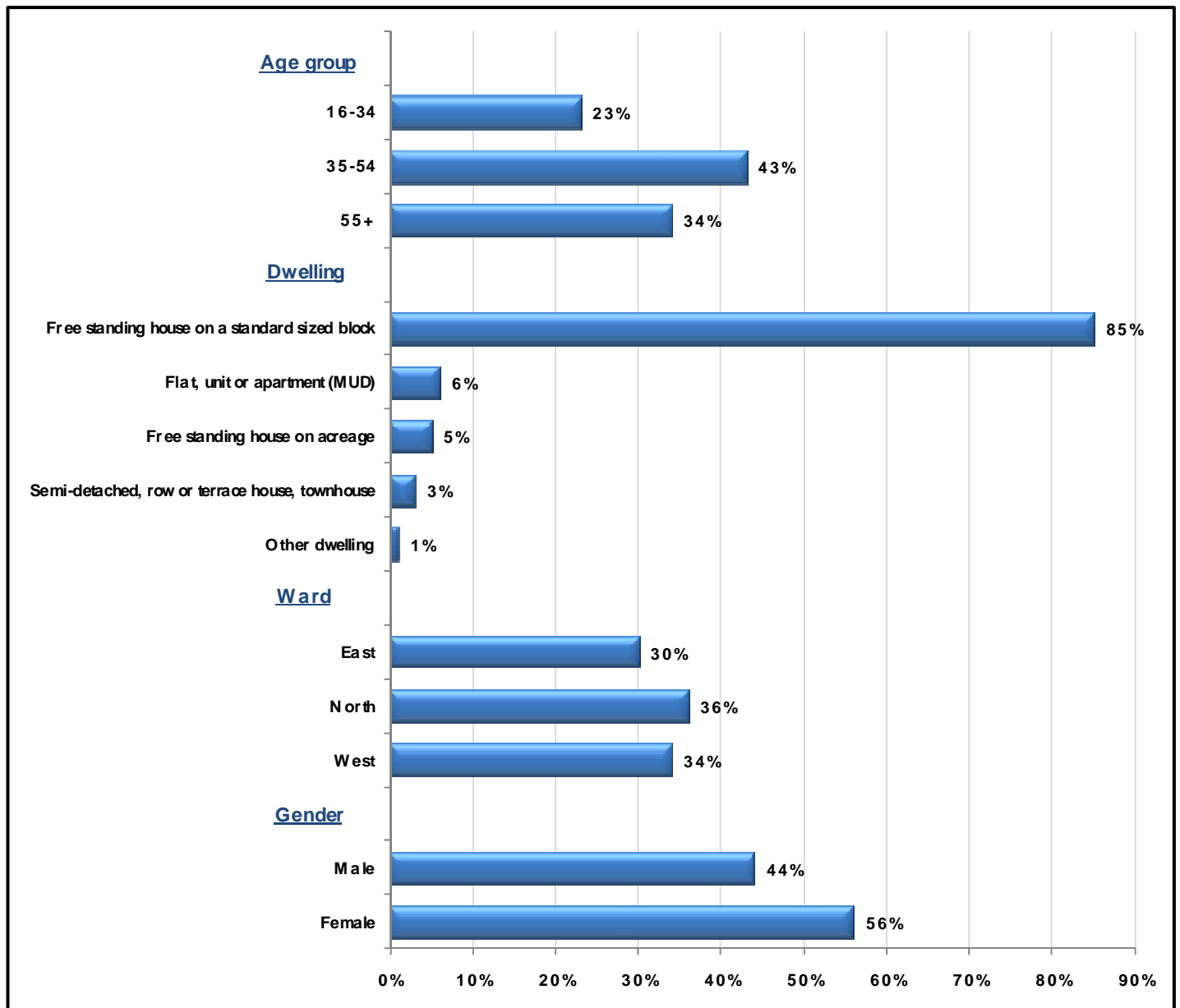
A sample size of 1,000 residents provides a sampling error of +/- 3.1 at 95% confidence.

Errors: Data in this publication is subject to sampling variability because it is based on information relating to a sample of residents rather than the total number. This difference (sampling error) may occur due to imperfections in reporting and errors made in processing the data. This may occur in any enumeration, whether it is a full count or sample.

Efforts have been made to reduce the non-sampling error by careful design of the questionnaire and detailed checking of completed questionnaires.

Sample Profile

The final achieved sample of n=1,000 robustly covers off all key demographic sub-groups. This allowed us to undertake some of the analysis at a subgroup level.



Summary & Conclusions

Summary

There is a strong community preference for the 3 bin system. 69% of respondents stated that they believed it would be the best option for their household.

The prime drivers of preference for the 3 bin system were essentially green waste management and the environment.

18% of residents preferred the 2 bin system, primarily because they felt that the current system of waste collection already met their needs and requirements.

55% of residents have no current methods of managing organic waste.

45% of residents have some methods of disposal/use of organic waste.

These were:

- A working compost for food scraps 41%
- A working worm farm 8%
- Chooks or domestic fowl 5%

Main barriers to composting of food scraps were:

- My living circumstances are not appropriate 43%
- I do not need or want to compost food scraps 22%

Conclusion

1. There is overwhelming resident support for the introduction of a 3 bin waste collection service.
2. To overcome barriers to composting LMCC needs to address the barrier of 'appropriateness' – by offering urban friendly composting education and/or solutions.



Results

Overview

There is a strong community preference for a 3 bin system. 69% of respondents stated that they believed it would be the best option for their household.

- 18% of residents preferred a 2 bin system
- 9% of residents would be satisfied with either system

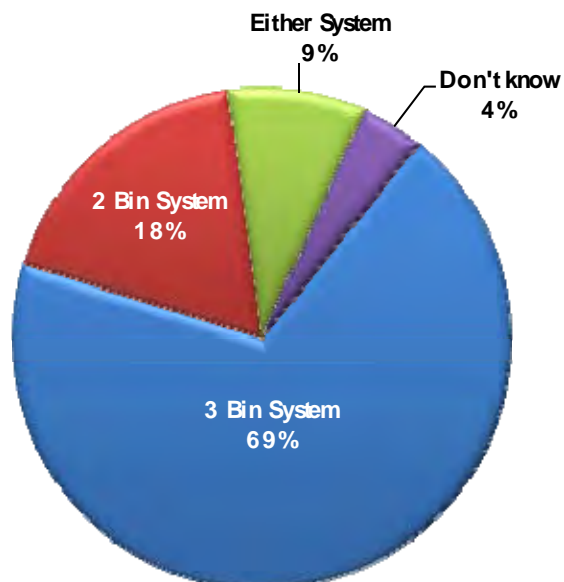
Preference – Skews

- Residents aged 35-54 had significantly higher levels of preference for a 3 bin system, compared to residents aged 55 and over
- Similarly, residents living in a free standing house on a standard sized block were significantly more likely to prefer a 3 bin system than those living in flats or semis

Q5a. *Whilst we have only given you limited information about the service alternatives, we would like to understand your perception of which service you think would be best for your household.*

Do you think you would prefer the:

Preferred Bin System



	Free standing house on acreage		Free standing house on a standard sized block		Semi-detached, townhouse, row or terrace house		Flat, unit or apartment (MUD)		Other dwelling	
	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %
3 bin system	33	65%	606	71%	16	51%	28	50%	7	56%
2 bin system	14	28%	145	17%	5	16%	14	26%	1	10%
Either system	1	1%	72	8%	7	23%	4	7%	2	20%
Don't know	3	5%	27	3%	3	10%	9	17%	2	15%
Total	51	100%	850	100%	32	100%	55	100%	12	100%

NB: All percentages are calculated to the nearest whole number and therefore the total may not exactly equal 100%.

Waste Services (Cont'd)

	16-34		35-54		55+	
	Count	Column %	Count	Column %	Count	Column %
3 bin system	161	70%	320	75%	208	61%
2 bin system	25	11%	68	16%	86	25%
Either system	35	15%	32	7%	20	6%
Don't know	9	4%	10	2%	25	7%
Total	230	100%	430	100%	340	100%

	East		North		West	
	Count	Column %	Count	Column %	Count	Column %
3 bin system	217	72%	246	68%	227	67%
2 bin system	42	14%	68	19%	70	20%
Either system	29	10%	27	8%	30	9%
Don't know	13	4%	18	5%	14	4%
Total	301	100%	359	100%	340	100%

	Male		Female		Overall	
	Count	Column %	Count	Column %	Count	Column %
3 bin system	300	68%	389	70%	689	69%
2 bin system	82	19%	97	17%	180	18%
Either system	32	7%	55	10%	87	9%
Don't know	28	6%	16	3%	44	4%
Total	443	100%	557	100%	1000	100%

NB: All percentages are calculated to the nearest whole number and therefore the total may not exactly equal 100%.

Waste Services (Cont'd)

Q5a. *Whilst we have only given you limited information about the service alternatives, we would like to understand your perception of which service you think would be best for your household.*

Do you think you would prefer the: (Cont'd)

Q5b. *May I ask why you prefer that system?*

Reason for preference - 3 Bin System

Residents who preferred the 3 bin system indicated that the prime drivers of preference were green waste management and the environment.

Specifically these were:

• Better for the environment	26%
• Better management of green waste	17%
• Better compost would be produced	11%
• More cost effective/Cheaper	11%
• We need the green bin as we have a lot of green waste	11%
• Good/Great idea, would love it to go ahead	7%
• Experienced with similar systems either at home or in other council areas	4%
• Less waste going into landfill/Awaba tip	4%
• More convenient way to recycle garden waste and food scraps	4%
• Easier system, both for Council and residents	4%
• Other	6%

NB: Respondents were able to give more than one answer and therefore the total may exceed 100%

Better for the environment

Better management of green waste

More cost effective/Cheaper

'We like to do as much as we can for the environment and it would be a great idea to reduce the waste'

'Much better way of disposing of green waste'

'The more we can manage our waste the better it is'

'If we can save money and get a better product by doing it ourselves at home, we should'

'Have been waiting for Council to do this for years'

'Brilliant idea but concerned about having three bins to take out as an elderly resident'

Waste Services (Cont'd)

Reason for preference - 2 Bin System

Residents who preferred the 2 bin system felt that the current system already suited their needs and requirements.

• Compost/already use our green waste	28%
• The current 2 bin system is sufficient/works well	22%
• Do not have use/need for the third bin	18%
• Lack of space for a third bin	8%
• No particular reason	2%
• Other	22%

Compost/already use our green waste

The current 2 bin system is sufficient/works well

Do not have use/need for the third bin

'Already compost at home'

'All our green waste and food scraps goes to our chickens, we wouldn't get any benefit from a 3rd bin'

2 bin system currently works well

'I'm satisfied with 2 bins and I don't want another bin to have to take out'

'Do not have much green waste and so would not use the third bin'

'We don't produce enough waste to warrant an extra bin'

'Not enough room for another bin'

Waste Services (Cont'd)

Overview

45% of residents have some methods of disposal/use of organic waste.

These were:

- A working compost for food scraps 41%
- A working worm farm 8%
- Chooks or other domestic fowl 5%

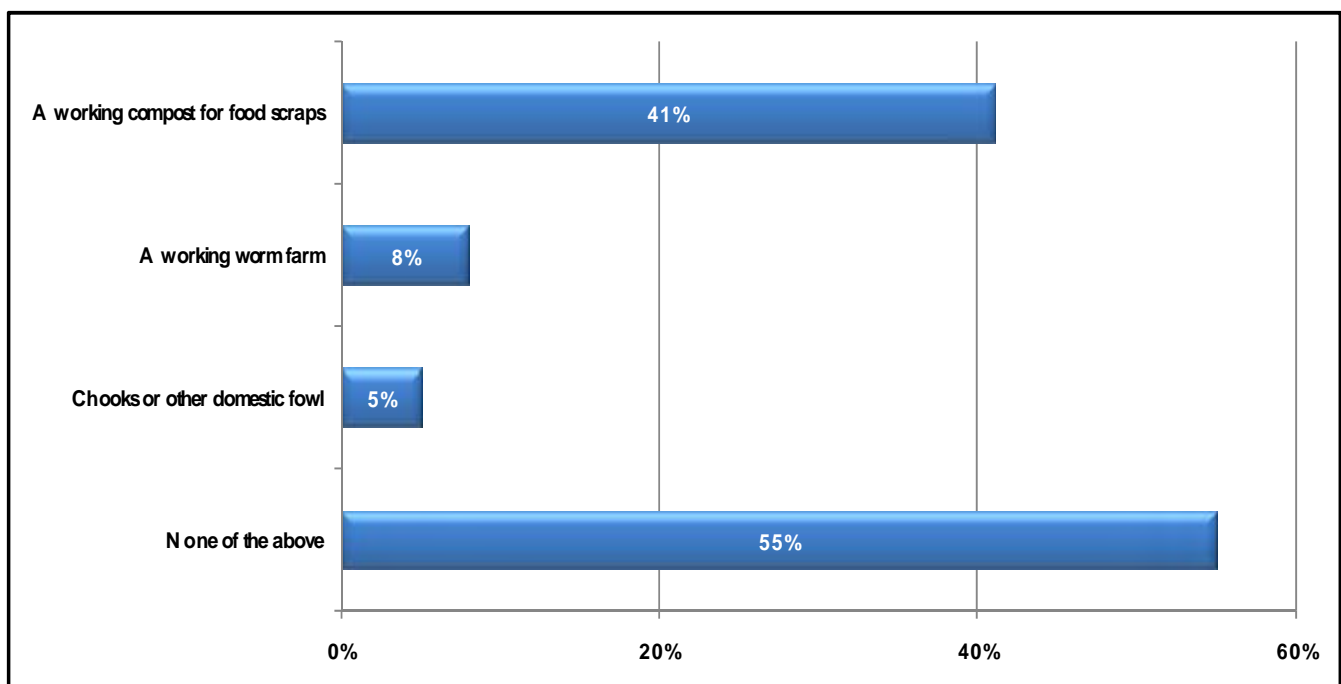
Residents who had a working compost for food scraps were significantly more likely to be:

- Living in a free standing house on acreage
- Aged 35-54 y/o
- Living in the West Ward

55% of residents have no current methods of managing organic waste.

Q6. Do you have any of the following items on your property?

Current Uses For Organic Waste



NB: Respondents were able to give more than one answer and therefore the total may exceed 100%

Waste Services (Cont'd)

	Free standing house on acreage		Free standing house on a standard sized block		Semi-detached, townhouse, row or terrace house		Flat, unit or apartment (MUD)		Other dwelling	
	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %
Chooks or other domestic fowl	10	19%	42	5%	0	0%	0	0%	0	0%
A working worm farm	11	22%	70	8%	1	2%	1	1%	1	5%
A working compost for food scraps	29	57%	365	43%	4	14%	11	20%	3	29%
None of the above	17	33%	456	54%	27	86%	44	79%	8	66%
Total	51	100%	850	100%	32	100%	55	100%	12	100%

	16-34		35-54		55+	
	Count	Column %	Count	Column %	Count	Column %
Chooks or other domestic fowl	14	6%	28	6%	10	3%
A working worm farm	18	8%	43	10%	22	6%
A working compost for food scraps	85	37%	194	45%	133	39%
None of the above	138	60%	218	51%	196	58%
Total	230	100%	430	100%	340	100%

	East		North		West	
	Count	Column %	Count	Column %	Count	Column %
Chooks or other domestic fowl	8	3%	23	6%	21	6%
A working worm farm	16	5%	28	8%	40	12%
A working compost for food scraps	110	37%	133	37%	169	50%
None of the above	181	60%	214	60%	158	46%
Total	301	100%	359	100%	340	100%

	Male		Female		Total	
	Count	Column %	Count	Column %	Count	Column %
Chooks or other domestic fowl	15	3%	36	6%	51	5%
A working worm farm	47	11%	37	7%	83	8%
A working compost for food scraps	202	46%	211	38%	412	41%
None of the above	231	52%	320	58%	552	55%
Total	443	100%	557	100%	1000	100%

NB: Respondents were able to give more than one answer and therefore the total may exceed 100%

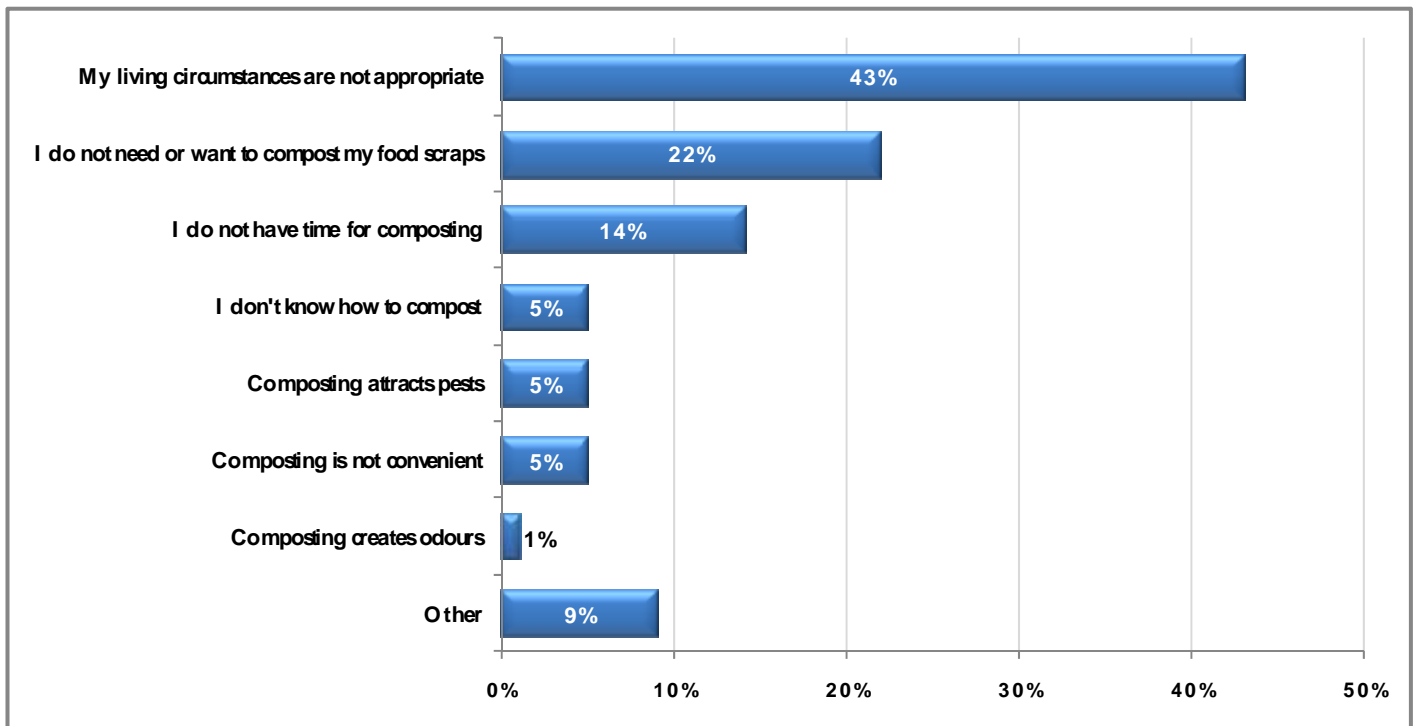
Waste Services (Cont'd)

Main barriers to composting of food scraps were:

- My living circumstances are not appropriate 43%
- I do not need or want to compost food scraps 22%
- I don't have time for composting 14%

Q7. Is there any specific reason why you do not compost food scraps? (Do not prompt)

Reasons For Not Currently Composting Food Scraps



	Count	Column %
My living circumstances are not appropriate	239	43%
I do not need or want to compost my food scraps	119	22%
I do not have time for composting	76	14%
Composting is not convenient	28	5%
Composting attracts pests	27	5%
I don't know how to compost	27	5%
Composting creates odours	8	1%
Other	47	9%
Total	549	100%

NB: Respondents were able to give more than one answer and therefore the total may exceed 100%

Other

• No reason	15
• Laziness	8
• Food scraps are given to our neighbours/friends as they have a use for them	6
• Food scraps are given to pets	5
• Not enough food waste to compost	5
• Cost of compost bins is too high	2
• Age	1
• Habit	1
• Have a dog who disturbs it	1
• Haven't got around to it but am interested	1
• We are getting a compost system soon	1
• We have an insinkerator	1

Demographic information

Q8. Which of the following best describes your dwelling?

	Count	Column %
Free standing house on a standard sized block	850	85%
Flat, unit or apartment (MUD)	55	6%
Free standing house on acreage	51	5%
Semi-detached, row or terrace house, townhouse	32	3%
Other dwelling	12	1%
Total	1000	100%

Q9. Please stop me when I read out your age group:

	Count	Column %
16-34	230	23%
35-54	430	43%
55+	340	34%
Total	1000	100%

Demographic information (Cont'd)

Q10. In which suburb do you live? (Cont'd)

	Count	Column %
North	359	36%
West	340	34%
East	301	30%
Total	1000	100%

Charlestown	57	Barnsley	13	Martinsville	5
Warners Bay	54	Wyee	13	Pelican	5
Cameron Park	39	Buttaba	13	Nords Wharf	5
Belmont	36	Arcadia Vale	13	Kilaben Bay	5
Belmont North	34	Whitebridge	12	Fishing Point	4
Toronto	33	West Wallsend	12	Killingworth	4
Valentine	29	Booragul	12	Argenton	4
Cooranbong	28	Floraville	10	Boolaroo	4
Edgeworth	28	Glendale	10	Wyee Point	4
Cardiff	27	Caves Beach	10	Marmong Point	4
Swansea	26	Tingira Heights	10	Dora Creek	3
Dudley	21	Holmesville	10	Balmoral	3
Blackalls Park	21	Windale	10	New Lambton Heights	3
Marks Point	21	Blacksmiths	9	Mandalong	2
Woodrising	18	Morisset	9	Balcolyn	2
Mount Hutton	17	Bonnells Bay	8	Awaba	2
Wangi Wangi	17	Adamstown Heights	8	Fassifern	2
Cardiff South	17	Highfields	8	Windermere Park	1
Fennell Bay	17	Bolton Point	8	Sunshine	1
Eleebana	16	Rankin Park	8	Croudace Bay	1
Redhead	16	Belmont South	7	Other	1
Rathmines	16	Kotara South	7	Wakefield	1
Kahibah	16	Hillsborough	6	Swansea Heads	1

Macquarie Hills	15	Teralba	6	Seahampton	1
Jewells	15	Carey Bay	6	Mirrabooka	1
Gateshead	15	Cardiff Heights	6	Eraring	1
Speers Point	14	Lakelands	6	Brightwaters	1
Coal Point	13	Garden Suburb	6		

Demographic information (Cont'd)

Q11. Gender by voice.

	Count	Column %
Male	443	44%
Female	557	56%
Total	1000	100%



Appendix

Part Four – Waste Services

The next question relates to the weekly waste collection service Council provides. Before I ask the question, I will just give you some background.

Lake Macquarie's only tip at Awaba is almost full and Council is experiencing increasing waste costs outside its control. As a result Council has been investigating opportunities to more efficiently process household waste to reduce future cost increases and is specifically looking at introducing a 3 bin waste system.

With a 3 bin system, you would separate your garden and food waste into the third bin. The contents of the third bin would be processed to produce a high quality compost product. Because the waste is separated at your home, the cost of the 3 bin system is actually slightly cheaper than the alternative 2 bin system.

With a 2 bin system, the contents of your waste bin would be separated at a waste processing plant, with the garden and food waste further processed into a low quality compost product.

Put simply, the 3 bin system requires you to do more at home and it produces a contaminant free compost. The 2 bin system allows everyone to keep doing what they have always done but it costs a little more and produces a lower quality compost.

Q5a. Whilst we have only given you limited information about the service alternatives, we would like to understand your perception of which service you think would be best for your household.

Do you think you would prefer the:

- 3 bin system
- 2 bin system
- Either system
- Don't know

Q5b. May I ask why?

.....
.....

Q6. Do you have any of the following items on your property?

- Chooks or other domestic fowl (Go to Q8)
- A working worm farm (Go to Q8)
- A working compost for food scraps (Go to Q8)
- None of the above

Q7. Is there any specific reason why you do not compost food scraps? (Do not prompt)

- I don't know how to compost
- I do not have time for composting
- My living circumstances are not appropriate
- Composting attracts pests
- Composting is not convenient
- I do not need or want to compost my food scraps
- Composting creates odours
- Other (specify)

Part Five – Demographic information

Q8. Which of the following best describes your dwelling?

Free standing house on acreage

Free standing house on a standard sized block

Semi-detached, row or terrace house, townhouse

Flat, unit or apartment (MUD)

Other dwelling

Q9. Please stop me when I read out your age group:

16-34

35-54

55+

Q10. In which suburb do you live?

Q11. Gender by voice.

Male Female

APPENDIX 5: SUBMISSION FROM SUSTAINABILITY DEPARTMENT

Air, Land and Water Pollution

AWT and SSO options both provide similar benefits in terms of reduced air and water pollution, compared to business as usual landfill operations. Given that both AWT and SSO composting will be indoors, there will be minimal dust and odour issues. Compost maturation may be conducted outdoors under either option, with associated potential for odour issues. Outdoor windrows (SSO prior to the addition of food waste) will require dust suppression to minimise air pollution.

Both AWT and SSO are effective in reducing emissions of gaseous pollutants including methane, due to treatment in aerobic conditions and use of scrubbers to strip air-borne contaminants from vessel exhaust. SSO may result in less gaseous pollutants as the source material is relatively uncontaminated compared to AWT source material. Carbon emissions are specifically discussed under energy and water consumption.

Both systems provide opportunities to control leachate, due to in-vessel containment. Again, SSO is expected to generate leachate with low levels of contamination, compared to AWT, due to the higher quality source material.

A key distinguishing factor between the options is that there are lower risks associated with disposal of the compost product from an SSO system. Compost from AWT will be contaminated with heavy metals, plastics, and other chemical compounds. This will make it unsafe for general use, restricting its application to mine site rehabilitation, non-contact and broad acre agriculture, and plantation forestry. The AWT compost product may leave a significant land and water contamination legacy, which, if applied to land in Lake Macquarie City, may ultimately be transported to Lake Macquarie. The 3F General Exemption for AWT compost under the *Protection of the Environment (Waste) Regulation 2005* currently permits these applications until 30 June 2013. If future standards for AWT compost are tightened, there is a risk that Council will have difficulty finding markets for the product. However, demand for mine-site rehabilitation material in the Hunter Valley is substantial and any amendment to existing regulations is likely to continue to permit application of low-grade compost to these sites. Compost generated from SSO is suitable for general application including residential and public open space settings (Australian Standard 4454), and therefore would have a premium value, providing environmental benefit to depauperate soils and employment benefit to local citizens. The quality of SSO compost may be further improved through addition of other locally available soil conditioning agents, such as fly ash or seagrass wrack, to produce higher value compost for a range of markets. There is potential, however, for these higher market value end-uses to be compromised if there is inadequate source separation at the household level.

Energy and Water Consumption

No information is available about the energy and water requirements of the options. On-site water collection and reuse may be sufficient to meet demand from either option. Embodied energy in the construction of the AWT is likely to be significantly higher than that of the SSO. Energy use is likely to be marginally higher during operation of the AWT.

There will be no change in energy consumption associated with waste collection for AWT. There is predicted to be a 10% increase in energy consumption (and associated carbon pollution) from additional heavy vehicle movements to collect waste from a third bin for SSO. Although there will be a significant increase in truck movements at the individual household level for SSO (67% increase during the green-waste-only phase and 33% increase when the food waste stream is introduced and the residual bin service is reduced to fortnightly) there is no change in the total volume of waste transported to the processing

facility (and hence the number of truck trips required to transport it). The increased energy use arises from increased distances travelled to transport the same amount of waste.

While SSO is projected to have slightly higher carbon emissions overall (approximately 425,000 tonnes of CO₂-e compared to 450,000 tCO₂-e for AWT), future developments in heavy vehicle technology over the life of the system may result in lower SSO transport emissions.

SSO has the additional benefit of capacity to retrofit electricity generation through addition of a robust anaerobic digester. Retrofit of an anaerobic digester to the AWT is possible, but has proven technically difficult in Australian applications. The AWT could incorporate a thermal (energy from waste) process to recover electricity, for example through pyrolysis or incineration. Energy from waste technology provides superior greenhouse gas abatement, but is expensive and requires comprehensive pollution control (e.g. for heavy metals, dioxins). Without gas capture and reuse for electricity generation, both the SSO and AWT options are unlikely to be significantly better from a carbon pollution perspective than the business-as-usual waste to electricity operation at Awaba landfill.

Technology and Landfill Capacity Risk

The SSO system has a significantly lower technology risk profile than the AWT. The SSO technology has proven to be reliable under normal Australian operating conditions.

There is also a significant landfill capacity risk associated with the AWT system, as it has a longer lead-time, and greater potential for delay in commissioning. If delay is prolonged, Council's ability to provide waste disposal services within the City may be compromised due to exhaustion of capacity at Awaba landfill.

Community Engagement

Community consultation conducted as part of the Waste Strategy Project indicates that the community is generally ready to accept a third bin associated with the SSO system. Furthermore, the education and awareness campaigns associated with the introduction of a third bin can generate opportunities to make the link between consumption and waste generation at the household level. This opportunity is foregone when there is no change for the user of the waste system.

There is, however, potential for increased waste generation due to the increased household waste disposal capacity associated with a third bin. This capacity increase could be negated by provision of (optional) smaller residual and green bins.

It is unlikely that the performance of either option will be affected by organic diversion through home composting; however, under either option there is potential for home composters to be concerned about paying increased costs for processing of organics if they are not contributing organics to the waste stream.

Disposal of nappies will be a potentially contentious aspect of an SSO system in the fortnightly residual collection phase, due to odour and capacity issues. There are, however, proposals to develop fully biodegradable disposable nappies. At present, disposable nappies are available with only the tabs being persistent.

In Lake Macquarie City, bins are owned by individuals rather than Council. This presents a difficulty for implementation of the SSO system, as Council currently has no control over the colour of the residual bin. While it is relatively straight-forward to introduce a new (bright) green-lidded organics bin owned by Council, eventually it will be preferable for Council to own the residual bin in order to facilitate consistent colour-coding, education and

awareness, and provision of smaller bins. This transition will be complex and costly (although less costly than the alternative).

Preferred Option

Application of the precautionary principle clearly identifies SSO as the preferred option overall, as it delivers a high quality compost product that may be used to ameliorate soils within the local region without risk of future land and water contamination. SSO also provides opportunities to achieve improved decision-making at the household level in relation to waste and consumption that are foregone under the AWT option.

The AWT is projected to deliver marginally improved diversion of waste to landfill (although this benefit is within the margin of error of the analysis and may not be realised), and from the community perspective represents a business-as-usual waste disposal system. While maintaining a business-as-usual disposal system may be appealing, as it reduces operational issues to Council associated with introducing householders to a new waste system, an increase in household responsibility for consumption and waste is necessary if broader environmental sustainability objectives are to be achieved.

The two foregoing analyses further demonstrate how close the two options are in respect of their benefits, problems and level of support. Individual preference will be driven by personal values and it is not likely that Council will be able to present an option that represents the absolute best choice.

The next stage of this project, informed by Council's draft technology choice, should at least ensure Council has the maximum possibility of drawing a reaction from residents over the indicated choice. To facilitate feedback, the stage three consultation proposal includes;

Exhibition scheduled for Monday 15 November – Friday 24 December 2010

Six integrated consultation/awareness sessions at shopping centres scheduled over two week period of exhibition

'The Great Waste Debate' scheduled for 1 December 2010 (11am) to generate interest, participation and feedback on Draft Waste Strategy

Advertising and promotion of exhibition consistent with previous communication plans

Telephone survey of a cross section of City Residents seeking an opinion about the draft option and the main alternative.

It is intended that if there are significant community misgivings about Council's preferred technology choice, it will be exposed by the above consultation.

APPENDIX 6: SUBMISSION FROM WASTE OPERATIONS GROUP – WASTE, ENVIRONMENT AND RANGERS DEPARTMENT

The Operations group staff support the two bin MSW Enclosed Composting option for the following reasons:

- The risk associated with community change management and improper use of an additional green/organics bin resulting in contamination of SSG and SSO input. This is evidenced by contamination in the current MSW and recycling bins. Concern is that there will be a need for high community education with a risk of failure in changing habits/culture. This will be exacerbated if a phased three bin system is introduced
- Presentation and collection issues associated with an additional bin and the logistical/administrative issues (ongoing) in the delivery of the service
- Concerns relating to who will be providing the third bin collection service - will it be in-house or contract
- Recognising that a two bin system has a higher cost over 10 and 30 years, the difference is not that significant and would be well within reasonable limits
- Both options have the risk of available markets. If any Council is best placed to market an AWT compost it is Lake Macquarie given its proximity to the Hunter Valley's mine site rehabilitation needs. This also negates the need to compete with other producers of AS4454 compost
- The negative environmental impact from having a third bin service through fleet carbon emissions, fuel use, embodied energy use
- The potential social and industrial relations issues associated with a change from weekly to fortnightly residual bin collection
- There is a risk that an increased bin service is making it easier for residents to generate more waste by virtue of providing an increased collection capacity
- The level of diversion/recovery from a two bin option is far greater
- A three bin system relies on the efficiency of the community which will be further confused if a phased system is introduced
- The equity in forcing a third bin on residents who don't generate green waste, disadvantaged, unit dwellers etc
- The potential for a differential pricing structure to address those who cannot or do not want the service. This also exaggerates the issues around vacant land
- Mixed messages will be sent to the community where we encourage home SSO waste management on one hand and then impose a third bin for kerbside collection
- Issues around space to store a third bin, particularly given higher density housing development
- Concern that three bins will pose problems of kerbside space and bin spacing. There is a view that bin collection days should be staggered for a two or three bin system
- There will be an increase in the service requirements for "blue dot" services with a third bin
- Concern of resident reaction to any reduced residual bin capacity (size) or frequency if a third SSO/SSG bin is introduced. Another dimension to this is the difficulty in managing different bin/service types and fee structures
- Alternative green waste collection services can be provided to enhance SSG diversion outcomes in conjunction with a two bin option pending the implementation of an AWT facility
- To adopt a three bin option we are committed to it for eternity but a two bin system allows us to change to a three bin system later if required, using the same technology with minimal redundancy. This provides greater flexibility for the future
- The urgency of introducing the preferred phased three bin option could be mitigated by introducing other strategies to extend the life at Awaba



12 August 2011

Ref: 2011-686

Lake Macquarie City Council
Box 1906
Hunter Region Mail Centre 2310

Att: Mr Tony Farrell

Dear Tony

RE: PRELIMINARY SERVICING ADVICE FOR PROPOSED DEVELOPMENT

Thank you for your request for Hunter Water's preliminary advice for the provision of sewer services to the Waste Management Facility at Wilton Road, Awaba.

General information on sewer issues relevant to the proposal is included in this correspondence. This information is based on Hunter Water's knowledge of its system performance and other potential development in the area at the present time.

As you will appreciate, there may be significant changes that occur by the time the proposed connection proceeds, therefore this preliminary advice is not a commitment by Hunter Water and may be subject to significant change prior to the development proceeding.

When you wish to proceed with this connection you will need to lodge a further application with Hunter Water to extend a sewer main to this development. Hunter Water will then issue a letter specifying connection requirements. You will need to comply with each of the requirements in this letter for connection to be approved.

Hunter Water has reviewed the capacity of its existing wastewater infrastructure to cater for the leachate that is proposed to be discharged from the waste management facility. Hunter Water understands that the proposed infrastructure will place an additional load of 4.6 L/sec and 8.1 L/sec for 2012 and 2032 respectively on the existing wastewater system. Our analysis assumed that these flow rates remain unchanged during the wet weather. If there is a possibility of an increased flow rate during the wet weather, you should provide the Peak Wet Weather Flow (PWWF) so that a reassessment can be carried out.

The letter provided by GHD in support of your application proposes four options for the disposal of leachate:

- Options 1 and 2 are to pump the leachate from the leachate pond to Access Chamber F3590 located adjacent to the Rathmines 6 Waste Water Pumping Station (WWPS).
- Option 3 is to tanker the leachate to Dora Creek Waste Water Treatment Works (WWTW).
- Option 4 is to pump the leachate from the leachate pond to Access Chamber G6181 located in Grevillea Grove.

An analysis of each option is offered below:

Wastewater Transportation

Options 1 and 2

The proposed leachate discharge location (AC F3590,) is within the Toronto WWTW catchment, with the nearest connection point lying within the Rathmines 6 WWPS catchment.

Rathmines 6 WWPS currently receives 420 L/s of total PWWF although it has a duty pumping capacity of 480 L/s. The ultimate leachate discharge rate of 8.1 L/s will increase the total PWWF to 428.1 L/s, which is below the operating capacity of the pump station. Rathmines 6 WWPS should also have sufficient emergency storage capacity to cater for the proposed leachate discharge. It should be noted that there is a complex arrangement where this station receives flows from Dora Creek WWTW in some circumstances; however, with the current arrangement it is considered that this will not significantly affect the proposed connection. Therefore, the connection proposed in these options would be permitted.

The connection to Rathmines 6 WWPS is via a 3.7km rising main with pumping for just 4 hours per day. Hunter Water anticipates that detention times will be significantly above 4 hours, and odour control will be a concern. Therefore, Hunter Water will require an odour control plan to be submitted to support the application, which considers odour control measures such as flushing, wet well washers, venting, chemical dosing etc. Furthermore, the access chamber to which discharge is proposed will require epoxy lining to prevent corrosion and a vent to Hunter Water standards.

There are also a number of additional trade waste requirements for Options 1, 2 and 4:

- Additional metal results will be required before final acceptance of leachate.
- A sewer magflow meter will need to be installed to measure discharge. This meter will also be used for rating purposes.
- A suitable sample point will need to be agreed upon.
- Inspection points along the rising main will need to be installed to verify the ongoing integrity of the pipe and to avoid possible environmental issues from leaks and breaks.

Option 3

Refer to Wastewater Treatment discussion below.

Option 4

The proposed leachate discharge location (AC G6181) is within the Toronto WWTW catchment, with the nearest connection point lying within the Toronto West 6 WWPS catchment.

Toronto West 6 WWPS currently receives 70 L/s of total PWWF although it has a duty pumping capacity of 91 L/s. The ultimate leachate discharge rate of 8.1L/s will increase the total PWWF to 78.1 L/s, which is below the operating capacity of the pump station.

However, Toronto West 6 WWPS currently has only 2 hours of emergency storage capacity, which is below the required minimum emergency capacity of 4 hours. This connection is unlikely to be supported.

Wastewater Treatment

Options 1, 2 & 4

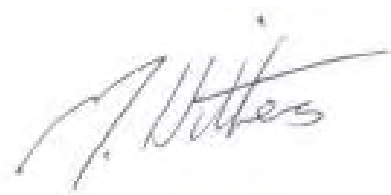
Toronto WWTW should have sufficient capacity to receive the leachate flow of 4.6l/sec and 8.1 L/s for 2012 and 2032 respectively.

Option 3

Dora Creek WWTW should have sufficient capacity to receive the leachate flow up to 8.1 L/s from the waste management facility.

Should you require further clarification or assistance please do not hesitate to contact me on 4979 9545.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'M. Withers', is positioned below the text 'Yours Sincerely'.

Malcolm Withers

Senior Account Executive Major Development



Additions to Awaba Waste Management Facility

Appendix D

Design Drawings by GHD

VOLUMES:

(1)	TOTAL SITE EXCAVATION (REFER TO SK012)	=	184,000 m ³
(2)	TOTAL AIRSPACE BETWEEN EXISTING SITE LEVELS AND TOP OF CAP	=	3,320,000 m ³
(3)	TOTAL SITE AIRSPACE	=	3,504,000 m ³
	- AREA A: APPROX. TOTAL AIRSPACE	=	1,042,000 m ³
	- AREA B: APPROX. TOTAL AIRSPACE	=	1,292,000 m ³
	- ADDITIONAL AIRSPACE GAINED OVER EXISTING LANDFILL	=	1,170,000 m ³

DESIGN ASSUMPTIONS:

- EXISTING SITE CONTOURS AS SUPPLIED BY COUNCIL DATED FEBRUARY 2010.
- MAXIMUM FILL SLOPE ARE 1 (V) : 4 (H).
- NO WATER BALANCE MODELLING AND HENCE LEACHATE AND SEDIMENT BASIN SIZING HAS BEEN UNDERTAKEN AS PART OF THE APPROVED SCOPE OF WORKS.
- 30m BUFFER DISTANCE FROM THE EXISTING CREEK CENTRELINE HAS BEEN ASSUMED. AN ENVIRONMENTAL ASSESSMENT IS RECOMMENDED TO ASSESS THE REQUIRED (IF ANY) BUFFER DISTANCE.

LEGEND

- LOT BOUNDARY
- PROPOSED FINAL SITE CONTOURS
- EXISTING LANDFILL FOOTPRINT
- PROPOSED LANDFILL FOOTPRINT
- EXISTING CREEK
- PROPOSED EXCAVATION
- EXISTING ACCESS ROAD
- PROPOSED ACCESS ROAD
- PROPOSED STORMWATER DRAIN
- PROPOSED SURFACE WATER DIVERSION BUND/SWALE
- EXISTING GAS MANAGEMENT SYSTEM
- PROPOSED GAS MANAGEMENT SYSTEM



PRELIMINARY

C	ACCESS ROAD REVISED	08.03.11
B	REVISED	20.04.10
rev	description	date
	app'd	

LAKE MACQUARIE CITY COUNCIL
AWABA LANDFILL
**PROPOSED FINAL CONTOURS
OPTION 2 - 10m BUFFER**



CLIENTS | PEOPLE | PERFORMANCE

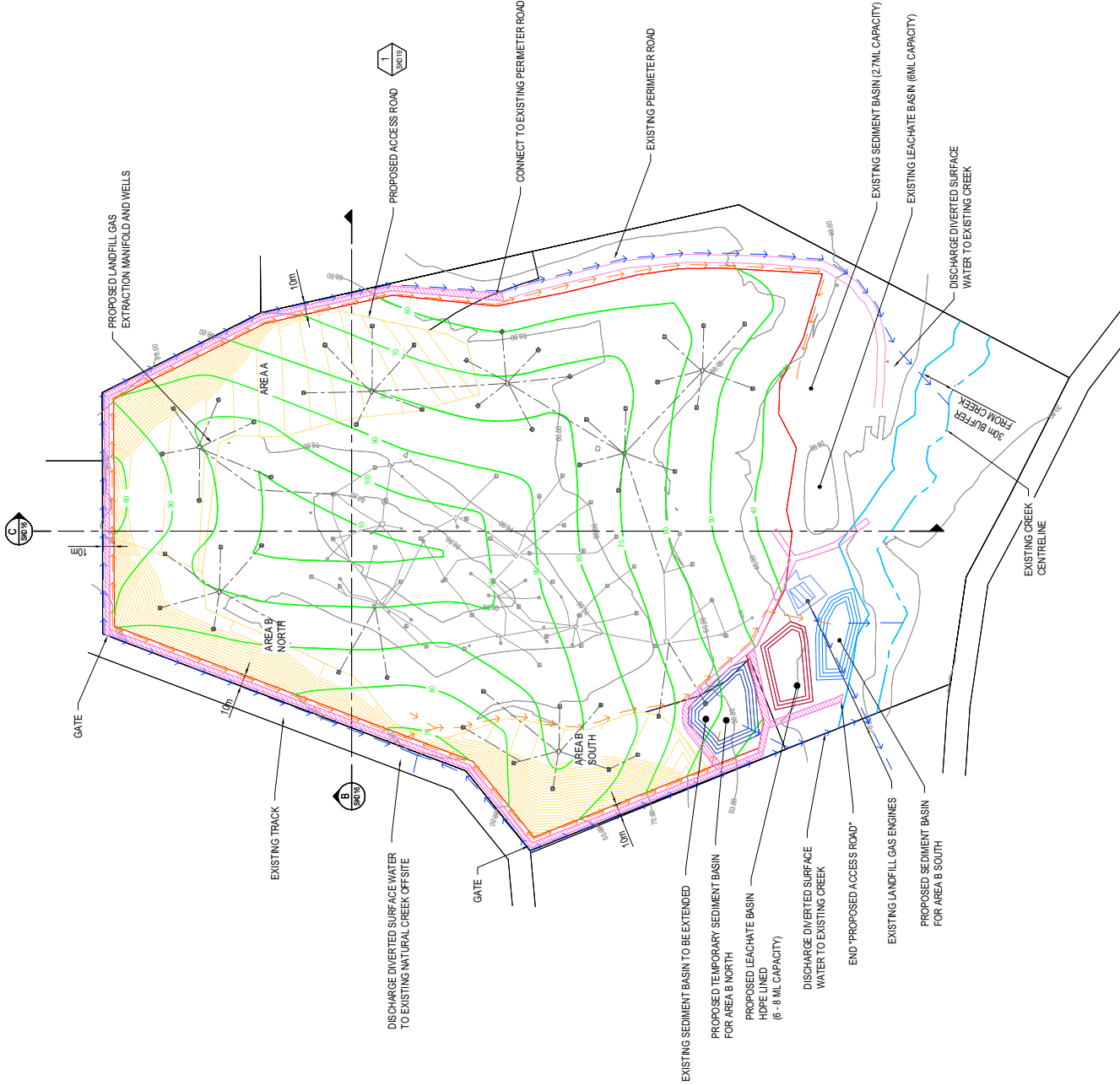
Level 11, 115, Collins Street, Sydney NSW 2000 Australia
T 61 2 9238 7000 F 61 2 9238 7199
E sydney@ghd.com W www.ghd.com

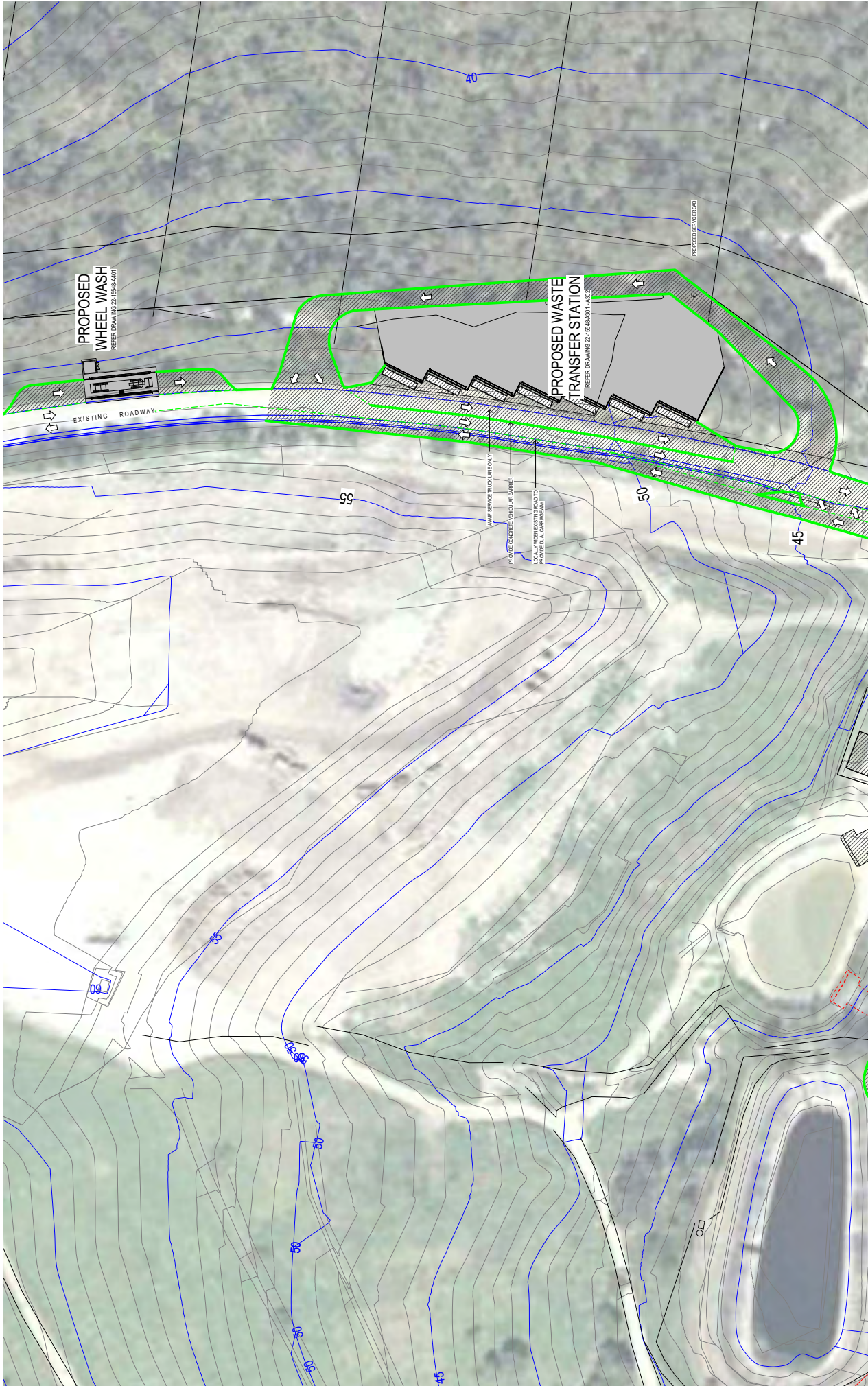
Copyright © 2011. This document is the property of GHD. It is to be used for the purposes for which it was prepared and no part may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of GHD.

scale | 1:2000 for A1 | job no. | 21-19318
date | MAR 2011 | rev no. | C

approved

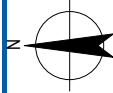
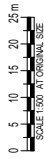
SK013





**ARRANGEMENT PLAN - PART SITE PLAN -
WASTE TRANSFER**

SCALE 1:100



GHD CLIENTS • PEOPLE • PERFORMANCE
 GHD Tower, Level 3 Newcastle NSW, 2000 Australia
 PO Box 5403 Hunter High Mail Cent NSW 2310
 T 61 2 4979 9999 F 61 2 4979 9988
 E enquiries@ghd.com W www.ghd.com

DO NOT SCALE
 GHD Pty Ltd
 This document may only be used by the person or persons named in this document. GHD has no liability for any use of this document for any other purpose, in whole or in part, without the prior written consent of GHD.

Drawn	THAYES	Designer	M.GEBHARD	Client	LAKE MACQUARIE CITY COUNCIL
Checked	M.LEWIS	Check	T.BLACKALL	Project	AWABA LANDFILL FACILITIES AND PROP. AWT
Approved		Approved		Title	GENERAL SITE ARRANGEMENT PLAN
Date		Date		Original Size	PART SITE PLAN - WASTE TRANSFER STATION
Scale	1:500	Scale	1:500	Original Size	A1

NOT FOR CONSTRUCTION
 LAKE MACQUARIE CITY COUNCIL
 AWABA LANDFILL FACILITIES AND PROP. AWT
 GENERAL SITE ARRANGEMENT PLAN
 PART SITE PLAN - WASTE TRANSFER STATION
 Drawing No: **22-15548-A002**
 Rev: **0**