

Waste Management Plan for SSDA6

International Convention Centre (ICC) Hotel Haymarket Precinct

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Glossary

Cardboard Recycling	Refers to the reprocessing of most types of cardboard such as boxes, empty pizza boxes as well as toilet and paper towel rolls. This waste stream does not include waxed cardboard or packing materials such as polystyrene or foam.
Comingled recycling	Refers to a mixed container recycling stream. Typically this would include glass containers, aluminium cans, milk cartons, tins, and plastic containers. This stream does not strictly include any paper or cardboard materials however small portions of these materials are acceptable. Drinking glasses, ceramic mugs or plates, coffee cups or plastic bin liners are not accepted in this stream. Comingled materials are collected in one stream and then sent a materials recycling facility to be sorted and recycled.
Confidential Documents	Refers to paper documents of a confidential nature which need to be securely destroyed or shredded.
Contamination	Refers to the presence of materials not accepted in recycling streams. For example food scraps or plastic wrap disposed of in a comingled recycling bin. Bins with high levels of contamination are sent to landfill. It is at the discretion of the waste contractor and subsequent facility accepting the waste as to the level of contamination that can be tolerated. Usually there must be no more than 5% contamination present in the bin, less for organics.
Fluorotube Recycling	Refers to the recycling of fluorescent lights and lamps. In this process the light and lamps are crushed and the three main components (mercury, aluminium and glass) separated, treated and recycled.
Food Organics	Refers to a food segregation system where food scraps are collected and sent to a worm farm or processing facility such as Earthpower / Natural Recovery Systems.
General Waste	Refers to currently non-recoverable material such as waxed coffee cups, waxed cardboard, plastic film etc. The general waste stream does not include hazardous material (such as batteries, fluorescent light tubes, light bulbs and/or toner cartridges), recyclable material or electronic equipment such as computers, TVs and mobile phones, or liquids.
Paper recycling	Refers to the reprocessing of most types of paper including newspaper, magazines, office paper, brochures and envelopes (including those with plastic windows). This waste stream does not include coffee cups, ream wrappers (if the lining is plasticised), bottles or cans, plastic bin liners or food scraps.
Soft Plastic Recycling	Refers to the reprocessing of soft plastic materials (low density polyethylene) such as some plastic bags, garment protection bags (such as those found at a dry cleaners), etc.

Toner Cartridge Recycling	Refers to the reprocessing of toner cartridges. During this process cartridges are sorted based on the model type and then disassembled into their main parts. These parts are then used to create new cartridges
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1. Introduction

This report supports a State Significant Development Application (SSDA) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Application (referred to as SSDA6) seeks approval for construction of the International Convention Centre (ICC) Hotel component of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) at Darling Harbour.

This SSDA follows SSDA1, which seeks approval for the core convention, exhibition and entertainment facilities of the SICEEP Project; SSDA2, a staged application that sets out a Concept Proposal for a new mixed use neighbourhood at Darling Harbour known as ‘The Haymarket’; and a number of detailed proposals (SSDA3, SSDA4, and SSDA5) for use of development plots within The Haymarket. SSDAs 1 and 2 were submitted to the Department of Planning and Infrastructure (DoPI) in March 2013, and the SSDAs 3-5 were submitted in May 2013.

The ICC Hotel forms part of the SICEEP Project, which will deliver Australia’s global city with new world class convention, exhibition and entertainment facilities and support the NSW Government’s goal to “make NSW number one again”.

2. Overview of Proposed Development

The proposal relates to a SSDA for the ICC Hotel component of the SICEEP Project. The hotel is located at the northern end of the precinct and comprises a single building with up to 656 keys. The hotel is being developed by Lend Lease and is consistent with Darling Harbour Live's Preferred Precinct Plan.

More specifically, this SSDA seeks approval for the following components of the development:

- Demolition of existing site improvements;
- Associated tree removal and replanting;
- Construction and use of a single hotel tower providing for up to 656 keys and including guest facilities, restaurant and ballroom;
- Public domain improvements including integration with existing / proposed works; and
- Extension, realignment and augmentation of physical infrastructure / utilities as required.

3. Background

The NSW Government considers that a precinct-wide renewal and expansion of the existing convention, exhibition and entertainment centre facilities at Darling Harbour is required, and is committed to Sydney reclaiming its position on centre stage for hosting world-class events with the creation of the Sydney International Convention, Exhibition and Entertainment Precinct.

Following an extensive and rigorous Expressions of Interest and Request for Proposals process, a consortium comprising AEG Ogden, Lend Lease, Capella Capital and Spotless was announced by the NSW Government in December 2012 as the preferred proponent to transform Darling Harbour and create SICEEP.

Key features of the Preferred Precinct Plan include:

- Delivering world-class convention, exhibition and entertainment facilities, including:
 - Up to 40,000m² exhibition space;
 - Over 8,000m² of meeting rooms space, across 40 rooms;
 - Overall convention space capacity for more than 12,000 people;
 - A ballroom capable of accommodating 2,000 people; and
 - A premium, red-carpet entertainment facility with a capacity of 8,000 persons.
- Providing a hotel complex at the northern end of the precinct, immediately adjacent to the new International Convention Centre.
- A vibrant and authentic new neighbourhood at the southern end of the precinct, called 'The Haymarket', including apartments, student accommodation, community facilities, shops, cafes and restaurants.
- Renewed and upgraded public domain that has been increased by a hectare, including an outdoor event space for up to 27,000 people at an expanded Tumbalong Park.
- Improved pedestrian connections linking to the proposed Goods Line (formerly Ultimo Pedestrian Network) drawing people between Central, Chinatown and Cockle Bay Wharf as well as east-west between Ultimo/Pyrmont and the City.

4. Site Description

The SICEEP Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south. The SICEEP Site has been divided into three redevelopment areas – Bayside, Darling Central and The Haymarket.

The ICC Hotel Site (refer to **Figure 1**):

- is located within the northern end of the Bayside precinct;
- is bound by Harbourside Shopping Centre to the north and east, the International Convention Centre to the south and Darling Drive to the west; and
- occupies an area of approximately 3,730m².



Figure 1 – Aerial Photograph of the SICEEP Site

5. Planning Approval Strategy

The SICEEP Project will result in the lodgement of numerous SSDAs for the various components of the redevelopment project. SSDAs have already been lodged for the PPP component of the SICEEP Project (comprising the convention centre, exhibition centre, entertainment facility and ancillary commercial premises and associated public domain upgrades), the Stage 1 Concept Proposal for The Haymarket, and the Stage 2 detailed proposals for three of the development plots within The Haymarket. Future applications will be lodged for the remaining development plots within The Haymarket Site.

This Application relates to a SSDA6 for the ICC Hotel component of the SICEEP Project and is consistent with Darling Harbour Live's Preferred Precinct Plan.

6. Waste Generation and Systems

The following tables detail the estimated weight and volume of the expected waste streams that will be generated by the ongoing hotel operations.

6.1 Waste Streams

Based on the estimated waste profile, the following waste streams would be expected:

- Cardboard/paper recycling
- Co-mingled recycling
- Food organics recycling
- General waste
- Oil recycling
- Soft plastic recycling
- Toner cartridge recycling

6.2 Total Waste Generated

The following tables summarise the expected quantities of waste and recyclables generated by the operational hotel activities in terms of weight and volume per day. It is expected that waste generation will fluctuate throughout the year during different seasons and holiday periods and as such the following waste generation profile should be considered an estimation only.

Table 1 – ICC Hotel waste generation

	Kg/Day	L/Day	Kg/Week	L/Week
Paper/Cardboard	258	4,306	1,809	30,142
Comingled	279	3,724	1,955	26,065
Organics	461	1,537	3,228	10,759
Oil Recycling	55	61	388	427
General Waste	246	4,097	1,721	28,676
Total	1,300	13,724	9,100	96,068

Graph 1 – Hotel waste composition (weight)

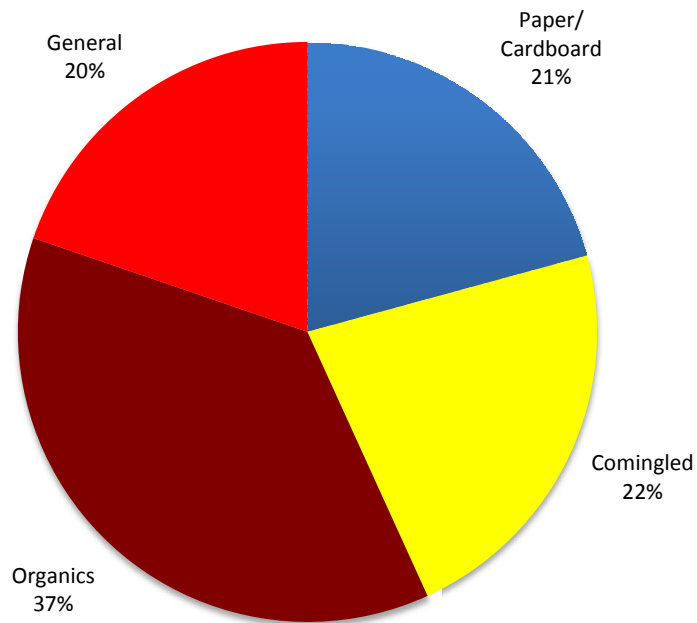


Table 2 – ICC Hotel waste systems

Waste Stream	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m ²)	Total Footprint
Paper/ Cardboard Recycling	660L MGB	2	Transfer only	N/A	30,142	0.98	1.96
	Baler	1	2-3	Adequate - approx 2-3 bales per day		2m (baler) + 6m storage	8.00
	240L MGB (paper only)	2	As required depending on operational generation			0.43	0.86
Food Organics	120L MGB	15*	6	10,800	10,759	0.27	4.05
Comingle Recycling	240L MGB	20*	6	28,800	26,065	0.43	8.60
General Waste	240L MGB	10*	Transfer only	N/A	28,676	0.43	4.30
	Compactor 12-15m ³	1	1	Ample		30.00	30.00
Oil	Caddy	1	as required	1,000	427	2.00	2.00
Soft Plastics	Bale frame	2	as required	2,000 assuming 1 collection per week	TBA	0.9	1.8
TOTAL		53					61.57

*these bins will be utilised throughout the hotel and are unlikely to all be stored within the waste storage area at the same time.

7. Waste and Recycling Storage Areas

The hotel waste and recycling storage room has an area of approximately 70m². This provides the minimum recommended space for the systems as detailed in table 2 above.

The waste and recycling storage areas will have the following features:

- Wash bay facilities
- Ventilation: The bin storage room will be mechanically exhausted as required by AS 1668.2
- Vermin Prevention:
 - The bin storage room will feature tightly fitted doors
 - Opening will be vermin proof
 - Building management is to ensure that as part of the cleaning and/or waste contract, that the waste area and equipment is cleaned on a regular basis and that the bin lids are kept closed
 - Cleaners are to ensure that bin lids are closed when unattended
- Noise:
 - Noise will not be an issue due to the location of the waste storage room on ground floor.

Occupational Health and Safety issues such as slippery floors in waste rooms and the weight of the waste and recycling receptacles will need to be monitored. Cleaners will monitor the bin storage area and all spills will be attended to immediately by cleaners.

The materials and finishes for the waste/recycling storage areas are as follows:

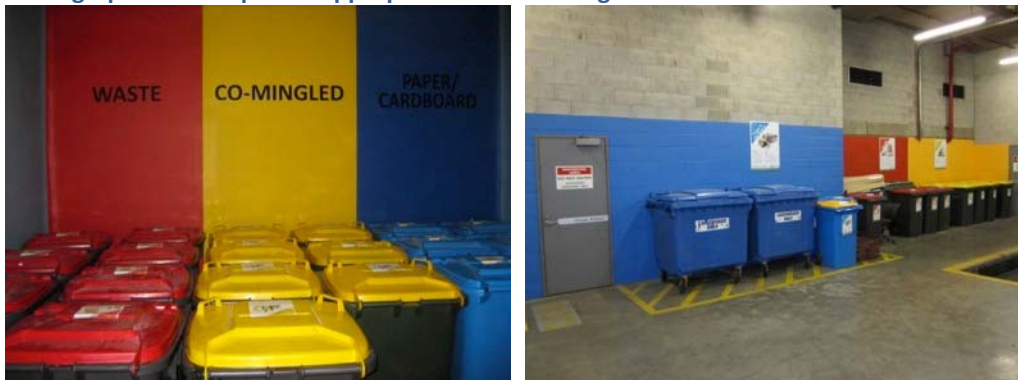
Floor	Structural concrete slab with smooth epoxy topping finish with coved wall and floor junctions. Graded drains to approved sewer connections subject to final design.
Walls	Masonry walls
Ceiling	Structural concrete slab over
Lighting	Base building lighting
Water Supply	Hose cocks and hose connections which supply warm water

7.1 Colour-coding

In order to encourage all users to use the waste and recycling systems the bin storage rooms should be set up in a user friendly fashion. For example, bins for all waste and recycling streams should be easily accessible without having to wheel / manoeuvre bins.

It is highly recommended that the bin storage room be colour-coded to ensure bins are stored in the correct area and to reinforce the colour-coding systems used throughout the building. This can be done by painting borders on the floor indicating where bins should be stored. The colour of the paint should be consistent with the waste stream e.g. yellow paint for comingled recycling, red paint for general waste. The waste room walls can also be painted.

Photograph 1 – Examples of appropriate colour-coding



7.2 Signage

All waste and recycling streams should be differentiated with clear signage on all bins and on walls within the waste storage room. Below are examples of appropriate signage incorporating textual information, pictures and colour-coding to communicate the message.



MIXED RECYCLING

✓

- Aluminium cans
- Plastic milk & Juice containers
- Plastic soft drink & water bottles
- Glass bottles & jars
- Steel cans



- NO COFFEE CUPS
- NO PLASTIC BAGS
- NO POLYSTYRENE

SOFT PLASTICS

✓

- Plastic Bags
- Bubble wrap
- Stretch wrap
- Plastic film



- NO PLASTIC STRAPS
- NO POLYSTYRENE

Please do not place plastic that has excessive top into the soft plastic bin

8. Internal Management Practices

8.1 Cardboard/paper Recycling

The vast majority of material in this stream will be comprised of cardboard from deliveries/packaging etc. Where possible deliveries would be unpacked in the dock area and excess cardboard would be disposed directly into the cardboard baler within the waste storage area. All other cardboard generated from kitchen/bar/cleaner storage areas etc would be transferred to the waste storage area by staff/cleaners as required to be baled.

It is recommended that 1 x 660LMGB be located next to the baler to provide interim storage capacity to ensure staff have somewhere to store cardboard in the event that the baler was full and ready to be emptied by cleaning staff.

It is estimated that 2-3 bales would be generated per day. Complete bales would be stored next to the baler and would be collected twice per week – therefore approximately 6-8m² would be required to provide storage space for the complete bales.

8.1.1 Paper Recycling

Paper recycling should be implemented where practical in all hotel areas likely to generate paper material – i.e. administration offices, conference facilities and hotel rooms (operator preference).

A paper recycling system should accept all paper including newsprint, glossy paper and mixed office paper.

Dedicated small bins should be provided in relevant locations – likely to be in cabinetry/cupboards for users to dispose paper materials. These bins would be serviced by cleaners by emptying them into a segregated cleaner trolley (refer to figure 4 in appendix) which would then be transferred to the waste storage area to be decanted into the 240L MGBs provided.

8.1.2 Confidential Documents

Confidential document bin numbers and locations will be determined at the discretion of the operator (likely only in administration offices). This stream will be fully managed by hotel management and collections will be scheduled as required and would take place directly from the location of the bin(s) i.e. confidential bins would not be stored in the waste storage area.

8.1.3 Paper Hand-towel Recycling

In an effort to reduce waste generation volumes, a paper handtowel free system in bathrooms should be examined. Replacing handtowel with a system such as the 'Airblade' produced by Dyson¹ or the "Jet Towel" produced by Mitsubishi Electric² may prove to be a more environmentally (and economically) efficient than a paper hand towel system.

If a paper handtowel system is chosen then additional paper recycling or bins may be required however in some cases this material can be baled with the cardboard in the baler. Hotel management should consult with the waste contractor to determine the best disposal method when tendering for services.

8.2 Comingled Recycling

The comingled stream accepts all numbered mixed plastics, glass, aluminium and steel cans.

The Australian Standard colour for the comingled recycling stream specifies dark green or black bin bodies with a yellow lid. It is recommended that all receptacles are coloured consistently in accordance with the standard, and that signage for this stream is developed using the same colour for ease of recognition.

240L MGBs have been proposed for the comingled recycling stream. Where appropriate 240L MGBs will be stored in BOH areas i.e. in kitchen/bar areas for staff to dispose relevant material directly into. When full, these bins can be transferred to the waste storage area and swapped for an available empty bin.

In hotel rooms/gym/conference facilities, dedicated small bins should be provided for the disposal of comingled materials – likely to be in cabinetry/cupboards. These bins would be serviced by cleaners by emptying them into a segregated cleaner trolley (refer to figure 4 in appendix) which would then be transferred to the waste storage area to be decanted into the 240L MGBs provided.

8.3 Food Organics Recycling

120L MGBs have been proposed for the organics recycling stream. These bins would be utilised directly in kitchen/service areas staff and cleaners to separate the organic material at the point of generation – primarily from food preparation, wastage and left-overs. These bins would then be transferred to the waste storage area and swapped for an available empty bin. Full bin would be collected by the commercial waste contractor engaged to provide a dedicated organics recycling service.

It should be noted that there are a number of onsite organics processing units that should be investigated that would reduce the number of bins and collections required to manage the organics recycling stream. However, there are various cost/operational factors that should be considered before implementing an onsite system.

¹ Information gathered from <http://www.dysonairblade.com.au/>

² Information gathered from <http://www.mitsubishielectric.com/bu/handdryer/products/index.html>

The initial recommendation is to manage the organics using a commercial collection of 120L MGBs however further analysis of onsite units will be conducted in future stages of this development. The spatial provision required to house the requisite number of 120L MGBs in the waste storage area is sufficient to implement an onsite unit.

It is not recommended to implement organics recycling receptacles in hotel rooms or public areas due to issues with contamination.

8.4 General Waste

A general waste compactor will be implemented within the waste storage area.

240L MGBs have been recommended for the internal management and movement of the general waste stream.

The 240L MGBs will be utilised by kitchen and cleaning staff at the point of generation i.e. kitchens and appropriate BOH areas. Once full, the bins will be transferred to the waste management complex to be stored, where cleaning staff will then be responsible for emptying the bins into the compactor. Cleaners will ensure that there are always empty bins available to be taken back to the desired location for use by kitchen/other staff.

Cleaners will empty the bins into the compactor using a bin-lifter to avoid the need for manual handling of the bins. Cleaners will also be responsible for washing empty bins as required in the bin wash facility within the waste storage area.

In hotel rooms/gym/conference facilities, dedicated small bins should be provided for the disposal of general waste materials – likely to be in cabinetry/cupboards. These bins would be serviced by cleaners by emptying them into a segregated cleaner trolley (refer to figure 4 in appendix) which would then be transferred to the waste storage area to be decanted into the 240L MGBs provided.

The Australian Standard colour for the general waste stream specifies dark green or black bin bodies with a red lid. It is recommended that all receptacles are coloured consistently in accordance with this standard, and that signage for this stream is developed using the same colour for ease of recognition.

8.5 Oil Recycling

Kitchen users will transfer used cooking oil from kitchens and food outlets to the waste storage area using oil caddies (refer to figure 6 in appendix) where it will be vacuumed into the oil silo. The silo will be serviced periodically as required by a specialist oil recycler.

The silo should be located within a bunded area of the waste storage room.

8.6 Soft Plastics Recycling

Two 1m³ bale frames will be located in the waste storage area for the separation of soft plastic wrap and soft plastic packaging material. It is likely that the majority of material

will be generated when deliveries are received and unpacked – depending where deliveries are unpacked, it may be beneficial to utilise smaller, portable bag frames in store rooms which can then be transferred to the larger bale frames in the waste storage area when full (refer to figure 7 in appendix).

Alternatively, cleaners could bale soft plastic material through the cardboard baler – this would require them to manage the two streams and schedule time to bale both separately, i.e. store the plastic material until there is enough to complete one full bale so as to minimise the time taken away from cardboard baling facilities.

8.7 Additional Recycling streams

Toner Cartridge Recycling

To minimise toner cartridge waste from administration office areas all printers should be set to double sided printing as a default. Hotel management should also install printers and photocopiers which have refillable toner cartridges, which are refilled as part of the supply agreement. Where cartridges are generated, recycling systems should be implemented. This is usually in the form of a large cardboard box. Toner cartridge recycling is usually a free or low cost recycling stream provided by Planet Ark for example and can be managed directly by hotel management.

Fluorotube/globe Recycling

A take-back program with the electrical/maintenance contractor should be implemented for fluorescent light tubes and lamps. If this is not possible, used materials should be stored in dedicated tube boxes in the waste storage area and collected as required.

9. Collection

Hotel waste and recycling collection services will be provided by a commercial waste contractor (TBA). Utilising a commercial waste contractor affords hotel management greater flexibility regarding collection schedules and the appropriate final collection frequencies will be determined in consultation with the waste contractor once appointed – recommended collection frequencies have been detailed in table 2 above based on the estimated waste profile however once operational, collection schedules may need to be adjusted accordingly depending on actual waste generation. All rear-lift services (comingled, organics) are proposed to be collected 5x per week with the intention of reducing the number of bins required in the waste storage area in order to fit within the space provided – approx 70m².

The waste contractor will be engaged to retrieve the bins from the waste storage room and load them from the loading zone on the ground floor. Once emptied, the waste contractor will return the bins to the waste room for use.

Utilising a commercial contractor enables greater segregation of recyclables into their unique streams – therefore a separate truck will be used to collect the different waste and recycling streams.

10. Staff education

The ongoing waste program will include regular updates to staff regarding current recycling performance as well as tenant education and awareness programs.

It is recommended that the staff education and awareness program be conducted by hotel management to ensure that staff are aware of their responsibilities in relation to segregation of recyclables, and to ensure they are following the building protocols. The program should be tailored to the requirements of the hotel and will detail the waste and recycling systems in place, what materials are appropriate for each stream, the procedures involved in effective waste and recycling management, recommendations on how to minimise waste generation and instruction on how to operate the machinery safely.

Included in the information provided to tenants should be information directed at ongoing waste minimization rather than just waste diversion.

Hotel management should actively engage suppliers to encourage initiatives that seek to increase the use of recyclable materials in their packaging and also minimize the amount of packaging used in their products and by their suppliers. Guidelines to tenants regarding packaging could include the following information:

- Re-usable
- Recyclable
- Made from recycled materials
- Utilise renewable raw resources
- Supplier take-back programs, and
- Packaging minimisation

11. Appendix

Figure 2 - Waste storage area and collection point

<to be inserted with markup once updated drawings issued>

Figure 3 - Example of multi-sort bin hubs for kitchen/BOH areas/gym areas





Figure 4 - Example of cleaner trolley with separate bags for different streams



Figure 5 - Example of auto-baler (suitable for cardboard and soft plastics)



EXSL100

Feature & Benefits:

- * Open top for continuous feed
- * Automatic
- * Cardboard & Shrink wrap
- * Ease of use for operators
- * Medium density bales
- * Affordable
- * Convenient & Cost Effective payment
- * *Rent-Lease-Buy*
- * Compliant with all national and international Safety Requirements.

Optional Accessories include:

- Upper Mesh Hopper
- Overhead canopy Frame

SPECIFICATIONS:	
Bale Weights	100-140Kg
Bale Size	750x750x1000
Cycle Time	30 seconds
Unit Weight	1050Kg
Thrust Load	6000kg
Power	2.2kW 3-phase
Plug Required	20 Amp 4 Pin
	Clipsal Compatible
Height	2050mm
Width	1950mm
Depth	900mm
Baler Capacity	2 bales per hour
Bale Transport trolley	

Baler specifications and Prices are subject to change without notice. For up to date information call Trethewey industries on 1800 888 403



www.autobaler.com

Figure 6 – Oil recycling silo and transport caddy



Figure 7 – Example of soft plastic bag frames



Example of small soft plastics bag frame for retail BOH



Example of larger bale frame stored in waste storage areas