Waste Management Plan

Hands Oval Stadium Redevelopment

Stage 1 – SD Submission

Rev_1

Project No. 22-1306

Client name: Perkins Builders

(on behalf of City of Bunbury)

5 October 2022

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Revision	Drafted by	Reviewed by	Date issued
Rev_0	D Ladle	J Campbell	30 September 2022
Rev_1	D Ladle	J Campbell	5 October 2022

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1 Development details

This Waste Management Plan (WMP) has been prepared for the following project:

Project name	**Hands Oval Stadium, South Bunbury, WA**
Principal	City of Bunbury
Client	Perkins Builders
Architect	Cameron Chisholm Nicol
Main point of contact	Daniel Parin – Perkins Builders
Planning status	DA submission date 3 October 2022
Green rating / sustainability objectives	Improved waste minimisation and recycling are targeted
Overview of development	Redevelopment of the existing stadium to increase capacity and update the facilities, including: • demolition of the existing Bob Black Stadium and facilities • construction of a new 828 seat, two-storey AFL Category 4 stadium with SWFL (South West Football League) headquarters, lift, change rooms, massage rooms, warmup areas, coaches boxes, timekeepers, media room, offices, boardroom, public toilets, toilets, first aid, doctors' rooms, umpires room, groundskeeper room, storerooms, kiosk with commercial kitchen facilities and new sports lighting to stadium roof • existing SBFC (South Bunbury Football Club) stadium is to be retained to the south of the new stadium
Architectural plans / area schedule / development information	• Architectural plans, received from Cameron Chisholm Nicol, 28 September 2022 • Area schedule, received from Cameron Chisholm Nicol, 7 September 2022 • Photos, received City of Bunbury, 12 September 2022 • Site visit with City of Bunbury Coordinator Waste Operations and SWFL General Manager, 13 September 2022 • Traffic Impact Statement, received 5 October 2022
Local Government Authority	City of Bunbury

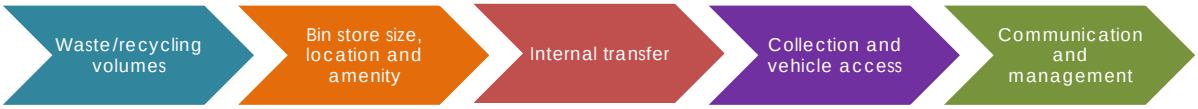
1.1 Context

For efficient and effective waste management, the collection and centralisation of waste and recyclables has been carefully considered at the building design phase. Key factors considered at the design phase include:

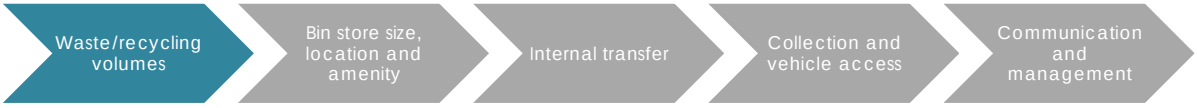
- Local government requirements for waste volumes and bin type
- Waste and recycling volumes likely to be generated during building operation
- Number and types of bins required
- Bin store/size, location and amenity (odours and noise)
- Internal transfer and access to bins and storage areas from within the building
- Access for vehicles for waste collection
- Safety for all operatives involved in waste management
- Communication and ongoing management of waste and recycling services

1.2 Key components of the Waste Management Plan

This Waste Management Plan (WMP) consists of five core components. It will present detailed information on each of the following components.



2 Estimated waste and recycling volumes



2.1 Project parameters

The development when operational will include the following waste generating areas:

- Kiosk – 40 m^2
- Office (including a kitchenette) – 81.45 m^2

2.2 Local Government Guidelines

The following have been used in the development of this report:

- WALGA Commercial and Industrial Waste Management Plan Guidelines (2018)

2.3 Waste generation rates

WALGA waste generation rates have been used as a guide in addition to Encycle's experience and knowledge of the use of the building to calculate the generation of waste and recyclables.

Specifically, the generation rates used are presented below. The rates do not include a breakdown of material streams included in the 'recycling' stream. The final column presents Encycle Consulting's in-house estimate of the material streams present in the recycling stream based on our working experience of other similar buildings.

Premises type	Waste generation rate	Recycling generation rate	Percentage breakdown of recycling stream by material
Office	0.1 L /1m^2/day	0.1 L /1m^2/day	7% commingled 79% paper 14% cardboard 10% soft plastics 20% of waste is organics
Takeaway	0.8 L /1m^2/day	0.4 L /1m^2/day	40% commingled 50% cardboard 10% used cooking oil 10% soft plastics 10% of waste is organics

2.4 Number of bins required

The number of bins required for the stadium is set out in Table 1 and shown in Figure 2 below.

Table 1: Number of bins to be stored in the stadium bin store

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code*
General waste	240	7	Weekly	**W**
Commingled recycling	240	1	Weekly	**CM**
CDS recycling	240	6	Weekly	**CDS**
Used cooking oil	200	1	As required	**CO**
Bulky waste	2 m^3		As required	**B**

The number of bins required is based on standard events of up to 5,000 people. Larger events, such as AFL games where up to 10,000 people are expected to attend, will require additional bins. As this will occur only one or two times per year, the bin store does not need to be designed to accommodate the additional bins required for these audiences. Additional bins (estimated 6 x 240 L bins) can be delivered to the stadium prior to the game (usually delivered on a Friday), and stored outside the bin store awaiting collection after the game (usually collected on a Monday). This scenario currently occurs prior to larger matches at the stadium.

3 Bin store size, location and amenity

3.1 Bin store location

The stadium will have one bin store and it will be located in the ground floor, adjacent the kiosk (refer Figure 1 and Figure 2).

Figure 1: Site plan showing the location of the bin store, presentation point and grease trap

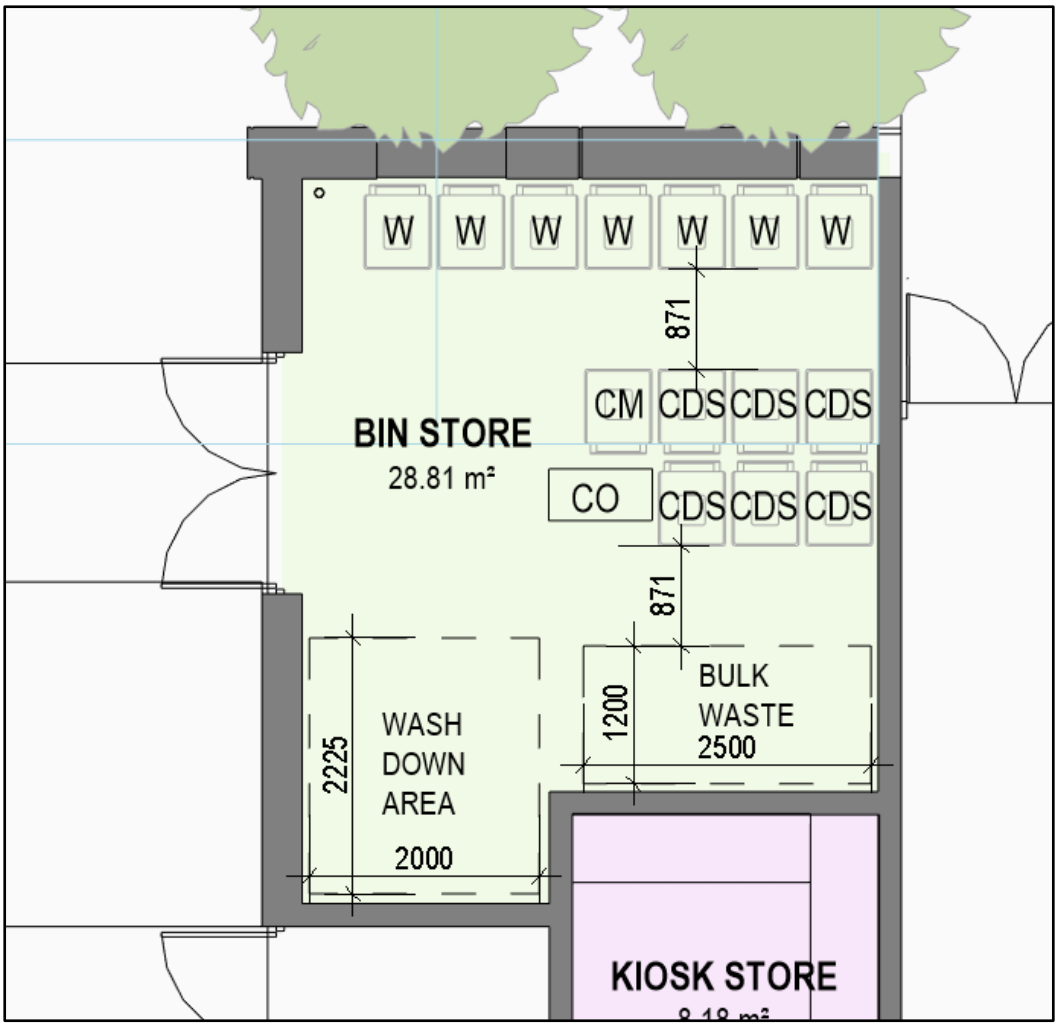


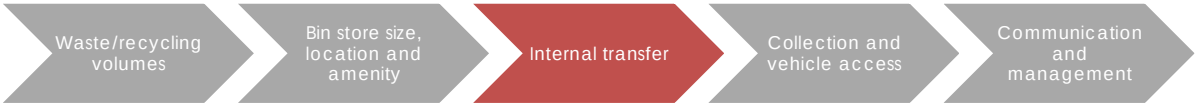
Figure 2: Bin store layout

3.2 Bin store amenity

Fully enclosed	The bin store is fully enclosed and weatherproof, and can only be accessed by SBFC and SWFL staff/volunteers and cleaners.
Spatial requirements	The bin store allows sufficient space to accommodate, manoeuvre and wash the bins specified. SWFL management will be responsible for cleaning and manoeuvring the bins. Space for personnel access way between bins is included.
Bin wash	The bin store will have impermeable walls and floors grading to an industrial floor waste (including a charged 'water-trap' connected to sewer), with a hose cock to enable bins and/or the enclosure to be washed out. A 100 mm floor waste gully to waste outlet will be included. Both hot and cold water is available.
Doors	Ventilated doors are specified both internally and externally. Self-closing doors will be installed to eliminate access to vermin.

	Doors are designed to fit the largest bin to enable bins to be easily wheeled into and out of the bin store.
Security	Security measures are designed to limit access to the bin room to only authorised personnel.
Walls and ceilings	Internal bin store walls will be cement rendered (solid and impervious) to enable easy cleaning. Ceilings will be finished with a smooth faced, non-absorbent material that can be easily cleaned. Walls and ceilings will be finished or painted in a light colour.
Floors	Floors will be constructed in concrete in accordance with AS 2870. Floors will be evenly graded to an approved liquid refuse disposal system. Slab thickness is a minimum of 100 mm, impervious and with a brush finish treatment.
Ventilation and odour	The bin store will have adequate separate ventilation with a mechanical system that complies with Australian Standard 1668 (AS1668). The ventilation outlet will not in the vicinity of windows or intake vents associated with other ventilation systems.
Lighting	The bin store will be provided with artificial lighting, with sensor or switch controls both internal/external to the room. External lighting to the bin collection point ensures staff safety.
Noise	Noise will be minimised through considering the location of the bin store and collection point and the timing of collections to prevent disruption to occupants or neighbours.
Signage	Visual aids and signage will be provided when the bin store is operational to ensure that the area works as intended.
Cooking oils	Used cooking oil storage will be bunded.

4 Internal transfer



4.1 Internal transfer route

Internal bins from the first level of the stadium will be transferred through the lobby, down the lift and to the bin store (refer Figure 3).

Bins from the ground level will be wheeled directly to the bin store.

On collection day/s, bins will be transferred by SWFL staff from the bin store, along the designated path that prioritises pedestrian movement, to the presentation point awaiting collection (refer Figure 1).

Additional bins required on larger match days will be wheeled by SWFL staff directly to the presentation point, awaiting collection.

Waste transfer routes are designed to ensure that bins (particularly when full) are not moved over any significant distances.

Waste transfer routes avoid stairs/steps and steep ramps (grade of slope <1:14) and other potential hazards between points of waste generation, storage and collection.

All doors, corridors and lifts on the transfer route are designed to fit the largest bin.

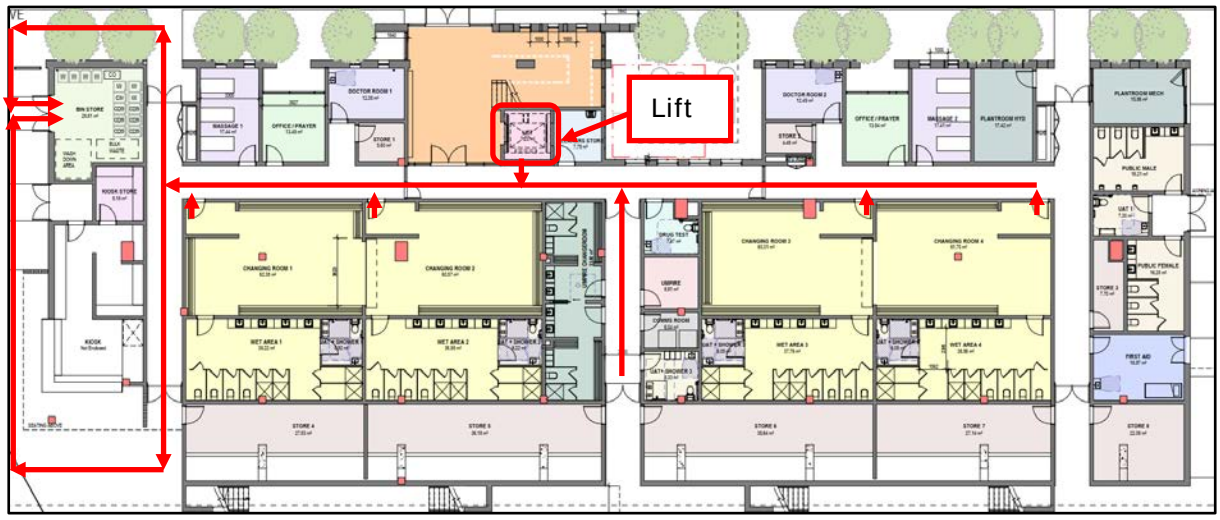
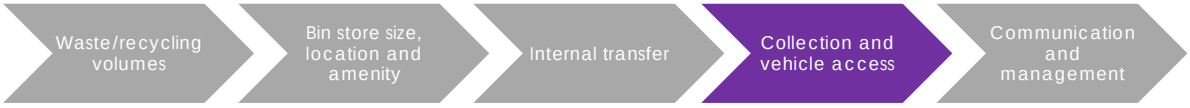


Figure 3: Internal transfer route

5 Collection and vehicle access



The City of Bunbury will service the general waste and recycling bins. A private service provider will service the Container Deposit Scheme bins. A private service provider tanker vehicle will service the grease trap. In addition, a small tanker vehicle will service the used cooking oil storage unit.

On collection day/s, rear-lift vehicles for general waste and commingled recycling will enter from Clarke Street. The vehicles will drive in a forwards direction and then stop at the presentation point (refer Figure 4). The bins will be serviced and the vehicles will continue in a forward direction exiting onto Clarke Street.

CDS bins will be serviced by flat-bed vehicles whereby the bins are taken off-site for processing and empty bins returned. The bins will need to be collected directly from the bin store by the service provider so that the contents of the bins remain secure.

On collection day/s, a tanker for used cooking oil and a tanker to empty the grease trap will enter from Clarke Street. The vehicles will stop in the parking area closest to the bin store to empty the used cooking oil tank and the grease trap waste (refer Figure 4). The vehicles will then continue in a forward direction exiting onto Clarke Street.

Collections will be timed when there is minimal activity at the ground (i.e. outside of games/training times).

Waste collection vehicles will safely enter, operate and exit the development with minimal reversing or manoeuvring.

Swept path analysis for vehicle ingress and egress has been completed taking into consideration the specifications of a 12.5m SUV design vehicle (refer Figure 4).

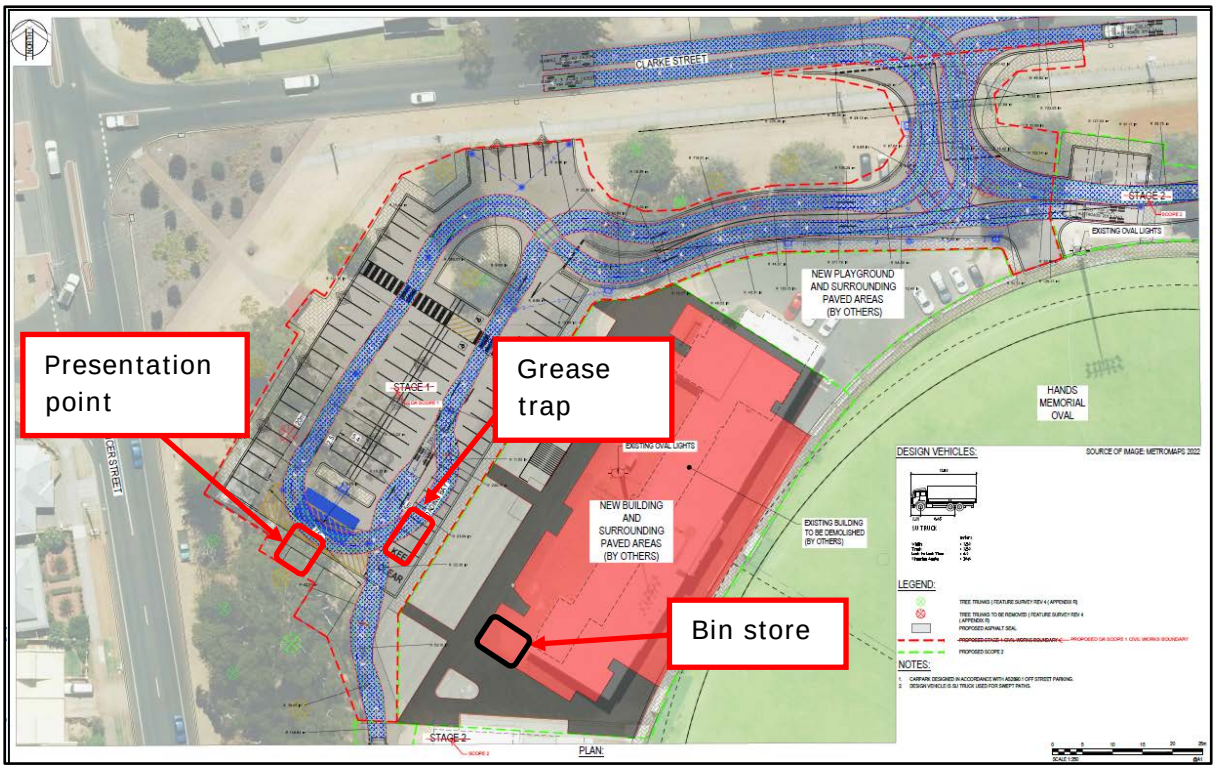
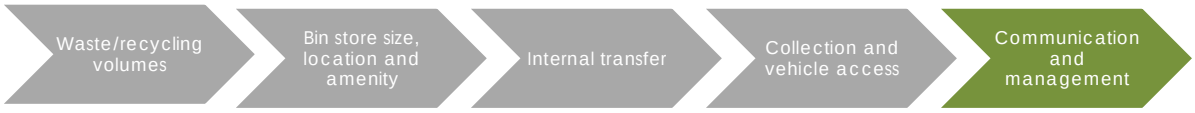


Figure 4: Swept path analysis showing access for waste collection vehicles and presentation point

6 Ongoing communication and management



6.1 Management

The SWFL management based at Hands Oval Stadium will be responsible for overseeing the waste management systems. They understand their responsibility to work closely with the local government waste collectors and private service providers regarding the schedule for collection and presentation of bins. They will be responsible for maintaining the bin store in a clean and tidy condition at all times and ensuring bins are washed regularly.

6.2 Communication

All stadium users, including home and away teams and umpiring staff, will be made aware of the waste and recycling systems and how they should be used. SWFL management will be responsible for the continuing education of users on correct segregation of waste and recyclables using formats such as effective signage in the bin store.

Appendix A: Glossary of terms and acronyms

Bulky waste storage	An area designed to store any unwanted bulky waste items from residential, retail, commercial or industrial developments.
Collection point	The permitted area on a footpath, roadway or private property (where applicable) that waste, recyclables and bulky waste are loaded into collection vehicles.
Commingled recycling	Common recyclables, mostly packaging; such as glass, plastics, aluminium, steel, liquid paper board (milk cartons). Commingled recycling may include paper but often, and particularly in offices, paper and cardboard are collected separately.
Container Deposit Scheme (CDS)	Also known as Containers for Change: In Western Australia 'eligible containers' (usually for soft and alcoholic drinks) have a 10 cent deposit which can be refunded when the container is redeemed at a refund facility.
General waste	Material that is intended for disposal to landfill (or in some States, incineration), normally what remains after the recyclables have been collected separately.
Grease trap	Collection of solid greases and oils in a tanker system to remove this material from water discharged to sewer from commercial kitchens or food processing facilities. Grease trap collection vehicle requirements can be included in the Waste Management Plan where relevant. Encycle are not hydraulics engineers and do not specify or advise on grease trap systems.
Recyclable	Material that can be collected separately from the general waste and sent for recycling. The precise definition will vary, depending upon location (i.e. systems exist for the recycling of some materials in some areas and not in others).
Recycling	Where a material or product undergoes a form of processing to produce a feedstock suitable for the manufacture of new products.
SBFC	South Bunbury Football Club
SWFL	South West Football League