



Assets | Engineering | Environment | Noise | Spatial | Waste

Waste Management Plan

Florida Beach Shopping Centre – Cnr Dandaragan Drive and
Bailey Boulevard, Dawesville

Prepared for Coles Group Property Developments

February 2021

Project Number: TW20087



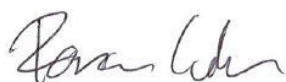
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Approval for Release

Name	Position	File Reference
Ronan Cullen	Director and Waste Management Section Leader	TW20087 - Waste Management Plan.2b

Signature



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Executive Summary

Coles Group Property Developments is seeking development approval for the proposed Florida Beach Shopping Centre development at the corner of Dandaragan Drive and Bailey Boulevard, Dawesville (the Proposal).

To satisfy the conditions of the development application the City of Mandurah (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Speciality Bin Storage Area					
Refuse	4,200	1,100	4	Once each week	Private Contractor
Recycling	2,785	1,100	3	Once each week	Private Contractor
Childcare Bin Storage Area					
Refuse	2,321	660	2	Twice each week	Private Contractor
Recycling	2,321	660	2	Twice each week	Private Contractor
Gym Bin Storage Area					
Refuse	400	1,100	1	Once each week	Private Contractor
Recycling	400	1,100	1	Once each week	Private Contractor

A private contractor will service the Proposal onsite, directly from the Bin Storage Areas utilising the dedicated Loading/Servicing Areas. The private contractor's waste collection vehicle will have the ability to enter and exit the Proposal in forward gear.

Centre management/cleaners will oversee the relevant aspects of waste management at the Proposal.



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Figure 3: Childcare Bin Storage Area

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1 Introduction

Coles Group Property Developments is seeking development approval for the proposed Florida Beach Shopping Centre development at the corner of Dandaragan Drive and Bailey Boulevard, Dawesville (the Proposal).

To satisfy the conditions of the development application the City of Mandurah (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by Woodstock Avenue to the north, Cockelbiddy Gate to the east, Bailey Boulevard to the south and Dandaragan Drive to the west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated quantities of waste to be generated;
- Provide adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.



2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the floor area (m²) of the commercial tenancies at the Proposal. The Proposal consists of the following:

- Supermarket – 3,580m²;
- Speciality Tenancies:
 - Tenancy 01 – 75m²;
 - Tenancy 02 – 75m²;
 - Tenancy 03 – 50m²;
 - Tenancy 04 – 90m²;
 - Tenancy 05 (Liquor Store) – 200m²;
 - Tenancy 06 – 90m²;
 - Tenancy 07 – 90m²; and
 - Tenancy 08 – 90m².
- Childcare – 663m²; and
- Gym – 572m².

Please note, the Supermarket and associated Speciality Tenancy 05 Liquor Store has their own back of house and manages waste through their own internal processes governed by national waste collections contracts, and therefore have not been included as part of this report. Liquor Store waste will be collected in bins located in the dedicated bin room located with the Supermarket tenancy and have waste collected from the Supermarket Loading Dock.

2.2 Waste Generation Rates

The estimated amount of refuse and recyclables to be generated by the Proposal has been based on the Western Australian Local Government Association's (WALGA) *Commercial and Industrial Waste Management Plan Guidelines* (2014) and the City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2017).

It should also be noted that a conservative approach has been taken with regards to waste generation across the Proposal by overestimating the potential waste volumes for the commercial tenancies. This includes using food and beverage waste generation rates for tenancies for which the final uses are still unknown, and assuming seven days of operation for all commercial tenancies.

Table 2-1 shows the waste generation rates applied to the proposed tenancies at the Proposal.

Table 2-1: Refuse and Recyclables Waste Generation Rates

Tenancy	Use Type	Guidelines	Refuse Generation Rate	Recyclables Generation Rate
Speciality Tenancy 01	<i>Butcher/Bakery</i>	Melbourne	80L/100m ² /day	50L/100m ² /day
Speciality Tenancy 02	<i>Butcher/Bakery</i>	Melbourne	80L/100m ² /day	50L/100m ² /day
Speciality Tenancy 03	<i>Takeaway</i>	Melbourne	150L/100m ² /day	150L/100m ² /day
Speciality Tenancy 04	<i>Café/Takeaway</i>	Melbourne	300L/100m ² /day	200L/100m ² /day
Speciality Tenancy 06	<i>Retail</i>	WALGA	50L/100m ² /day	25L/100m ² /day
Speciality Tenancy 07	<i>Retail</i>	WALGA	50L/100m ² /day	25L/100m ² /day
Speciality Tenancy 08	<i>Retail</i>	WALGA	50L/100m ² /day	25L/100m ² /day
Childcare	<i>Childcare</i>	Melbourne	350L/100m ² /week	350L/100m ² /week
Gym	<i>Gym</i>	Melbourne	10L/100m ² /day	10L/100m ² /day

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Speciality Tenancy Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-2. It is estimated that the speciality tenancies at the Proposal will generate 4,200L of refuse and 2,785L of recyclables each week.

Table 2-2: Speciality Tenancy Estimated Waste Generation

Tenancy	Floor Area (m ²)	Waste Generation Rate (L/100m ² /day)	Waste Generation (L/Week)
Refuse			
Speciality Tenancy 01	75	80	420
Speciality Tenancy 02	75	80	420
Speciality Tenancy 03	50	150	525
Speciality Tenancy 04	90	300	1,890
Speciality Tenancy 06	90	50	315
Speciality Tenancy 07	90	50	315
Speciality Tenancy 08	90	50	315
Total			4,200
Recyclables			
Speciality Tenancy 01	75	50	263
Speciality Tenancy 02	75	50	263
Speciality Tenancy 03	50	150	525
Speciality Tenancy 04	90	200	1,260
Speciality Tenancy 06	90	25	158
Speciality Tenancy 07	90	25	158
Speciality Tenancy 08	90	25	158
Total			2,785

2.3.2 Childcare Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-3. It is estimated that the Childcare will generate 2,321L of refuse and 2,321L of recyclables each week.

Table 2-3: Childcare Estimated Waste Generation

Tenancy	Floor Area (m ²)	Waste Generation Rate (L/100m ² /week)	Waste Generation (L/Week)
Refuse			
Childcare	663	350	2,321
Total			2,321
Recyclables			
Childcare	663	350	2,321
Total			2,321

2.3.3 Gym Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-4. It is estimated that the Gym will generate 400L of refuse and 400L of recyclables each week.



Table 2-4: Gym Estimated Waste Generation

Tenancy	Floor Area (m ²)	Waste Generation Rate (L/100m ² /day)	Waste Generation (L/Week)
Refuse			
Gym	572	10	400
Total			400
Recyclables			
Gym	572	10	400
Total			400

3 Waste Storage

To ensure that waste is managed appropriately at the Proposal, it is important to allow for sufficient space to accommodate the required quantity of bins within the Bin Storage Areas. The quantity, size and design of the Bin Storage Areas are described in the following sections.

3.1 Internal Bins

To promote positive recycling behaviour and maximise diversion from landfill, each commercial tenancy will have two internal bins for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by the tenant, staff or cleaners to the designated Bin Storage Area and deposited into the appropriate refuse and recycling bins. Tenants, staff or cleaners will utilise the dedicated service corridors and will transfer waste to the Bin Storage Areas outside of normal operating hours to minimise disturbance to customers and visitors at the Proposal.

3.2 Bin Storage Areas

3.2.1 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions	Bin Sizes			
	240L	360L	660L	1,100L
Depth (mm)	730	848	780	1,070
Width (mm)	585	680	1,260	1,240
Height (mm)	1,060	1,100	1,200	1,300
Area (mm ²)	427	577	983	1,327

Reference: SULO Bin Specification Data Sheets

3.2.2 Speciality Tenancy Bin Storage Area

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Speciality Tenancy Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse and recyclables once each week from the Proposal.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

- Four 1,100L refuse bins; and
- Three 1,100L recycling bins.

Table 3-2: Bin Requirements for Speciality Tenancy Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	4,200	18	12	7	4
Recycling	2,785	12	8	5	3

The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming one collection each week of refuse and recyclables. Increased collection frequencies would reduce the required number of bins.

3.2.3 Childcare Bin Storage Area

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Childcare Bin Storage Area was modelled utilising the estimated waste generation in Table 2-3, bin sizes in Table 3-1 and based on collection of refuse and recyclables twice each week from the Proposal.

Based on the results shown in Table 3-3 the Bin Storage Area has been sized to accommodate:

- Two 660L refuse bins; and
- Two 660L recycling bins.

Table 3-3: Bin Requirements for Childcare Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	2,321	5	4	2	2
Recycling	2,321	5	4	2	2

The configuration of these bins within the Bin Storage Area is shown in Figure 3. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 3 represents the maximum requirements assuming two collections each week of refuse and recyclables. Increased collection frequencies would reduce the required number of bins.

3.2.4 Gym Bin Storage Area

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Gym Bin Storage Area was modelled utilising the estimated waste generation in Table 2-4, bin sizes in Table 3-1 and based on collection of refuse and recyclables once each week from the Proposal.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

- One 1,100L refuse bins; and
- One 1,100L recycling bin.

Table 3-4: Bin Requirements for Gym Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	400	2	2	1	1
Recycling	400	2	2	1	1

The configuration of these bins within the Bin Storage Area is shown in Figure 4. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 4 represents the maximum requirements assuming one collection each week of refuse and recyclables. Increased collection frequencies would reduce the required number of bins.



3.2.5 Bin Storage Area Design

The design of the Bin Storage Areas will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Areas;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Areas self-closing and vermin proof;
- Doors to the Bin Storage Areas wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Areas will be monitored by the centre management/cleaners during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.



4 Waste Collection

A private contractor will service the Proposal and provide the Speciality Tenancies, Childcare and Gym with the required bins for refuse and recyclables.

The private contractor's rear loader waste collection vehicle will service bins directly from the Bin Storage Areas utilising the dedicated Loading Areas/Servicing Areas. Private contractor's staff will ferry bins to and from the rear loader waste collection vehicle and the Bin Storage Areas during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Areas and any security access gates to facilitate servicing, if required.

The private contractor's rear loader waste collection vehicle will have the ability to enter and exit the Proposal in forward gear.

Servicing of bins onsite will reduce the noise generated in the area during collection. In addition, it will remove the need for bins on the street, maintaining the amenity of the area and removing the requirement for a lay down area to temporarily store bins on the verge before the waste collection vehicle arrives.

The ability for the private contractors rear loader waste collection vehicle to access the Proposal in a safe manner has been assessed by qualified traffic engineers and is included within their traffic impact statement.

4.1 Bulk Waste and Speciality Waste Collection

Bulk and speciality waste materials will be removed from the Proposal as they are generated.

Adequate space will be allocated throughout the individual tenancies for placement of cabinets/containers for collection and storage of bulk and specialty wastes that should not be disposed of within the bins. These may include items such as:

- Refurbishment wastes from fit outs;
- Clothing;
- Batteries;
- E-wastes;
- Used cooking oil;
- White goods/appliances;
- Cleaning chemicals; and
- Commercial Light globes

Removal of bulk and specialty wastes will be the responsibility of the individual tenants. Removal of bulk and specialty waste will be monitored by the centre management/cleaners, who will assist tenants with the removal of these wastes, as required.



5 Waste Management

Centre management/cleaners/tenants will ensure the following duties are completed:

- Monitoring and maintenance of bins and the Bin Storage Areas;
- Cleaning of bins and Bin Storage Areas, when required;
- Ensure all tenants/staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor tenant/staff/cleaner behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist tenants with its removal, as required;
- Regularly engage with tenants/staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.



6 Conclusion

As demonstrated within this WMP, the Proposal provides sufficiently sized Bin Storage Areas for storage of refuse and recyclables, based on the estimated waste generation and suitable configuration of bins. This indicates that adequately designed Bin Storage Areas have been provided, and collection of refuse and recyclables can be completed from the Proposal.

A private contractor will service the Proposal onsite, directly from the Bin Storage Areas utilising the dedicated Loading/Service Areas. The private contractor's waste collection vehicle will have the ability to enter and exit the Proposal in forward gear.

Centre management/cleaners will oversee the relevant aspects of waste management at the Proposal.



Figures

Figure 1: Locality Plan

Figure 2: Speciality Tenancy Bin Storage Area

Figure 3: Childcare Bin Storage Area

Figure 4: Gym Bin Storage Area



LEGEND

- Site Boundary
- Cadastre

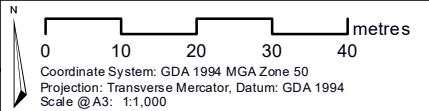
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LOCALITY

Florida Beach Shopping Centre
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Dawesville, WA 6211

Wallace PM



Prepared:	F Walker	Date:	28/07/2020
Reviewed:	D Patel	Revision:	A
Project:	TW20087		



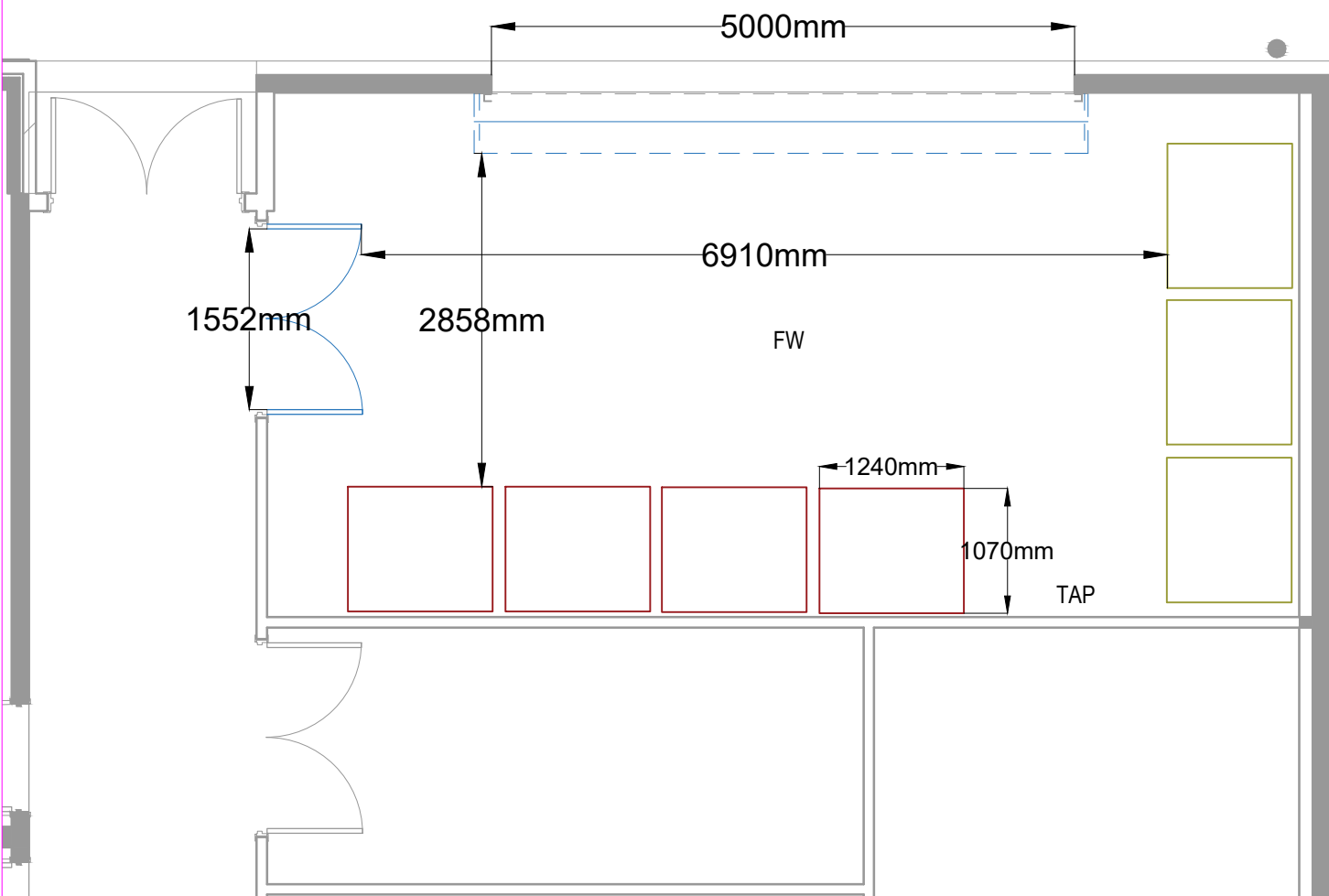
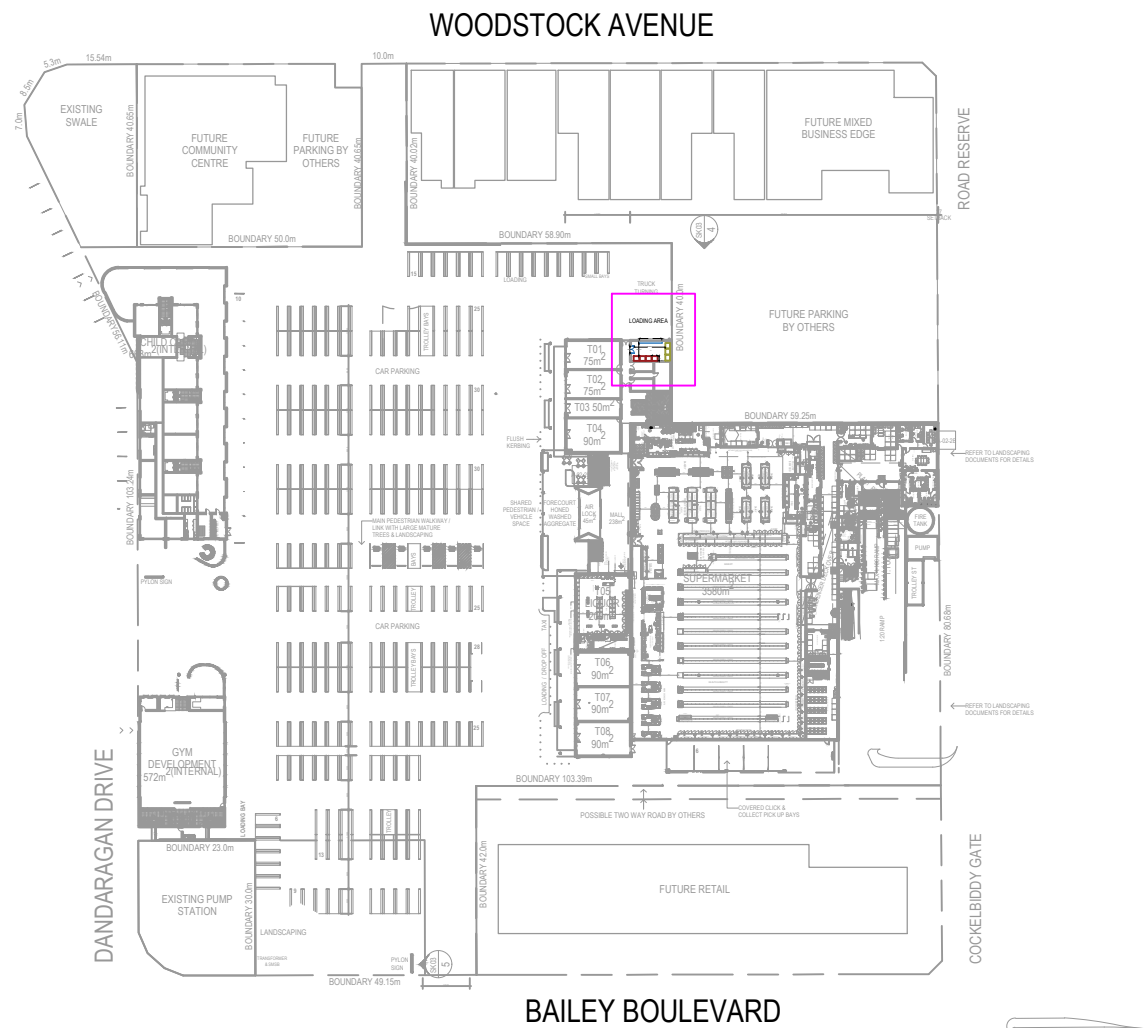
Figure 01

Data source: Roads - MRWA, 2020. Imagery: Landgate, 2020.

Speciality Tenancy Bin Storage Area

LOADING AREA

BOUNDARY

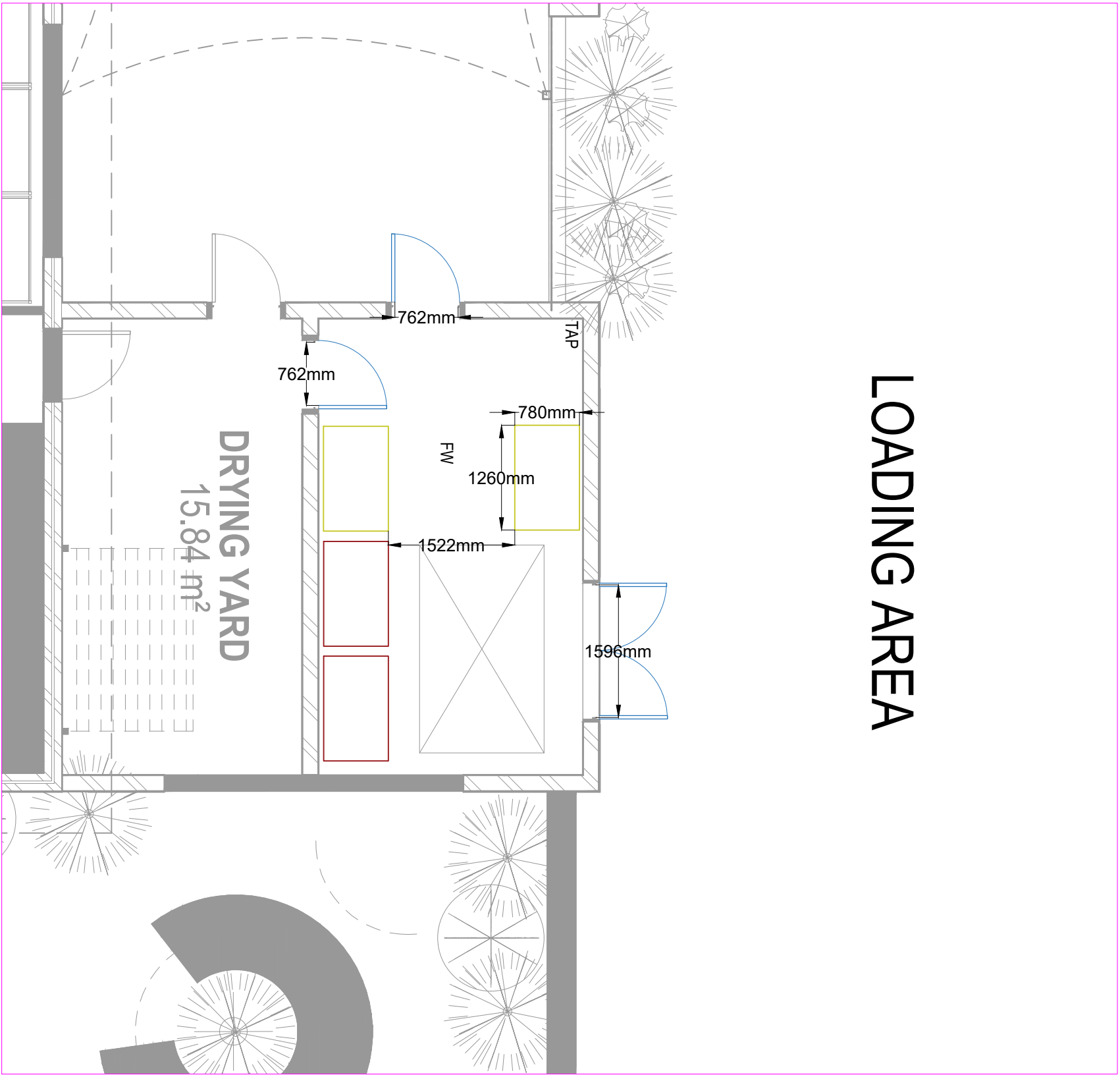
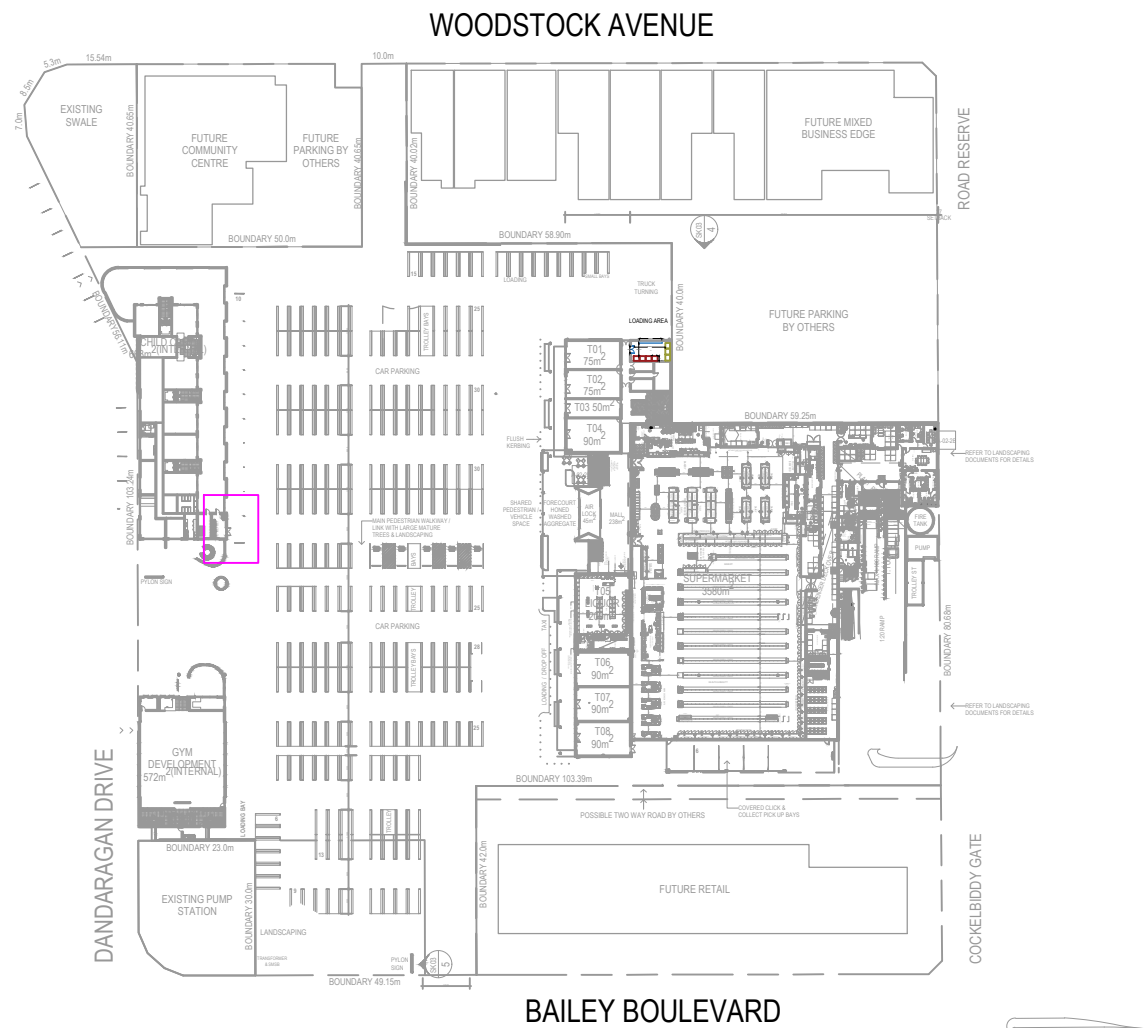


Legend:

Bin Storage Area



- 4 x 1,100L refuse (1070mm x 1240mm)
- 3 x 1,100L recycling (1070mm x 1240mm)

Childcare Bin Storage Area



Legend:

Bin Storage Area

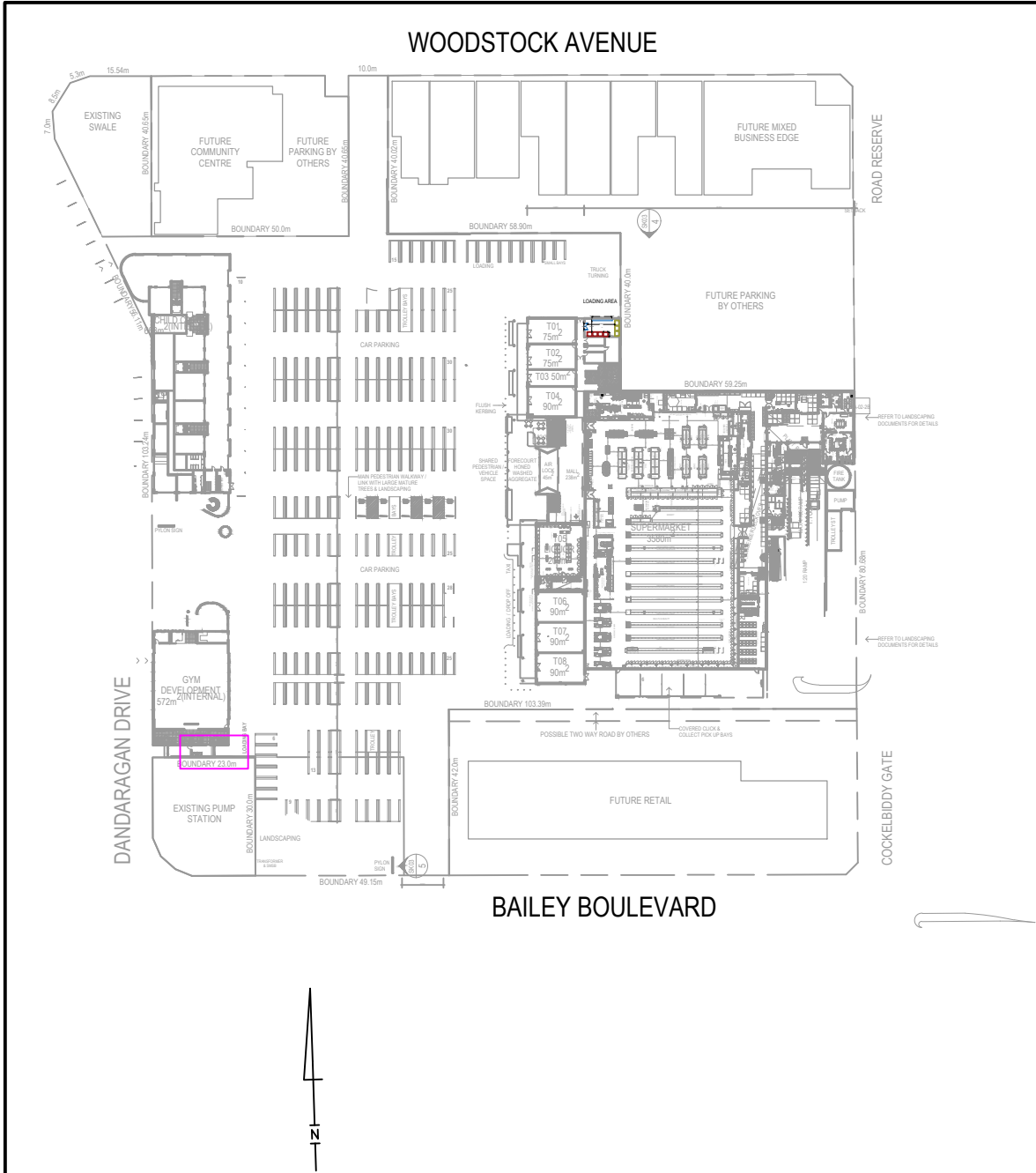
-  2 x 660L refuse (1260mm x 780mm)
-  2 x 660L recycling (1260mm x 780mm)

NOTES

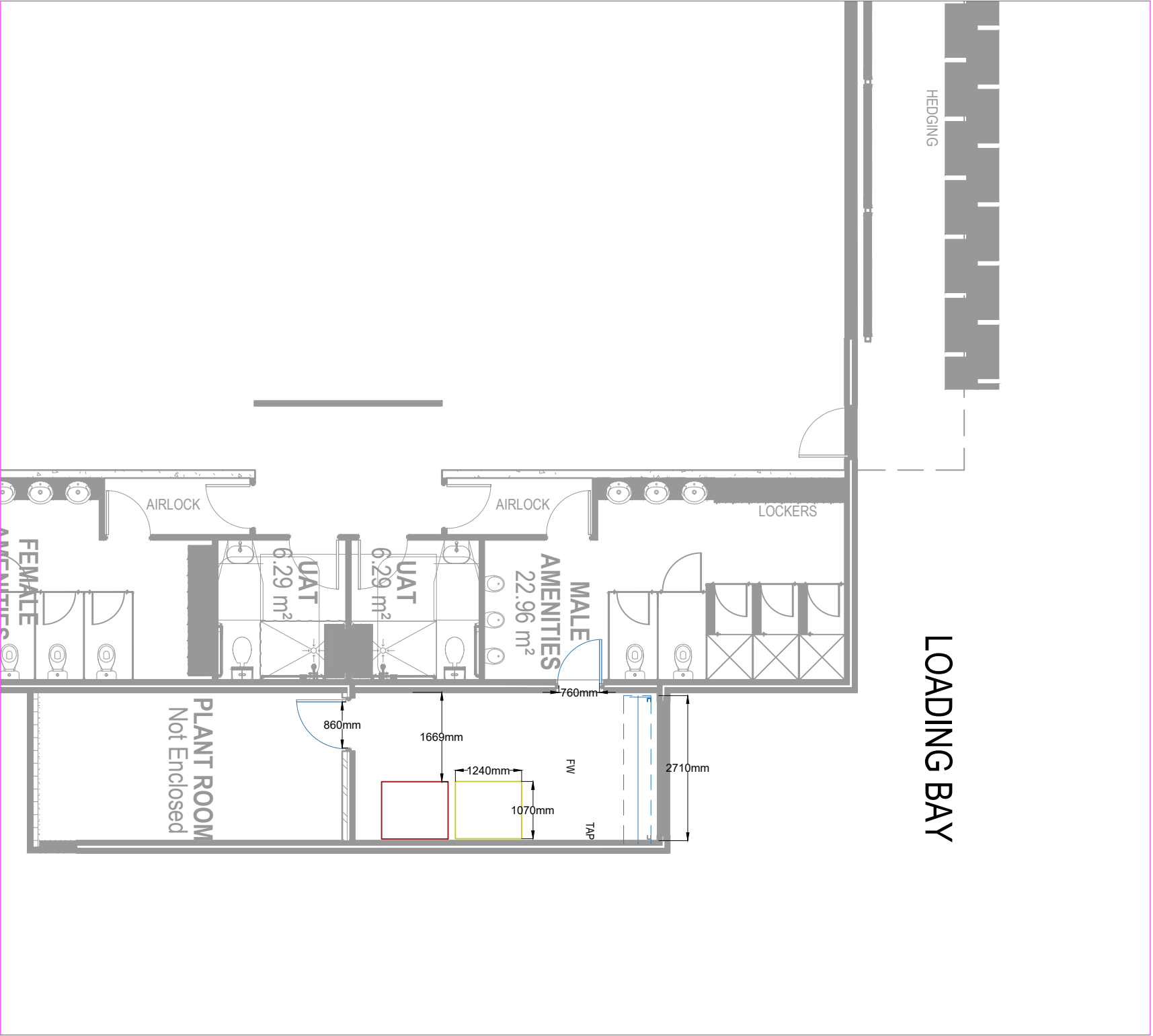
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No.	Date	By	App.	Amendment / Issue
B	10/02/21	RH DP		SECOND ISSUE
A	17/08/20	DP RET		FIRST ISSUE
No.	Date	By	App.	Amendment / Issue

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Checked by:	DP	File No:	TW20087DWG002
Approved by:	RH	Fig. No:	003
Scale:	NTS	Rev:	B
Date:	10/02/20		



Gym Bin Storage Area



Legend:

Bin Storage Area

- 1 x 1,100L refuse (1070mm x 1240mm)
- 1 x 1,100L recycling (1070mm x 1240mm)

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