



Assets | Engineering | Environment | Noise | Spatial | Waste

Waste Management Plan

Duncan Street Nursing Home, 16, 18 & 20 Duncan Street,
Victoria Park WA

Prepared for Burswood Care Pty Ltd

October 2019

Project Number: TW18060



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Name	Position	File Reference
Ronan Cullen	Director and Waste Management Section Leader	TW18060 - Waste Management Plan.1a

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Executive Summary

Burswood Care Pty Ltd is seeking development approval for the proposed Duncan Street Nursing Home located at 16, 18 & 20 Duncan Street, Victoria Park. As a condition of the development application the Town of Victoria Park requires the submission of a Waste Management Plan (WMP) to identify how waste is to be stored and collected from the Proposal. Talis Consultants Pty Ltd has been engaged to prepare this WMP to satisfy those conditions.

A summary of the waste generation, receptacle size, numbers, collection frequency and collection method for the Proposal is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area					
Refuse	9,272	1,100L	9	Once each week	Private Contractor
Recycling	8,673	1,100L	8	Once each week	Private Contractor

A private contractor’s rear lift waste collection vehicle will service bins onsite, directly from the Bin Storage Area utilising the loading and refuse dock. The rear lift waste collection vehicle will enter and exit the Proposal in forward gear via Duncan Street.

Dedicated maintenance staff will oversee the relevant aspects of waste management at the Proposal.



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1 Introduction

Burswood Care Pty Ltd is seeking development approval for the proposed Duncan Street Nursing Home located at 16, 18 & 20 Duncan Street, Victoria Park (the Proposal).

As a condition of the development application the Town of Victoria Park (the Town) requires the submission of a Waste Management Plan (WMP) to identify how waste is to be stored and collected from the Proposal. Talis Consultants Pty Ltd have been engaged to prepare this WMP to satisfy those conditions.

The Proposal is bordered by Duncan Street to the north, residential properties to the east and south and Albany Highway 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 all waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal should be designed to:

- Adequately cater for the anticipated quantities of waste to be generated;
- Provide suitable Bin Storage Area including appropriate bins; and
- Allow for efficient collection of receptacles 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 sections show 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 were based on the number of nursing home suites and their associated shared services. The Proposal consists of the following:

- Nursing Home Suites – 120;
- Café – 82m²;
- Salon – 17m²;
- Offices (including staff rooms, training rooms etc.) – 231m²; and
- Medical Preparation and Nurse Base – 196m².

2.2 Waste Generation Rates

Waste generation rates for the proposal were based upon the Western Australian Local Government Association's (WALGA) *Commercial and Industrial Waste Management Plan Guidelines* (2014) with consideration given to City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2017).

The City of Melbourne's waste generation rates were utilised as there are no Western Australian Local Government Association or any other Western Australian Waste Guidelines that included suitable waste generation rates for nursing home facilities.

As the nursing home suites are supported by a centralised kitchen and dining/communal areas, it is assumed that the nursing home suites would represent "Retirement Village" operations. Therefore, the generation rates of 60L/suite/week for refuse and recyclables were utilised in calculating waste volumes for the nursing home suites.

As medical waste is highly dependent on the nature and scale of medical practices undertaken on site there are currently no medical/clinical waste generation rates available within published waste management guidelines. Facilities such as nursing homes typically manage medical waste in-situ, therefore medical waste has not been included within waste generation calculations.

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.

The waste generation volumes in litres per week (L/week) of refuse and recyclables adopted for Proposal is shown in Table 2-1. It is anticipated that the Proposal will generate 9,272L of refuse and 8,673L of recyclables each week.

Table 2-1: Estimated Waste Generation

Nursing Home	Number of Suites/Floor Area (m ²)	Waste Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
Nursing Home Suites	120	60	7,200
Café	82	300	1,722
Hair Salon	17	60	51
Offices (including staff rooms, training rooms etc.)	231	10	162
Medical Preparation and Nurse Base	196	10	137
Total			9,272
Recyclables			
Nursing Home Suites	120	60	7,200
Café	82	200	1,148
Hair Salon	17	30	26
Offices (including staff rooms, training rooms etc.)	231	10	162
Medical Preparation and Nurse Base	196	10	137
Total			8,673

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 Area. The procedure and bins to be used in these areas are described in the following sections.

3.1 Internal Bins

To promote positive recycling behaviour and maximise diversion from landfill, the nursing home suites will have two bins for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by cleaners to the Bin Storage Area utilising the dedicated service lift and deposited into the appropriate refuse and recycling bins. The access door will be restricted with a pin code or swipe card system for security.

In addition, all associated amenities, including the kitchen, dining, offices and activities/lounges, will have a minimum of two bins to facilitate the separate disposal of refuse and recyclables. The contents of these bins will be transferred by staff/cleaners utilising the dedicated service lift to the Bin Storage Area and be deposited into the appropriate bin.

3.2 Bin Storage Area

Refuse and recyclable materials generated within the Proposal will be collected in bins located in the Bin Storage Area shown in Figure 2.

3.2.1 Bin Sizes

Table 3-1 gives the typical dimensions of standard bin sizes. 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 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the bin sizes in Table 3-1 and assuming collection of refuse and recyclables once each week.

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

- Nine 1,100L refuse bins; and
- Eight 1,100L recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	9,272	39	26	15	9
Recycling	8,673	37	25	14	8

The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins 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 Future Source Separating Equipment and Consolidation

Additional space has been allocated for future source separation of recyclables. The Bin Storage Area has been sized to accommodate a cardboard baler in the future, and additional room has been included for storage of baled cardboard and used oil, should it be required in the future, as shown in Figure 2.

Introduction of source separation of wastes and equipment will be a decision for the maintenance manager once the development is operational and the compositional breakdown of each of the waste streams can be determined.

3.2.4 Bin Storage Area Design

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

- Incorporating suitable levels of waste and recycling storage facilities for the containment of a minimum of one week’s waste and recycling;
- Bin-washing facilities including an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock and have floor drainage;
- Walls, floors and ceilings finished with a light colour & impermeable to water so they can be jet washed, as required;
- Containing a smooth and impervious floor of not less than 75 millimetres in thickness and which is evenly graded to an approved liquid refuse disposal system (floor draining to the sewer);
- Adequate aisle width, not less than 1 metre in width for easy manoeuvring of bins;
- Having walls not less than 1.5 metres in height;
- Doors to the Bin Storage Area self-closing, vermin proof and wide enough to fit bins through;
- Provide for adequate natural ventilation through ventilated doors which will be permanent, unobstructed natural ventilation openings direct to the external air;
- Artificial light to be controlled by switches and will be located both outside and inside the room.
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- The Bin Storage Area shall be located behind the building setback line;
- Bins not 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 Area will be monitored the maintenance staff during the operation of the Proposal to ensure that the number of receptacles and collection frequency is sufficient.

4 Waste Collection

A private contractor will service the Proposal by providing nine 1,100L bins for refuse and eight 1,100L bins for recyclables. The private waste contractor will collect refuse and recyclables once each week using a rear lift waste collection vehicle.

The private contractor's rear lift waste collection vehicle will service bins from the loading and refuse dock adjacent to the Bin Storage Area, shown in Figure 2. The private contractor's rear lift waste collection vehicle will enter the Proposal via the proposed Duncan Street entrance in forward motion and reverse into the loading and refuse dock. The private waste contractor engaged to service the Proposal will be required to service the bins with a rear lift waste collection vehicle that can operate within an overhead clearance height of 3700mm.

Private waste contractor staff will ferry bins to and from the Bin Storage Area and the private contractor's rear lift waste collection vehicle during servicing. The access way is of flat surface and will be kept free of obstacles. The private contractor will be provided with key/PIN access to the Bin Storage Area to facilitate servicing, if required. Once servicing is complete, the waste collection vehicle will move out of the Loading and refuse dock and exit the proposal in a forward motion, via Duncan Street.

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

4.1 Bulk Waste

Bulk waste material will be removed from the Proposal as it is generated. A designated car bay can be used for temporary storage of a skip bin for bulk waste removal, if required.

Maintenance staff will liaise with staff/cleaners on procedures for bulk waste disposal within the Proposal. The maintenance staff will monitor the accumulation of bulky waste and will organise for its disposal at the appropriate facility, as required.

Greenwaste collection services may be carried out by private service providers, if required.

4.2 Specialty Wastes

Additional containers may be introduced throughout the Proposal for the collection of specialty wastes that are unable to be disposed of within the bin system. Specialty wastes may include items such as:

- Clothing/linen;
- Batteries;
- E-wastes;
- White goods/appliances;
- Cleaning chemicals; and
- Light globes.

Specialty wastes will be removed from the Proposal as sufficient volumes have been accumulated to warrant disposal. Specialty waste collection will be monitored by the maintenance staff that will organise their transport to the appropriate waste facility, as required. The types of specialty wastes to be collected will be a decision for maintenance staff once the Proposal is operational.

Sanitary wastes will be collected in situ. A suitably qualified sanitary waste collection and disposal provider will be engaged to determine storage and collection requirements.

4.3 Controlled Medical Waste

The volume of medical waste generated at the Proposal will be dependent on the nature and scale of the medical practises undertaken. Appropriate containers will be placed in all medical preparation/nurse bases within the nursing home where particular categories of medical waste may be generated. Instructions on identification and separation of medical wastes will be posted at each waste collection point to remind staff of procedures.

Specialised yellow clinical waste containers for the relevant waste streams will be stored and collected directly from the medical preparations/nurses bases by a qualified medical waste service provider. A suitably licensed controlled waste service provider will be engaged to determine storage and collection requirements.

5 Waste Management

Maintenance staff will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Areas;
- Cleaning of bins and Bin Storage Areas, when required;
- Rotating full and empty bins within the Bin Storage Area to ensure staff/cleaners will always have easy access of bins for disposal of waste;
- Ensure all staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaner behaviour and identify requirements for further education and/or signage;
- Organise disposal of bulk waste, green waste and specialty wastes, as required;
- Regularly engage with 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.

The maintenance manager will work closely with the staff/cleaners to maintain an efficient waste system will hold training sessions for all new staff/cleaners to inform them on the correct use of the waste system and their responsibilities under this WMP.

6 Conclusion

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

The above is achieved using:

- Nine 1,100L refuse bins, collected by the private contractor once each week; and
- Eight 1,100L recycling bins collected by the private contractor once each week.

A private contractor's rear lift waste collection vehicle will service bins onsite, directly from the Bin Storage Area utilising the loading and refuse dock. The rear lift waste collection vehicle will enter and exit the Proposal in forward gear via Duncan Street.

Dedicated maintenance staff will oversee the relevant aspects of waste management at the Proposal.



Figures

Figure 1: Locality Plan

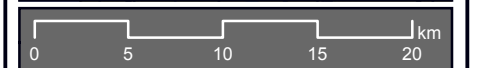
Figure 2: Bin Storage Area



LEGEND

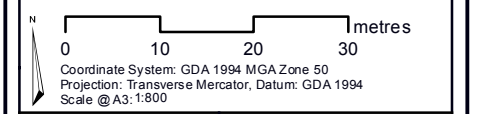
- Site Boundary
- Cadastre

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LOCALITY

16, 18 and 20 Duncan Street
Victoria Park, WA 6100

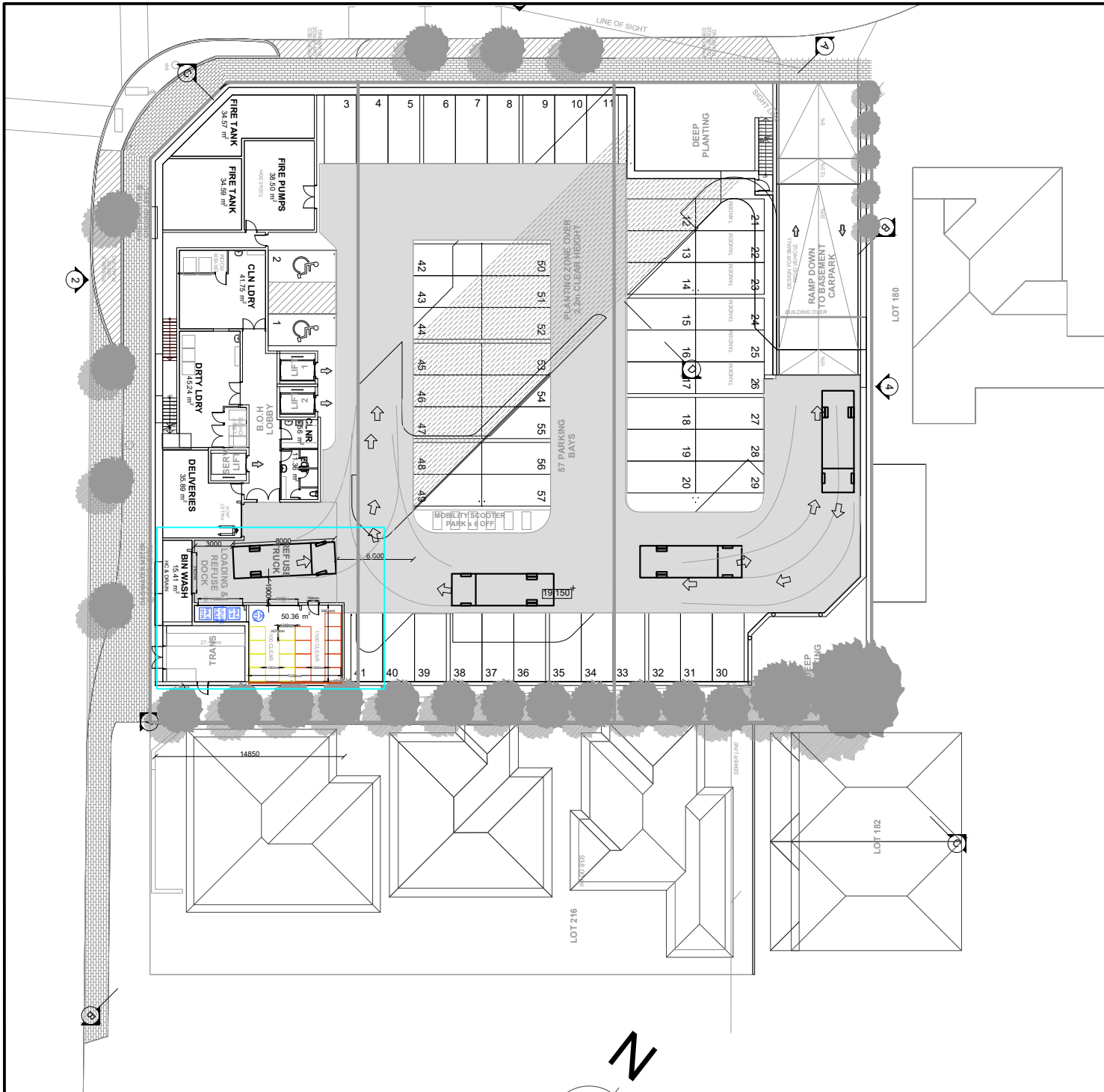
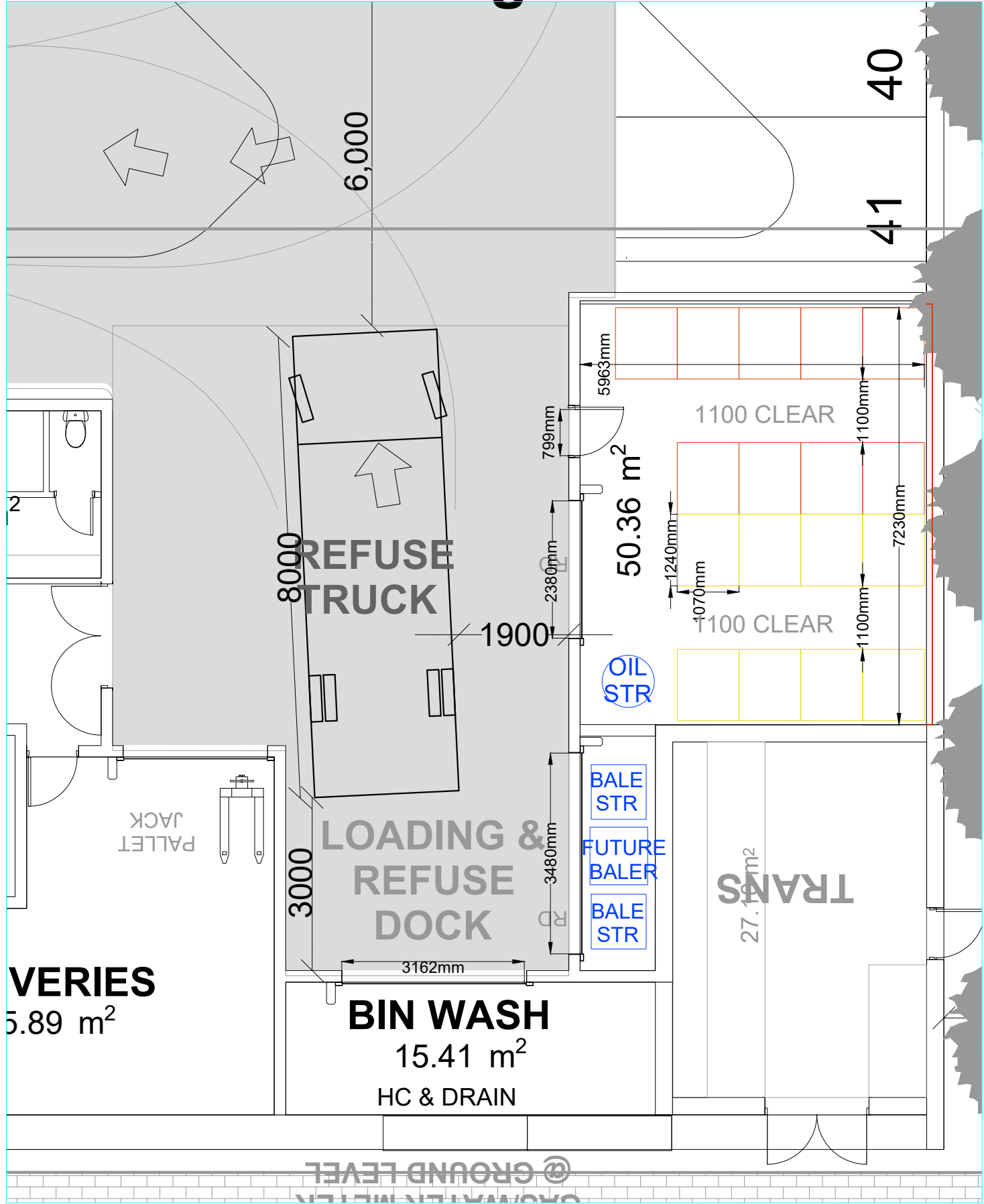


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Figure 01

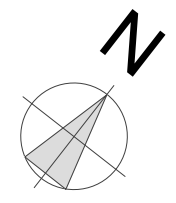
Bin Storage Area



Legend:

Bin Storage Area

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



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Checked by:	RH	File No:	TW18060DWG001
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