

20 May 2025
Job No: 24189

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**Re: Industrial Warehouse Development Cope Sensitive Freight DC - 211-227
Luddenham Rd, Orchard Hills NSW – Sewer Servicing Strategy**

Introduction

The proposed building consists of a single Class 7b warehouse portion with an associated single storey Class 5 office portion and is to be tenanted by a single tenant, COPE Sensitive Freight. The site is located at 211-227 Luddenham Rd, Orchard Hills NSW, which has no authority provided gravity waste drainage system and in the interim, it is proposed that the project will be provided with onsite wastewater holding well for private contractor waste disposal via road tankers. The wastewater system will receive all sanitary waste, ablution waste and truck wash wastewater (pretreated via an oil/water separator). No on-site disposal is proposed. Ultimately, the permanent solution would be connection to authority sewer when it becomes available.

**Penrith City Council – 'On-Site Sewerage Management and Greywater Reuse - EH002'
dated 14 April 2014**

2.1.4 Additional Requirements for Pump-out Systems

The following requirements need to be considered in conjunction with Section 2.1.1 for all pump-out systems:

- New pump-out systems are generally not supported, unless it has been demonstrated that there is no other suitable option.
- Effluent must be pumped out at least once a week (unless otherwise approved by Council).
- A suitable service provider is to be engaged to pump out the tank/s and dispose of the waste at a licensed waste facility.
- Owners of pump-out systems (except those systems covered by Council's domestic service) must provide pump-out records to Council as per the conditions of their Operational Approval or on request (including volumes, service provider details, system details and the disposal location).

2.1.5 Commercial Systems

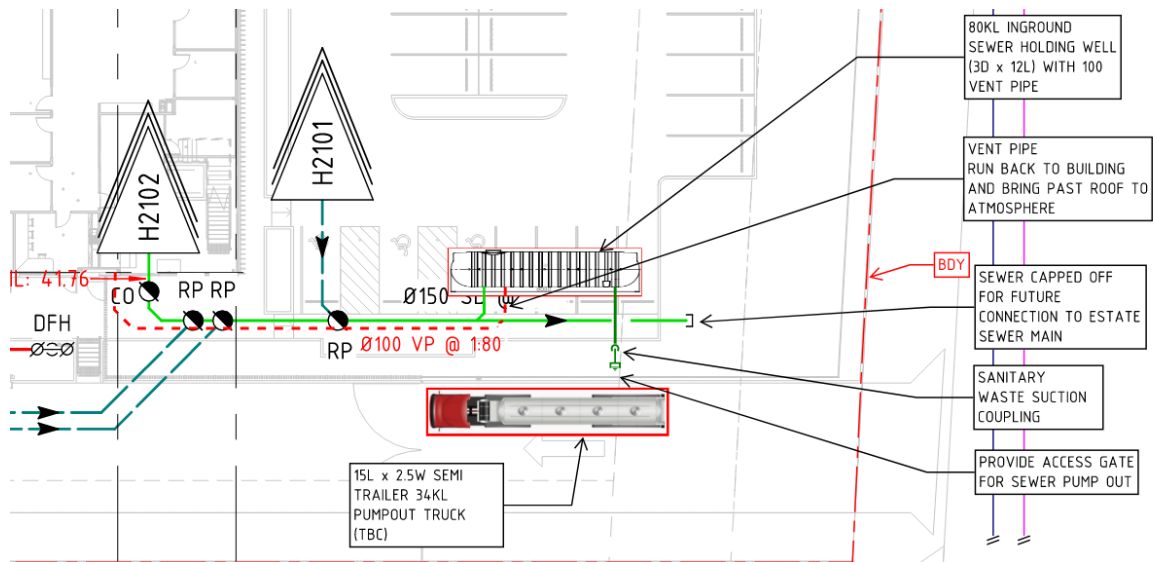
Commercial systems regulated by Council are generally sized between 10EP and 2500EP (EP - equivalent persons). Commercial systems require both installation and operational approvals from Council.

This schematic diagram illustrates the sanitary sewerage system layout. It shows the flow from various sources through pump stations and treatment units to a holding tank. Key components include:

- Sources:** FROM HOLDING PIT AT TRUCK REFUELLING AREA, 5000L/HR OIL/WATER SEPARATOR, MACHINE TRUCK WASH, FROM HOLDING PIT AT TRUCK WASHING.
- Treatment Units:** 1000L/HR OIL/WATER SEPARATOR, TRADE WASTE FLOW METER.
- Pump Stations:** 10KL SEWER PUMP STATION WITH DUAL GRINDER PUMPS, 8KL SEWER PUMP STATION WITH DUAL GRINDER PUMPS, 3KL SEWER PUMP STATION WITH DUAL GRINDER PUMPS.
- Buildings:** WESTERN SIDE APARTMENTS, WAREHOUSE APARTMENTS + DRINKING FOUNTAINS, MAIN OFFICE.
- Ventilation:** CHAMBER VENT (TYPICAL).
- Final Disposal:** SANITARY WASTE SUCTION COUPLING, INGROUND SEWER HOLDING TANK.
- Future Connection:** SEWER CAPPED FOR FUTURE CONNECTION TO ESTATE SEWER MAIN.

The diagram uses color-coded lines to represent different types of piping: green for main sewer lines, blue for grinder pump discharge lines, and red dashed lines for vent pipes. Pipe sizes are indicated throughout the system (e.g., Ø100 SD, Ø75 SDH, Ø150 SD).

Truck Staging



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Supporting Calculations

Based on the information at hand, the proposed wastewater holding tanks are sized for 5 days storage with 24-hour emergency storage based upon a population of 198 persons/day with an estimated weekly total of 77.1kL. The projected frequency of pumping would be min 1 time per week or more as required (TBC when operational) from the primary suction coupling provided in the southern end of the carpark off Collector Road, this is based on 2x 34kL semi-trailer 15L x 2.5W truck.

The proposed wastewater system consists of 3 separate sewer pumping stations ranging from 3kL to 10kL within the site and pumps to a 150mm gravity sewer line located on the southeastern corner of the site. This gravity line then drains to the proposed holding tank, the proposed system is to be installed with telemetry/interlock between the pumping station and the holding well so that the system can regulate pumpout in the event of any failures.

The holding well will have a control panel connected to either a variable float or level transducer with low/med/high level alarm, alarm will be a local audible and visual alarm as well as BMS connection for remote alert. Interlocks to be installed that would stop the upstream pumping stations from operating where the level in the holding well is at a level between the high-level alarm and full capacity.

Under Sewerage Code of Australia WSA 02 – 2014 sizing under EP is generally more applicable to industrial production applications and found to be excessive for large warehousing. Instead, we propose to use figures from Sydney Water's 'Infrastructure contributions' Version 1.3 dated November 2023 – Section 5.3 Future ET. This forecasts the infrastructure requirement for additional employment and assumes that each employee will use an average of 65 liters of water per day, with an average wastewater discharge factor of 80.5%

Basis of system sizing:

- Expected population figure = 198 people
- Drinking Water - 198 people x 65L/day/person = 12,870L = 12.87kL
- Wastewater – 12.87kL x 80.5% (Wastewater discharge factor) = 10.36kL
- Truck Washing Wastewater – 21 trucks x 105L/wash (+2000L/week dumping cycle)= 2,491L = 2.49kL
- 5 day operation plus 24-hour emergency storage = 12.85kL x 6 days = 77.1kL

Proposed system:

- Atlan TankStor or Equal 80kL inground tank (3D x 12L) complete with pump suction coupling and vent pipe to atmosphere
- Pumpout occurs once a week or more as required via 2x 34kL semi-trailer 15L x 2.5W truck

Yours Faithfully,

Steven Ta

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