

# DRAFT ENVIRONMENTAL MANAGEMENT PLAN (EMP)

1799A GREAT SOUTH ROAD, AUCKLAND



PREPARED FOR: VERNON DEVELOPMENTS

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## 1.0 INTRODUCTION

Vernon Developments operate a rural commercial service from 1799A Great South Road, Bombay (Lot 6 DP 156089). As part of this activity they propose to operate a workshop for the repair and maintenance of their fleet of heavy trucks and farm vehicles. The workshop is located within an existing shed the middle of the property, occupying an estimated 1000 m<sup>2</sup> portion of the above legal title.

This Environmental Management Plan (EMP) has been prepared to address the requirements of the Auckland Unitary Plan (Operative in Part) (AUP(OP)) with respect to managing potential discharges that may arise from an Industrial / Trade activity (including storage and use of hazardous substances) onto land or into rivers, streams, groundwater aquifers, or coastal water ways. As Vernon Developments will be undertaking the Industrial / Trade Activities, this Environmental Management Plan has been prepared specific to the requirements of hazardous activities or industrial trade activities associated with operations at 1799A Great South Road.

No discharges of hazardous or potentially environmentally harmful substances are anticipated under the normal operation of the facility to the land or any waterway. Therefore, the primary goal of this EMP is to provide practices and procedures to avoid discharges in the first instance, and where accidental spillages occur, provide robust mechanisms to minimise the discharge of potentially hazardous substances from site.

This EMP is intended to be a live document that will be reviewed and updated as the design and operational phases of the proposed development progress.

### 1.1 ENVIRONMENTAL CONTEXT

The site is within a Mixed Rural Zone directly adjacent to the Southern Motorway.

A portion of the property lies within the Bombay Drury Kaawa and Bombay Volcanic Aquifers, listed as a High Use Aquifer Management Areas in the Auckland Council GEOMaps website groundwater overlay.

The piece of land is generally flat. The site is located within the Hingaia Stream catchment of the Manukau Harbour.

Stormwater from impermeable metalled surfaces currently flows over the land and discharges to an overland flow path within the site, before exiting the property via a culvert that flows under the Southern Motorway.

Infiltration through semi-permeable surfaces is expected to be minimal and slow and as such, soakage is considered a minor discharge pathway.

A review of the floodplains, flood prone areas, and flood sensitive areas of the Auckland Region modelled by Auckland Council (available on the GEOMaps server) revealed a portion of the site falls within the 1% AEP floodplain.

### 1.2 SUMMARY OF PROPOSED SITE OPERATIONS

Vernon Developments operates rural contracting business defined as a Rural Industry / Rural Commercial Service under the AUP. The site is used as a yard / depot for the storage of vehicle,

equipment and machinery. Office and administration activities are also undertaken from the site. A part of the activity a repair and maintenance workshop will be established within an existing shed, for the servicing and repair of vehicles and machinery. In Summary:

- Truck and tractor service activities will primarily be undertaken within the internal workshop area. No repair and maintenance work is undertaken outside the workshop.
- Stormwater captured by the shed building's roof and canopy will be discharged directly to the stormwater system.

Other yard activities are summarized as:

- Parking of trucks, tractors and other heavy machinery overnight and when not in use;
- Diesel, Petrol and Adblue refuelling activities;
- Small wash pad for steam cleaning and water blasting drained to an oil and grit interceptor. Detergents are not used for wash down activities, and
- Stormwater from the car park and general yard area will drain to a treatment swale and then to a stormwater pond prior to being discharged to the environment.

## 2.0 REGULATORY MATTERS

### 2.1 RESOURCE CONSENTS AND PERMITS

Vernon Developments are seeking all appropriate consents to operate a rural industry / rural commercial service from the site. This includes the installation of an onsite treatment system from the yard / parking area. This section will be updated following granting of all applicable resource consents.

### 2.2 AUCKLAND UNITARY PLAN (OPERATIVE IN PART)

Auckland Council notified an operative in part version of the Auckland Unitary Plan on 15 November 2016 (AUP(OP)). The AUP(OP) is a combined regional policy statement, regional coastal plan, regional plan, and district plan developed to provide a framework for the management of natural and physical resources within the Auckland region in accordance with the Resource Management Act 1991. The primary sections of relevance of the AUP(OP) for this EMP are:

- 2.2.1 Chapter 9 *Stormwater Quality – High contaminant generating carparks and high use roads*;
- 2.2.2 Chapter E31 *Hazardous Substances*; and
- 2.2.3 Chapter E33 *Industrial and Trade Activities*.

This EMP considers the storage of hazardous substances on site as set out in Chapter E31, the controls of which aim to assess the risk of using a piece of land for the use, storage, or disposal of hazardous substances in Auckland and ensure that the appropriate steps are taken to mitigate any potentially adverse effects on human health or the environment. The chapter aims to mitigate these risks by managing the location, design, construction, and management of facilities in which hazardous substances are used or stored, including consideration for surrounding land users and transport corridors utilised in the movement of hazardous substances.

In addition to the hazardous substance matters set out within Chapter E31, this EMP considers Chapter E33 of the AUP(OP), dealing specifically with Industrial and Trade activities within the

Auckland area. Chapter E33 has been developed to ensure that all industrial and trade activities are subject to appropriate management to ensure that actual or potentially hazardous substances are appropriately treated to prevent the discharge of contaminants to land or into rivers and streams. The overarching purpose of Chapter E.33 is to avoid discharges to the environment in the first instance, and where these cannot be avoided, ensuring that good site practices are implemented to minimise that discharge.

The activity includes external parking areas, the area is designed and constructed for heavy vehicle manoeuvrability. The yard meets the definition of high- contaminant generating car park under Chapter J *Definitions* of the AUP(OP) and as such, the rules of Chapter E9 *Stormwater Quality - High contaminant generating car parks and high use roads* of the AUP(OP) apply. This aspect of the application is assessed in the Planning Report and AEE.

## 2.3 NEW ZEALAND LEGISLATION

This EMP has primarily been prepared to address the requirements of the AUP(OP). However, the requirements of the *Health and Safety at Work (Hazardous Substances) Regulations 2017*, the *Hazardous Substances and New Organisms Act 1996*, and the *Hazardous Substances (Emergency Management) Regulations 2001* (revoked 2017 and replaced by the HSWHSR 2017) are considered as necessary, where those provisions are referenced under Chapters E31 and E33.

## 2.4 SUMMARY OF AUP(OP) REGULATORY ASSESSMENT

- **Discretionary Activity** - Under E31.4.3(A7) the volume of hazardous substances classified as Sub-class 6.1C and 6.3 – 6.9 exceed the RD volumes specified in Table E31.4.2 (A73).
- **Permitted Activity** – E33.4.1(A5): use of land for a new industrial or trade activity listed as moderate risk in Table E33.4.3 (fleet maintenance activities); and
- **Controlled Activity** – E33.4.2(A18): discharge of contaminants from a new industrial or trade activity listed as moderate risk in Table E33.4.3 (fleet maintenance activities) and not complying with E33.6.1.2.

A summary of the proposed repair and maintenance workshop (ITA) assessed against the activity criteria of Chapter E31 and E33 is presented in Tables below.

**Table 1 -E31 Hazardous Substances Standards Assessment**

<b>E31 Hazardous Substances - E31.6 Standards</b>		
<b>E31.6.1</b>	<p>Hazardous facilities site design</p> <p>Requires:</p> <p>(1) Any part of a hazardous facility involved in the manufacture, mixing, packaging, storage, loading, transfer, usage or handling of hazardous substances must be located designed, constructed and operated to ensure that:</p> <p>(a) on-site facilities are set back from the more sensitive uses and watercourses to comply with the distances specified in the activity tables above; and</p> <p>(b) hazardous substances are stored to:</p> <p>(i) ensure that in the event of an unintended spill or release substances are contained within the intended areas of the site; and</p> <p>(ii) prevent the accumulation of any solid, liquid, gas or vapour outside of the site area.</p>	<p>Onsite hazardous substances storage is not within 30m of any watercourse.</p> <p>Hazardous substances required for motor vehicle maintenance (oils, grease, lubricants) will be stored in an appropriate Dangerous Goods cabinet within the workshop interior when not in use. Small volumes of oils, coolants, lubricants are present within the workshop area for day to day use with risks from this footprint managed via a spill kit located in the workshop. An SRP is included in this document.</p> <p>No storage is proposed outside of the designated storage area.</p>
<b>E31.6.2</b>	<p>Site drainage systems</p> <p>The site drainage systems (including for washwater) must be designed, constructed and operated to prevent the entry or discharge of hazardous substances into:</p> <p>(a) the stormwater or sewerage systems unless authorised by the relevant network utility operator; and</p> <p>(b) air, land or water, including groundwater and potable water supplies, unless authorised by a resource consent or another rule in the Plan.</p>	<p>All mechanical work will be undertaken within the building to ensure that hazardous substances do not discharge into the stormwater network or water, land or air.</p> <p>Wastewater from the office building is discharged to a holding tank removed under contract.</p> <p>Stormwater collected from the roof of the existing sheds including the workshop building is discharged to ground soakage via retention within a 25,000 L tank.</p> <p>Water from the concrete wash pad is collected by catch-pit which is piped to a new 3000l Hynds oil and grit interceptor. This is piped to a 5000l stormlite tank before being discharged to an existing rock swale soakage pit. Please refer to the Plans prepared by Flow Consulting attached in Attachment 1.</p> <p>A concrete pad is located around the refuelling area which will be drained to a new API separator with shut off valve. This is piped to a 5000l stormlite tank before being discharged to an existing rock swale soakage pit. Please refer to the Plans prepared by Flow Consulting attached in Attachment 1.</p> <p>Stormwater from the remainder of the yard is discharged to a treatment swale and then to a stormwater pond.</p>
<b>E31.6.3</b>	<p>Hazardous facilities spill containment</p>	<p>The storage of hazardous substances will be internal within the building</p>

	<p>Requires:</p> <p>(a) constructed from impervious materials resistant to all hazardous substances on-site; and</p> <p>(b) for liquid hazardous substances:</p> <p>(i) able to contain the maximum volume of the largest tank present plus an allowance for stormwater or fire water;</p> <p>(ii) for drums or other smaller containers, able to contain half of the maximum volume of substances stored, plus an allowance for stormwater or fire water;</p> <p>(iii) able to prevent any spill or other unintentional release of hazardous substances, and any stormwater and/or fire water that has become contaminated, from entering the stormwater drainage system, unless authorised by the relevant network utility; and</p> <p>(iv) able to prevent any spill or other unintentional release of hazardous substances, and any stormwater and/or fire water that has become contaminated, from discharging into air, land or water, including groundwater and potable water supplies, unless authorised by a resource consent or another rule in the Plan.</p>	<p>which has a concrete floor.</p> <p>Diesel and Petrol is stored in a certified double-walled above ground storage tanks.</p> <p>Low risk lubricants may be stored in stored in containers and drums as provided from the supplier.</p> <p>Minor volumes of other oils, greases, lubricants, and cleaning solutions will be stored in containers (tins, bottles, jerry cans) up to 25L in size. The locations of these will include a Dangerous Goods cabinet with built in sump within the workshop area.</p>
<b>E31.6.4</b>	<p>Hazardous facilities waste management</p> <p>Hazardous waste must be disposed of by a suitably qualified contractor.</p>	<p>Complies - Waste will be stored inside the building in appropriate systems/containers for its type. Hazardous waste will be removed by Oil Recovery, Salters or similar contractor.</p>
<b>E31.6.5</b>	<p>Temporary storage of fertiliser</p>	<p>N/A</p>

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**Table 2 - E33 Industrial and Trade Activities**

<b>E33 Industrial and Trade Activities - E33.6 Standards</b>		
<b>E33.6.1.1</b>	Wastewater and wash water must be disposed of to the reticulated sewer with the approval from Watercare, or collected and disposed of appropriately.	Complies – All wastewater will be collected and disposed of by a contractor.
<b>E33.6.1.2, 3, 4</b>	Spill response plan appropriate for the hazardous substances identified in E31 is required.	Complies – A Spill Response Plan prepared in line with Table E.33.9.1 and Auckland Council’s 2015 Best Management Practice factsheet: <i>Spills and Emergency Management</i> has been prepared for the facility.
<b>E33.6.1.5, 6</b>	Hazardous substances must be stored in secondary containment and any other HSNO specific storage.	Complies – Volumes of hazardous substances stored on site are below the quantities specified in Schedule 3 and Schedule 4 of Part 4 of the HSEM Regulations 2001 (superseded by the HSWHS Regulations 2017). Hazardous substances will be stored in an appropriate DG cabinet with secondary containment on the exterior of the building.
<b>E33.6.1.7</b>	Above ground storage of hazardous substances a. for tanks the bund requires a storage capacity of at least 110% b. for drums storage height of at least 100mm	Complies - No environmentally hazardous substances not covered by Part 4 of the HSEM Regulations 2001 will be stored in above-ground storage tanks or drums. Where minor volumes of hazardous substances are required for truck maintenance, they will be located within certified dangerous goods cabinets within the interior of the workshop and will not be stored in tanks or drums (likely small containers such as tins etc.).
<b>E33.6.1.8</b>	All secondary containment devices must be designed so that uncontained rainwater is prevented from flowing into it.	Complies - The DG cabinet with built in sump will be located on the external portion of the workshop building. The cabinet is purpose built and not exposed to rainwater or stormwater runoff.
<b>E33.6.1.9</b>	Weekly inspections of must be undertake to check containment.	Complies - Inspections proposed as per the EMP.
<b>E33.6.1.10</b>	Regular reconciliation process required for underground storage tanks.	N/A
<b>E33.6.1.11</b>	Waste compactor must be operated to prevent leaks.	N/A
<b>E33.6.1.12</b>	All on-site vehicle re-fuelling areas must be segregated and housed under cover, and/or surrounded by a drain that drains to an appropriately designed and sized stormwater treatment and spill containment device fitted with a shut-off valve.	Compliance is proposed. Diesel fuel, petrol and Adblue is stored within an Allied Petroleum provided tank in tank, designed and constructed to WorkSafe Requirements. A spill kit is located adjacent to the refuelling area. A concrete fuel pad will be installed which will drain to an API separator with shutoff valve. Flow Consulting attached in Attachment 1.
<b>E33.6.1.13</b>	Operations must be undertaken in accordance with an Environmental Management Plan prepared in accordance with Table E33.9.2.	Complies – Refer to EMP submitted in support of the application.
<b>E33.6.1.14</b>	Relates to industrial and trade activities located with sewage treatment facilities.	N/A

**E33.6.1.2**

Discharge from an industrial or trade activity area.

The discharges of contaminants from an industrial or trade activity area must result in less than minor adverse environmental effects on the receiving environment without the need for stormwater treatment (with the exception of on-site vehicle refuelling areas requiring stormwater treatment and spill contaminant devices under the permitted activity Standard E33.6.1.1(12).

The potential discharge of contaminants to the environment are to be avoided in the first instance but are expected to be less than minor in the unlikely event of a spill or leak as workshop activities are to take place within the workshop building interior.

### 3.0 CHAPTER E31 HAZARDOUS SUBSTANCES

A Hazardous Substances Register will be maintained to the specifications of the HSNO Act and always maintained onsite. The register will be updated on an as necessary basis to reflect any changes to the register.

No storage of hazardous substances is proposed outside the workshop except for diesel and petrol. Internal hazardous substances and external tanks will be designed with all stationary containment requirements and bunding provisions to mitigate any potential discharge. As a result, it is extremely unlikely to result in the discharge of hazardous substances to the stormwater network. As such the potential for any discharge to the stormwater network is limited to accidental spills when receiving hazardous substance deliveries, transferring hazardous substances between storage locations and areas of use within the workshop, or through refueling activities. Potential discharge components for the facility are therefore heavy metals, solvents. Total petroleum hydrocarbons, polycyclic aromatic hydrocarbons and particulate in stormwater.

**Table 3 – Hazardous Substances Register**

Products	Total Volume	GHS 7 Classification <sup>2</sup>	HSNO Classification <sup>3</sup>	Storage Type
<b>Adhesives / sealants</b>	<0.002T	Flammable Liquids – Category 2 Skin Irritation - Category 2 Serious Eye Irritation - Category 2 Specific Target Organ Toxicity - Single Exposure Category 3 Specific Target Organ Toxicity – Repeated Exposure Category 2	3.1B 6.3B 6.4B 6.9B 6.9C	Supplied containers (30 – 500ml) shelved in workshop.
<b>Cleaning and Finishing Products (glass and metal cleaners, polish, tyre dressing, de-tar, plastic dye)</b>	<0.045T	Acute oral toxicity - Category 4 Acute inhalation toxicity - Category 4 Serious Eye Irritation - Category 2 Hazardous to Terrestrial Vertebrates	6.1D (oral & inhalation) 6.1E (dermal) 6.3B 6.4A 9.3C	Supplied in closed containers within workshop building.
<b>Low Hazard Lubricants (Engine Oil, Transmission Oil, Grease/Lubricants)</b>	<0.25T	Eye irritation – Category 2 Skin sensitization – Category 2 Hazardous to aquatic environment (chronic hazard) – Category 3	6.4B 6.5B 9.1C	Supplied, closed containers, shelved in workshop.
<b>Engine Coolant</b>	<0.5T	Acute Inhalation Toxicity – Category 4 Serious Eye Irritation Category 2 Specific Target Organ Toxicity – Repeated Exposure Category 2	6.1D 6.9B	Supplied containers, stored in workshop.
<b>Aerosols (Brake Cleaner, paints, grease/lubricants, adhesives)</b>	<0.1T	Aerosols – Category 1 Carcinogenicity (Inhalation) – Category 2 Reproductive toxicity – Category 2 Specific Target Organ Toxicity - Single Exposure Category 3 Hazardous to aquatic environment (chronic	2.1.2A 6.1E 6.3B 6.4B 6.7B 6.8B	Supplied, 500 – 700ml (approx.) spray cans, stored in ventilated DG Cabinet with controlled access.

		hazard) – Category 2	6.9C 9.1B	
<b>Diesel</b>	10,000L <9.4T	Flammable Liquid 4 Aspiration Hazard Category 1 Carcinogenicity Category 2 Aquatic Chronic Category 2	3.1D 6.1E 6.7B 9.1B	Allied Petroleum Ltd supplied double skinned tank, WorkSafe approved design and constructed by WorkSafe approved fabricator. Volume reconciliation undertake by Everlink Advanced Fuel Management System, spill kit located adjacent to tank with tank design including overfill alarm and bund alarm. All bulk tank refueling completed by Allied Petroleum Ltd.
<b>Ad Blue</b>	1,000L <0.1T	N/A	6.3B, 6.4A, 9.3C	Allied Petroleum Ltd supplied double skinned tank, WorkSafe approved design and constructed by WorkSafe approved fabricator. Volume reconciliation undertake by Everlink Advanced Fuel Management System, spill kit located adjacent to tank with tank design including overfill alarm and bund alarm. All bulk tank refueling completed by Allied Petroleum Ltd.
<b>Petrol</b>	1,000L <0.9T	Flammable Liquids - Category 1 Skin Corrosion/Irritation - Category 2 Germ Cell Mutagenicity - Category 1B Carcinogenicity - Category 1B Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3 Aspiration Hazard - Category 1	3.1A 6.3A 6.6A 6.7A 6.9B effects) 6.1E	(Narcotic Allied Petroleum Ltd supplied double skinned tank, WorkSafe approved design and constructed by WorkSafe approved fabricator. Volume reconciliation undertake by Everlink Advanced Fuel Management System, spill kit located adjacent to tank with tank design including overfill alarm and bund alarm. All bulk tank refueling completed by Allied Petroleum Ltd.

<b>Waste Oil</b>	1,000L <1T	Flammable Liquid 4 Skin Irritation - Category 3 (not adopted in NZ) Carcinogenicity Category 2 Hazardous to aquatic environment - Category (chronic effects) 3	3.1D 3.6B 3.7B 9.1C	1,000L double skinned tank installed by Allied.
<b>Non-Hazardous Oils (engine, transmission gear, hydraulic)</b>	<5T	Non-hazardous	Non-hazardous	Supplied in appropriate contains shelved or appropriately banded within workshop.
<b>Truck wash (Transwash bio)</b>	<0.02T	Non-hazardous	Non-hazardous	Water-based biodegradable detergent stored in office in 20l plastic containers.

**Notes:**

1. To be continuously updated as products change;
2. Global Harmonisation System (Revision 7) adopted by the Environmental Protection Authority (EPA) on 30 April 2021, superseding the legacy HSNO Classification system; and
3. Legacy HSNO Classifications retained for assessment under AUP(OP) Chapter E31 .6 Standards.

### 3.1 ASSESSMENT OF HAZARDOUS SUBSTANCES

The storage of hazardous substances is assessed against the permitted standards for the Rural Production Zone in Table 4 below. The facility requires consent as a **Discretionary Activity** due to the volume of Sub-class 6.1C and 6.3 – 6.9 substances stored on the site.

**Table 4 – Permitted Threshold Assessment Levels**

Classification	Stored Quantity	Rural – Mixed Rural Zone		Assessment
Sub-class 2.1 (all)	<0.1T	<0.5T	<1T	Complies
Sub-class 3.1A and 3.1B	<01T	<2T	<4T	Complies
Sub-class 3.1D	<11T	<20T	<40T	Complies
Sub-class 6.1C and 6.3 – 6.9	<13T	<6T	<12T	Discretionary Activity. Exceeds Permitted and RDA threshold.
Sub-class 9.1B, 9.2B, 9.3B and 9.4B	<9.4T	<10T	<30T	Complies
Sub-class 9.1C, 9.2C, 9.3C and 9.4V	<2.8T	<30T	<60T	Complies

## 4.0 CHAPTER E33 INDUSTRIAL AND TRADE ACTIVITIES

Chapter E33 of the AUP(OP) deals specifically with environmentally hazardous substances associated with industrial and trade activities and their potential effects on the receiving environments by avoiding discharges in the first instance, and through good onsite management of hazardous substances where discharges cannot be avoided. The AUP(OP) includes the following primary objective:

### ***E33.2. Objective***

- (1) *Industrial and trade activities are managed to avoid adverse effects on land and water from environmentally hazardous substances and discharge of contaminants, or to minimise the adverse effects where it is not reasonably practical to avoid them.*

### 4.1 ASSESSMENT OF INDUSTRIAL / TRADE ACTIVITIES

Based on the proposed operation of the site, Chapter E33 identifies the following industrial / trade activity requiring specific controls to address potential discharge of contaminants to the

environment:

*Motor Vehicle Services Facilities – Mechanical Servicing of Motor Vehicles.*

## 4.2 INDUSTRIAL OR TRADE ACTIVITY AREA

The AUP(OP) Chapter J *Definitions* defines ITA areas using the following criteria:

### **Industrial or trade activity area**

*The area of land or coastal marine area where a particular industrial or trade activity is being undertaken, which may result in the discharge of environmentally hazardous substances associated with that activity onto or into land or water. The calculation of the industrial or trade activity area must be based upon the following areas:*

- *All roof areas onto which environmentally hazardous substances generated by the activity are deposited;*
- *All outdoor storage, handling, or processing areas of materials and / or products that may contribute to the quality or quantity of environmentally hazardous substance discharges (including occasional or temporary use of areas);*
- *The area at risk from failure of the largest unbanded container used for the activity that may contribute to the quality or quantity of environmentally hazardous substance discharges; and*
- *All areas (including roofs) that contribute to runoff to the industrial or trade activity area.*

*The calculation of the industrial or trade activity area excludes the following areas:*

- *All areas that discharge lawfully into an authorised trade waste system;*
- *Areas that are not used for or affected by the industrial or trade activity;*
- *All indoor or roofed areas which do not discharge onto or into land or water; and*
- *Areas used for the storage of inert materials, provided that if suspended solids are generated by the materials and entrained in stormwater, the stormwater from such storage areas is treated in accordance with the best practicable option or is otherwise lawfully authorised.*

The truck and tractor / vehicle maintenance operations are confined to the interior of the existing shed building, with no discharges to air, wastewater, or stormwater. Additionally, no particulate or hazardous substances are deposited onto the proposed building's roof, with stormwater discharged from the roof into retention tanks and then to ground soakage. As such, the building footprint is excluded from the ITA area calculation.

For the purposes of this assessment the refueling area and wash bay have been considered as 'ITA Area'.

## 4.3 ITA RISK CRITERIA

While the proposed truck maintenance activities will occur within the internal workshop areas, resulting in the activity having no ITA area under the above definition, the mechanical servicing of motor vehicles is classified as always being moderate risk under Table E33.4.3 of the AUP(OP), irrespective of the size of the activity area.

## 4.4 CHAPTER E33 ACTIVITY STATUS

Vehicle repair and maintenance as a moderate-risk activity is a Permitted Activity under E33.4.1(A5), while the discharge of contaminants from the newly developed moderate risk site will be a Controlled Activity under E33.4.2(A18) respectively. An assessment of the proposed works against the permitted activity standards is provided in Table 1 above.

The proposed development addresses the policies of Chapter E33.3 as follows:

- Use of the site for motor vehicle maintenance will be managed, through design and operational procedures, to ensure that discharges of hazardous substances are avoided in the first instance, and suitably mitigated where unavoidable. No discharges to stormwater are intended under normal operation of the site, with accidental spills or leaks as the only potential sources of released contaminants physically isolated. Secondary containment devices (DG cabinet). An emergency management and spill response plans ensure that accidental spills are dealt with in an appropriate and timely manner.
- General waste materials, including waste oils, will be removed from site by approved waste management contractors for appropriate disposal in line with Auckland Council and legislative requirements.

## 5.0 VERNON DEVELOPMENTS

### 5.1 OPERATIONAL OVERVIEW

Operation of the Vernon Developments workshop and office facility utilises an existing shed for the maintenance of fleet vehicles and machinery only. The workshop is used for storage of a small volume of parts, service tools and associated oils, lubricants and chemicals required for day to day service activities. Major mechanical and repair works are **not** undertaken on the site.

Vernon Developments Operations Manager will hold overarching responsibility for implementing the requirements of this EMP. In addition, the Operations Manager may delegate portions of responsibility to a Maintenance Manager, if necessary, who will oversee activities such as hazardous substance receipt and storage.

Only appropriately authorised persons will be permitted to access any areas of the property that are not part of the general public access points. Similarly, any external maintenance contractors required for site operations will be supervised by the Operations Manager.

### 5.2 POLLUTION RISKS AND CONTROLS

The main pollution risks associated with the site are:

Dust generated as a result of truck movements which may become airborne and discharged off-site.

Spillages or leaking of diesel, petrol and ADblue fuel during refuelling on-site, which may be mobilised by stormwater.

Spillages or leaking of hazardous substances (hydrocarbons and lubricants) during storage and use at the site, which may be mobilised by stormwater.

Contaminants (particulates, hydrocarbons, and metals) removed from plant and equipment during washing entering stormwater.

Contaminants (detergents) used in washing entering stormwater.

The structural and procedural pollution controls that are implemented at the site to manage these pollution risks are described in the following sections and summarised in Table 5.

**Table 5 – Pollution Risks**

Pollution risk and contaminant of concern		Pollution Controls		Improved or new pollution controls required				
Pollution Risk	Contaminants	Structural Controls	Procedural controls	Structural	Procedural	Initiation Date	Completion Date	Justification for Timing
Spillage or leaking of fuel during refueling	Hydrocarbons	Tanker drivers are trained in the use of fittings and pump on the fuel bowsers  Spill kits are available in easily accessible locations  Signage	Procedures for diesel delivery  Spill response procedure  Incident Response  Inspections	N/A	N/A	N/A	N/A	N/A
Spillages or leaking of hazardous substances whilst in storage or at use on-site	Hydrocarbons and lubricants	All storage is within the workshop.  Only small volumes of hazardous substances are stored on-site.  Spill kits are available in easily accessible locations.  Signage.	Hazardous substances management procedures include inventory.  SDS available and handling procedures.  Spill response procedure  Incident Response  Inspections	N/A	N/A	N/A	N/A	N/A
Stormwater system	Solids, sediment, hydrocarbons and other contaminants	Swales and ponds	Spill response procedure  Inspections  Bioretention swales and dry ponds maintenance	N/A	N/A	N/A	N/A	N/A

			Stormwater monitoring					
Wash bay	Sediment, hydrocarbons and detergents.	<p>Transwash bio to be used.</p> <p>All storage of truck wash is within office.</p> <p>Spill kits are available in easily accessible locations.</p>	<p>Spill response procedure</p> <p>Incident Response</p> <p>Inspections</p>	N/A	N/A	N/A	N/A	N/A
Dust generated as a result of truck movements, delivery entering stormwater or becoming airborne.	Particulates	<p>Compacted hardfill surfacing to reduce dust.</p> <p>Stormwater pond to allow settlement of particulates prior to discharge of stormwater from the site.</p>	<p>Site speed limit (20km/h)</p> <p>Dust management measures</p> <p>Incident Response</p> <p>Inspections</p>	N/A	N/A	N/A	N/A	N/A

### 5.3 RESPONSIBILITIES

In general, the Operations Manager will be the primary responsible person for implementing this EMP as part of the day-to-day operations and responding to any incidences or complaints. The Operations Manager will report to the Director in the event of any incidences or complaints on site, to which the Operations Manager will enact the relevant provisions of this Plan and any other documentation associated with the operation of the facility. The Operations Manager will be the primary person trained in spill response and will be responsible for notifying the Director of any incidences or complaints, and actions taken to address those issues.

The Director holds responsibility for reviewing overall operations alongside developing and implementing management systems on site. The Director will be responsible for the distribution of resources to ensure compliance and training.

The responsible parties for the operation and management of the vehicle workshop are set out in Table 4 below.

**Table 6 Responsible Parties**

Position	Contact Name	Telephone
Directors	Cameron Vernon	027 323 0555
Operations Manager	Cameron Vernon	027 323 0555
Health and Safety Manager	Rebekca Vernon / Dave Robb	
Auckland Council Pollution Hotline		09 377 3107

### 5.4 HEALTH AND SAFETY

With respect to this Environmental Management Plan, there are no specific additional requirements for Health and Safety Practices and procedures required for the day to operation and management of discharges from the site. That said, in the event of a spill of hazardous substances, specific steps are set out within this EMP to ensure that all personnel responding to such matters do so in a safe and efficient manner.

### 5.5 HAZARDOUS SUBSTANCE STORAGE AREA

An appropriate flammable dangerous goods (DG) cabinet is required for storage of hazardous substances (aerosols). The DG cabinet will be designed and constructed to ensure compliance with the *Health and Safety at Work (Hazardous Substances) Regulations 2017*, the *Hazardous Substances (Emergency Management) Regulations 2001*, and Chapter E31 of the AUP(OP), including, but not limited to, the security, temperature control, electrical bonding and earthing, secondary containment volumes, signage, ventilation, and appropriate documentation.

The DG cabinet must be positioned within a 'hazardous area' whereby the cabinet has at least 1m

head room and at least 3m open space on three sides (if positioned against a wall). Reference should be given to the WorkSafe New Zealand *Working Safely with Hazardous Substances, Practical Guide* (2022), a copy of which can be found in the WorkSafe New Zealand Hazardous Substances Toolbox (<https://hazardoussubstances.govt.nz>) or be supplied upon request.

Following confirmation of DG cabinet type, this EMP will be updated to reflect those specifications.

## 5.6 CERTIFICATION

As the proposed volume of toxic or corrosive hazardous substances (Classes 6 and 8) are minimal, Stationary Container System Compliance Certificates and a Location Compliance Certificate are not required under the *Health and Safety at Work (Hazardous Substances) Regulations 2017*.

Should more than 50L of such substances be stored on site in future, appropriate certification will be obtained from an authorised Compliance Certifier, with copies of all compliance certificates held will be incorporated into this EMP following review.

## 5.7 VISUAL INSPECTIONS

At least once per week, the Operations Manager will undertake a visual inspection of the hazardous substance storage area / DG cabinet to ensure that there is no evidence of spills or defects that may result in accidental spillage or leaks.

## 5.8 RECORD KEEPING

The Operations Manager will be responsible for maintaining a record of any hazardous substances used and stored on site and their stock levels. Records must be kept of any product lost outside of normal operation, and the reason for the product loss investigated.

## 6.0 STORMWATER

Appropriate stormwater management will be undertaken in accordance with Chapter E8 of the AUP(OP). Stormwater captured by the building roofs is diverted into retention tanks located at the northern end of the building which discharges to ground soakage. Impervious hardstand surfaces are directed to two treatment swales and then to a stormwater retention pond. This is discharged to an existing overland flow path.

### 6.1 HAZARDOUS SUBSTANCES

The DG cabinet will be a completely enclosed unit, located inside the building, resulting in complete isolation of any stored substances from stormwater. Similarly, the use of hazardous substances stored in the DG cabinet will largely be limited to the interior of the workshop building, preventing spills that occur during maintenance activities from encountering stormwater.

With respect to the diesel tank and petrol tank, it is noted that the tank is supplied and owned by Allied Petroleum Ltd, being a WorkSafe approved design and constructed by a WorkSafe approved fabricator. The tank in tank system coupled with the oil and grit separator is sufficient to mitigate any risks associated with the bulk storage of fuel and on site refueling.

## 6.2 OIL & GRIT SEPARATOR SYSTEM MANAGEMENT

The Operations Manager is responsible for ensuring that the oil and grit separator and any other treatment device(s) are managed and maintained appropriately in accordance with the manufacturer's specifications. Following selection of the specific oil and grit separator and any other treatment device(s), this EMP will be updated to reflect those requirements.

It is expected that this will entail an annual inspection by an approved maintenance contractor to remove built up sludge, supplemented with extraordinary maintenance activities in the event of a spill.

Maintenance will involve the cleaning and removal of trapped oils and grits to an appropriate waste receiving facility and will be undertaken on an annual basis initially, and then on discussion with an approved maintenance contractor to determine the most suitable management regime.

## 6.3 MONITORING

Based on the design of the site, no discrete stormwater monitoring is deemed necessary under normal operations.

Where alternative treatment options are required, this EMP will be reviewed to provide for those options.

## 7.0 GENERAL SITE MANAGEMENT

Site staff must maintain the site to a high standard of presentation in accordance with any requirements of Vernon Developments. This is required in all aspects of work and generally through the following:

- Storage areas, including the dangerous goods cabinet, and waste bins, will be inspected weekly for evidence of potential leaks or spills by a suitably qualified person;
- Materials and containers of any stored materials will be kept in a tidy and orderly arrangement;
- The floor of the garage will be inspected daily and cleaned as necessary to minimise potential dust generation or wind blow litter; and
- All staff and personnel will be briefed on the requirements of this Environmental Management Plan and any other associated documents required by Vernon Developments.

### 7.1 WORKSHOP FLOOR MANAGEMENT

Water and any runoff from vehicles that enters into the workshop floor is collected via the workshop floor scrubber and contained within a waste tank. The contents of the waste tank are collected regularly by an appointed hazardous waste company.

All vehicle fluids required to be changed during servicing activities are collected and stored separately (i.e used coolant, used oil etc) and are recycled or disposed of by the appointed hazardous waste company. Waste fluid tanks and drums are stored within an isolated portion of the workshop building. Waste oil is stored in a double skinned tank supplied by Allied.

## 8.0 SPILL RESPONSE PLAN

Preventing spills is the most efficient mechanism for managing potential adverse effects associated with spills of hazardous substances. Given the nature of the site, the highest risk of spills of hazardous substances occurring are during delivery of hazardous substances to site or when using hazardous substances from the DG cabinet during vehicle servicing, fleet washing or maintenance activities. As a strong focus on prevention, the following will be implemented on site:

- All hazardous substance deliveries will be undertaken by a reputable transport contractor or supplier; and
- Vernon Developments will ensure that all personnel on site have appropriate training for their role within the operation of the site. In addition, at least one personnel member will be always on site who has appropriate training in managing and addressing spills.

That said, adequate procedures must be in place in the event that prevention is unsuccessful, and a spill occurs on site. In the event of a spill, Vernon Developments personnel will implement a three- step procedure as follows:

1. Control;
2. Contain; and
3. Clean up.

In any instance where a spill has been identified, Vernon Developments personnel will implement the documented spill control procedures as soon as practicable. In all instances, these procedures will be implemented within 60 minutes of a spill being identified on site.

This spill response plan is not intended to replace any emergency response documents already held by Vernon Developments, but rather augment those facets relating to accidental spills.

### 8.1 STEP 1 - CONTROL

Once a spill has been identified on site by or to Vernon Developments personnel, that person will raise the alarm and provide warning to others in the area. The first step of any Vernon Developments personnel being notified of the spill is to ensure that the Operations Manager is notified of the spill to ensure that a co-ordinated approach can be implemented on site.

Following notification, Vernon Developments personnel will assess the nature of the spill by identifying the source of the spilt substance and looking for fumes, heat, or any evidence of a distinct chemical reaction with any other actual or potential contaminants on site.

In the event that irritating or noxious vapours are identified on site, or anyone is experiencing physical reactions to the spill, or fire is escalating on site, Vernon Developments personnel will withdraw from the area and escalate a full alert on site to stop any further personnel from entering the area and ensuring that any customers or contractors are evacuated from the vicinity of the spill, or if necessary, the site as a whole. In the event of a Full Alert, the fire service will be notified through an emergency call to 111 followed by notification to the responsible persons identified in Table 4 above. The Operations Manager will then notify Auckland Council pollution response team of the issue, the steps being taken, and what further steps may be necessary. Auckland Council's 24-hour Pollution Hotline can be reached on 09 377 3107.

Where a Full Alert is not necessary and the source has been identified, appropriate controls for

absorbing the spilled diesel and containing the spill will be implemented.

If the spilled substance is unknown or no material data safety sheet is available, Personnel will contact the National Poisons Centre for further information. Prior to contacting the National Poisons Centre, personnel should gather and have ready the following information (if safe to do so):

- Name and address;
- Description of the container or package the spill has originated from;
- Details of any logos, company names, or defining information present on the package; and
- Details of the nature of the spilled material including any defining characteristics.

When the nature of the spilled substance is understood, the next step is to assess the ability of personnel address the spill safely. Sufficient staff should be available, and those staff should be properly trained in spill management.

Once the above matters have been addressed, Vernon Developments personnel will progress onto step two.

## 8.2 STEP 2 – CONTAIN

Vernon Developments will maintain a spill kit within a labelled 240-litre bin within easy access of the DG cabinet and vehicle maintenance areas within the garage, complete with signage and instructions as to actions to be taken in the event of a spill. Where it has been deemed safe to do so, the following actions will be taken:

- The Spill Kit will be prepared in a safe place, sufficiently removed from risks;
- Personnel will put on Personal Protective Equipment (PPE) and proceed to the spill site. The minimum PPE required will be safety boots/gumboots, protective rubber gloves, safety goggles and high visibility clothing. Additional PPE to be held on site includes coveralls and respiratory protection to be utilised on an as necessary basis;
- Once at the spill site, personnel will contain the spill as far as practicable utilising the following steps:
  - Stop the source of the spill by closing any valves / taps, righting an overturned drum or vessel, turning a leaking drum such that the hole faces upwards as applicable to the source of the hazardous substance;
  - Contain the spill by using absorbent booms to surround the spill and stop it from discharging; and
  - Spread absorbent granules over the spill and allow it to absorb the substance.
- Once the spill itself is contained, personnel equipped with PPE are to check all stormwater drains to ensure that all spilled substances have been contained and are not discharging beyond the site boundary.

## 8.3 STEP 3 – CLEAN UP

Once the spill has been contained, personnel still equipped with appropriate PPE will clean up the remnants of the spill utilising the following steps:

- All used absorbent material will be placed back into the spill kit and the lid closed to prevent discharge of fumes;

- All absorbent booms used will either be placed back into the spill kit for disposal or cleaned appropriately for future re-use;
- All residual spilt substances will be placed within a leak proof bin for disposal alongside used absorbent material in a safe and environmentally sound manner. The Operations Manager will be responsible for determining and organising disposal to an appropriate facility and he may call on advice from other specialists to determine the most applicable disposal scenario;
- Once all residual spill and clean up material has been removed from the spill zone, if necessary, the spill zone will be mopped to remove the last remnants and ensure that normal operations can resume; and
- The Operations Manager will ensure that the Spill Kit is replaced / and or replenished immediately following its use on site.

## 9.0 INCIDENT RESPONSE

In the event of a spill or notifiable incident on site, Vernon Developments personnel will implement the following steps:

1. The notifiable incident is to be reported to the Operations Manager;
2. Operations Manager will notify the Vernon Developments chain of command as identified in Table 4 above;
3. In the event that a significant incident occurs where the above spill procedures are deemed to be insufficient, a representative of Vernon Developments will seek expert assistance;
4. The appointed Vernon Developments representative will notify Council and Watercare of the incident where applicable, and the procedures implemented to address any actual or potential adverse effects;
5. Where appropriate, any other parties (e.g. WorkSafe) will be notified;
6. Where hazardous substances are suspected as having entered the wastewater treatment device, isolate the treatment device and engage a suitable liquid waste contractor to remove and dispose of the contaminated liquid; and
7. Where hazardous substances are suspected as having entered any stormwater catch pit or are suspected to have been discharged from the stormwater system, undertake specialist environment advice.

In the event of any notifiable event occurring, Vernon Developments will implement an internal review to determine the causes of the incident and what steps can be undertaken to minimise the risk of a repeat incidence on site. Any results of that internal review will be translated into a revision of this EMP, or any other relevant operational documentation held on site.

## 10.0 AUDITING, REPORTING AND RECORD KEEPING

### 10.1 SITE AUDIT PROGRAMME

Vernon Developments's Operations Manager will be responsible for recording hazardous substance stock levels. On an annual basis, those figures will be reconciled to ensure that no unaccounted product loss has occurred and to ensure that all hazardous substance registers, material safety data sheets, and emergency management plans are up to date according to the hazardous substances used and stored on site.

Vernon Developments will be responsible for reconciling diesel refuelling operations to ensure no unmitigated product loss occurs.

## 10.2 INCIDENT REGISTER

Vernon Developments will ensure that an incident register is kept on site which will be kept up to date and include records of:

- The volume and nature of any spills that occur on site;
- Date, time and cause of any spills;
- Details of personnel who identified the spill and the time it was reported to the Operations Manager;
- Details of the procedures implemented by the Operations Manager as required under the Spill Response Plan set out in Section 10 above including the time taken to implement those required steps;
- Site photographs if applicable, to document the extent and a nature of the spill;
- Recorded notations of all notification undertaken following the spill as required by the Spill Response Plan; and

5.3.1 Provisions for any extraordinary maintenance of wastewater and / or stormwater systems on site as a result of the incident.

## 10.3 STAFF TRAINING

As part of their normal operations, Vernon Developments maintain and update a training register within their filing system. All specific training related to the implementation and operation of this EMP will be recorded within the training register.

## 11.0 REVIEW OF EMP

This Environmental Management Plan is considered a live document that will evolve with the life cycle of the facility to reflect any changes in operational requirements, regulatory frameworks, industry best practice and waste minimisation initiatives. For that reason, the EMP will be reviewed on an annual basis to determine what, if any, revisions are required.

In the event of any specific incidences on site, or detailed changes to the regulatory framework special review of the EMP may be necessary. Any specific one-off reviews of the EMP do not replace the need for an annual review but should be undertaken regardless to ensure that the site operates in accordance with best practice and in compliance with the applicable regulatory framework.

## FIGURES



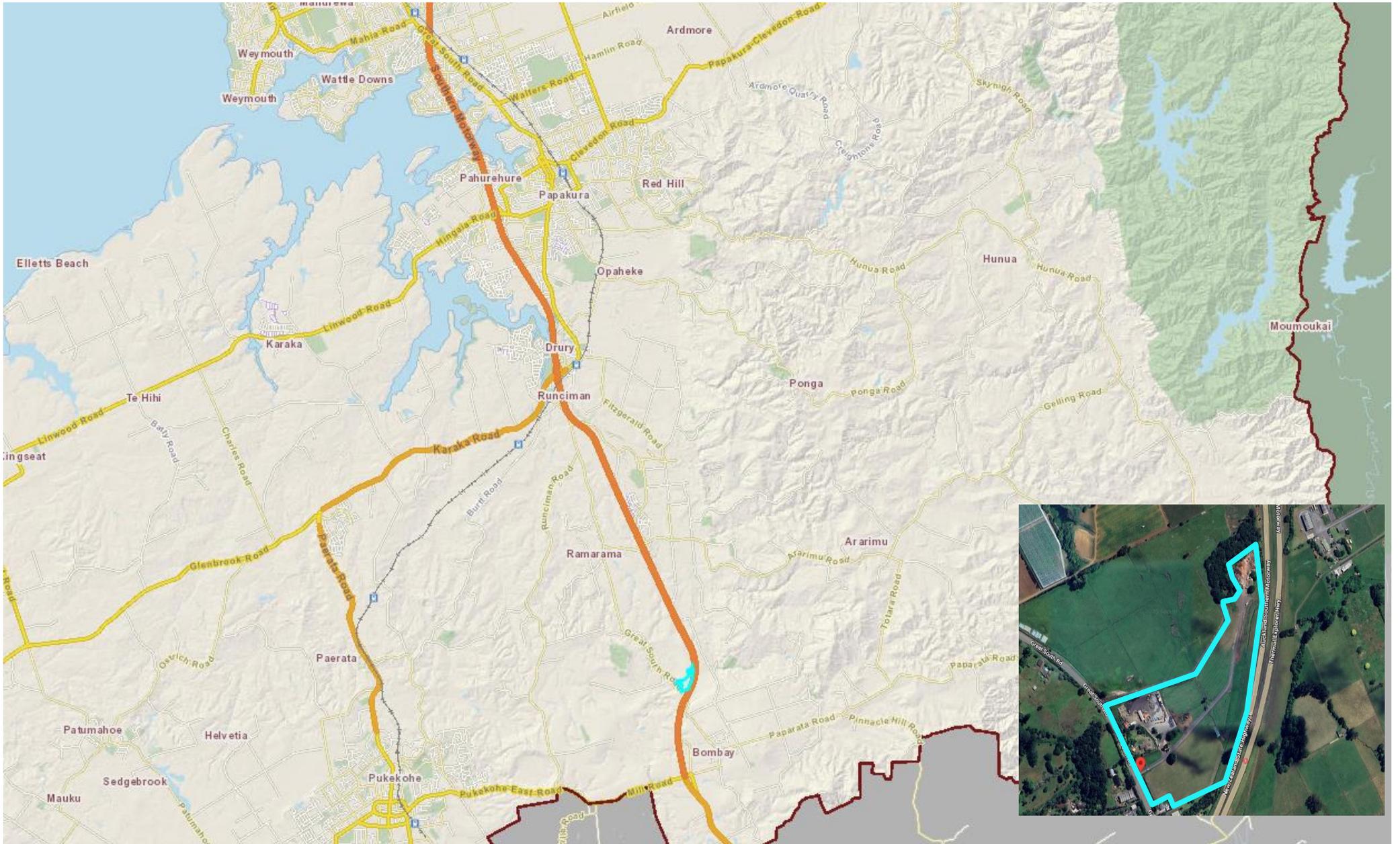


FIGURE 1 – SITE LOCATION

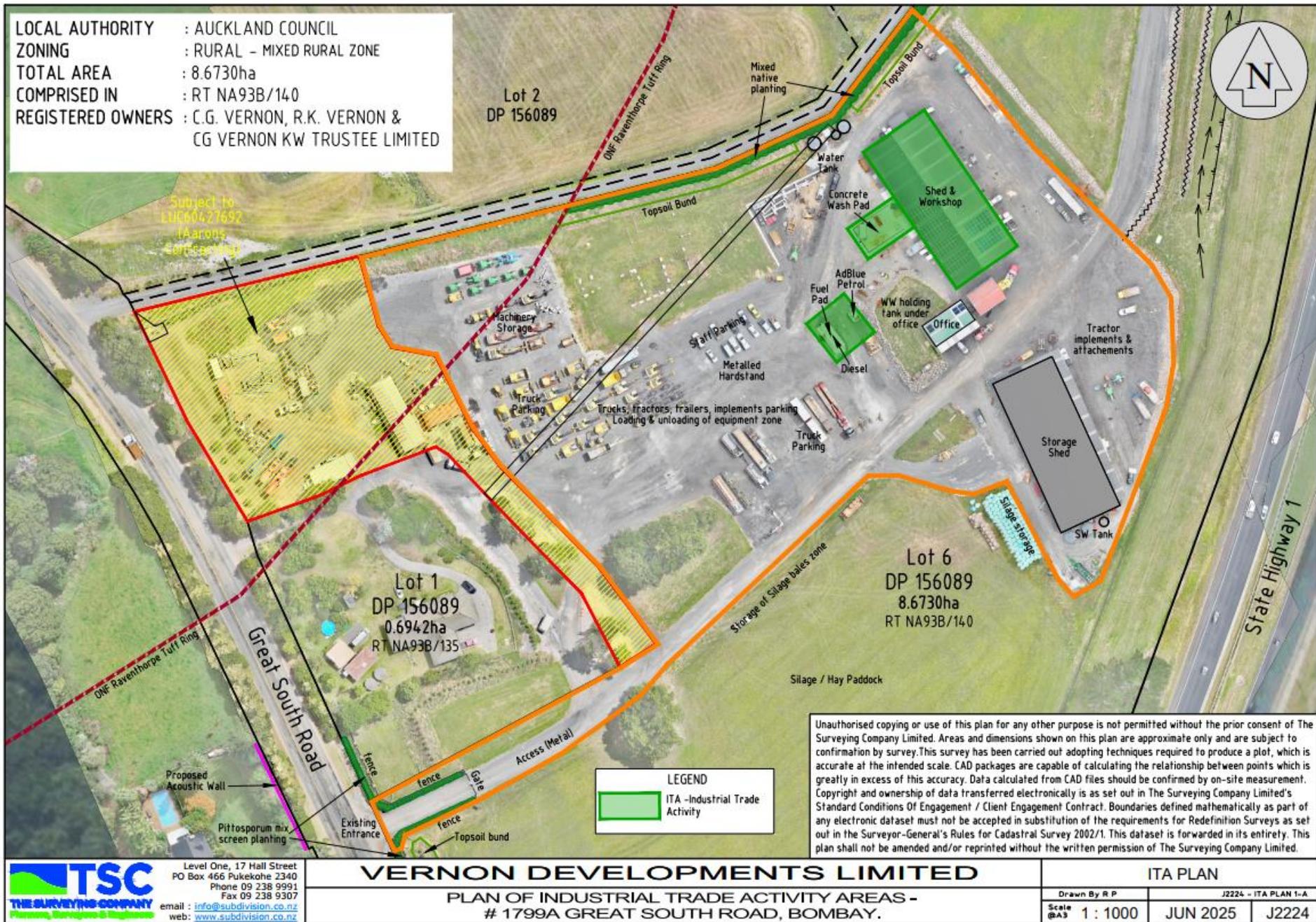


FIGURE 2 - INDUSTRIAL AND TRADE ACTIVITY LOCATIONS

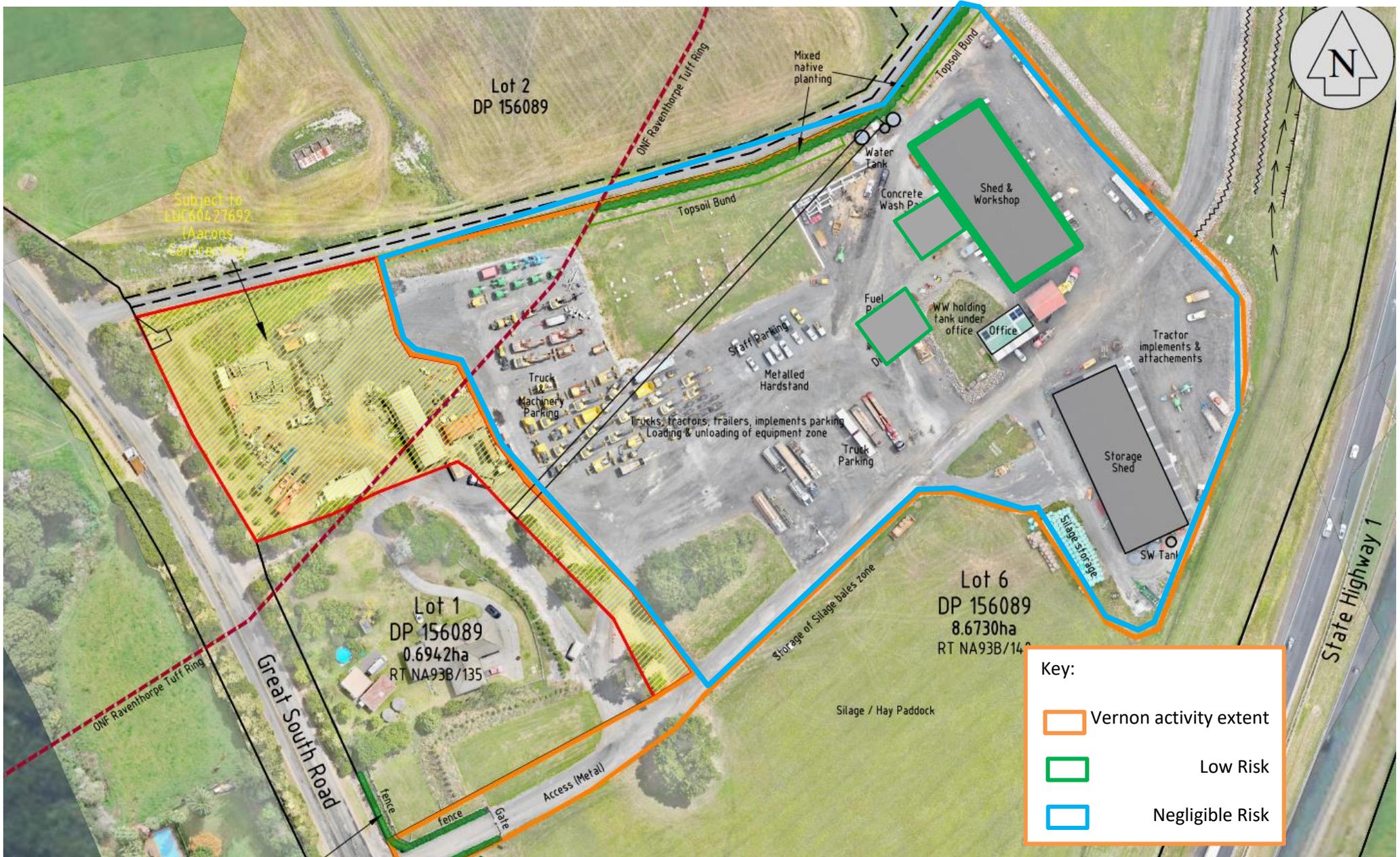


FIGURE 3 - CATCHMENT RISK AREAS

## ATTACHMENT 1 – FLOW





# FLOW CONSULTING

## HYDRAULIC DESIGN



### FLOW CONSULTING

P.O.Box 10390, Te Rapa, Hamilton 3241

Phone : 0800 3569 266

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Web : [www.flowconsulting.co.nz](http://www.flowconsulting.co.nz)

#### PROJECT

TRADEWASTE TREATMENT SYSTEM  
HYDRAULIC DESIGN SERVICES

1799A GREAT SOUTH ROAD, BOMBAY

JOB NUMBER :	1580
FILE REFERENCE No.	FC-1580.B-06.2025
FULL SET ISSUE DATE :	24.06.2025
CURRENT REVISION	<b>B</b>

DRAWING SET ISSUED  
FOR CONSENT

#### CLIENT



**VERNON DEVELOPMENTS**

[www.vernondevelopments.co.nz](http://www.vernondevelopments.co.nz)

#### CONTRACTOR



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**ABBREVIATIONS**

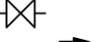
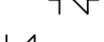
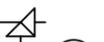
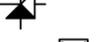
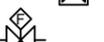
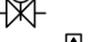
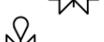
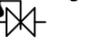
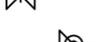
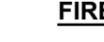
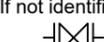
- AAV : Air Admittance Valve
- AFFL : Above Finished Floor Level
- A/G : Above Ground
- B : Bath
- BDT : Bidet
- BFFL : Below Finished Floor Level
- BFP : Back Flow Preventer
- BIFO : Blucher Industrial Floor Outlet
- BO : Balcony Outlet
- BSK : Bar Sink
- BWU : Boiling Water Unit
- CD : Condensate Drain
- CE : Cleaning Eye
- COS : Clear Out to Surface
- CP : Catch Pit
- CSK : Cleaners Sink
- CSP : Cess Pit
- Cu : Copper
- CW : Cold Water
- CWD : Cold Water Dropper
- CWEX : Cold Water Expansion Valve
- CWR : Cold Water Riser
- DCV : Double Check Valve
- DCW : Domestic Cold Water
- DD : Dish Drawer
- DF : Drinking Fountain
- DHW : Domestic Hot Water
- DHWF : Domestic Hot Water Flow
- DHWR : Domestic Hot Water Return
- DN : Diameter of Pipe - Nominal
- DP : Down Pipe
- DW : Dish Washer
- EX : Existing
- F/A : From Above
- F/B : From Below
- FFL : Finished Floor Level
- FGL : Finished Ground Level
- FH : Fire Hydrant
- FHR : Fire Hose Reel
- FWG : Floor Waste Gully
- GIT : Grease Interceptor Trap
- GM : Gas Meter
- GT : Gully Trap
- GV : Group Vent
- GVB : Group Vented Branch
- GW : Glass Washer
- HB : Hand Basin
- HCVB : Hose Connection Vacuum Breaker
- HDPE : High Density Polyethylene
- HR : Hose Reel
- HT : Hose Tap (Cold Water)
- HW : Hot Water
- HWC : Hot Water Cylinder (Electric)
- HWD : Hot Water Dropper
- HWEX : Hot Water Expansion Valve
- HWF : Hot Water Flow
- HWHT : Hot Water Hose Tap
- HWR : Hot Water Return
- HWS : Hot Water Storage Cylinder
- HWU : Hot Water Unit (Gas)
- IB : Inspection Bend
- IJ : Inspection Joint
- IL : Invert Level
- IO : Inspection Opening
- IV : Isolating Valve
- LS : Line Strainer
- LT : Laundry Tub
- MDPE : Medium Density Polyethylene
- MH : Manhole
- MS : Mains Supply
- NPCW : Non Potable Cold Water
- NPHW : Non Potable Hot Water
- NRV : Non Return Valve
- O/F : Over Flow
- ORG : Overflow Relief Gully
- OS&Y : Outside Screw and Yoke
- PBO : Planter Box Outlet
- PE : Polyethylene
- PEX : Cross Linked Polyethylene
- PLV : Pressure Limiting Valve
- PPR : Random Polypropylene
- RCP : Reinforced Concrete Pipe
- RL : Reduced Level
- RP : Rodding Point
- RPZ : Reduced Pressure Zone (BFP)
- RRJ : Rubber Ring Jointed
- RWH : Rain Water Head
- RWO : Rain Water Outlet
- RWS : Rain Water Sump
- SDO : Spoon Drain Outlet
- SH : Soak Hole
- SHR : Shower
- SK : Sink
- SLS : Sluice Sink
- SLV : Sluice Valve
- S/S : Stainless Steel
- SS : Sanitary Sewer
- SSMH : Sanitary Sewer Manhole
- SU : Stub Up
- SV : Stop Valve
- SW : Storm Water
- SWMH : Storm Water Manhole
- T/A : To Above
- T/B : To Below
- TD : Tundish (Copper or Marley D-Blue)
- TV : Terminal Vent
- TW : Tradewaste
- U/G : Under Ground
- UGT : Under Bench Grease Trap
- UHCW : Under Bench Hot Water Cylinder
- UR : Urinal
- UWB : Under Bench Water Boiling Unit
- V/A : Valve Assembly - See Drawing
- VCP : Vitrified Clay Pipe
- VHB : Vanity Hand Basin
- VP : Vent Pipe
- W&T : Waste and Trap
- WC : Water Closet
- WHB : Wash Hand Basin
- WM : Washing Machine
- WP : Water Pipe

**B** Revision Update Marker

**VENTS AND RISERS**

- AAV  Air Admittance Valve (AAV)
- TV1  Terminal Vent
-  Riser
- ST1  Stack
-  Dropper
- VP1  Vent Pipe

**VALVES & ACTUATORS**

-  Valve Position
-  Gate Valve
-  Check Valve
-  Non Return Valve
-  Pressure Limiting Valve (Higher Pressure Large Side)
-  Angle Valve
-  Expansion Valve
-  Relief Valve
-  Gas Regulating Valve
-  Tempering Valve
-  Three Way Valve (Closed Port Darkened)
-  Aquasave Valve (N/C Port Darkened)
-  Toby Valve
-  Flow Regulating Valve
-  Solenoid Operated Valve
-  Motor Driven Valve
-  Flow Alarm Valve
-  Flow Actuated Valve
-  Thermostatic Mixing Valve
-  Float Actuated Valve
-  Hand Wheel Operated
-  Spring Return Valve
-  Valve in Riser
-  Valve in Dropper

**FIRE SERVICE**

-  Fire Hydrant & No. at this Location
-  Fire Hose Reel & No. at this Location

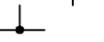
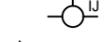
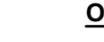
**JOINTS**

- (If not identified use Best Practice)
-  Screwed
-  Flanged
-  Welded
-  Soldered
-  Bell & Spigot

**ASSEMBLIES**

-  Double Check Valve (DCV) Assembly
-  Reduced Pressure Zone (RPZ) Assembly
-  Example Valve Assembly Pressure Relief Valve with Spring Return

**CONNECTIONS**

-  Point of Connection (New to Existing)
-  Loop Over (No Connection)
-  Connection Point (Cross Over)
-  Connection Point (Tee Junction)
-  Inspection Joint (at Connection Point)
-  Inspection Bend (at Connection Point)
-  Inspection Opening

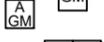
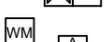
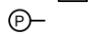
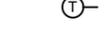
**OUTLETS**

-  Cold Water Outlet
-  Hot Water Outlet
-  IsoValve™ Outlet
-  Cold Water Hose Tap
-  Hot Water Hose Tap
-  Mixing Valve Outlet
-  Gas Outlet

**PENETRATIONS**

-  Roof Penetration
-  Wall Penetration

**METERS AND GAUGES**

-  Gas Meter with Regulating Valve Assembly
-  Gas Meter Apartment Gas Meter
-  Water Meter with Toby Valve
-  Water Meter Apartment Water Meter
-  Pressure Gauge
-  Temperature Gauge
-  Temperature / Pressure Gauge

**OPERATION**

-  Direction of Flow
-  Pipe Fall (FALL = 1:100)
-  Concentric Reducer
-  Eccentric Reducer

**DRAINS AND TRAPS**

-  Condensate Drain
-  Tundish (Copper or Marley D-Blue)
-  Gully Trap
-  Overflow Relief Gully
-  Grease Interceptor Trap
-  Channel Drain c/w FWG
-  Traps - (Schematics)
-  Drain in Unit or Wall
-  Floor Waste Gully
-  Floor Waste Outlet
-  Rain Water Outlet (RWO) / Planter Box Outlet (PBO) / Balcony Outlet (BO) As Noted
-  450 x 450 Cess Pit
-  Ø100 Half Siphon Outlet
-  675 x 450 Cess Pit
-  Ø150 Half Siphon Outlet

**CAPS / CLEANOUTS**

-  Clean Out to Surface (COS)
-  Cleaning Eye Rodding Point
-  Capped Pipe

**ELECTRICAL**

-  Motor
-  Pump
-  Pump - Bi Directional
-  Pump - Variable Pressure
-  Control Panel
-  Electrical Sub Board
-  Main Distribution Board
-  Switched Socket Outlet (SSO)

**MANHOLES AND CHAMBERS**

-  Ø1050 Manhole (SSMH and SWMH)
-  Ø900 and Ø600 Chamber (SSMH and SWMH)
-  Ø1050 Pump Station (PS) / Ø900 Pump Chamber (PC)
-  Ø900 Circular Sump / Ø600 Circular Sump

**HOT WATER UNITS**

-  Hot Water Unit (Gas)
-  Hot Water Cylinder (Electric)
-  Hot Water Storage Cylinder

**MISCELLANEOUS**

-  Battery Timer - (GARDENA) (Batory Powered Flex Control)
-  Back Flow Prevention Device
-  Double Check Valve
-  Reduced Pressure Zone
-  Pipe Size Definition

**LINE TYPES**

-  New Installation
-  Existing Pipework
-  Redundant Pipework
-  Pipework To Be Removed
-  Sanitary Drain / Waste Pipe
-  Stormwater Drain
-  Tradewaste Drainage
-  Field Drain - Nova Coil
-  Condensate Drain
-  Vent Pipe
-  Domestic Cold Water (DCW)
-  Hot Water Flow (HWF)
-  Hot Water Return (HWR)
-  Rising Cold Water Main
-  Rising Hot Water Main
-  Fire Hose Reel Supply
-  Non Potable Cold Water
-  Non Potable Hot Water
-  Rainwater Collection Pipe
-  High Level Pipe Work
-  Acoustically Lagged Pipe
-  Pipe Wrapped in Denso Tape
-  Pipework in Conduit
-  Gas Line
-  Electrical Cable
-  Control Cable
-  Telecom Cable
-  Data Cable
-  Hatched Foundations

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Shown in Millimetres

DRAWN	DESIGNED	CHECKED	FILE
David Walker	Aaron Rink	Aaron Rink	FC-1580.B-06.2025

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0800 3569 266

TRADEWASTE TREATMENT SYSTEM  
HYDRAULIC DESIGN SERVICES  
1799A GREAT SOUTH ROAD, BOMBAY

**LEGEND**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	No Scale @ A3
DRG No.	H0010
REV	B
	A3 ORIGINAL

FOR CONSENT

**PLUMBING AND DRAINAGE SERVICES - SCOPE OF WORK**

It is proposed that the existing Fuel depot and washdown bay located at 1799A Great South Road, Bombay is to update the existing Trade waste Treatment system.

- Fuel Depot - Install 2 x catchpits and an API separator into a new concrete pad designed by others
- Washdown Bay - Install an Oil and Grit Interceptor
- Install square junctions on the inlet and outlet of the existing 5000 treatment tank.
- Redirect treated trade waste discharge to stormwater.

These Flow Consulting design plans detail the trade waste treatment and stormwater management services. Please refer to the TSC design for further stormwater treatment plans.

The following works are to be undertaken by the Plumbing and Drainage contractor as detailed on these plans and general specifications attached to deliver this new project:

**Location of services:**

1. Ensure the existing rain harvested water supply tank overflow discharges to the existing on-site soakage system under raised mound - 4 meters deep.

**Trade waste - Fuel Depot:**

2. Ensure the required drain fall is available before the installation of any new drainage works.
3. Excavate, supply, and install all required trade waste and stormwater drainage as detailed on the plans.
4. Install new concrete pad designed by others for fuel depot c/w 2 x catch-pits and an API separator.
  - Exact size and shape to be confirmed by others.
  - Refer to Structural Engineering.
5. Connect 150 API outlet to existing tradewaste pipework downstream of the new OGI.

**Trade waste - Washdown Bay:**

6. Ensure the required drain fall is available before the installation of any new drainage works.
7. Excavate, supply, and install all required trade waste and stormwater drainage as detailed on the plans.
8. Install new Hynds 3000L Oil and grit interceptor c/w open grate as detailed.
9. Install two new square junctions into the existing 5000 Litre tank and raise lid as detailed.
10. Re-direct the existing 150 tank outlet to discharge to the existing 150 rock swale novacoil as detailed.

**Stormwater Management:**

11. Allow for a new stormwater manhole to be installed in co-ordination with any proposed future development.
12. Refer to TSC design.

**Heavy vehicle site requirements:**

13. All new pipework is to be installed in uPVC Class SN16.
14. Allow supply of all required pipe bedding material ensuring all drains are backfilled and compacted with pit sand.
15. Allow for heavy vehicle cover of gravel base course as specified by others.
16. Remove all excess spoil from site.

**General:**

- All work is to be undertaken in accordance with NZBC and local authority requirements.
- The contractor is to liaise with the local authority for all necessary inspections providing appropriate notice before due inspection.
- Allow to attend coordination meetings on-site with other trades and make any necessary changes to pipe run locations detailed on these plans to accommodate other services.
- Please Note: Any deviation from this design scope, the Flow Consulting design plans and the products specified must be approved by Flow Consulting before the commencement of any works.



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DESIGNED Mike McLaren
CHECKED Aaron Rink
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TRADEWASTE TREATMENT SYSTEM  
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**SCOPE OF WORKS**

JOB 1580
DATE OF ISSUE 24.06.2025
SCALE No Scale @ A3
DRG No. H0110
REV <b>B</b>
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TRADEWASTE TREATMENT SYSTEM  
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 1799A GREAT SOUTH ROAD, BOMBAY

**EXISTING SITE LAYOUT**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:1250 @ A3
DRG No.	H1000
REV	A3 ORIGINAL
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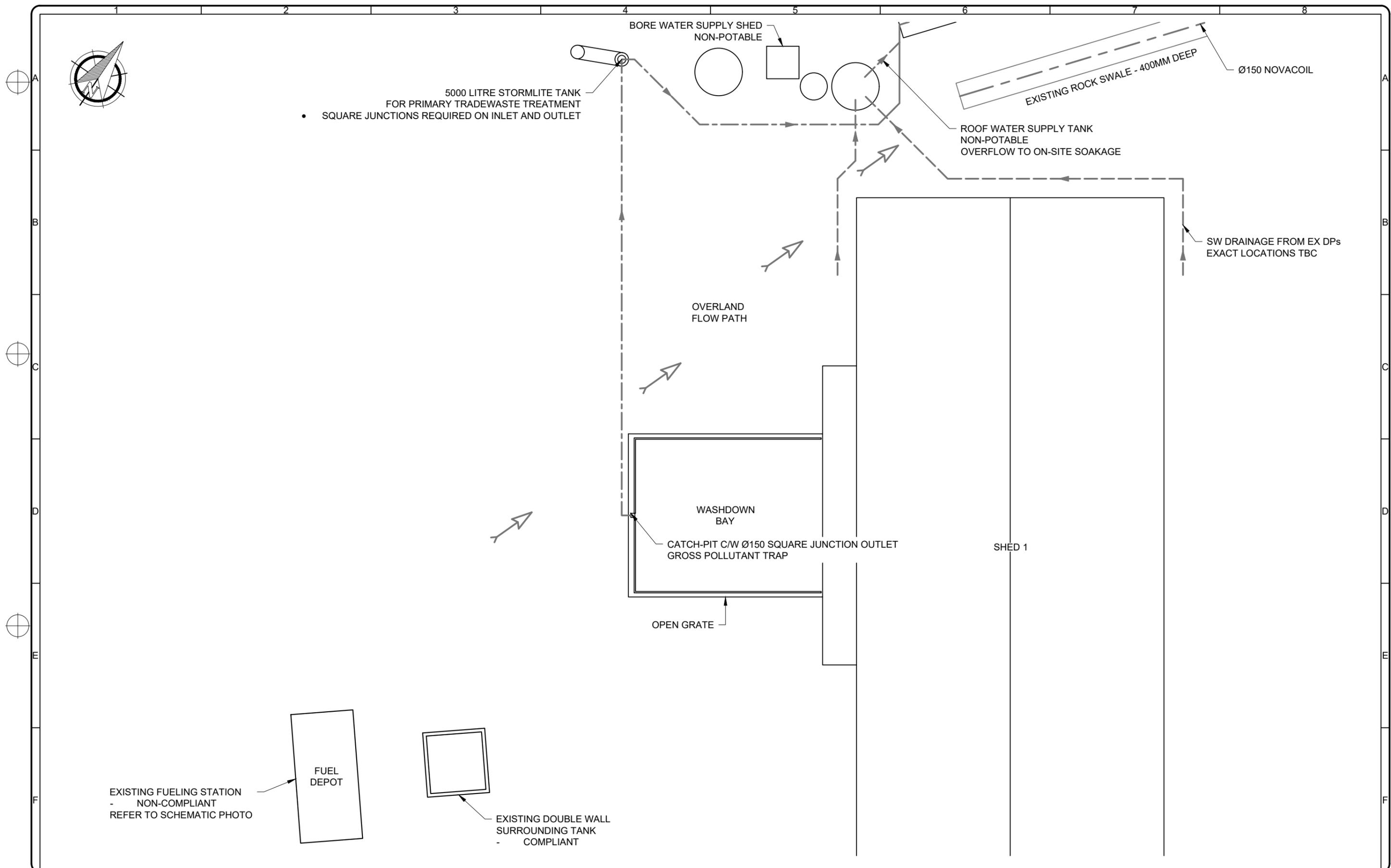
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 1799A GREAT SOUTH ROAD, BOMBAY

**EXISTING TRADEWASTE LAYOUT**

JOB	1580
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SCALE	1:500 @ A3
DRG No.	H1011
REV	A3 ORIGINAL
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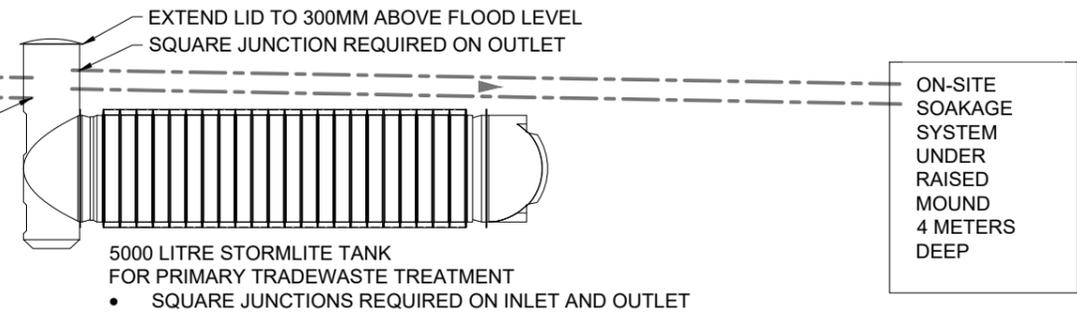
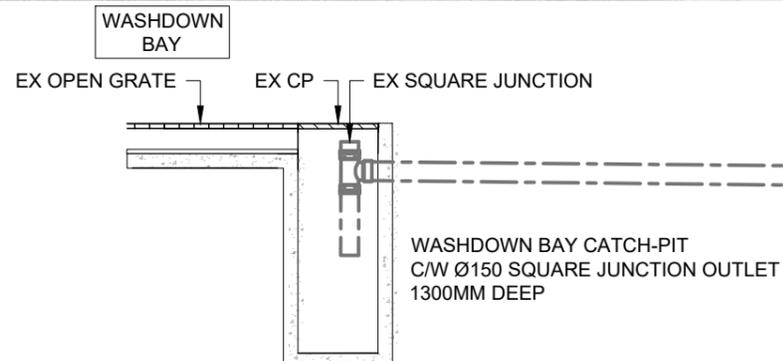
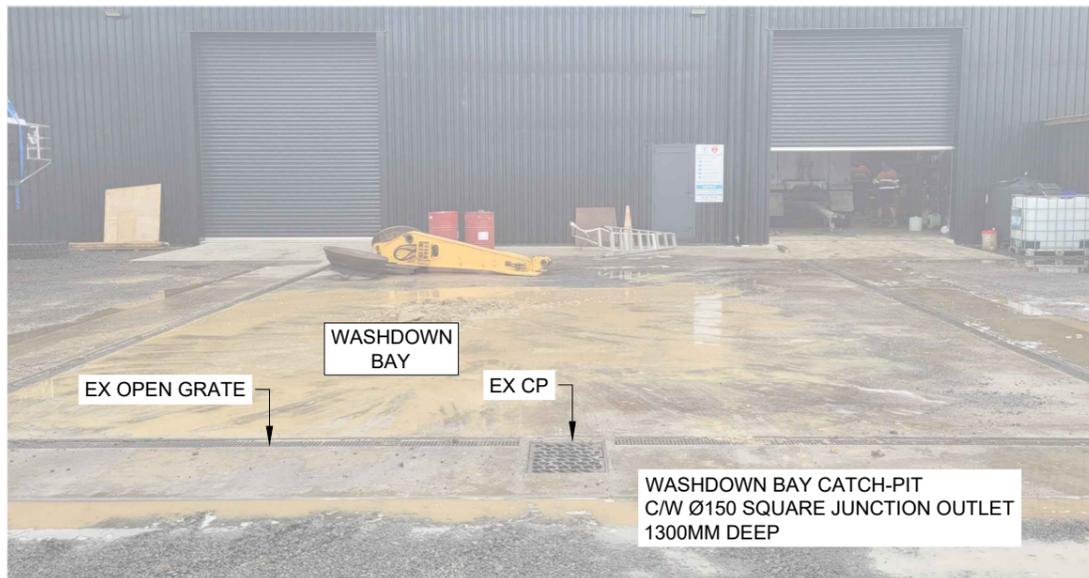
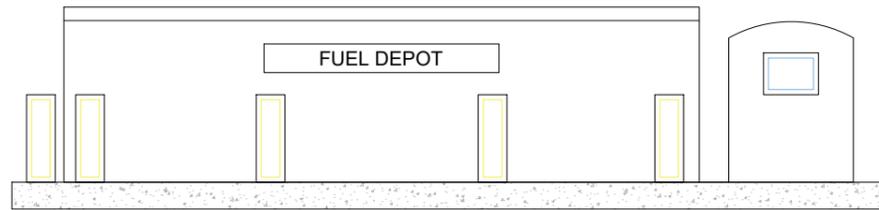
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**EXISTING TRADEWASTE DETAIL**

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DRG No.	H1012
REV	A3 ORIGINAL
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**EXISTING TRADEWASTE TREATMENT**



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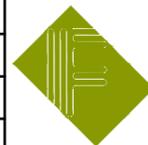
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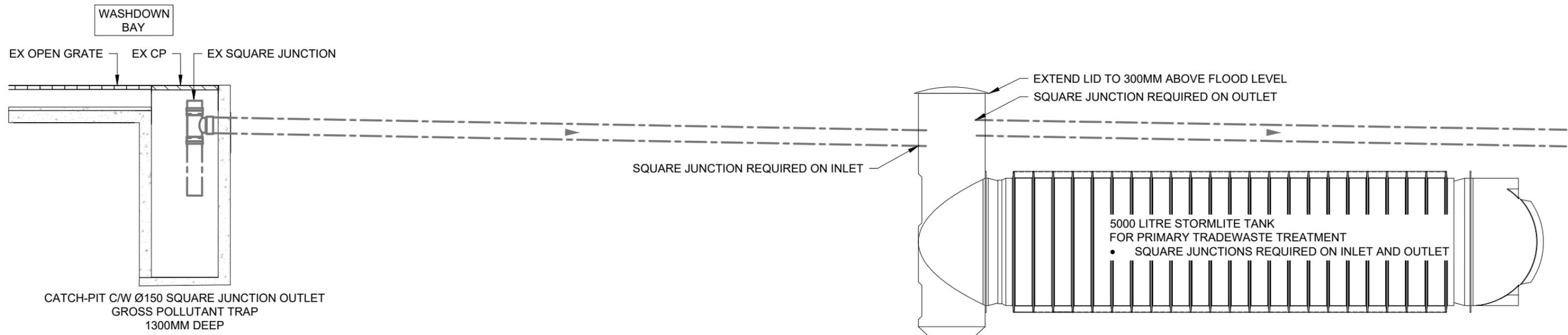
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**EXISTING TRADEWASTE TREATMENT SCHEMATIC**

JOB	1580
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SCALE	N.T.S. @ A3
DRG No.	H1070
REV	A3 ORIGINAL



**EXISTING WASHDOWN BAY  
TRADEWASTE TREATMENT DETAIL**

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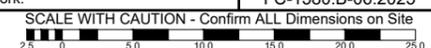
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**EXISTING TRADEWASTE  
WASHDOWN BAY DETAIL**

JOB 1580  
DATE OF ISSUE 24.06.2025  
SCALE 1:500 @ A3  
DRG No. H1071  
REV B A3 ORIGINAL





INSTALL NEW CONCRETE PAD FOR FUEL DEPOT C/W CATCH-PITS AND API SEPARATOR

- EXACT SIZE AND SHAPE TO BE CONFIRMED BY OTHERS
- REFER TO STRUCTURAL ENGINEERING

NEW Ø150 PVC SN16 REFER TO TSC DESIGN

NEW Ø150 BUBBLE-UP OR SPREADER DISCHARGE TO PROPOSED POND WITH TREATMENT SWALE REFER TO TSC DESIGN

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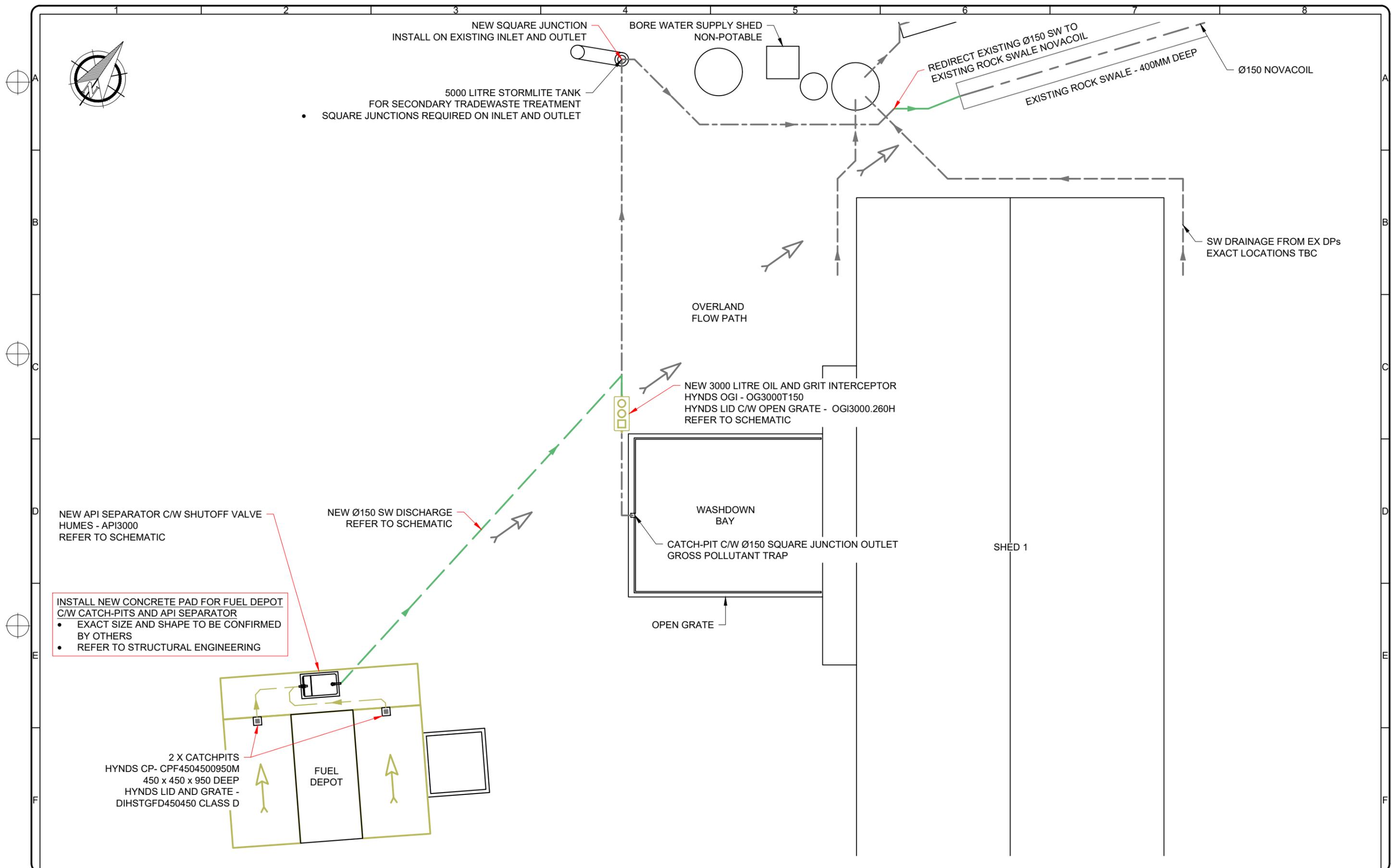
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TRADEWASTE TREATMENT SYSTEM  
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**PROPOSED TRADEWASTE AND  
STORMWATER MANAGEMENT PLAN**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H2011
REV	A3 ORIGINAL
<b>B</b>	



NEW API SEPARATOR C/W SHUTOFF VALVE  
HUMES - API3000  
REFER TO SCHEMATIC

INSTALL NEW CONCRETE PAD FOR FUEL DEPOT  
C/W CATCH-PITS AND API SEPARATOR

- EXACT SIZE AND SHAPE TO BE CONFIRMED BY OTHERS
- REFER TO STRUCTURAL ENGINEERING

2 X CATCHPITS  
HYNDS CP- CPF4504500950M  
450 x 450 x 950 DEEP  
HYNDS LID AND GRATE -  
DIHSTGFD450450 CLASS D

5000 LITRE STORMLITE TANK  
FOR SECONDARY TRADEWASTE TREATMENT

- SQUARE JUNCTIONS REQUIRED ON INLET AND OUTLET

NEW SQUARE JUNCTION  
INSTALL ON EXISTING INLET AND OUTLET

NEW 3000 LITRE OIL AND GRIT INTERCEPTOR  
HYNDS OGI - OG3000T150  
HYNDS LID C/W OPEN GRATE - OGI3000.260H  
REFER TO SCHEMATIC

WASHDOWN BAY  
CATCH-PIT C/W Ø150 SQUARE JUNCTION OUTLET  
GROSS POLLUTANT TRAP

OPEN GRATE

REDIRECT EXISTING Ø150 SW TO  
EXISTING ROCK SWALE NOVACOIL

EXISTING ROCK SWALE - 400MM DEEP

Ø150 NOVACOIL

SW DRAINAGE FROM EX DP's  
EXACT LOCATIONS TBC

OVERLAND  
FLOW PATH

SHED 1

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A	06.25	PRELIMINARY DESIGN	W/HH
B	06.25	ISSUED FOR CONSENT	W/HH

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Shown in Metres

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DESIGNED	Mike McLaren
CHECKED	Aaron Rink
FILE	FC-1580.B-06.2025



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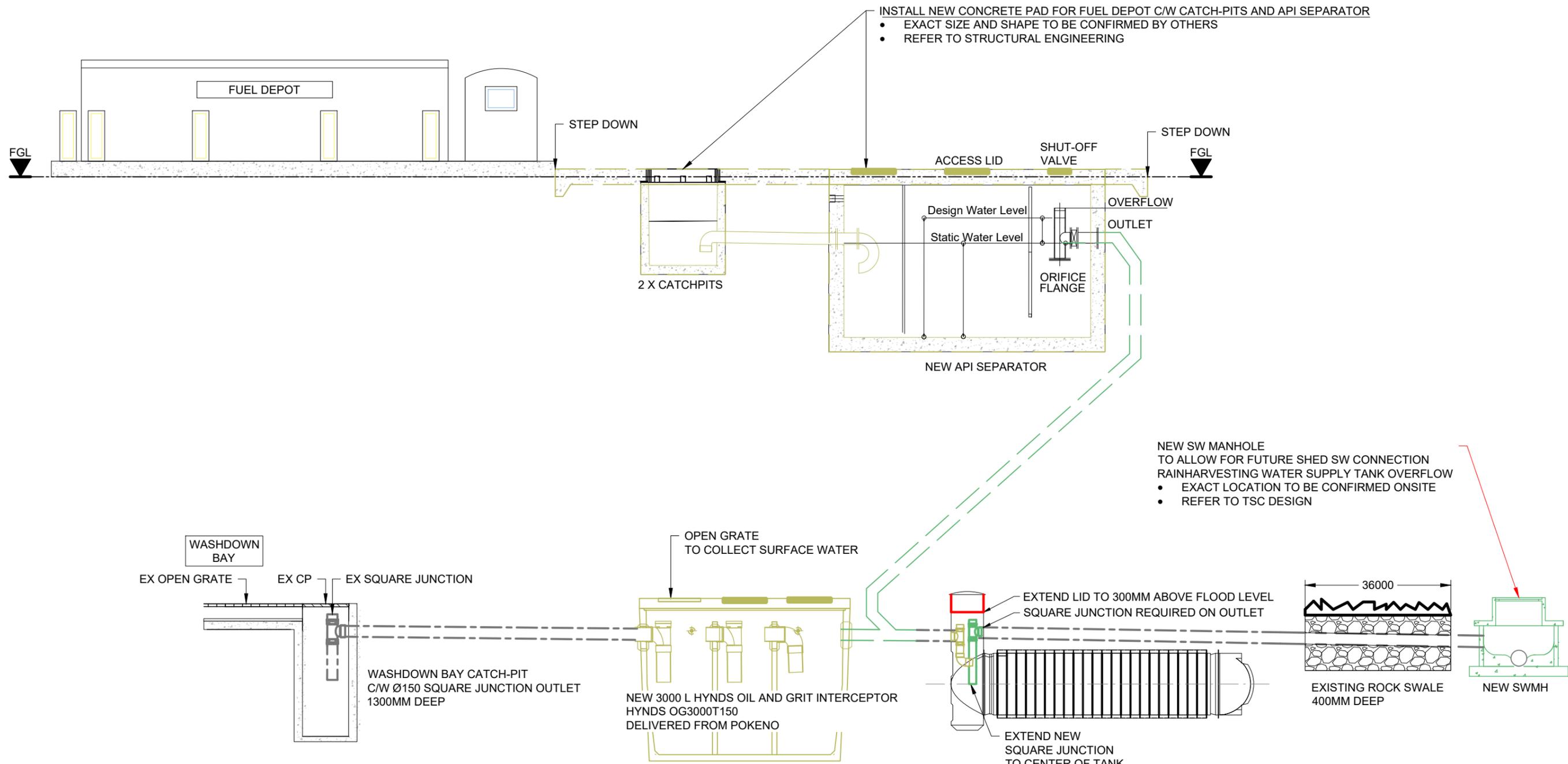
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TRADEWASTE TREATMENT SYSTEM  
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1799A GREAT SOUTH ROAD, BOMBAY

**PROPOSED TRADEWASTE DETAIL**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:250 @ A3
DRG No.	H2012
REV	A3 ORIGINAL
	<b>B</b>

**PROPOSED TRADEWASTE TREATMENT**



INSTALL NEW CONCRETE PAD FOR FUEL DEPOT C/W CATCH-PITS AND API SEPARATOR

- EXACT SIZE AND SHAPE TO BE CONFIRMED BY OTHERS
- REFER TO STRUCTURAL ENGINEERING

NEW SW MANHOLE TO ALLOW FOR FUTURE SHED SW CONNECTION RAINHARVESTING WATER SUPPLY TANK OVERFLOW

- EXACT LOCATION TO BE CONFIRMED ONSITE
- REFER TO TSC DESIGN

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DRAWN  
Walter Hitchins

DESIGNED  
Mike McLaren

CHECKED  
Aaron Rink

FILE  
FC-1580.B-06.2025

**FLOW CONSULTING**  
HYDRAULIC DESIGN

P.O.Box 10390  
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Web : www.flowconsulting.co.nz  
Email : design@flowconsulting.co.nz

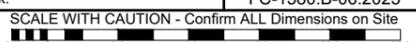
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0800 3569 266

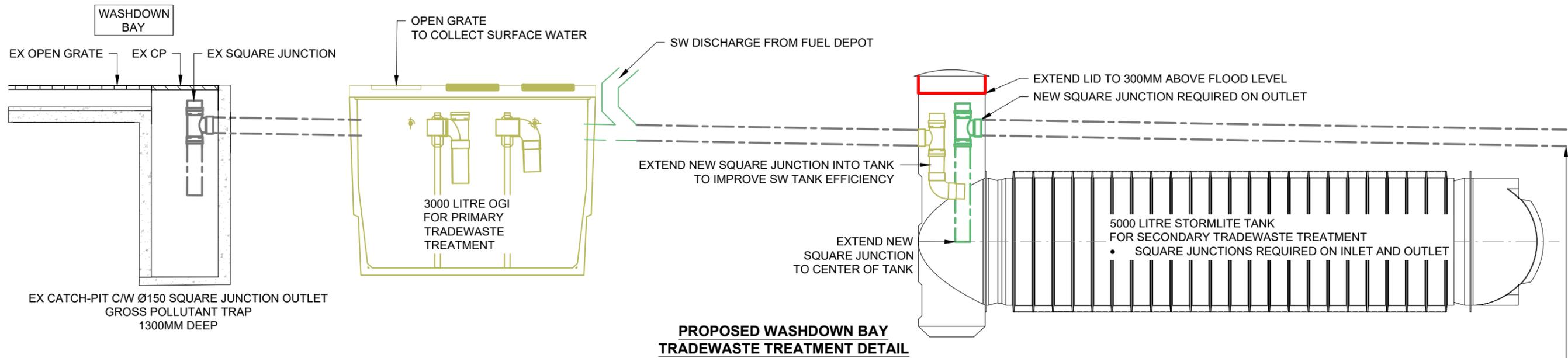
FOR CONSENT

TRADEWASTE TREATMENT SYSTEM  
HYDRAULIC DESIGN SERVICES  
1799A GREAT SOUTH ROAD, BOMBAY

**PROPOSED TRADEWASTE TREATMENT SCHEMATIC**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H2070
REV	B A3 ORIGINAL





- DISCHARGE TO EXISTING Ø150 NOVACOIL**
- EXISTING ROCK SWALE
  - PROPOSED POND WITH TREATMENT SWALE - REFER TO TSC DESIGN

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	WHH
B	06.25	ISSUED FOR CONSENT	WHH

CLIENT

**VERNON DEVELOPMENTS**  
www.vernondevelopments.co.nz

CONTRACTOR

**TSC**  
Planners, Surveyors & Engineers

THIS DRAWING : is based on Architectural plans received by FLOW CONSULTING : 06.2025

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THE CONTRACTOR : MUST verify all dimensions on site prior to the commencement of work.

Scale 1:500  
Shown in Metres

DRAWN  
Walter Hitchens

DESIGNED  
Mike McLaren

CHECKED  
Aaron Rink

FILE  
FC-1580.B-06.2025

**FLOW CONSULTING**  
HYDRAULIC DESIGN

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0800 3569 266

**FOR CONSENT**

TRADEWASTE TREATMENT SYSTEM  
HYDRAULIC DESIGN SERVICES  
1799A GREAT SOUTH ROAD, BOMBAY

**PROPOSED TRADEWASTE WASHDOWN BAY DETAIL**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H2071
REV	B
	A3 ORIGINAL

# Catchpit Units Flat Top and Back Entry

Technical Guide D5.1

Manufactured at our state of the art world leading concrete manufacturing plant in Pokeno, the Catchpit Units have improved lower openings and are lighter weight than standard catchpits



02.25 | DRAINAGE | D5.1 HYNDS CESSPIT UNITS FLAT TOP AND BACK ENTRY

## Applications

Stormwater drainage

## Product Attributes

Available as flat top or back entry

Riser units available on request

Durable precast concrete manufacturing

Economical installation

## Approvals/Standards

NZS 3109, Concrete Construction

AS3996-2006, Streetware

## Sustainability

Available in Hynds LC<sup>®</sup> low carbon concrete

Verifiable carbon footprint data available

Customisable for climate-resilient infrastructure

## Quality/Environment/Health & Safety

ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018

Hynds have a range of precast concrete cesspit units, ideal for draining storm water from roadsides and into drainage pipes.

### Installation

- The unit features factory fitted lifting anchors cast into the concrete to allow for safe off-loading and easy economical installation by the contractor.
- Slam Lock Cast iron or ductile iron frames, grates and back inlet kerb blocks are also available through Hynds. Units must be installed on compacted level hardfill.
- The units with the pre-formed soft spots situated in the sidewalls provide easy fitting for outlet pipe work.
- Installation is completed by filling the gap between the holes made for the pipe work with epoxy mortar, backfilling the trench and compacting as required.

### Design Specifications

- Soft spots are cast on all four sides (certain models excluded).
- Flat top cesspit has no back inlet.
- Back entry cesspit available in: 675 x 450 mm standard; and 675 x 450 mm syphon cesspit.
- Hydro 675 x 450 Class D is an excellent alternative to standard grates and frames. Please refer to our D4.16 product sheet for further information.

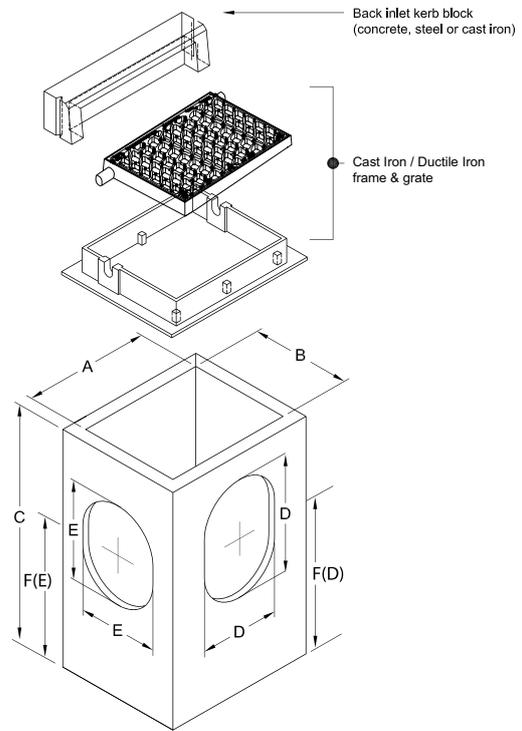


FIG. 1 Flat Top Cesspit (refer to Table 1)

TABLE 1 Flat Top Cesspit Dimensions

Product Code	Internal Size (mm)	External Size (mm)	Soft Spots (mm)		Depth to Centre (mm)		Avg. Thickness (mm)	Mass (kg)
			D(WxH)	E(WxH)	F(D)	F(E)		
	AxBxC (L x W x H)	AxBxC (L x W x H)						
<b>Standard Flat Top</b>								
CPF4504500950M	450 x 450 x 950	600 x 600 x 1025	390 x 390	390 x 390	400	400	75	449
CPF6754500900M	675 x 450 x 900	825 x 600 x 975	319 x 319	244 x 244	295	332.5	75	543
CPF6754501200M	675 x 450 x 1200	825 x 600 x 1275	370 x 435	370 x 435	652.5	652.5	75	709
CPF6754501650M	675 x 450 x 1650	825 x 600 x 1725	339 x 789	339 x 789	910	910	75	956

- Please refer to your local Hynds Branch or contact Hynds Technical Services for further details.
- Available within the North Island Region only.

TABLE 2 Flat Top Cesspit Dimensions

Product Code	Nominal Size (mm) (L x W x H)	Back Entry Dimensions (mm)				Mass (kg)
		L1	L2	H1	H2	
CPB6754500900M	675 x 450 x 900	480	450	100	176	530
CPB6754501200M	675 x 450 x 1200	480	450	100	176	696
CPB6754501650M	675 x 450 x 1650	480	450	100	176	946

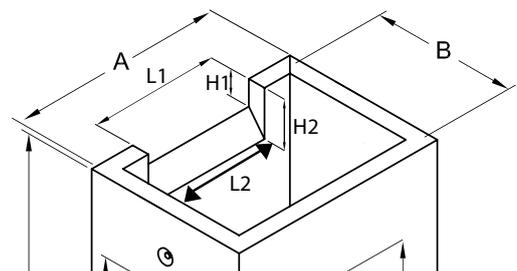


FIG. 2 Back Entry Catchpit Opening Shape

**TABLE 3 Cast Iron Grates and Frames Available**

Product code	Class	Dimensions (mm)	Mass (kg)
CIC450450GF	B	450 x 450	69
CIC675450GF	D	675 x 450	118
CIC675450HDGF	D	675 x 450	117

**TABLE 4 Galvanised Mild Steel Heel Proof Grates and Frames Available**

Product code	Class	Dimensions (mm)	Mass (kg)
GGHS450450AGF	A	450 x 450	16
GGHS450450DGF	D	450 x 450	35
GGHS675450AGF	A	675 x 450	23
GGHS675450DGF	D	675 x 450	59

**TABLE 5 Ductile Iron Hydro Grates and Frames Available**

Product code	Class	Dimensions (mm)	Mass (kg)
DIHSTGFD450450	D	450 x 450	55
DIHSTGFDSL	D	675 x 450	66.5

Note: Products are getting replaced

**TABLE 6 Standard Concrete Kerb Block**

Product code	Mass (kg)
CP900	51

#### Also refer to:

D16.12 Hydro Stormwater Grate and Frame Hynds Streetware Catalogue

## Lifting and Handling

Hynds Pipe Systems has designed and manufactured Hynds Cesspit Units Flat Top and Back Entry with a minimum dynamic factor of 1.2. This dynamic factor requires that all the following conditions are observed when lifting, moving or placing the cesspits:

- Lifting with mobile plant (*such as an excavator or similar*) where equipment is specifically exempt from the requirements of the PECPR Regulations 1999, subject to the conditions outlined in the New Zealand Gazette, No. 104, September 2015
- Lifting, travelling and placing over rough or uneven ground where anchor failure is not anticipated to cause harm or injury, by adopting procedures such as:
  - Transporting the element as close as practical to ground level (300mm recommended)
  - Establishing and maintaining exclusion zones
  - Transporting only precast concrete elements that are unlikely to topple if they were to hit the ground
  - Inspecting lifting anchors both after transportation and before final lifting into place
- Hynds uses both Reids and Ancon lifting anchors which are both designed to (*Haeussler*) specifications and as such are compatible with Reid, Deha or Ancon anchors, clutches, and recess formers of the same load range.

Refer to "Safe work with precast concrete - Handling, transportation and erection of precast concrete elements" published by Worksafe New Zealand (October 2018)

Shock loads resulting from travelling with suspended Cesspit Units over rough terrain and uneven ground may exceed design, dynamic and safety factors of the lifting systems. It is essential that care is taken during lifting and transporting as additional stresses could result in anchor failure.

**Branches Nationwide** *Support Office & Technical Services 0800 93 7473*

**Disclaimer:** While every effort has been made to ensure that the information in this document is correct and accurate, users of Hynds product or information within this document must make their own assessment of suitability for their particular application. Product dimensions are nominal only, and should be verified if critical to a particular installation. No warranty is either expressed, implied, or statutory made by Hynds unless expressly stated in any sale and purchase agreement entered into between Hynds and the user.

**hynds.co.nz**  
**0800 93 7473**

**HYNDS**  
PIPE SYSTEMS

The logo for Hynds Pipe Systems features the word "HYNDS" in a bold, white, sans-serif font. Below it, the words "PIPE SYSTEMS" are written in a smaller, white, sans-serif font. A yellow curved line, resembling a stylized pipe or a smile, is positioned at the bottom of the logo.

# HUMES

## API Oil Interceptor



### Design meets the standards set by the Oil Industry Guidelines and ARC TP10 (2003)\*

**The Humes API Oil Interceptor is designed to separate hydrocarbons from stormwater runoff and has the capability to capture an accidental spill up to 2500 litres discharging at 1000 litres per minute. The butterfly shut-off valve closes at capacity allowing containment of excessive accidental spills.**

#### Applications

- Service stations
- Truck stops
- Vehicle service centres
- Terminals and depots
- Blending and manufacturing plants

#### Benefits

- Cost effective
- Safe and reliable
- Reduced installation cost
- Retention of accidental spill
- Easy access for servicing

#### Features

- Efficient separation, industry compliance
- Full range to suit individual catchment areas
- Emergency shut-off
- Few moving parts
- Quality precast unit
- Designed to carry legal wheel loadings

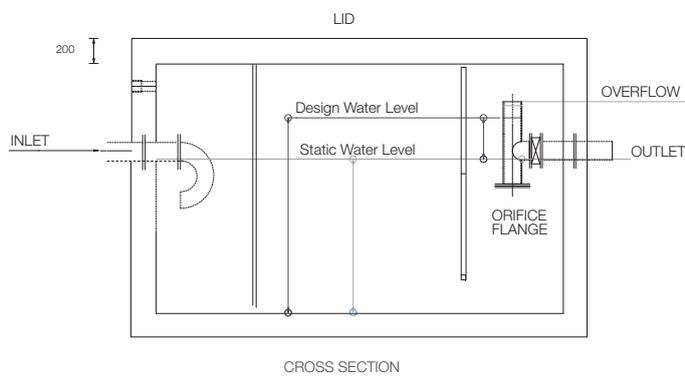
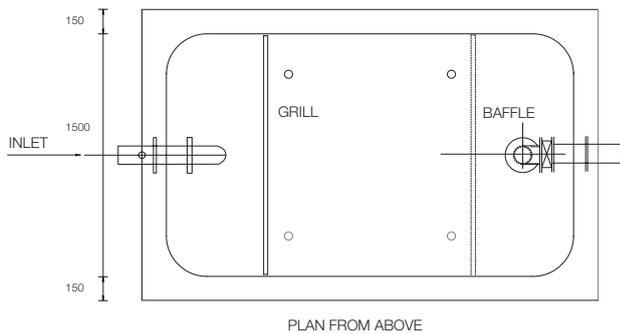
#### Testing and Design

Testing and design of the Humes API Oil Interceptor has been carried out as per requirements of ARC TP10 (2003) and the Environmental Guidelines for Water Discharge from Petroleum Industry sites in New Zealand (MFE):

- to retain at least 2500 litres of spill
- to discharge less than 15 parts/million total petroleum hydrocarbons
- to not exceed 25m/hour horizontal velocity through unit.

\*TP10 is a design guideline manual for Stormwater Management Devices published by the Auckland Regional Council

# API Oil Interceptor



## Installation

The Humes API unit must be bedded to a level and uniform surface providing a safe bearing capacity of 100kPa. If for any reason this cannot be achieved an engineer experienced in foundations should be contacted for specialist advice.

The minimum requirement for the prepared bedding is a 100mm layer of compacted granular material. The lid must be bedded uniformly on all sides to a full width layer of mortar.

Units installed below ground or on a sloped finished ground or pavement surface must be designed specifically for those conditions. Wall props are required as tabulated below.

## Maintenance and operation

The units must be maintained and operated in accordance with the appropriate industry guidelines and the environmental management plan developed for the site.

## Manufacturing standards

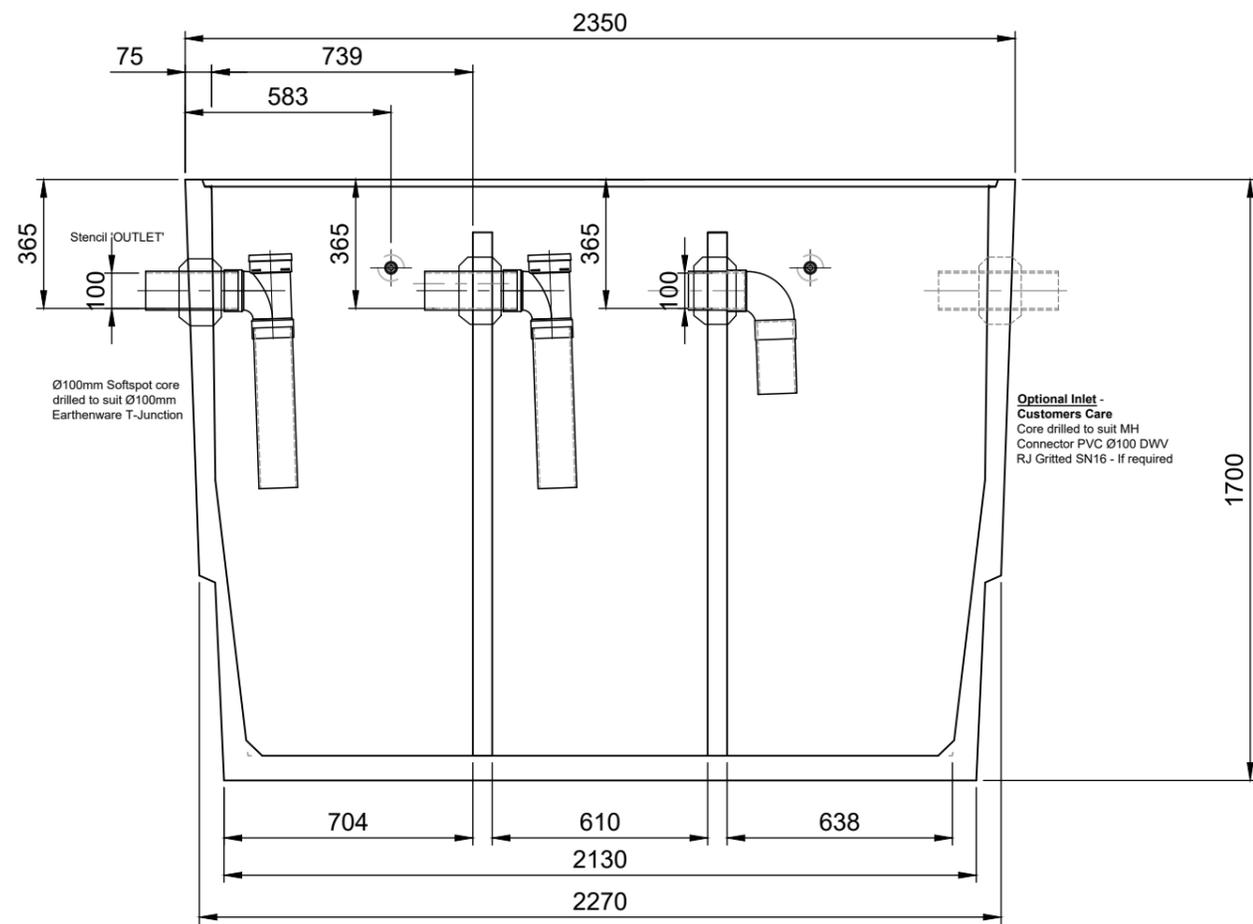
All materials comply with the relevant New Zealand standard. Precast manufacture is to NZS 3109:1997 with surface finishes to NZS 3114:1987, F4 and U2 for formed and trowelled respectively. Concrete has a design strength of 40 MPa.

## API Oil Interceptor

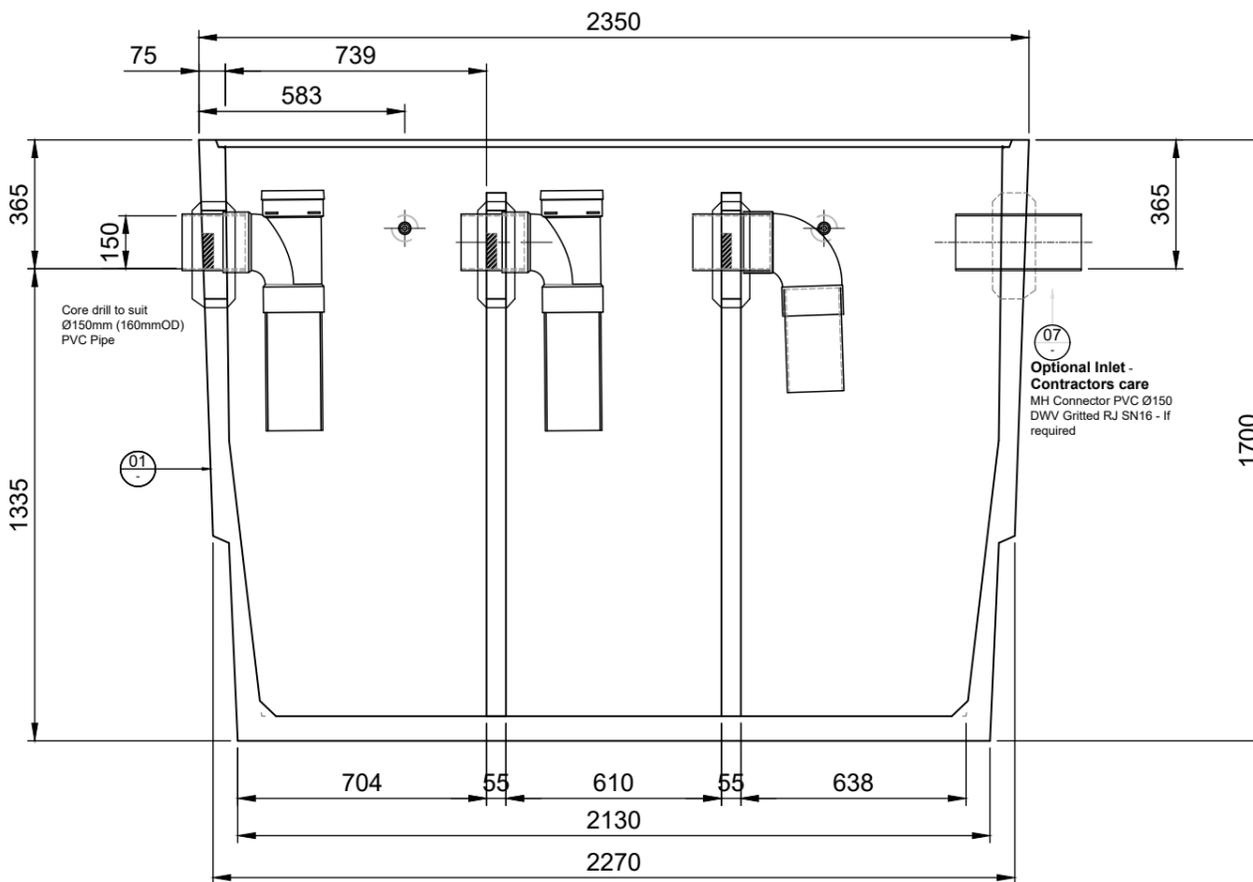
### Oil Industry Guidelines

Model Reference	API3000	API3500	API4000	API4500	API5000	API5500
<b>Item Code (API Body fitted out)</b>	04070	04073	04022	04028	04043	04052
<b>Item Code (API lid c/w access covers)</b>	04098	04078	04024	04032	04050	04054
<b>Internal Length</b>	3000	3500	4000	4500	5000	5500
<b>Internal Width</b>	1500	1500	1500	1500	1500	1500
<b>External Height</b>	1850	1850	1875	1875	1875	1875
<b>External Length</b>	3300	3800	4300	4800	5300	5800
<b>External Width</b>	1800	1800	1800	1800	1800	1800
<b>Unit Weight (tonnes)</b>	10.6	11.9	13.9	15.4	16.6	18.0
<b>R.H.S. Struts</b>	1	1	1	2	2	3
<b>Intercepted Length to Baffle</b>	2400	2900	3400	3900	4400	4900
<b>Capacity for AGO (SG 0.9) m<sup>3</sup></b>	3.00	3.63	4.25	4.88	5.50	6.13
<b>Design Flow m<sup>3</sup>/hr</b>	2.45	2.95	3.45	3.95	4.35	4.80
<b>Orifice Size D mm</b>	25	28	30	32	33	35
<b>Catchment Area m<sup>2</sup></b>						
9mm/hr	272	328	383	439	483	533
12mm/hr	204	246	288	329	363	400
15mm/hr	163	197	230	263	290	320
<b>ARC Chapter 10, TP10</b>						
Design Flow m <sup>3</sup> /hr	1.75	2.10	2.40	2.75	3.05	3.40
Orifice Size D mm	21	23	25	27	28	30
Area m <sup>2</sup> 15mm/hr	117	140	160	183	203	227

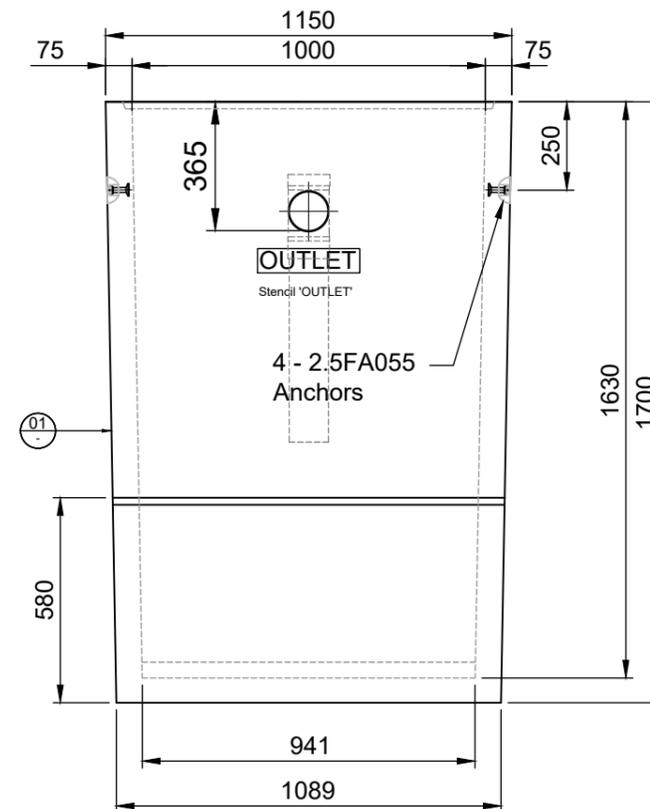




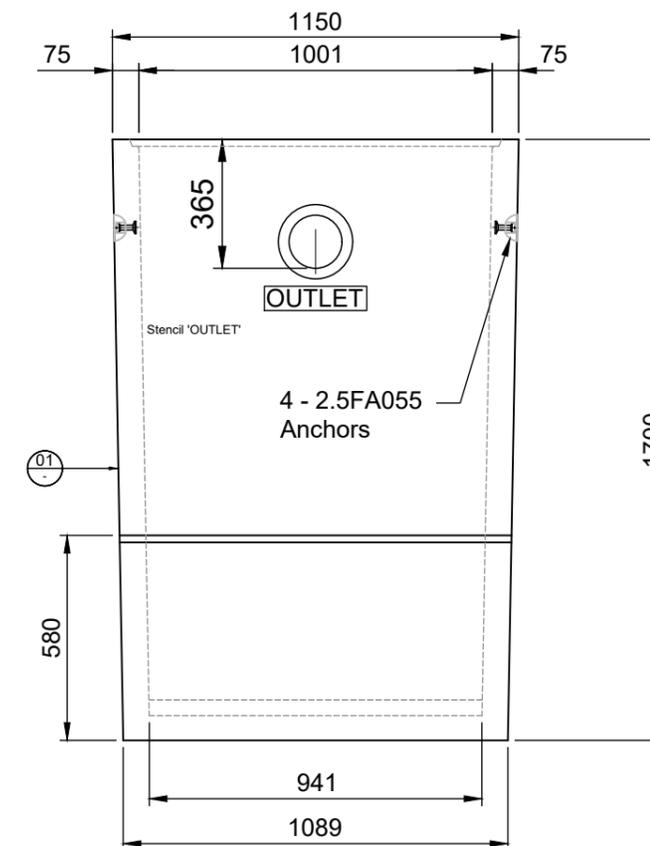
OG3000T100



OG3000T150



OG3000T100



OG3000T150

**NOTES:**

1. Concrete :
  - 1.1.  $f'c = 50\text{MPa}$ , 10mm Aggregate
  - 1.2. Demould = 15MPa Min.
  - 1.3. Lift & Rotate = 25MPa Min.
2. Reo :
  - 2.1.  $f_y = \text{Grade 500E MA}$
  - 2.2. Reo Cover = 20mm Min.
  - 2.3. Tolerances for Reinforcement: As per NZS3109:1997 - Clause 3.9, and reproduced in DRG. no T6910 for reference.
  - 2.4. Min Lap Length : 40 x Bar Dia
  - 2.5. Do not re-bend reinforcing steel
3. Tolerances for Precast Components: As per NZS3109:1997 - Table 5.1
4. Design Load: LD20
5. Design Life: - Years
6. Exposure Classification: Internal = -, External = -
7. Finish: F3 as per NZS3114.

**MATERIALS**

VOL (m<sup>3</sup>/unit) =  
 WT (ton/unit) =  
 CODE = OG3000T100 & OG3000T150

**REVISIONS**

REV #	REVISION DESCRIPTION:	DATE:	DRAWN:
4	Details Revised - Issued For Construction	11 Feb 2022	S.K
5	Fittings Changes To PVC	04 April 24	GH
6	Lid Dimensions Updted To Match POD MOuld	18 March 25	GH
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 Tel: 09-274 0316  
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**ISO 9001 CERTIFIED MANAGEMENT SYSTEM**

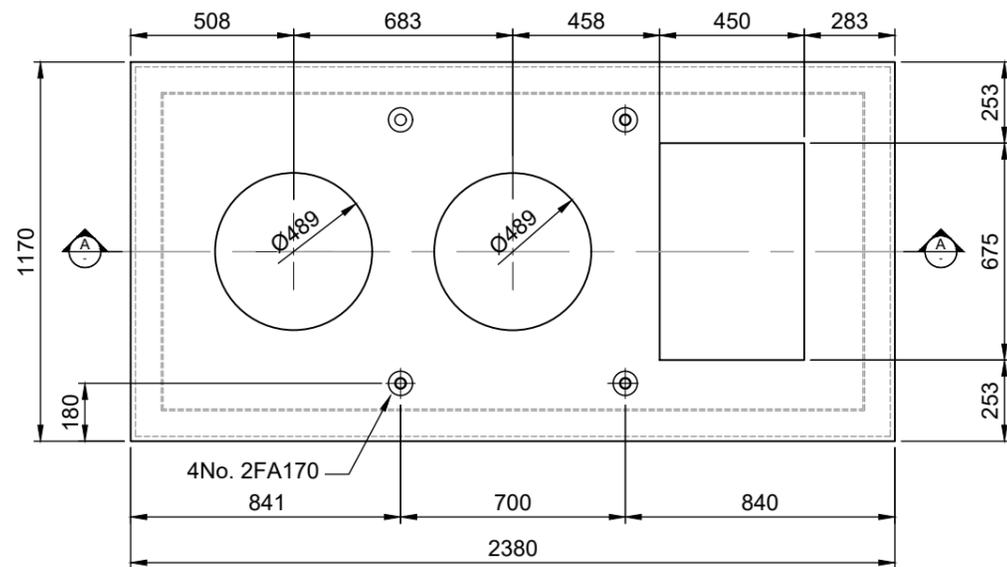
**PROJECT DESCRIPTION:**

Hynds Standard Drawing  
 -  
 3000L Light Duty Oil & Grit Interceptor  
 (Ex-Pokeno)

**SERVICE DETAIL:**

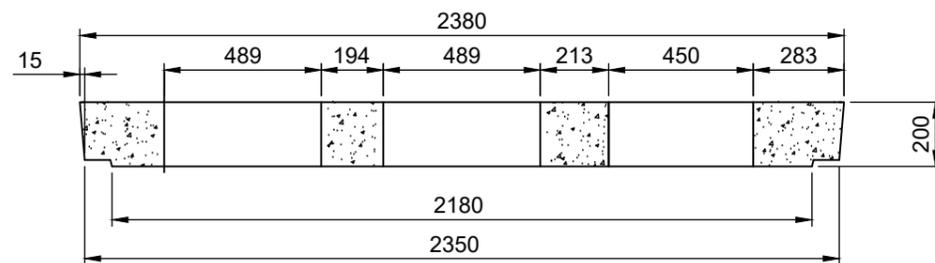
3000L Light Duty Oil & Grit Interceptor  
 2350x1150x1700mm  
 Tripple Chamber - Ø100&Ø150mm Fittings  
 General Arrangement

REFERENCE/QUOTE NUMBER:	18612	
DRAWN: S.K	DESIGN: -	CHECKED: S.P
SIGNATURE:	SIGNATURE:	SIGNATURE:
SCALE: As Shown	Note: Do not scale drawing if in doubt <b>ASK!!!</b>	DATE: <b>9-Apr-25</b>
PAPER SIZE: A3		
DRAWING NUMBER:	SHEET NUMBER:	REVISION NUMBER:
T2285- 1	1 of 1	6



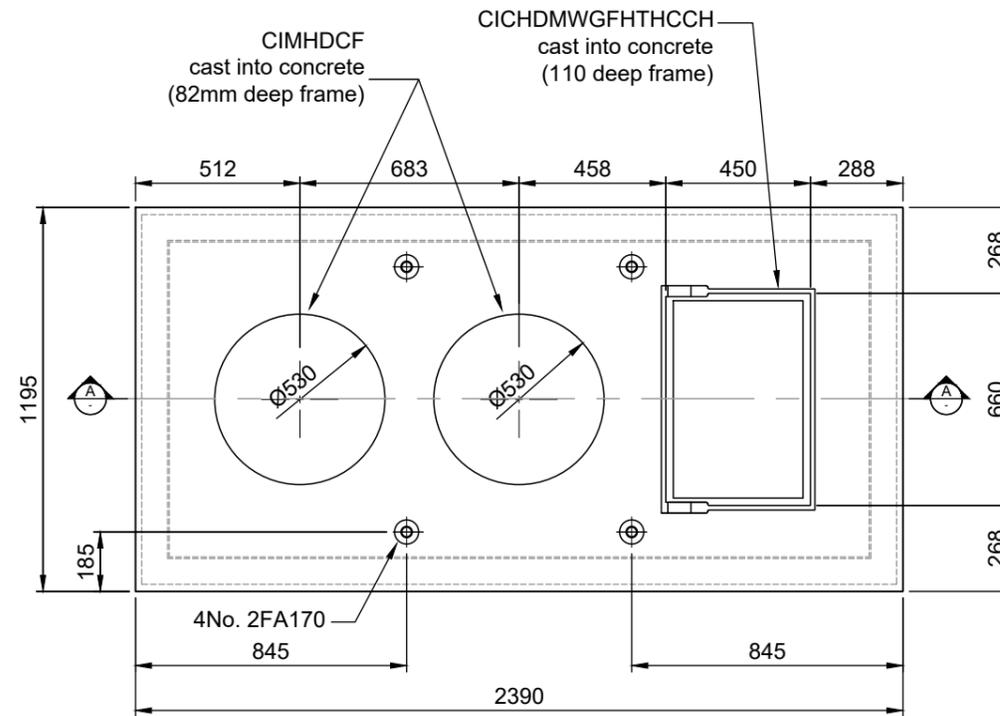
**PLAN - Tank (No Lid)**

Scale: 1:25



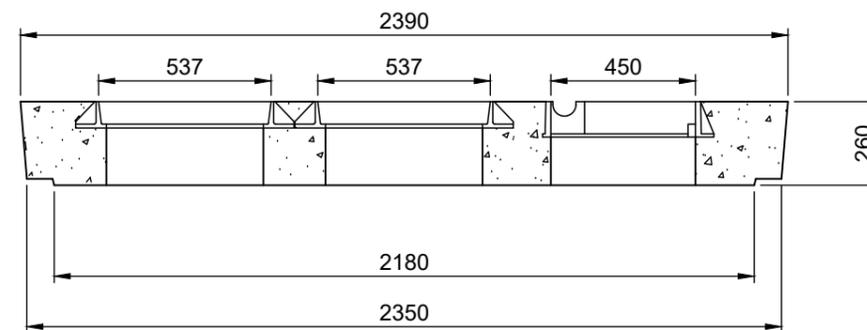
**SECTION A-A**  
Scale: 1:25

**OGL3000.200NC**



**Plan View**

Scale: 1:20



**Section 'A-A'**  
Scale: 1:20

**OGL3000.260H**

**NOTES:**

1. Concrete :
  - 1.1.  $f_c$  = 50MPa, 10mm Aggregate
  - 1.2. Demould = 15MPa Min.
  - 1.3. Lift & Rotate = 25MPa Min.
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  - 2.1.  $f_y$  = Grade 500E MA
  - 2.2. Reo Cover = 20mm Min.
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7. Finish: F3 as per NZS3114.

**MATERIALS**

VOL (m<sup>3</sup>/unit) =

WT (ton/unit) =

CODE =

**REVISIONS**

REV #	REVISION DESCRIPTION:	DATE:	DRAWN:
4	Details Revised - Issued For Construction	11 Feb 2022	Z.S
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**ISO 9001 CERTIFIED MANAGEMENT SYSTEM**

**PROJECT DESCRIPTION:**

Hynds Standard Drawing

3000L Light Duty Oil & Grit Interceptor  
 Lid (Ex-Pokeno)

**SERVICE DETAIL:**

3000L Light Duty Oil & Grit Interceptor  
 Lid - OGL3000.200NC & OGL3000.260H

REFERENCE/QUOTE NUMBER:	18612	
DRAWN: S.K	DESIGN: -	CHECKED: S.P
SIGNATURE:	SIGNATURE:	SIGNATURE:
SCALE: As Shown	Note: Do not scale drawing if in doubt <b>ASK!!!</b>	DATE: <b>10-Apr-25</b>
PAPER SIZE: A3		
DRAWING NUMBER:	SHEET NUMBER:	REVISION NUMBER:
<b>T2285- 2</b>	<b>1 of 2</b>	<b>6</b>