

# Stormwater Management Plan for Dennis Court, Berrimah, NT





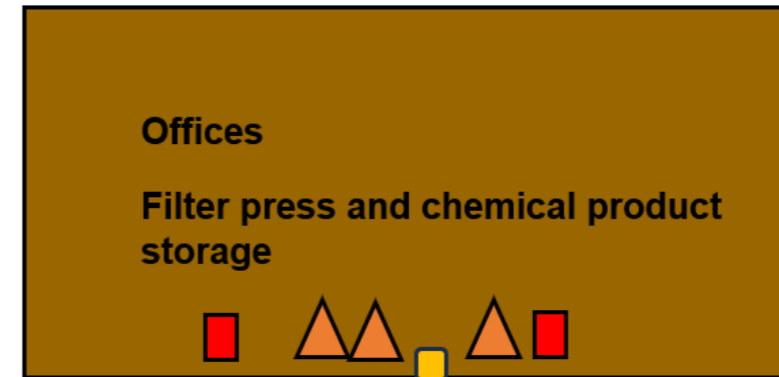
**Tanks**

- BT80 – 80kL Processed water tank
- H1 – 25kL Overflow processed water tank
- DW1 – 48kL Waste water tank
- DW2 – 30kL Waste water tank
- DW3 – 30kL Waste water tank
- OT3 – 110kL Oil tank
- OT1 – 72kL Oil tank
- OT2 – 72kL Oil tank
- RB1 – 12kL Water tank
- RB2 – 12kL Water tank

**Legend**

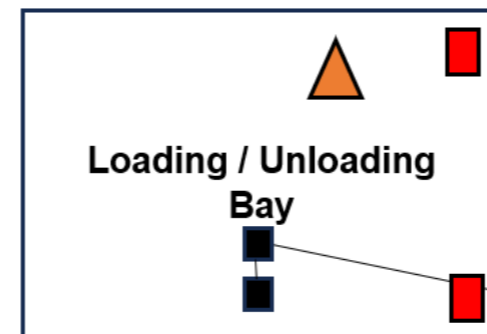
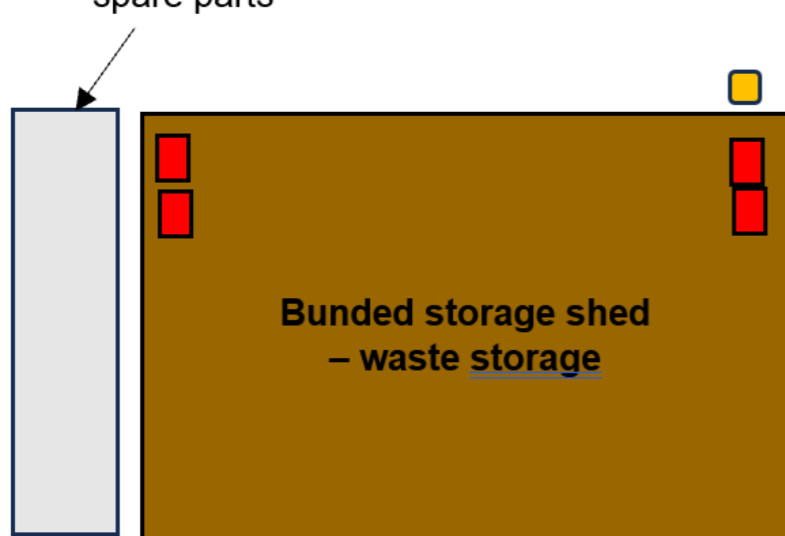
- Fire hose reel
- Fire extinguisher
- Spill kit

Dennis Court

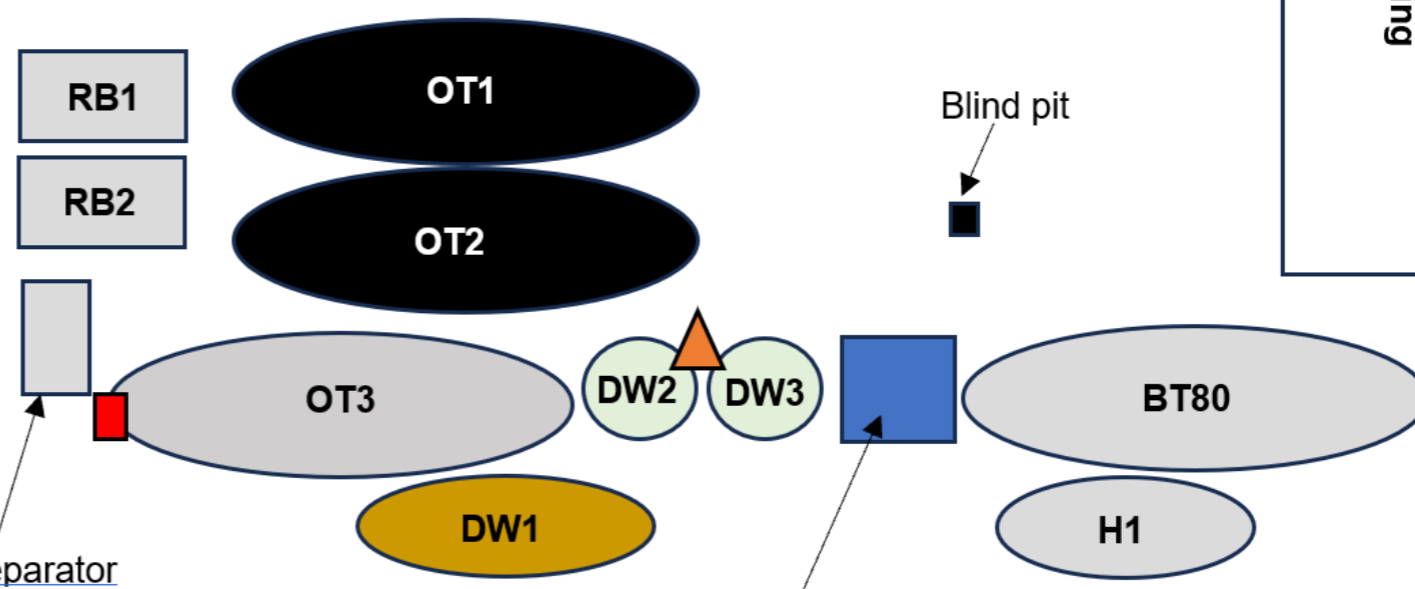
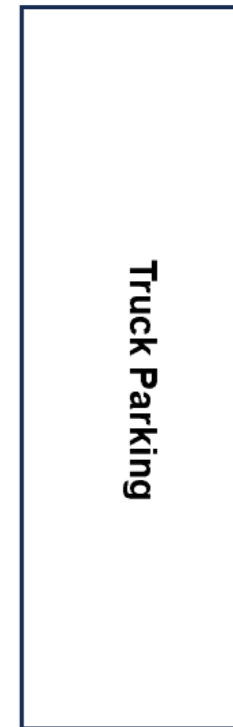


Frank Court

Shipping container – spare parts



2x 5kL underground storage tanks

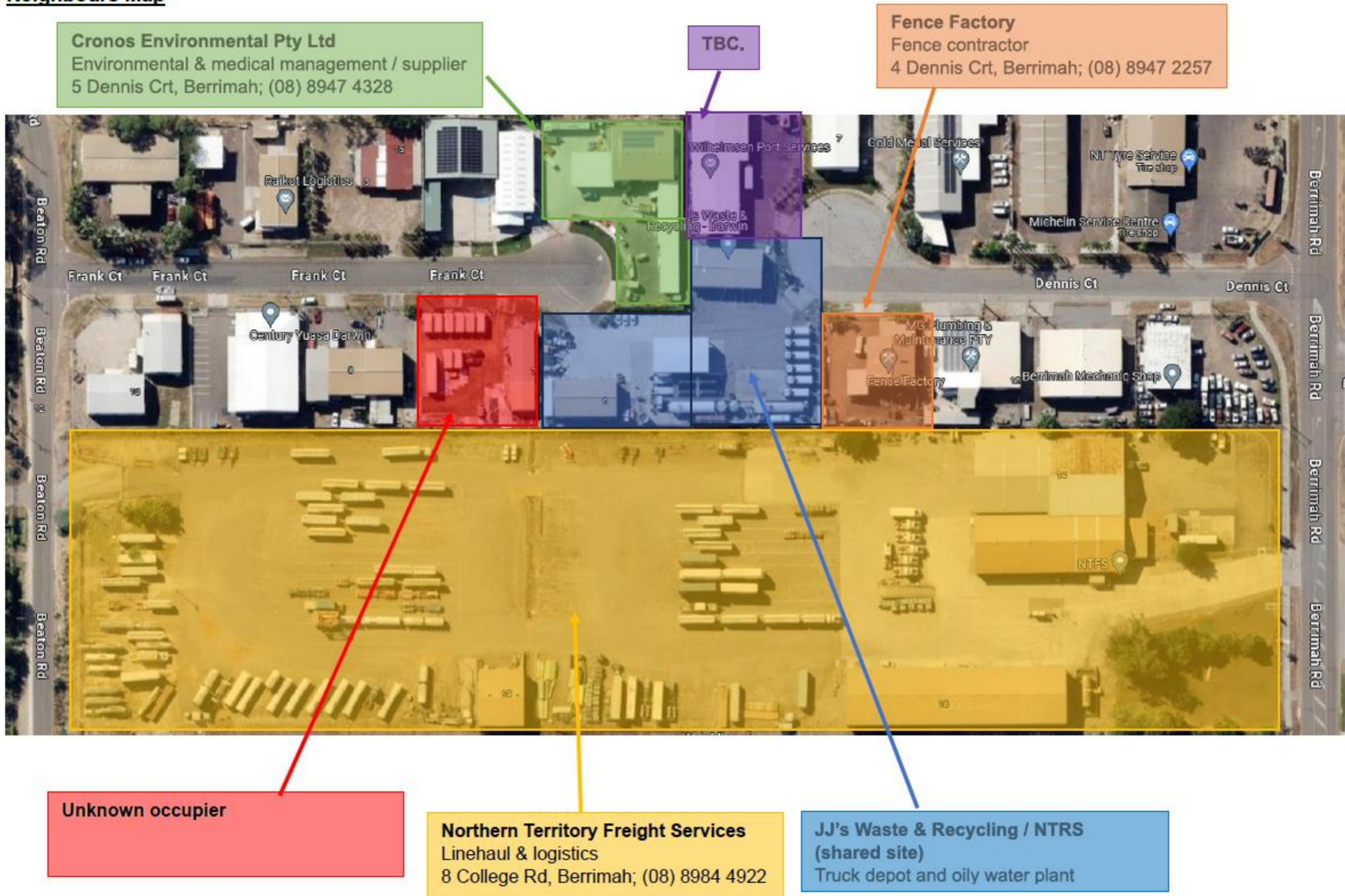


Oil separator

Blind pit

Plant computer system

**Neighbours Map**



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## ATTACHMENTS

- 1 Existing EPA License**
- 2 Procedure for Management of On Site Waters; Site Checklist; Stormwater Discharge Form; Emergency Procedure Guide – Spills; Emergency Procedure Guide – Used Oil Transport Spills and Leakage and Site Based Management Plan – Emergency Procedures**
- 3 Baldwin Stormwater Polisher and RM10 Data**
- 4 Responses to EPA Information Request dated January and February 2016**

## 1 Introduction

The property was purchased by Northern Territory Oil Collections (NTOC) on 13 August 2014. Northern Territory Oil Collections (NTOC) is co-jointly owned by NT Recycling Solutions (NTRS) and J.J. Richards and Sons Pty Ltd (J.J. Richards).

NTRS currently holds an Environment Protection Licence (EPL 168) for the existing site.

This Stormwater Management Plan (SWMP) has been prepared in order to satisfy condition 54 of the licence.

## 2 Site Details

The sites which are the subject of the SWMP are located at 5 Dennis Court, Berrimah (Section 4913 LTO97/081) and 6 Frank Court (Lot 4501 LTO94/051) Berrimah NT 0828 (herein referred to as “the Site”).

The site was originally approved for the purposes of a waste oil facility in 1998. The Site was also subject to an amendment in 25 February 2000 (Development Permit No: DP98/0259A), with a Compliance Certificate issued on 6 March 2000.

On 23 June 2015, the Delegate for the Minister determined to extend the period of Abandonment of Use, allowing the use to be discontinued until 11 June 2016, allowing sufficient time to enable re-establishment of the site activities for Stage 1 of the development, generally in accordance with the existing site approvals mentioned above.

The site(s) has an area of 4,020 square meters.

An aerial photo of the site is included as **Figure 1**.

## 3 Description of the Existing Infrastructure

### 3.1 Existing Services

The site is presently serviced by the following:

- Water – connection in footpath of Dennis Court and Frank Court;
- Sewer – manhole in footpath of Dennis Court and midway along the southern boundary;
- Electricity – adjacent to the entrance in Dennis Court;
- Telecom - connection in footpath of Dennis Court and Frank Court;
- Stormwater – no in-ground infrastructure, surface flows to the existing kerb and channel in Dennis Court and Frank Court, respectively.

### 3.2 Existing Buildings and Infrastructure

The site has the following buildings and associated infrastructure, refer to **Figure 2**.

- Existing site entrance/exit in Dennis Court and Frank Court;
- Bitumen and gravel hardstand areas;
- Two existing 77kl tanks with associated bund walls;
- Two existing steel portal frame sheds - (23m x 12.5m) and (20m x 12m);
- Miscellaneous concrete pads and associated bund walls;

### 3.3 Proposed Modifications

JJ Richards is currently involved with the re-refining of waste oil through its part ownership of Northern Oil Refineries (NOR) in Gladstone, QLD. The refinery uses a unique range of separation and extraction technologies, to extract the base oil from the used oil and supplies it as a quality feedstock for the manufacture of new lubricating oils. This process removes all contaminants, preserves 98% of the Carbon and returns it back to its original form.

JJ Richards / NTRS proposes to improve the aggregation facility for the receipt and temporary storage of waste oil, to facilitate the bulk transfer to the NOR re-refinery, and to therefore provide access to the most environmentally sustainable option available for waste oil disposal in the Darwin region. In order to improve the environmental performance of the site the following improvements are proposed: **(Figure 3)**

- Construct a new loading/unloading bay with associated roof structure and bunding. The bay will drain to a dedicated 10,000 litre in-ground tank so as to ensure that any spillage is contained, in accordance with AS 1940-2004 *“The storage and handling of flammable and combustible liquids”*. (refer to **Figure 4**)
- Provide for an additional waste oil tank. The addition of a self-bunded T110 Waste Oil Storage Tank has been included in the layout to meet the specifications for separating aggregated waste oil suitable for transfer to Refinery, with the following points noted:
  - The existing 77kL waste oil storage tanks remain as the primary points for receipt for waste oil to this facility;
  - The process for transfer of waste oil from the two primary receipt tanks requires that when one of the tanks is full, that tank is allowed to settle, with the waste oil separating from the oily water in situ;
  - The waste oil which settles (to the top part of the tank) is suitable for recycling, with the balance of oily waters (bottom part of the tank) subject to separate transfer, treatment and/or disposal by other means;
  - The waste oil suitable for recycling is then transferred to the T110 Waste Oil Storage Tank;
  - This process allows for the second primary receipt tank to continue to receive waste oil;
  - In general terms, not all three storage tanks would be full at any given time;
  - The location on the site plan of the T110 Waste Oil Storage Tank (within the existing tankfarm) will also meet the requirements for containment and separation under AS1940.

The additional self-bunded waste oil storage tank is therefore provided as a holding tank for waste oil suitable for recycling and transfer. This allows for separation of recyclable waste oil from residual oily water and the like – which is required to ensure that the waste oil stored in the T110 Waste Oil Storage Tank is of a suitable specification to enable its transfer to the Northern Oil Refinery located in Yarwun Qld (this refinery is the only facility in Queensland capable of recycling waste lube oil back into base oil).

The inclusion of the additional T110 Waste Oil Storage Tank therefore simply allows for the proper management of waste oils received to the site and recovery of recyclable waste oil.

- The existing concrete pads and associated bund walls will be modified/repared to meet the standards for containment as set out in AS 1940-2004 *“The storage and handling of flammable and combustible liquids”*. In addition an assessment will be made so as to provide additional storage so as to be able to contain the rainfall from a 1 in 10 year 24 hour storm event.
- Bunding works to the existing buildings “D” and “F” (as shown in **Figures 3A, 3B and 3C**);
- Construct a “purpose designed” oily water treatment plant, with the following features:
  - The receipt of oily water will be undertaken in the roofed and bunded unloading bay, with provision for containment of any spillage;
  - Oily water will be treated in accordance with the flow chart shown in **Figure 5**;
  - The storage of untreated oily water will be considered as a C1 combustible in accordance with AS 1940-2004 *“The storage and handling of flammable and combustible liquids”*.
  - The coalescing plate separator (CPS) has been designed to ensure the efficient removal of hydrocarbons with the following “fail safe” feature. The manner in which the system works is that if we were to receive a considerable volume of raw hydrocarbon through to the CPS it will come to the surface immediately and will often displace some of the water within the CPS. When the water is displaced the hydrocarbon will take its place and when that happens the 0.98sg float will activate. It can be adjusted to operate on an oil layer of between approx. 35 – 150mm thick. The CPS in question will not discharge oil through the treated water outlet until the layer reaches approx. 700mm thick.
  - Treated water from the CPS unit will be transferred to the “dirty water tank” using a centrifugal pump. This ensures that any remaining oil fraction will be emulsified with the water. This ensures that the dirty water tanks and the downstream treatment system will only be dealing with a “non-combustible” dirty water;
  - The treated water is discharged to a batch tank. This tank is tested to ensure that it meets the sewer acceptance standard before it is released.

#### 4 Description of the Proposed Stormwater Management System

The facility has been designed so as to separate the low risk contamination areas from those with a higher risk. These are described below (refer to **Figure 6**):

**Bunded Tank Farm Areas – low risk.** It is considered that this is a low risk area due to the fact that all piping is steel with flanged solid connections. (Refer to **Plate 1** showing a similar facility at Townsville). As such there is little likelihood of spillage, and this area will be cleaned on a regular basis.

- The bunded tank farm areas will drain to blind sumps in each area. These sumps will be connected to an outlet pipe via piping fixed to the bund walls, each distinct area will have a valve which enables it to be isolated from the others and also

enables each area to be inspected and dewatered in accordance with the approved stormwater management plan and site procedures. These valves will remain in the closed position during normal operations;

- As these areas are deemed to be low risk and will be kept clean, it is expected that any accumulated stormwater should also be clean;
- No liquids from the “blind” sumps will be pumped until they have been inspected and tested as per the Monitoring Plan (Section 5.5);
- Liquids in Area A of **Figure 6** (Oily Water Receiving Area) will be treated in the site’s oily water treatment plant and discharged to sewer as trade waste;
- If liquids in Areas B, C or D pass stormwater release criteria, they will be pumped through the Stormwater Polisher prior to release through a diffuser pipe onto the pavement;
- If these liquids “fail” stormwater release criteria, they will be treated as “contaminated” and treated in the site’s oily water treatment plant and discharged to sewer as trade waste;
- These valves will be in the closed position at all times except when approval for discharge has been given. The tank storage areas will be cleaned on a regular basis to ensure little likelihood of incident rain becoming contaminated;
- All bunded storage areas will be modified so as to be able to contain in excess of the volume of the largest tank plus the amount of rainfall from a 1 in 10 year 24 hour storm event.
- **Loading/Unloading Area – medium risk.** This can be divided into three activities:
  - Oil receiving - Vehicle is driven into position and connected to the unloading pump via a hose rated to AS2683 and cam lock couplers rated to AS3664.
  - Oil dispatch - Vehicle is driven into position and connected to the pump via a rated hose and couplings. The vehicle end of the hose has a “dry break” valve fitted that will allow no more than 4ml of liquid to be spilt if the hose should not be emptied prior to disconnection. The bulk tanker is also fitted with an interlock system that prevents it from being moved while connected to the loading hose.
  - Oily Water receiving - Vehicle is driven into position and connected to the unloading hose rated to AS2683 and cam lock couplers rated to AS3664.

AS1940 requires that a tank vehicle loading facility satisfies the following:

*“8.2.6 Spillage control*

*8.2.6.1 General requirements*

*The tank vehicle filling area shall have a system for collecting any spilt liquid and draining it to a containment tank or compound. The following requirements apply:*

*(a) The vehicle standing area shall be graded so that any spillage will drain away to dedicated tank or compound and not spread to other loading areas.*

*(b) The surfaces of the system shall be impervious to any liquid that might be spilt.*

*NOTE: Concrete is a suitable material.*

*(c) The tank or compound in which spillage is retained shall be constructed and located in a similar manner as that described in Clause 5.8.*

*Alternatively, a system based on a documented risk assessment and providing an equivalent level of protection may be used.*



#### 8.2.6.2 Capacity of spillage control system

*The capacity of the spillage control system shall be the greater of—*

*(a) the capacity of the largest compartment of any tank vehicle using the facility or 9000 L, whichever is less;”*

The pump and valve bay and loading/unloading area are bunded with grated drains at the low points which drain to the in-ground 10,000 litre “blind sump”. (Refer to **Plate 2** which shows the installation of a 10,000 litre concrete blind sump.) This area is roofed with part side walls the majority of rain water will be diverted to the outside general yard area. Collected water in the in-ground “blind sump” is considered as potentially contaminated, as such it will have the appropriate piping to enable it to be pumped to the oily water receival bin or alternately to the waste oil receival tank. This will be undertaken on an “as needed” basis to ensure that the “blind sump” will be empty so as to provide capacity for any spillage. All water and spillage from this area is contained and cannot escape to the environment. Note this is a closed system. Refer to **Plate 2** which shows a truck discharging in the transfer area of a tank farm at Mackay.

- **Pump and Valve Bay – medium risk.** This bay includes pumps, filters, flexible hoses and cam lock couplings. This area is the primary point of connection for the transfer trucks and the adjacent tank farm. It also has bunding and a grated drain which discharges to the “blind sump”. Refer to **Plate 3** which shows a pump and valve bay at Townsville during commissioning.
- **General Yard Area – low risk.** It is considered that this is a low risk area due to the fact that the yard’s prime purpose is for manoeuvring of trucks. It in fact would represent a less risk than travelling on a public road. However in order to minimise any potential impact due to spillage site specific management systems will be developed to ensure that the yard is kept cleaned at all times. In addition spill containment kits will be located onsite so as to limit the spread of any spill;
- **Building “D” – medium risk.** It is proposed that:
  - The shed will have a concrete floor and will be fully bunded to ensure that all decanted oil is fully contained;
  - Used oil filters will be transported to site and received within Building “D” (refer **Figure 3B**). Oil will be drained from the filters prior to the filters being crushed, consolidated and transferred to a metal recycler. The collected oil will be transferred to the waste oil aggregation facility (refer above). Refer to **Figure 7** which shows the process flow chart for the proposed operation;
  - Used steel drums will be transported to the site and received within Building “F” for temporary storage (refer **Figure 3C**). They will then be transferred to Building “D” for refurbishment. Refer to **Figure 7** which shows the process flow chart for the proposed operation;
  - Other approved wastes will be transported to site and received within Building “D” for temporary storage (refer **Figure 3C**);
- **Building “F” – medium risk.** - It is proposed that:
  - The shed will have a concrete floor and will be fully bunded to ensure that all decanted oil is fully contained;

- IBCs with “used oil” will be transported to site and received within Building “F” for temporary storage (refer **Figure 3C**). The IBCs will then be transferred to the waste oil aggregation facility (refer above). Refer to **Figure 7** which shows the process flow chart for the proposed operation.
- used steel drums will be transported to the site and received within Building “F” for temporary storage (refer **Figure 3B**). They will then be transferred to the waste oil aggregation facility (refer above) for decanting and then to Building “D” for repair. Refer to **Figure 7** which shows the process flow chart for the proposed operation.
- **Vehicle Wash Down Area** – There will be no washdown area on this site. All wash down will be done off-site.



**Plate 1 – Fixed Piping and Flanges**



**Plate 2 – Installation of a 10,000 litre “Blind Sump”**



**Plate 3 – Truck In Unloading Area**



**Plate 4 – Pump and Valve Bay**

**5 Operational Plan - Stormwater**

**5.1 Overview**

NTRS is developing an Integrated Management System (IMS) linking Quality, Health and Safety and Environmental Systems within the company. The inextricable links between these issues and the need to establish a base for the consistent application of standards to meet operational and legislative requirements, have made this an important step towards maintaining ‘due diligence’ throughout the Company’s operations.

**5.2 Description of Activities and Main Impacts**

The principal activities which will be undertaken on the site include:

- Administration activities (in office);
- Overnight parking of heavy vehicles, as required;
- Waste recovery, storage and transfer in the existing drum store building, dry store (solid waste) and bunded tank farm.

The potential environmental impacts identified for the licenced operations are:

- Any contaminated water/spillage from the waste transfer operations entering the stormwater system.

**5.3 Daily Inspections and Record Keeping**

The Depot Supervisor (DS) is responsible for undertaking regular monitoring of the environmental performance of the operation. The following aspects (which are cross

referenced to relevant elements) are to be checked on a **daily** basis and action taken to rectify any non-compliance.

| Element   | Description/Performance Criteria   | Corrective Action  | Inspection Frequency | Responsible Person |
|---|--|--|----------------------|--------------------|
| All   | <b>Public Complaints/</b><br>No public complaints  | Record and respond to immediately  | Daily                | John Davies        |
| <b>Fuel, Waste Oil and Hazardous Substances</b> | <b>Spills/</b><br>Check for signs of fuel, waste oil or hazardous substance spills.  | <ul style="list-style-type: none"> <li>- Clean up spills, immediately.</li> <li>- Investigate cause, implement non-conformance report and modify future work procedures</li> </ul> | Daily                | John Davies        |
| <b>Storm and Washdown Waters</b>                | <b>Transfer and Handling Areas/</b><br>- Check all surfaces: transfer, storage areas and collection pits.<br><br><b>Stormwater Runoff/</b><br>- During extended rain periods inspect runoff from the site  | - Clean all surfaces etc on a weekly basis or as needed.   | Daily                | John Davies        |
|   |  | - If there are signs of contamination: Investigate cause, implement non-conformance report and modify future work procedures   | During Rain Event    | John Davies        |
|   | <b>Vehicle Washdown/</b><br>Washdown to only occur in designated area of building. Check that the sump and bunding contain all washdown waters and are clean after transfer to oily water treatment plant. | - Investigate cause, implement non-conformance report and modify future work procedures  | Daily                | John Davies        |

**Inspections – Operation Phase**

Records of daily inspections, environmental incidents and public complaints shall be maintained in accordance with written procedures.

**5.4 Stormwater Runoff**

**(a) Policy**

To minimise the impact on stormwater quality from activities associated with the facility.

**(b) Performance Criteria and Objectives**

To ensure that operations comply with the requirements of the NT EPA Environment Protection Licence and environmental legislation.

**(c) Implementation Strategy**

(i) **Design Measures**

- Waste transfer/storage buildings are roofed, graded and bunded with no external stormwater ingress;
- Waste transfer/storage buildings are roofed, graded and bunded so as to ensure that any spillage or wash down waters are fully contained;
- Tank farms are appropriately bunded, with no direct discharge to stormwater system;
- The loading / unloading area is bunded and graded to a “blind sump”.

(ii) **Operational Measures**

- Specific site inductions for all employees and contractors are to be given as per NTRS’s IMS;
- Operational procedures will be developed in accordance with NTRS’s IMS to ensure that no contaminated waters are released to the stormwater system;
- External access ways/truck parking areas to be kept clean;
- Stormwater dewatering will only be undertaken by an authorised person in accordance with NTRS’s IMS. Refer to **Attachment 2** for typical stormwater discharge procedure from the bunded tank farm area.

(d) **Monitoring**

- Inspections as described in this Plan shall be undertaken by the Depot Supervisor.
- Refer to Monitoring Plan (Section 5.5 below).

(e) **Reporting and Auditing**

- Test results of accumulated stormwater in the tank farm areas in accordance with the Monitoring Plan (Section 5.5 below) will be maintained for a period of 5 years;
- Any public complaint made shall be recorded and actioned as per NTRS’s IMS;
- Any environmental incident shall be recorded and actioned as per NTRS’s IMS;
- Audits of environmental compliance shall be undertaken as per NTRS’s IMS.

**(f) Corrective Action**

- Counsel/discipline employees and contractors responsible for non-compliance with this strategy;
- Accidental spills are to be isolated and cleaned up;
- Any incident is to be recorded and actioned as per NTRS’s IMS.

**(g) Responsible Personnel**

- Inspections:** Depot Supervisor  
**Monitoring:** Depot Supervisor  
**Reporting:** General Manager  
**Auditing:** Compliance Manager

**5.5 Monitoring Plan**

**(a) Objective of the monitoring plan;**

To ensure that operations comply with the requirements of the NT EPA Environment Protection Licence and environmental legislation.

**(b) Location of stormwater monitoring points on the site;**

Sampling for monitoring will be undertaken at the blind sump within Area D of the Tank Farm and at the Sampling Point downstream of the Baldwin Polishing Unit (refer **Figure 6**).

**(c) Frequency of sampling;**

For the first 3 Rainfall Events (after commencement)

Inspect water in each tank farm bund in Area B, C and D and if no visible films or odour, pump from Areas B and C to D.

For each of the first 3 rainfall events, take a representative sample of water from Area D. If this sample satisfies the Stormwater Release Criteria and water is discharged, take an additional representative sample at the sampling point after the Baldwin Polishing Unit.

Thereafter for each Rainfall Event

Inspect water in each tank farm bund in Area B, C and D and if no visible films or odour pump from Areas B and C to D.

Take a representative sample of water from Area D. If this sample satisfies the Stormwater release Criteria and water is discharged, take an additional representative sample at the sampling point after the Baldwin Polishing Unit.

**(d) Sampling methodology**

For the First 3 Rainfall Events (after commencement)

Notify EPA of rainfall event and advise when samples will be taken – ask if EPA wish to attend sampling.

Inspect water in each tank farm bund in Area B, C and D and if no visible films or odour pump from Areas B and C to D. Always maintain a minimum freeboard of 300mm in Area D.

Take a representative sample of water (minimum 2L) from Area D and send 1L to a NATA registered laboratory for testing and undertake site testing with the other 1L sample.

Do not discharge any water until test results are available. Provide a copy of test results to EPA and if this sample satisfies the Stormwater Release Criteria, advise that discharge to stormwater will occur (allow for a minimum of 2 hours notice should EPA wish to attend).

Alternatively, if the sample does not meet the Stormwater Release Criteria, advise that discharge to the site's oily water treatment plant will occur (also allow for a minimum of 2 hours notice should EPA wish to attend).

If this water is discharged to stormwater, take an additional representative sample at the sampling point after the Baldwin Polishing Unit for site audit testing.

Thereafter for each Rainfall Event (for the first 12 months after commencement)

Notify EPA of rainfall event and advise when samples will be taken – ask if EPA wish to attend sampling.

Inspect water in each tank farm bund in Area B, C and D and if no visible films or odour pump from Areas B and C to D. Always maintain a minimum freeboard of 300mm in Area D.

Take a representative sample of water (minimum 1L) from Area D and undertake site testing.

Do not discharge any water until test results are available. Provide a copy of test results to EPA and if this sample satisfies the Stormwater Release Criteria, advise that discharge to stormwater will occur (allow for a minimum of 2 hours notice should EPA wish to attend).

Alternatively, if the sample does not meet the Stormwater Release Criteria, advise that discharge to the site's oily water treatment plant will occur (also allow for a minimum of 2 hours notice should EPA wish to attend).

If this water is discharged to stormwater, take an additional representative sample at the sampling point after the Baldwin Polishing Unit for site audit testing.

Undertake audit testing at a NATA registered laboratory at least twice during this 9 month period.

Thereafter for each Rainfall Event (after the first 12 months)

Notify EPA of rainfall event and advise when samples will be taken – ask if EPA wish to attend sampling.

Inspect water in each tank farm bund in Area B, C and D and if no visible films or odour pump from Areas B and C to D. Always maintain a minimum freeboard of 300mm in Area D.



Take a representative sample of water (minimum 1L) from Area D and undertake site testing.

Do not discharge any water until test results are available. Provide a copy of test results to EPA and if this sample satisfies the Stormwater Release Criteria, advise that discharge to stormwater will occur (allow for a minimum of 2 hours notice should EPA wish to attend).

Alternatively, if the sample does not meet the Stormwater Release Criteria, advise that discharge to the site’s oily water treatment plant will occur (also allow for a minimum of 2 hours notice should EPA wish to attend).

If this water is discharged to stormwater, take an additional representative sample at the sampling point after the Baldwin Polishing Unit for site audit testing.

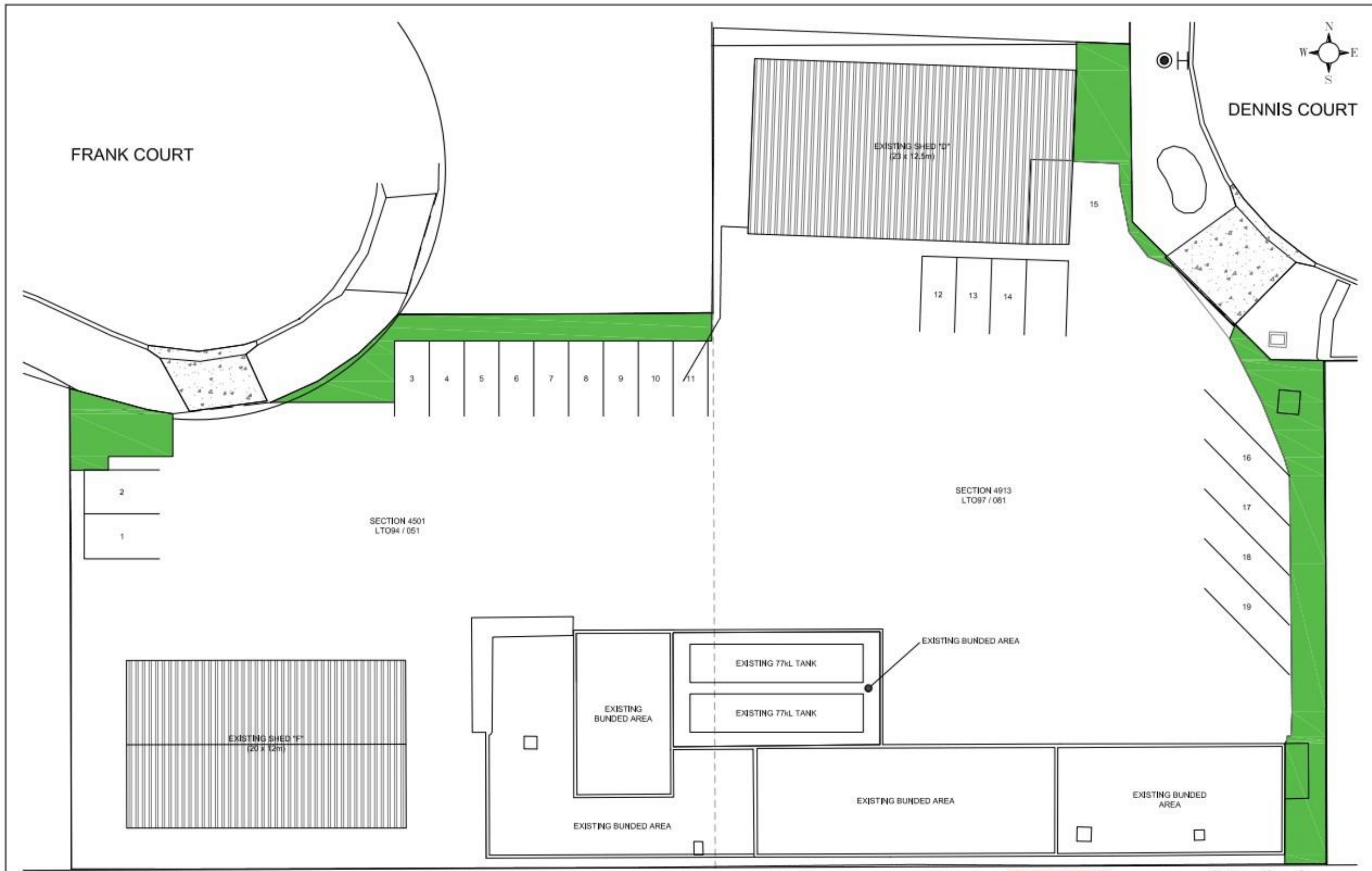
Undertake audit testing at a NATA registered laboratory at least once during each 12 month period.

**(e) Stormwater Release Criteria**

Stormwater release criteria (from Table 2 – Tidal Estuary WQOs Guideline on Identifying Water Quality Objectives in Brisbane City Council (Ver 1)) are provided below.

| Indicator        | Environmental Values (Laboratory) | Environmental Values (Site Instrument) |
|------------------|-----------------------------------|--|
| pH               | 6.5-8.5                           | 6.5-8.5                                |
| Dissolved Oxygen | 80% to 100% saturation            | 4mg/L                                  |
| Total Phosphorus | 60 ug/L                           | N/a                                    |
| Total Nitrogen   | 450 ug/L                          | N/a                                    |
| Turbidity        | 20 NTU                            | 20 NTU                                 |
| Oils and grease  | 5mg/L                             | No visible films or odour              |





**FIGURE 2**

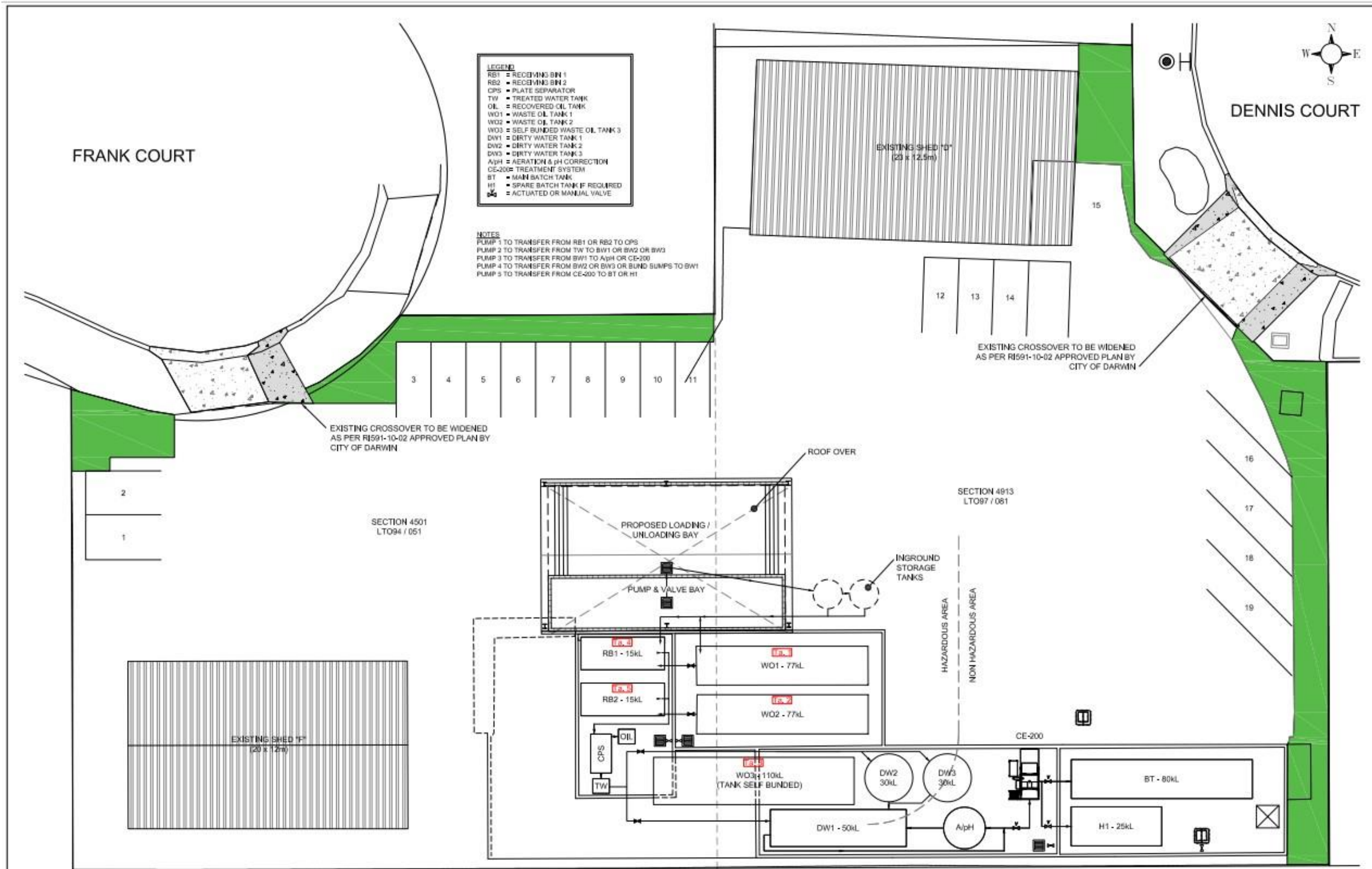
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| REVISIONS |      | PLLOT FILE | DATE         | TECHNICALLY APPROVED: |  |
|-----------|------|------------|--------------|-----------------------|--|
|           |      | DESIGN     | D.J.L.       | 11/15                 |  |
|           |      | DRAWN      | S.M.         | 11/15                 |  |
| A         | A.A. | 5/16       | TEXT CHANGES | DES. CHK.             |  |
| No.       | BY   | DATE       | DESCRIPTION  | DWG. CHK.             |  |



JJ RICHARDS & SONS PTY. LTD.  
 6 FRANK COURT & 5 DENNIS COURT BERRIMAH  
 WASTE OIL FACILITY  
 EXISTING SITE PLAN

|         |             |
|---------|-------------|
| SCALE   | AS SHOWN    |
| SHEET   | 01 of       |
| DRG No. | RI489-00-01 |



**FIGURE 3**

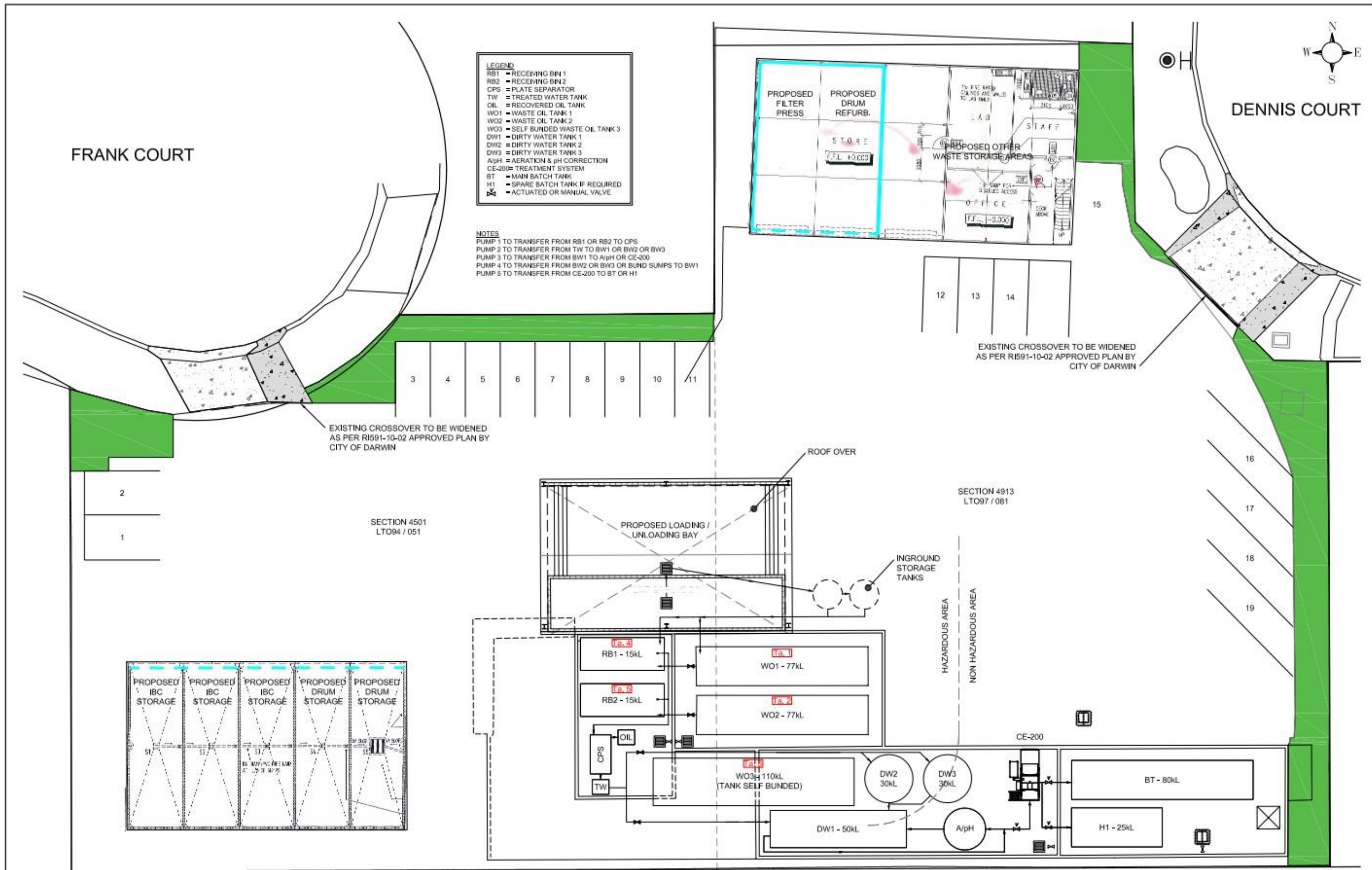
| REVISIONS | No. | BY   | DATE | DESCRIPTION    | DWG. CHK. |
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|           | A   | A.A. | 5/16 | LAYOUT CHANGES | DES. CHK. |

TECHNICALLY APPROVED:



6 FRANK COURT & 5 DENNIS COURT BERRIMAH  
WASTE OIL FACILITY  
PROPOSED DEVELOPMENT

|         |                           |
|---------|---------------------------|
| SCALE   | AS SHOWN                  |
| SHEET   | 01 of 01                  |
| DRG No. | REVISION A<br>R1591-00-02 |



**LEGEND**

- RB1 = RECEIVING BIN 1
- RB2 = RECEIVING BIN 2
- CPS = PLATE SEPARATOR
- TW = TREATED WATER TANK
- OIL = RECOVERED OIL TANK
- WO1 = WASTE OIL TANK 1
- WO2 = WASTE OIL TANK 2
- WO3 = SELF BUNDED WASTE OIL TANK 3
- DW1 = DIRTY WATER TANK 1
- DW2 = DIRTY WATER TANK 2
- DW3 = DIRTY WATER TANK 3
- A/pH = AERATION & pH CORRECTION
- CE-200 = TREATMENT SYSTEM
- BT = MAIN BATCH TANK
- H1 = SPARE BATCH TANK IF REQUIRED
- AV = ACTUATED OR MANUAL VALVE

**NOTES**

- PUMP 1 TO TRANSFER FROM RB1 OR RB2 TO CPS
- PUMP 2 TO TRANSFER FROM TW TO BW1 OR BW2 OR BW3
- PUMP 3 TO TRANSFER FROM BW1 TO A/pH OR CE-200
- PUMP 4 TO TRANSFER FROM BW2 OR BW3 OR BUND SUMPS TO BW1
- PUMP 5 TO TRANSFER FROM CE-200 TO BT OR H1

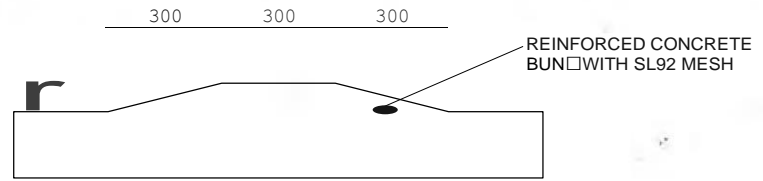
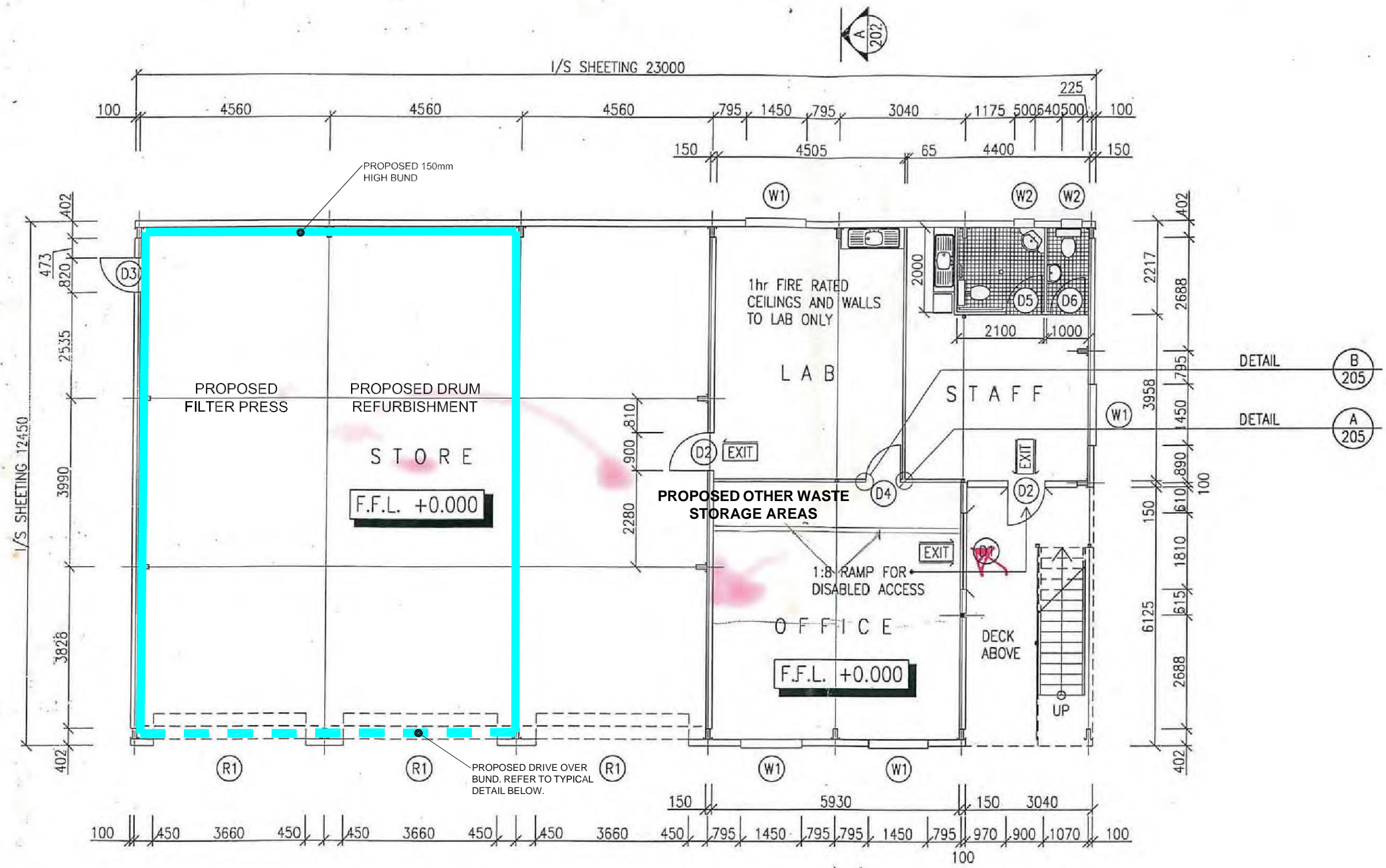
**FIGURE 3A** SCALE 1:400(A3)

| REVISIONS |      | PLOT FILE | DWG_NAME       | DATE      | TECHNICALLY APPROVED: |
|-----------|------|-----------|----------------|-----------|-----------------------|
|           |      |           | DESIGN         |           |                       |
|           |      |           | DRAWN          |           |                       |
| A         | A.A. | 5/16      | LAYOUT CHANGES | DES. CHK. |                       |
| No.       | BY   | DATE      | DESCRIPTION    | DWG. CHK. |                       |



6 FRANK COURT & 5 DENNIS COURT BERRIMAH  
WASTE OIL FACILITY  
PROPOSED SITE PLAN - WASTE STORAGE AREAS

|         |                           |
|---------|---------------------------|
| SCALE   | AS SHOWN                  |
| SHEET   | 01 of 01                  |
| DRG No. | REVISION A<br>R1591-00-20 |



**TYPICAL DRIVE OVER BUND**  
N.T.S

**FIGURE 38**

SCALE 1:1m||00V/3l  
2 en; g 4 ff 8 10m

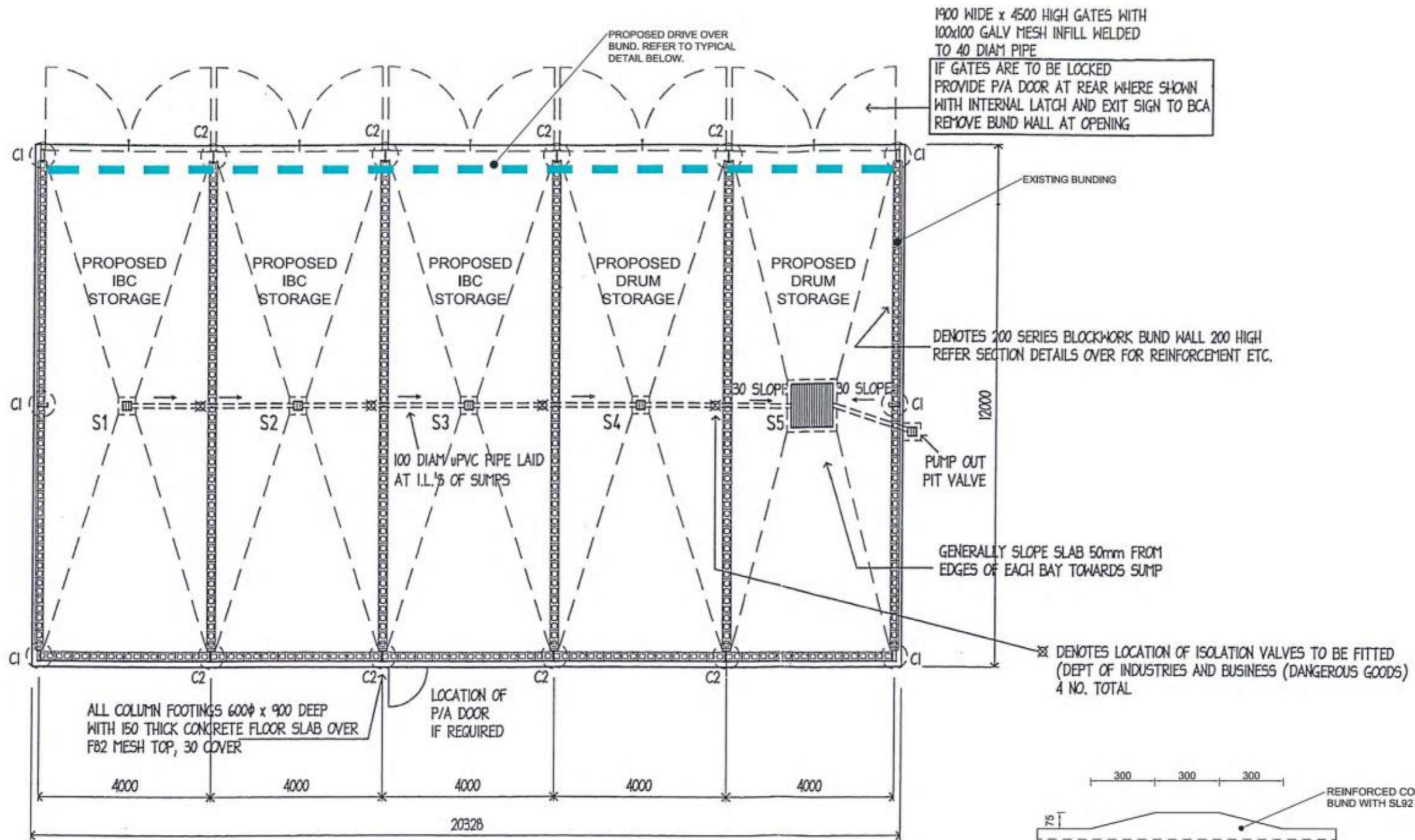
|     |    |      |             |           |
|-----|----|------|-------------|-----------|
| No. | BY | DATE | DESCRIPTION | DWG. CHK. |
|     |    |      |             |           |
|     |    |      |             |           |
|     |    |      |             |           |

|                       |            |
|-----------------------|------------|
| TECHNICALLY APPROVED: |            |
| PLOT FILE             | DATE       |
| DESIGN                |            |
| DRAWN                 | A.A. 05/16 |
| DES. CHK.             |            |
| DWG. CHK.             |            |

**ntrs** HEDE PTY LTD  
waste-recycling  
8 663  
td Environmental Consultants  
eld Old 4011  
.3.357 .3666  
.3857 62.3.3  
1env.com.au

**JJ RICHARDS & SONS PTY. LTD.**  
**6 FRANK COURT & 5 DENNIS COURT BERRIMAH**  
**WASTE OIL FACILITY**  
**PROPOSED WORKS - BUILDING "D"**

|         |                         |
|---------|-------------------------|
| SCALE   | AS SHOWN                |
| SHEET   | 01 of                   |
| DRG No. | REVISION<br>RI591-00-21 |



1900 WIDE x 4500 HIGH GATES WITH 100x100 GALV MESH INFILL WELDED TO 40 DIAM PIPE  
 IF GATES ARE TO BE LOCKED PROVIDE P/A DOOR AT REAR WHERE SHOWN WITH INTERNAL LATCH AND EXIT SIGN TO BCA REMOVE BUND WALL AT OPENING

EXISTING BUNDING  
 DENOTES 200 SERIES BLOCKWORK BUND WALL 200 HIGH REFER SECTION DETAILS OVER FOR REINFORCEMENT ETC.

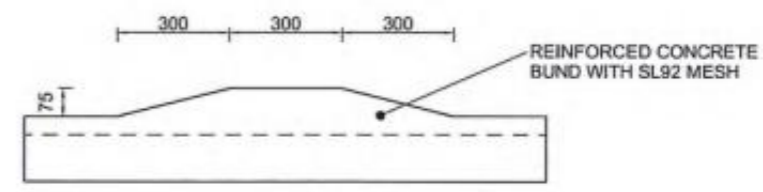
PUMP OUT PIT VALVE

GENERALLY SLOPE SLAB 50mm FROM EDGES OF EACH BAY TOWARDS SUMP

⊗ DENOTES LOCATION OF ISOLATION VALVES TO BE FITTED (DEPT OF INDUSTRIES AND BUSINESS (DANGEROUS GOODS) 4 NO. TOTAL

ALL COLUMN FOOTINGS 600φ x 900 DEEP WITH 150 THICK CONCRETE FLOOR SLAB OVER F82 MESH TOP, 30 COVER

LOCATION OF P/A DOOR IF REQUIRED



TYPICAL DRIVE OVER BUND  
 N.T.S

FIGURE 3C

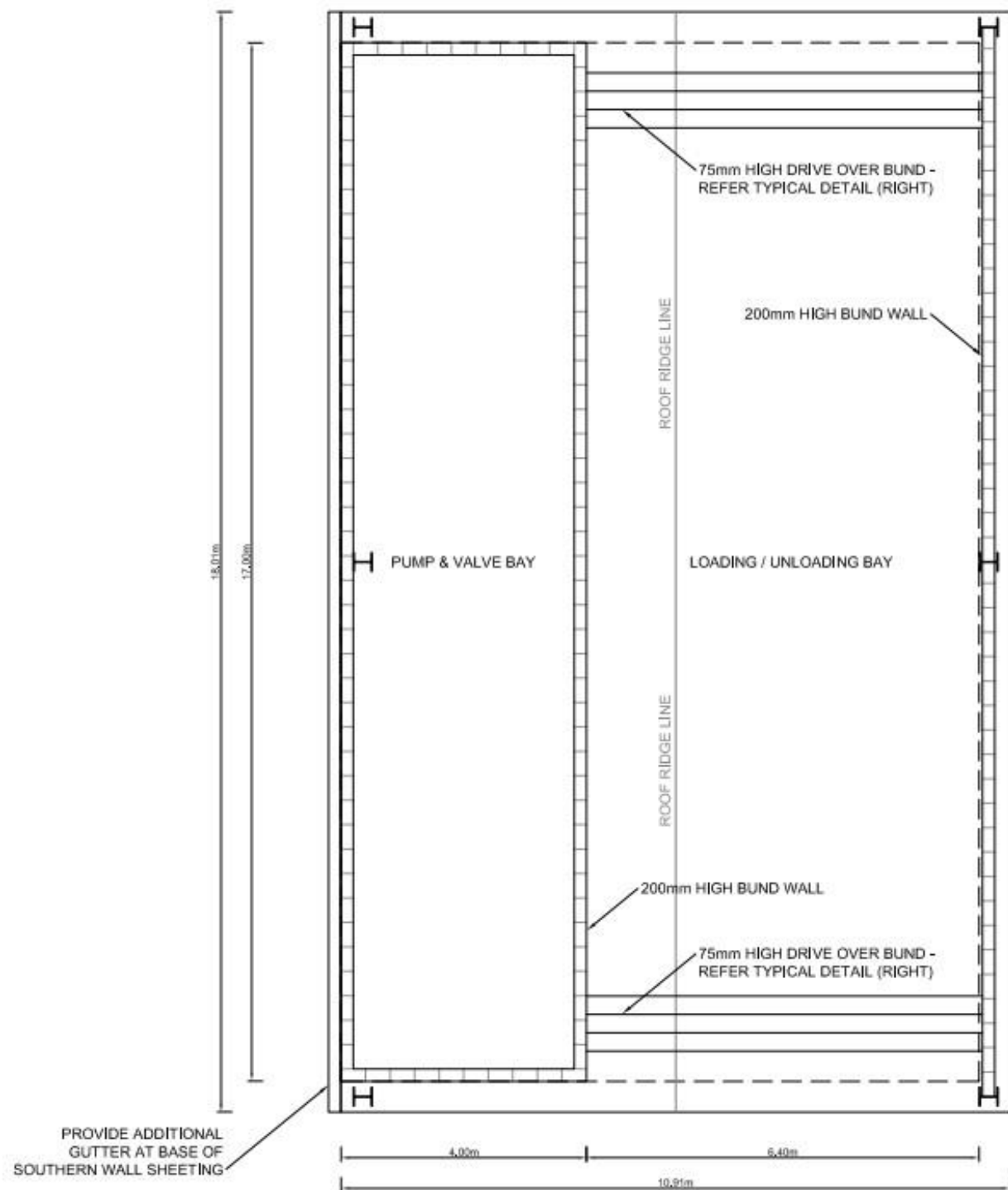
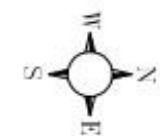
SCALE 1:100(A3)

| REVISIONS | No. | BY | DATE | DESCRIPTION | DWG. CHK. | DATE | TECHNICALLY APPROVED: |
|-----------|-----|----|------|-------------|-----------|------|-----------------------|
|           |     |    |      |             |           |      |                       |
|           |     |    |      |             |           |      |                       |
|           |     |    |      |             |           |      |                       |
|           |     |    |      |             |           |      |                       |
|           |     |    |      |             |           |      |                       |

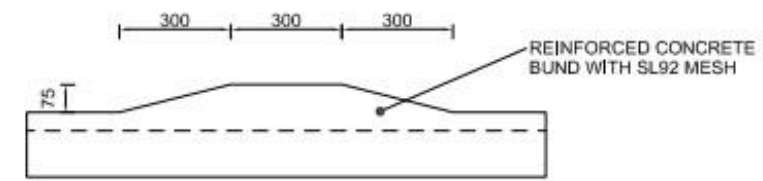
| PLOT FILE | DATE | TECHNICALLY APPROVED: |
|-----------|------|-----------------------|
| DESIGN    |      |                       |
| DRAWN     | A.A. | 05/16                 |
| DES. CHK. |      |                       |
| DWG. CHK. |      |                       |



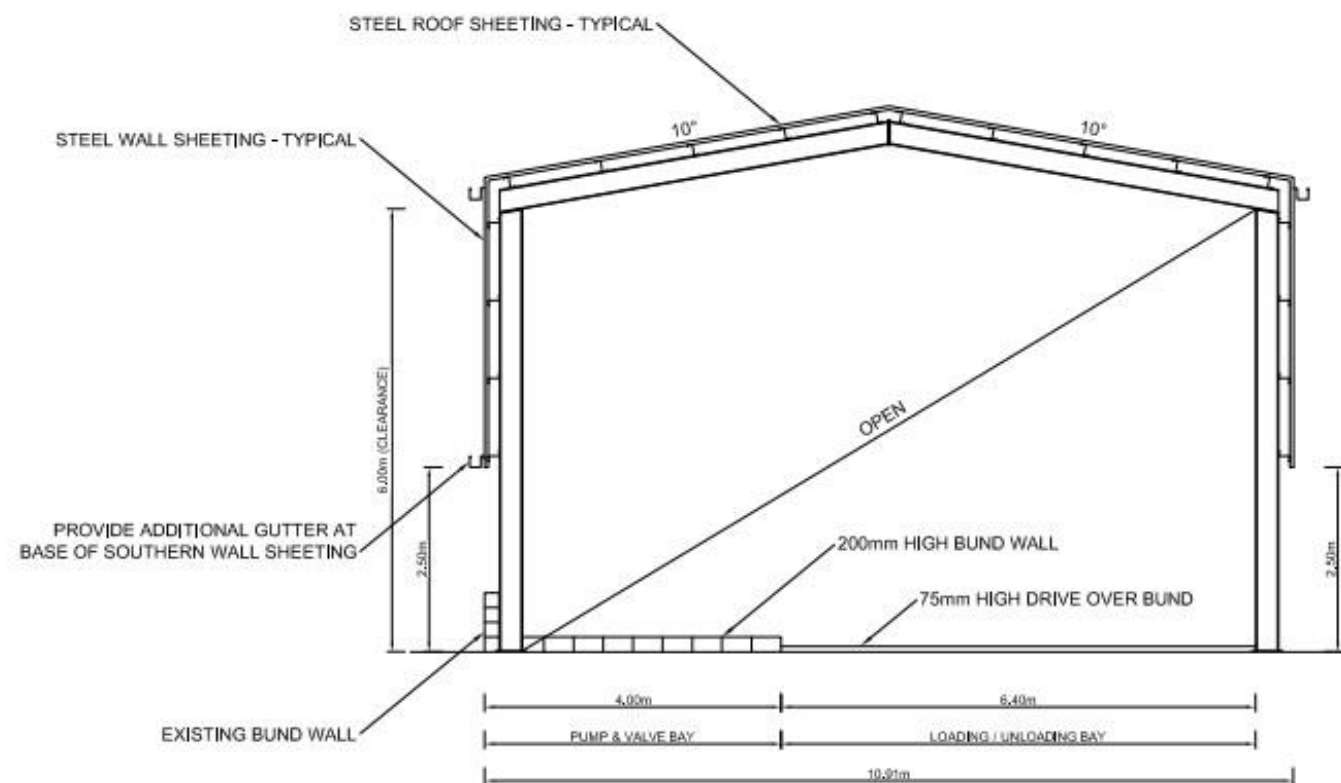
|  |         |                         |
|--|---------|-------------------------|
| JJ RICHARDS & SONS PTY. LTD.   | SCALE   | AS SHOWN                |
| 6 FRANK COURT & 5 DENNIS COURT BERRIMAH<br>WASTE OIL FACILITY<br>PROPOSED WORKS - BUILDING "F" | SHEET   | 01 of                   |
|  | DRG No. | REVISION<br>R1591-00-22 |



**PLAN**



**TYPICAL DRIVE OVER BUND**  
N.T.S



**EASTERN ELEVATION**

**FIGURE 4**

SCALE 0 1 2m 1:100(A3)

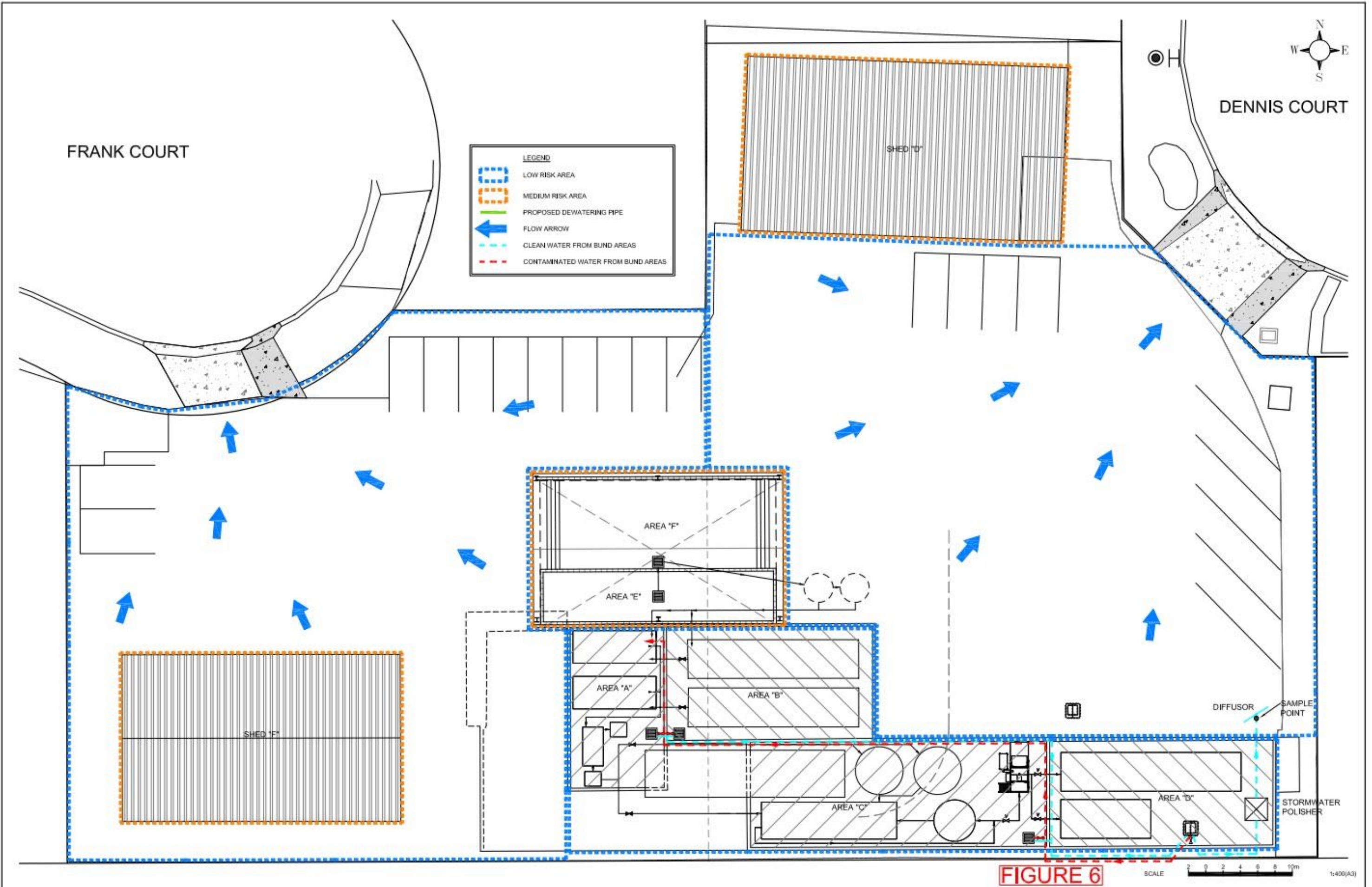
| REVISIONS |      |      |             | PLOT FILE | DWG_NAME | DATE | TECHNICALLY APPROVED: |
|-----------|------|------|-------------|-----------|----------|------|-----------------------|
|           |      |      |             | DESIGN    |          |      |                       |
|           |      |      |             | DRAWN     |          |      |                       |
| A         | A.A. | 5/16 | TEXT CHANGE | DES. CHK. |          |      |                       |
| No.       | BY   | DATE | DESCRIPTION | DWG. CHK. |          |      |                       |



6 FRANK COURT & 5 DENNIS COURT BERRIMAH  
WASTE OIL FACILITY  
LOADING / UNLOADING BAY PLAN & ELEVATION

|         |             |
|---------|-------------|
| SCALE   | AS SHOWN    |
| SHEET   | 01 of 01    |
| DRG No. | REVISION    |
|         | RI591-00-04 |





**FIGURE 6**

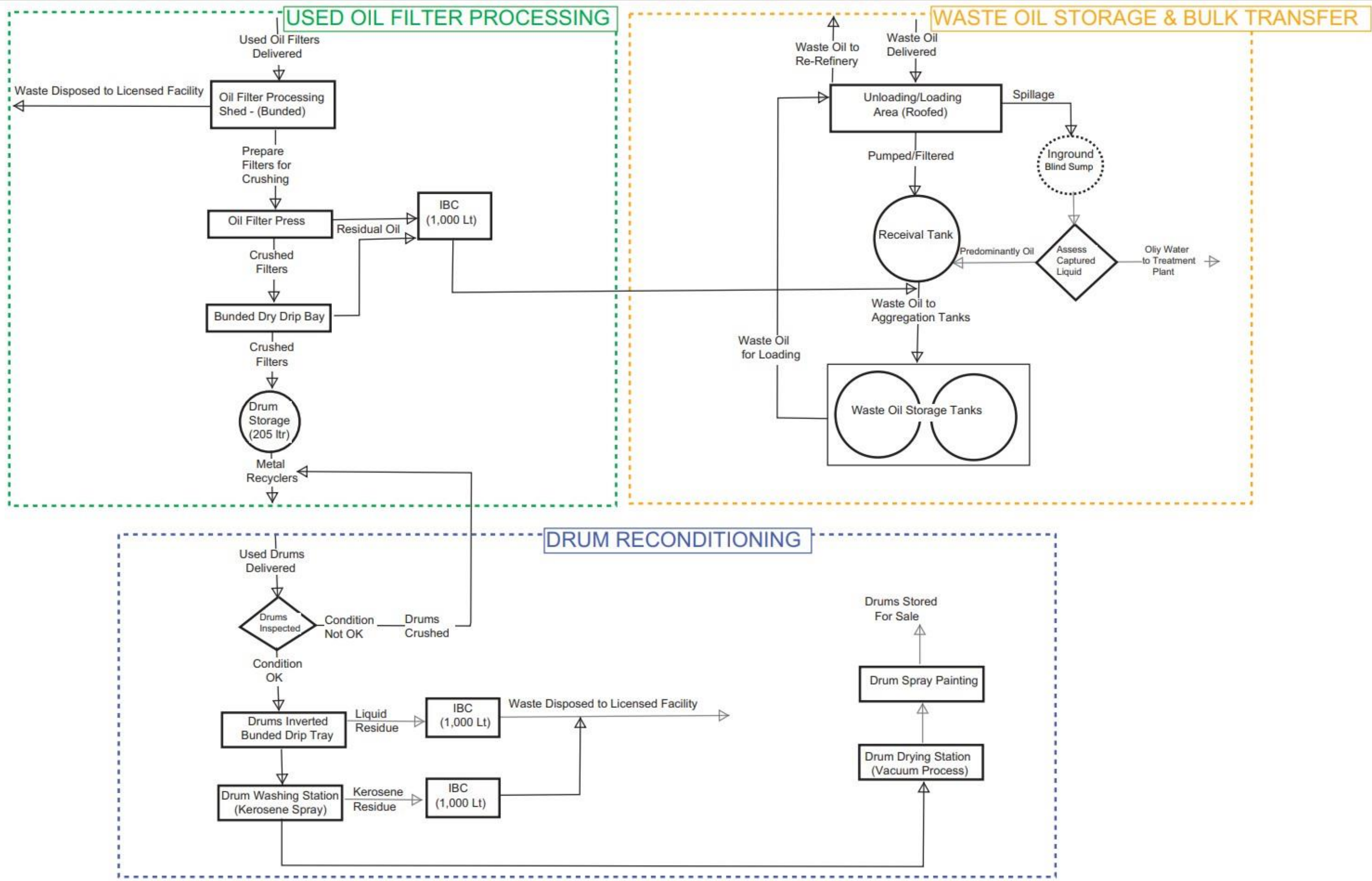
SCALE 0 2 4 6 8 10m 1:400(A3)

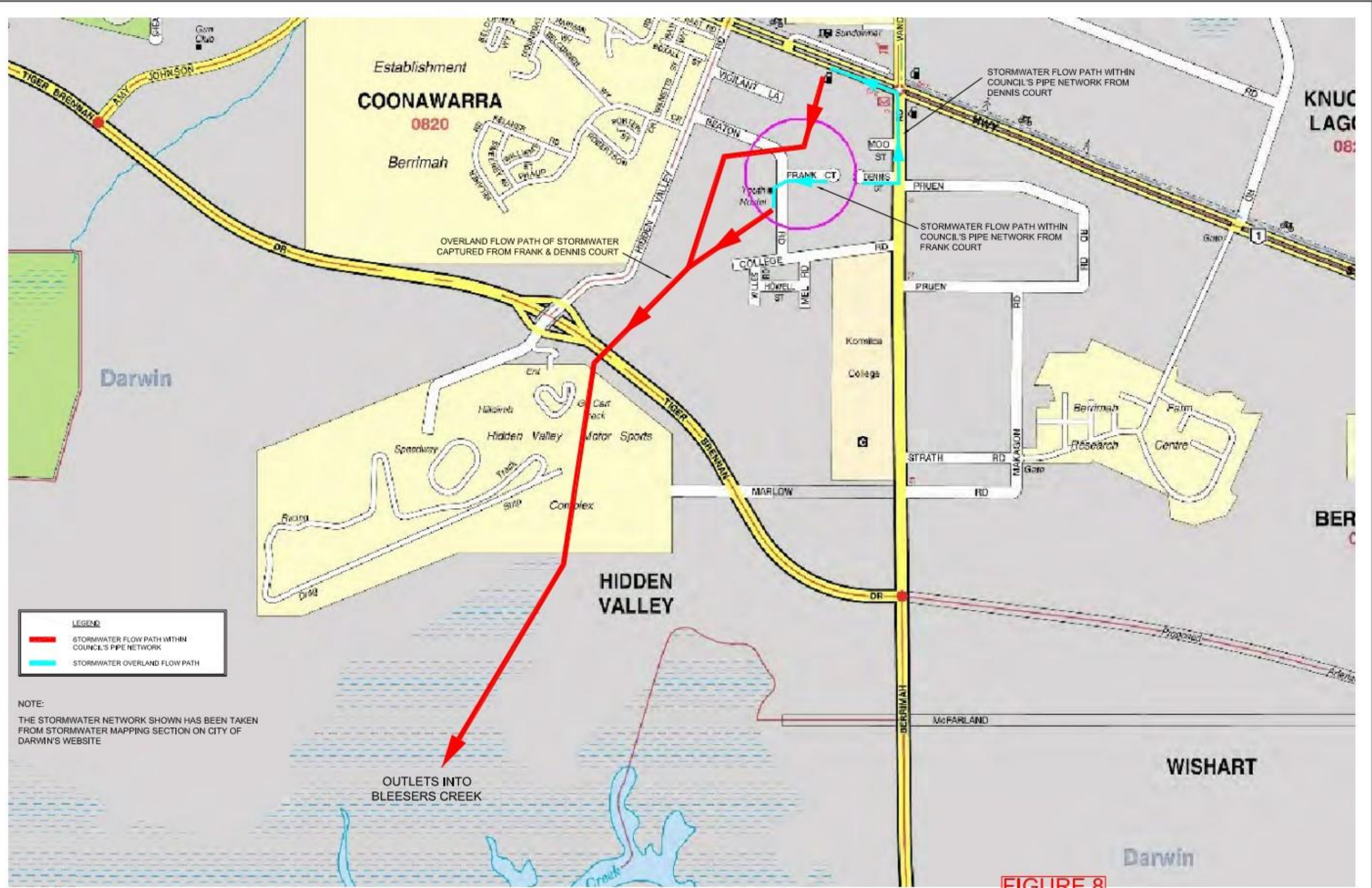
| REVISIONS |      |      |                | PLOT FILE | DWG_NAME | DATE | TECHNICALLY APPROVED: |
|-----------|------|------|----------------|-----------|----------|------|-----------------------|
| No.       | BY   | DATE | DESCRIPTION    |           |          |      |                       |
| A         | A.A. | 5/16 | LAYOUT CHANGES | DESIGN    |          |      |                       |
|           |      |      |                | DRAWN     |          |      |                       |
|           |      |      |                | DES. CHK. |          |      |                       |
|           |      |      |                | DWG. CHK. |          |      |                       |



6 FRANK COURT & 5 DENNIS COURT BERRIMAH  
WASTE OIL FACILITY  
STORMWATER MANAGEMENT SYSTEM

|         |                           |
|---------|---------------------------|
| SCALE   | AS SHOWN                  |
| SHEET   | 01 of 01                  |
| DRG No. | REVISION A<br>R1499-00-05 |





**FIGURE 8**

| REVISIONS | No. | BY | DATE | DESCRIPTION |
|-----------|-----|----|------|-------------|
|           |     |    |      |             |
|           |     |    |      |             |
|           |     |    |      |             |

| TECHNICALLY APPROVED: | DATE |
|-----------------------|------|
|                       |      |



JJ RICHARDS & SONS PTY. LTD.  
 6 FRANK COURT & 5 DENNIS COURT BERRIMAH  
 WASTE OIL FACILITY  
 STORMWATER FLOW PATH TO OUTLETS

| SCALE   | AS SHOWN                |
|---------|-------------------------|
| SHEET   | 01 of                   |
| DRG No. | REVISION<br>R1591-00-23 |

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**Acknowledgment**

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I acknowledge that I have received, read, and understand NT Recycling Services document and agree to comply with the guidelines and expectations outlined in this policy.

Employee Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**REVIEW**

|                         |          |                      |                    |
|-------------------------|----------|----------------------|--------------------|
| <b>Frequency</b>        | 2 yearly | <b>Administrator</b> | Compliance Officer |
| <b>Next review date</b> | 02/2026  | <b>Custodian</b>     | General Manager    |

**VERSION CONTROL**

|                       |            |                    |                |
|-----------------------|------------|--------------------|----------------|
| <b>Version number</b> | 1.0        | <b>Author</b>      | Jenny Orban    |
| <b>Approval date</b>  | 02/02/2024 | <b>Approved by</b> | John Fortescue |