

Attachment 3 to Item 11.1.1.12

PSA Ref: 3000

24 July 2013

Chief Executive Officer
Town of Port Hedland
PO Box 41
PORT HEDLAND WA 6721

Attention: Ryan Djanegara

Dear Sir,

**LOT 2055 (67-71) HAMILTON ROAD, SOUTH HEDLAND
APPLICATION No: 2012/623 FOR PLANNING APPROVAL - PROPOSED WORKERS
ACCOMMODATION**

I refer to your letter dated 8 April 2013, requesting additional information for the application for planning approval for workers accommodation at Lot 2055 (67-71) Hamilton Road, South Hedland (**subject site**).

The following additional information is provided in support of the application.

1 JUSTIFICATION OF LAND USE

We refer to our email correspondence with the Town on 23 April 2013, where it was agreed the application for workers' accommodation would be defined as a "caretaker's dwelling" for the purposes of land use assessment under Town Planning Scheme No.5 (**TPS5**). We note TPS5 includes the following definition:

Caretaker's dwelling a building used as a dwelling by a person, and an associated household, having the care of buildings, plant, equipment or land used for any development category in the zoning table carried out on or existing on the same site, with a maximum floor space of 50m².

In relation to the 50m² maximum floorspace in the definition of "caretaker's dwelling", in our letter to the Town dated 9 January 2013 we argued the maximum floorspace was a standard or requirement capable of variation under clause 6.1.2 of TPS5, rather than a definition, on the basis a caretaker's dwelling exceeding 50m² floor area is still a caretaker's dwelling.

We ask the Town to reconsider its position and support our request to approve the proposed development as a caretaker's dwelling with floor space in excess of 50m², rather than the Town's suggested approach of applying to rezone the subject site to Mixed Business under TPS5. We appreciate the Town is prepared to support a rezoning proposal, but note a local planning scheme amendment is likely to take around 12 months to reach a final decision. In addition, the Town's recent decision on 24 June 2013 to prepare Local Planning Scheme No.6 to apply to the whole of the Town of

Port Hedland area would have the effect of delaying or preventing the initiation of any new amendments to TPS5 until the adoption of the new Local Planning Scheme No.6.

Our client seeks approval to provide affordable, on-site accommodation for employees of the service station in the short term, and a 12+ month delay in obtaining approval for the accommodation is not in our client's interest.

2 INDUSTRIAL BUFFERS

For a 24 hour service station, Environmental Protection Authority's Guidance for the Assessment of Environmental Factors No.3 – *Separation Distances between Industrial and Sensitive Land Uses (Guidance Statement No. 3)* identifies a generic buffer of 200m for the potential impacts. The proposed workers accommodation is less than 200m from the service station. To justify a lesser separation distance, a Dangerous Goods Storage and Handling Compliance Report has been prepared addressing the risk associated with accommodation in close proximity to the service station. Refer to **Attachment A**. The report states *"the workers accommodation has generally been placed in a location complying with separation distances outlined within AS1940; Storage and handling of flammable and combustible liquids with the following items needing verification:*

- *The existing vent outlets shall be verified as being located laterally at least 4m for flammable liquids and 2m for combustible liquids from all openings into adjacent buildings."*

The above requirement can be included as a condition of planning approval, prior to occupation of the workers accommodation.

On the basis of the above information, the proximity of the proposed development to the service station is considered acceptable, and the proposal warrants approval accordingly.

We have satisfactorily addressed the points made by the Town in its letter dated 8 April 2013. We therefore look forward to the Town's favourable consideration of this matter and look forward to the timely determination of the proposed development.

Should you have any queries or require further clarification in regard to the above matter please do not hesitate to contact the writer.

Yours faithfully

ROSS UNDERWOOD
SENIOR PLANNER

130724 3000 ltr to cncl (workers accommodation)

ATTACHMENT A

Dangerous Goods Storage and Handling Compliance Report



Engtech

Engineering Consultants

DG STORAGE AND HANDLING COMPLIANCE REPORT -

CALTEX SOUTH HEDLAND

Prepared for:

Caltex Australia Petroleum Pty Ltd
1 Brack St
North Fremantle WA 6159

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Engtech (Aust) Pty Ltd is a Government of Western Australia, Department of Mines and Petroleum approved company for the purposes of assessing and endorsing applications for the storage and handling of Dangerous Goods Classes/Divisions 2, 3 (Including C1 combustible liquids), 4, 5, 6.1, 8 & 9 - Bulk and Package. Responsible Officers: John Maaskant and Tim Norris

Revision	Written	Approved	Date	Description
A	John Maaskant	John Maaskant	24 th July 2013	Issue for Client Comment

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List of Abbreviations

DG	Dangerous Goods
DMP	Department of Mines and Petroleum
DEC	Department of Environment and Conservation
Engtech	Engtech (Aust) Pty Ltd
ERP	Emergency Response Plan

1.0 ASSESSMENT DETAILS AND SCOPE

1.1 Engagement

Engtech (Aust) Pty Ltd (Engtech) was engaged by **Mr Leon Calvetti** of **Caltex Australia Petroleum Pty Ltd** to conduct a dangerous goods (DG) assessment of the **Caltex South Hedland Service Station** Facility.

1.2 Assessor Details

The assessment was undertaken by Mr John Maaskant of Engtech (Aust) Pty Ltd who is a Dangerous Goods Storage and Handling assessor; Registration Number: 6IM 010 approved by the Government of Western Australia, Department of Mines and Petroleum Resources

1.3 Client Details

Caltex Australia Petroleum Pty Ltd
1 Brack St
North Fremantle WA 6159
Contact: Leon Calvetti

1.4 Location of DG Storage

Caltex South Hedland Service Station
Lot 2055 Hamilton Rd
South Hedland WA 6722

1.5 Purpose of this Written Report – Record of Assessment

The Town of Port Hedland has requested an assessment of the workers accommodation due to its proximity to the service station. They require confirmation it's not placed in an area of unacceptable risk. This report is a record of the assessment of separation distances required by Dangerous Goods Regulations 2007.

1.6 DG Storage Assessed

Engtech has performed assessments¹ of the storages summarised in the tables below. The assessment was undertaken and conclusions drawn based on the following information:

- Client supplied information
- Drawings prepared based on client information, and
- Client responses to Engtech queries.

Table 1: Level 1 Assessment

BULK STORAGE							
Tank No.	Dangerous Goods					Tank	
	Name	Class	Sub Risk/s	UN No.	PG	Type	Capacity
1	PETROL	3	N/A	1203	II	U/G	45,000 ltrs
2	PETROL	3	N/A	1203	II	U/G	20,000 ltrs
3	PETROL	3	N/A	1203	II	U/G	15,000 ltrs
4	DIESEL	C1	N/A	N/A	N/A	U/G	10,000 ltrs
5	DIESEL	C1	N/A	N/A	N/A	U/G	20,000 ltrs
6	DIESEL	C1	N/A	N/A	N/A	U/G	35,000 ltrs
7	LPG	2.1	N/A	1075	N/A	A/G	7,500 ltrs
PACKAGED STORAGE							
Storage Area	Dangerous Goods					Quantity	
	Name	Class	Sub Risk	UN No.	PG	Average	Maximum
PG1	LPG	2.1	N/A	1075	N/A	528 ltrs	528 ltrs
PG2	LPG	2.1	N/A	1075	N/A	528 ltrs	528 ltrs
PG3	LPG	2.1	N/A	1075	N/A	630 ltrs	630 ltrs

(U/G – underground tank, A/G – above ground tank, PG – package store)

Notes:

1. Refer to the Compliance and Limitations section of this report (Section 2.0) for an explanation of the scope and purpose of level 1 and level 2 assessments.

2.0 COMPLIANCE AND LIMITATIONS

2.1 Duty to minimise risk from dangerous goods

DG Safety Act 2004 (part 2, regulation 8(1) states: “A person who is involved directly or indirectly in storing, handling or transporting DG must take all reasonably practical measures to minimise the risk to people, property and the environment from the goods.”

As outlined within guidance notes published by the Government of Western Australia, DMP, two main methods are accepted for assessing the compliance of DG facilities with the Act, namely:

- Use of an Approved Code of Practice; or
- Use of a first principals risk assessment.

2.2 Client’s responsibility

Our client is responsible for the declaration and fair presentation of all aspects of the intended DG storage and handling facilities to Engtech. “Handle”, in relation to DG includes to manufacture, process, pack, use, sell supply, carry (including by pipeline), and treat the DG and to destroy or otherwise dispose of the DG.

2.3 Assessor’s responsibility

The assessor’s responsibility is to express an opinion on the DG storage and handling based on the assessment. Tests have been conducted as necessary to provide reasonable assurance as to whether the DG proponent intends to comply with the relevant requirements of the Act. No opinion is expressed as to whether the DG facilities are appropriate to the functional, strategic or economic needs of the proponents business.

2.4 Assessments

Engtech procedures are for either a Level 1 or Level 2 DG assessment to be undertaken when assessing DG storage and handling facilities. As is often the case, a site containing several DG stores may require different levels of assessments to be conducted on individual storages within the same premises, depending upon a client’s objectives and their budgetary constraints. The assessment levels are defined as follows:

2.4.1 Level 1 Assessment

A Level 1 assessment **does not** meet DMP published assessment guidelines, but alternatively reference a set of high level compliance criteria as generally required by WA Regulations 2007 and selected codes of practice.

Notes - Level 1 assessment

- i. A Level 1 assessment is generally undertaken for the purposes of conducting a “first pass review” of a DG site for identification of high risk areas and determination of work priorities.*
- ii. A level 1 assessment is not appropriate to endorse an Application for Licence to Store DG.*

2.4.2 Level 2 Assessment

A Level 2 assessment is conducted in accordance with DMP published guidelines and is generally undertaken for the purposes of:

- a) Endorsing of a DG storage as part of an Application for a new Licence to Store DG or Amendment to an existing licence.
- b) Completing a second stage assessment following a level 1 assessment.

Notes – A Level 2 assessment are completed using one of the following methods:

- i. Use of an Approved Code of Practice:*
 - a) Approved Codes of Practice are generally Australian Standards that have been approved by the Minister for Mines, and gazetted on the DMP web site.*
 - b) Approved Codes of Practice are generally used for DG storage systems, such as bulk tanks and package stores.*
 - c) Approved Codes of Practice are considered by the DMP to be “risk assessments which have been converted into a series of rules”. In other words, if an Approved Code of Practice is fully complied with, then a successful risk assessment is deemed to have occurred.*
 - d) The format of an Approved Code of Practice compliance check is a checklist, which addresses all of the key clauses and sections of the code of practice used in the DG depot assessment.*
 - e) A level 2 approved code of practice assessment also includes issue of a partly completed template used to identify and risk assess any unusual hazards or non-conformances to the code of practice and implement control measures; and check DG storage, handling, and operations for compliance with the risk control measures specified in the DG Safety (Storage and Handling of non-explosives) Regulations 2007 and implement control measures as required.*

- ii. *Use of a first principles risk assessment:*
- a) *First principles risk assessments are generally used for process plants, and other DG handling systems which are neither package stores nor bulk tanks.*
 - b) *First principles checklists can be generated by Engtech, however to become valid they must be reviewed and accepted or adjusted by competent client stakeholders e.g. client management, operators, technical experts as required, and Engtech (risk assessment facilitators).*
 - c) *Examples of where a first principles risk assessment is appropriate may include conveyor belts, pressure vessel reactors, batching plants and so on.*
 - d) *First principles risk assessments may also be used to determine whether or not an Approved Code of Practice may be deviated from, whilst still maintaining an equivalent level or risk control as if the deviation had not occurred.*

1.4.3 Completion of Assessment

While Engtech will endeavour to identify the majority of risks, the assessment scope is only be considered complete when the risk assessment within Section 4.0 has been reviewed, expanded, and accepted by the client, via stakeholder participation (e.g. designers, site manager, supervisor/leading hand, operators) in a risk assessment workshop.

It is generally expected that a series of these workshops will be required periodically throughout the operational life of the DG facility to ensure management of change and due diligence is upheld. DG Regulation

2.5 Checklist Limitations

As per DMP guidance notes, Engtech has developed a series of checklists which can be used to risk assess DG depots for compliance with applicable Approved Codes of Practice. Readers of these checklists are made aware of the following:

1. The checklists consist of a series of key Code of Practice requirements.
2. Items of query, or where further action from the client is required, are identified by either an “investigate” or “Not Complying” comment next to each Code of Practice requirement.

3. The risk assessment is deemed to be successful and complete, only when the areas of non-compliance or query are addressed by the client. The client must assume full responsibility for ensuring that those action and query items are appropriately addressed.
4. The checklists are copyright, developed by Engtech for use by trained and approved Engtech endorsed personnel only.
5. Copies of checklists are issued to external parties for the sole purpose of verifying that a DG depot risk assessment was undertaken by the consultant.
6. Clients and non-approved persons may not alter the checklists, or use them in any way that differs from their intended use.

2.6 General Limitations

Engtech has undertaken the compliance assessment work and prepared this report in accordance with accepted practices and procedures used by professionals working within this area at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Engtech undertakes limited independent verification of information provided to us by clients and assumes no responsibility for inaccuracies or omissions caused by the presentation of inaccurate or misinformation. The findings of this report are based on site conditions existing at the time of any site inspection activities that were conducted. Conclusions relating to an organisations procedures have been made from a limited number of observation points assuming that the data presented is representative of a consistent approach.

An assessment involves performing procedures and tests to gather evidence about the level of compliance of one or more DG stores and of the general site. The level of investigation, examination and research may range from very limited to very extensive dependant on a client's scope and the assessor's judgement. The assessor's judgement will include an evaluation of the risks and the material significance a particular aspect may have on the whole of a facility.

The degree of uncertainty with respect to opinions reached on such projects will vary, depending on the extent of the investigation, but some level of uncertainty will exist within every assessment. The state of practice, particularly with respect to DG storage and handling, is changing and evolving. Whilst Engtech is required to assess to the regulations and standards in effect at the time the services are performed, it is recognised that those regulations and standards may subsequently change because of improvements in the state of practice.

This report has been prepared exclusively for the entity and site location noted under “Client Details” and “Location of DG Storage”, on the cover page of this report. This report cannot be reproduced without the written authorisation of Engtech and then can only be reproduced in its entirety, and should not be relied upon by third parties (excluding DMP and DEC). An endorsement by Engtech is conditional upon the proponent addressing all notes, conditions and actions detailed within Section 3.0 of this report and finishing the partly completed templates used for addressing items (b) and (c) of section B1.

2.7 Requirement to Retain Report

This report shall be retained on site, to be available upon the request of DMP officers, or the Client’s safety & compliance staff. In addition, the report and any client corrective action reports may be attached to the next site DG licence renewal.

3.0 DG DEPOT ASSESSMENT

The DG depots noted in Section 1.0 of this report were assessed for high level compliance in accordance with the DMP guidance note for risk assessments. A summary of determinations is shown noted in Table .

Table 2: Level 1 Assessment Observations

	ERP	Placarding/Signage	Container Labelling	DG Separation	DG Segregation	DG Impact Protection	Ignition Source Exposure	Lighting	Ventilation	Spillage Control	DG Decommissioning	Safety Equipment / PPE	Access / Egress	Fire Prevention	Fire Protection	Other 1	Other 2
Appears Compliant		✓	✓	✓	✓	✓		✓						✓			
Investigate	✓						✓		✓	✓		✓	✓		✓		
Non-Compliant																	

LEVEL 1 ASSESSMENT: NOTES, COMMENTS and/or ACTIONS

Further explanations relating to several of the findings are outlined below.

3.1 Site Documentation

3.1.1 Drawings

As part of the scope of work Engtech has utilised client site drawings / sketches as a guide and in turn constructed new site drawings to more accurately represent the DG storage facilities currently located at the site.

3.1.2 Operational

The operators of the site shall ensure there's a central location where all operational information is held, maintained and accessible when needed. Such policies, procedures and records may include, but are not limited to:

1. Induction onto the site for all Health, safety and environmental policy and procedures.
2. Periodic inspection procedures for daily, weekly, and major milestone inspections e.g. DG storage tanks, safety equipment function checking, and fire extinguisher maintenance.

3. Maintenance and inspection records of DG storage and handling plant and equipment.
4. Operator training, such as chemical handling, job knowledge and hygiene, spills and emergency response etc.
 - a. Job Knowledge (scope of tasks, limits of competency etc.)
 - b. Safety and hazard awareness (nature of corrosives, emergency response etc.)
 - c. Hygiene (no smoking/eating near dangerous goods, wash hands prior to consumption of food/water etc.)
5. Record keeping for personnel training, equipment inspections, maintenance, dangerous goods inventories, accidents and incidents.

3.2 Emergency Response Plan

At the time of issuing this report, an Emergency Response Plan (ERP) for the site was not provided to Engtech for assessment. The client shall ensure the ERP contains all of the elements required by DMP's Emergency Plan Code of Practice "Dangerous Goods Sites: Emergency Planning Code" including, but not limited to:

1. A complying site drawing.
2. The roles and responsibilities of personnel associated with the facility and their up to date contact details.
3. Contact details for neighbouring properties, emergency services, and government authorities.
4. Ensuring that the risks posed by the various DG depots at the site, are adequately addressed in their emergency response plan.

3.3 Site General

A number of areas (generally not associated with the workers accommodation) are recommended for further investigation (level 2 assessments) such as:

- Ignition sources
- Ventilation
- Spillage control
- Safety equipment
- Access / egress; and
- Fire protection.

A site visit will be necessary to appropriately assess compliance of the above items.

3.4 Workers Accommodation – Separation Distances

The workers accommodation has generally been placed in a location complying with separation distances outlined within AS1940; Storage and handling of flammable and combustible liquids with the following items needing verification:

- The existing vent outlets shall be verified as being located laterally at least 4m for flammable liquids and 2m for combustible liquids from all openings into the adjacent buildings.

3.5 Workers Accommodation – Other

All persons residing in the workers accommodation is located shall be inducted to the site and be familiar with actions to be taken in the event of an emergency. The ERP shall address the ease of access and egress to the workers accommodation in an emergency situation.

*

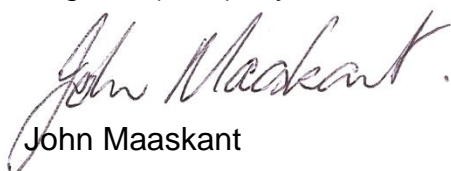
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*

Should you have any queries please do not hesitate to contact the undersigned.

Yours faithfully
Engtech (Aust) Pty Ltd

Accepted by or on behalf of Client



John Maaskant

Signed by:

Principal
ACCREDITED CONSULTANT
ACCREDITATION NUMBER 6IM 010

Dated:

4.0 ABNORMAL HAZARDS RISK ASSESSMENT

Client	<i>Caltex Australia Pty Ltd</i>	Storage / Process Details Risk assessment for the safe storage and handling of: - Petrol, LPG and Diesel storage
Site	<i>South Hedland</i>	
Risk Assessment Date	<i>24/07/2013</i>	
Document Revision	<i>A</i>	
Author(s)	<i>John Maaskant – Engtech Client - TBA</i>	

PART 1 - Check of DG storage, handling and operations for compliance with the risk control measures specified in the Dangerous Goods Safety (Storage and Handling of non-explosives) Regulations 2007.

Note: this risk assessment is only valid after a client stakeholder meeting has been undertaken to review, expand, and accept the contents of this assessment.

Risk Control Measure	Complies? Y, N or N/A	Description and reference
R51 – Protection for loss of containment	Investigate	See written report – recommend level 2 assessment
R52 – Design addresses Dangerous Reactions/Contamination	Complies	Not considered a risk
R53 - Instability of Dangerous Goods addressed	N/A	All DGs are stable chemicals – i.e. no chemical stabilisers needed
R54 – DG’s protected from Impact Damage	Investigate	See written report – recommend level 2 assessment
R55 - Dangerous Goods Transfer design considers		

a) spillage/overflow during transfer	Generally complies	
b) static electricity	Generally complies	
c) dust, mist, vapour during transfer	Generally complies	
d) Compatibility of transfer fittings	Generally complies	
e) Sources of ignition	Generally complies	No obvious sources of ignition near flammable goods – inspection by certified electrician is recommended
R56 – No Ignition sources in hazardous areas	Generally complies	As above
R57 - Hazardous Atmosphere consideration met i.e.		
a) lack of oxygen	Appears complying	In general, DG stores are adequately ventilated. Note requirement to investigate vent separation to nearby building openings
b) gas/mist/fume etc above exposure limits	Appears complying	As above
c) flammable gas (Div 2.1) or flammable liquid vapour (Class 3)	Appears complying	As above
d) combustible dust	Not Applicable	No combustible dusts expected at site
R58 - Design, Build, Maintenance, Location of DG storage/handling system		
a) good design	Appears complying	

b) good installation/construction	Appears complying	
c) sufficient test & maintenance regime	Verify	Client to compile and keep documentation onsite
d) sufficient isolation/separation from protected works	Generally complies	
R59 - Dangerous Goods Containers - appropriate labelling use and disposal	Appears complying	
R60 - Good pipe work labelling	Generally complies	
R61 - Bulk containers - installation & inspection		
a) adequate foundations for container or pipework	Generally complies	
b) no excessive stress on pipework	Generally complies	
c) corrosion failure of container or pipework considered	Generally complies	
d) sufficient inspection of container	Generally complies	
e) good inspection record keeping	Generally complies	

R62 – Underground Storage & Handling Systems meet standards	Generally complies	
R63 - Decommissioned Storage & Handling Systems	N/A	
R64 - Sufficient Lighting	Investigate	Investigate at night
R65 - Sufficient Access & Egress	Generally complies	
R66 – Appropriate Security at Dangerous Goods Site	Complies	Adequate security for site.
R67 – No Fire Hazards (combustible matter)	Appears complying	
R68 - Suitable Placarding - site access/boundary	Appears complying	
R69 - Suitable Placarding - Bulk Containers	Appears complying	
R70 - Suitable Placarding - Packages	Appears complying	
R73 - Fire Protection	Appears to Comply	Investigate fire extinguisher locations

R74 – Other Risk Control Equip.	TBA	Consider / assess provision of spill response equipment
R75 – Emergency Plan	Investigate	Review the plan against DMP guidance note (refer report)
R76 – Containment of dangerous goods incident	TBA	Refer above R51

PART 2 - Identified unusual hazards or non-conformances to the regulations and / or code of practice

Hazards	Control / Issues		Assessment			Risk Outcome and comment	
	Details	Code of Practice	F	C	L	RC	
1. Vent discharge location	May be too close to buildings	AS1940					TBA
2.							
3.							

Risk Assessment Matrix

Score the Consequence

For each risk, determine the level of "consequence" utilising the table below. Where there is more than one "consequence" for a risk, use the highest scoring "consequence". Document the relevant "consequence" score on the "Risk Assessment Form" as shown in the example below.

These values are a guideline, intermediate values may be used.

Consequence Score	Examples of Each Type of Consequence level (AUD)						
	Health	Safety	Environmental	Property Damage	Reputation	Security / Criminal Act	Business Interruption
100 Catastrophic Consequence	Multiple fatalities Onset of severe or life threatening health effects alleged due to exposure to Site activities	Multiple fatalities	Extensive environmental harm	> \$10,000,000 Extensive damage to facility. Impact at adjacent facility	Adverse global media coverage. Major damage to reputation on a global scale	Bomb attack or Multiple Hostage Taking or Multiple Kidnap or Murder or Serious Sabotage or threat thereof.	> \$10,000,000
40 Disastrous Consequence	Onset of irreversible health effects alleged to be due to Site activities	Single Fatality	Significant environmental harm	> \$1,000,000 Damage to large proportion of major plant. No impact off site	Adverse National media coverage. Major damage to reputation on a National scale	Major security event involving single person Kidnap or Murder or Sabotage or threat thereof.	> \$1,000,000
15 Very Serious Consequence	Mild to moderate short term reversible health effects alleged to be due to Site activities	Multiple serious injury	Material environmental harm	> \$100,000 Damage to a single major plant item	Adverse media coverage. Some damage to reputation on a National / State scale	Armed Robbery or Assault or Rape or threat thereof With physical violence	> \$100,000
7 Serious Consequence	Over exposure but no reported health effects	Single serious injury or multiple minor injuries	Environmental nuisance or loss of environmental control with limited impact	> \$10,000 Localised damage to minor equipment items	Some adverse local media and community group interest	Verbal abuse or Bullying or Harassment or threat thereof Without physical violence	> \$10,000
3 Important Consequence	Temporary injury or disability	Minor injury	Moderate loss of environmental control with no impact	> \$5,000	Intra industry knowledge of the event but no media coverage	Staff theft	> \$5,000
1 Noticable Consequence	Minor injury with first aid required to be supplied	Noticeable	Minor loss of environmental control with no impact	> \$1000	Internal Business coverage	Minor theft	> \$1000

Score the Likelihood

For each "consequence", determine the "likelihood" that the "consequence" will result from the risk document the relevant "likelihood" score on the "Assessment Form" as shown in the example below.

These values are a guideline, intermediate values may be used.

Likelihood Score	Example
10 Almost Certain	This event will almost certainly occur
6 Quite Possible	There is a good chance the event will occur
3 Unusual but possible	It would be unusual for the event to occur
1 Remotely Possible	It would be remotely possible for the event to occur
0.5 Conceivable but Unlikely	The event has not happened, but it is possible
0.1 Practically Impossible	The event has never happened, nor is it likely

Score the Frequency

For each hazard, determine how "frequently" the risk is present and/or how often people or process are exposed to the hazard utilising the table below.

Frequency Score	Example
10 Continuous Exposure	Constant exposure to the hazard
6 Frequent Exposure	Exposure to the hazard on a daily basis
3 Occasional Exposure	Exposure to the hazard on a weekly basis
2 Unusual Exposure	Exposure to the hazard every second month
1 Rare Exposure	Exposure to the hazard a few times a year
0.5 Very Rare Exposure	Exposure to the hazard less than a few times per year
0 No exposure	No exposure to the hazard

Calculate the Inherent Risk Assessment Score

The overall initial risk assessment score (magnitude of the risk) is derived by multiplying the "frequency" score by the "consequence" score by the "likelihood" score:

Risk Score = Frequency (F) × Consequence (C) × Likelihood (L)

Example

Electrocution = 0.5 (F) × 40 (C) × 6 (L) = 120

The calculated risk score will be used to determine the classification of the risk using the table below.

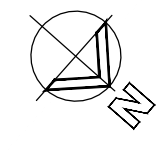
Risk Score	Risk Classification	
Over 400	Very High Risk	Consider discontinuing operation Correction required
201 - 400	High Risk	Immediate correction required
71 - 200	Substantial Risk	Correction needed
21 - 70	Low Risk	Risk acceptable but further attention may be required
0 - 20	Minimal Risk	Risk acceptable as is - Monitor to ensure risk level remains minimal

Risk Calculator

Enter the values corresponding to "frequency", "consequence", and "likelihood" below to calculate the resultant risk score.

Frequency	Consequence	Likelihood	Risk Score
6	15	6	540

- 55m TANK RADIUS APPLIES TO:
 - SENSITIVE USE SEPARATION
 - POPULATION AREA
- 55m PUMP RADIUS APPLIES TO:
 - SENSITIVE USE SEPARATION
- 55m ROAD TANKER RADIUS APPLIES TO:
 - SENSITIVE USE SEPARATION
- 15m ROAD TANKER RADIUS SEPARATION TO:
 - RESIDENTIAL
- 15m TANK RADIUS SEPARATION TO:
 - RESIDENTIAL
- 15m PUMP RADIUS SEPARATION TO:
 - RESIDENTIAL
- 10m TANK RADIUS SEPARATION TO:
 - COMMERCIAL AND RECREATIONAL
- 10m PUMP RADIUS SEPARATION TO:
 - COMMERCIAL AND RECREATIONAL
- 10m ROAD TANKER RADIUS SEPARATION TO:
 - COMMERCIAL AND RECREATIONAL



Caltex Petroleum Australia Pty Ltd.
SERVICE STATION
DANGEROUS GOODS MANIFEST

Owner: Caltex Petroleum Australia Pty Ltd.
Occupier: Caltex Petroleum Australia Pty Ltd.
Address of Premises: Lot 2055 Hamilton Rd, South Hedland WA 6772
Date of Preparation: 24-Jul-13
Site Plan Number:
Emergency Contacts:
 Emergency response :
 Occupier: Caltex Petroleum Australia Pty Ltd
 Business Manager: TBA

BULK STORAGE

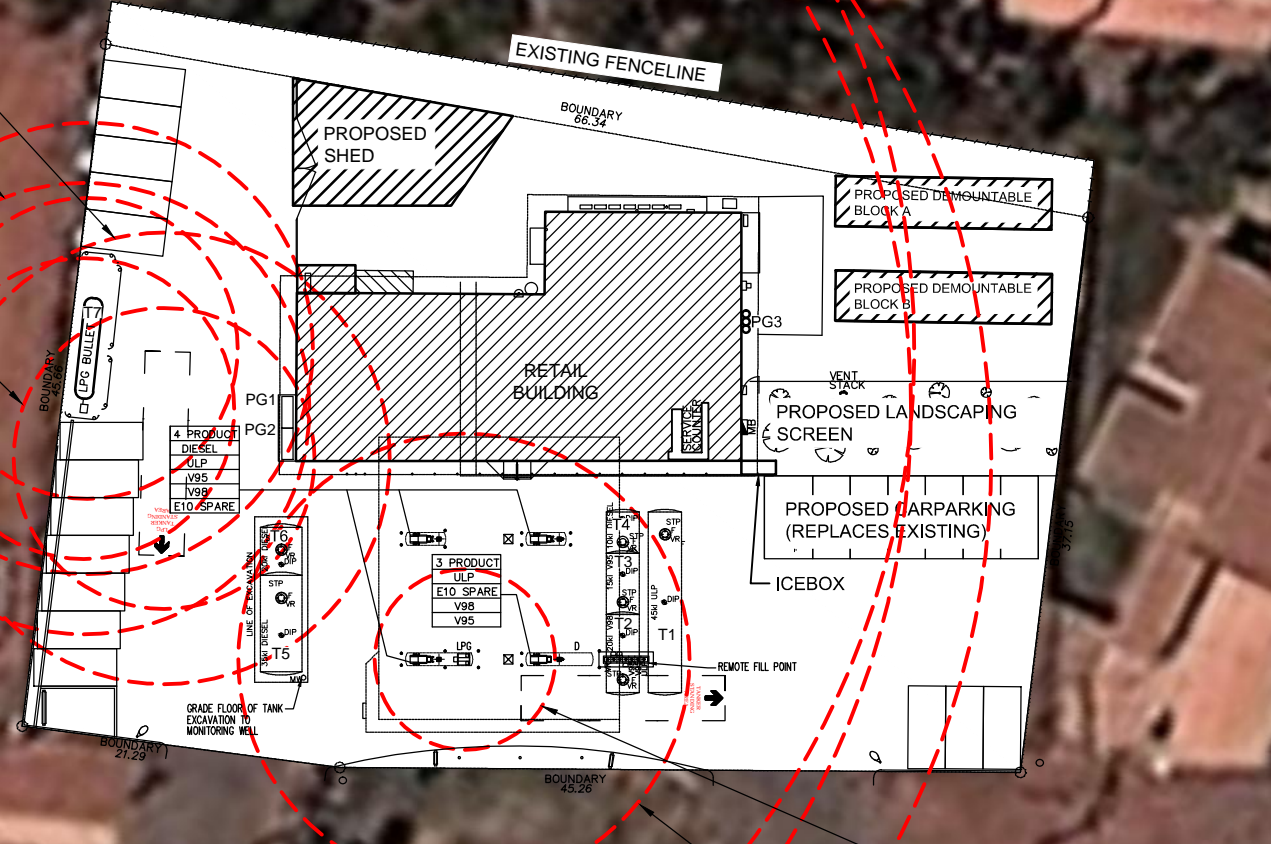
Tank No.	Dangerous Goods					Tank	
	Name	Class	Sub Risk/s	UN No.	PG	Type	Capacity
1	PETROL	3	N/A	1203	II	U/G	45,000 ltrs
2	PETROL	3	N/A	1203	II	U/G	20,000 ltrs
3	PETROL	3	N/A	1203	II	U/G	15,000 ltrs
4	DIESEL	C1	N/A	N/A	N/A	U/G	10,000 ltrs
5	DIESEL	C1	N/A	N/A	N/A	U/G	20,000 ltrs
6	DIESEL	C1	N/A	N/A	N/A	U/G	35,000 ltrs
7	LPG	2.1	N/A	1075	N/A	U/G	7,500 ltrs

PACKAGED STORAGE

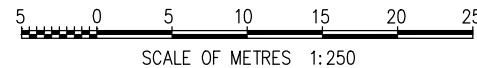
Storage Area	Dangerous Goods					Quantity	
	Name	Class	Sub Risk	UN No.	PG	Average	Maximum
PG1	LPG	2.1	N/A	1075	N/A	528 ltrs	528 ltrs
PG2	LPG	2.1	N/A	1075	N/A	528 ltrs	528 ltrs
PG3	LPG	2.1	N/A	1075	N/A	630 ltrs	630 ltrs

LPG Population Survey

Place (ID number on drawing)	Place	Final Count	Occupancy factor	Portion of building	Count
1	Carpark	100	0.2	1	20
2	Recreational	20	0.2	0.1	0.4
3	Proposed Accommodation	10	1	0.75	7.5
4	Proposed Accommodation	10	1	0.75	7.5
Total count					35.4



SITE LOCATION PLAN
 SCALE: 1:250



NOTE:
 PROPOSED DEMOUNTABLE, REAR FENCE LINE, BOUNDARIES AND RETAIL BUILDING LOCATIONS BASED ON WHELANS FEATURE SURVEY 15494-016-021-00

REF.DWG#	REFERENCE DRAWINGS DESCRIPTION	ISSUE	DATE	AMENDMENTS	DRN	CKD	ISSUE	DATE	AMENDMENTS	DRN	CKD
0674-03-T3	HAZARDOUS AREA PLAN	C	24/07/13	UPDATED BASED ON SURVEY / PHOTOS	MA	JM					
0674-03-T2	SITE LAYOUT	B	20/06/13	ISSUED FOR DMP APPROVAL	CB	JM					
		A	22/05/13	ISSUED FOR DISCUSSION	MA	JM					

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DRAWN: MA DATE: 22/05/2013 DRW # 0674-03-T1

SCALE: AS SHOWN

FILE NAME: 0674-03

CALTEX PETROLEUM AUSTRALIA PTY LTD
 LOT 2055 HAMILTON RD, SOUTH HEDLAND WA 6722
 LPG POPULATION & SITE LOCATION PLAN
 DANGEROUS GOOD DRAWING

Caltex Petroleum Australia Pty Ltd.
SERVICE STATION
DANGEROUS GOODS MANIFEST

Owner: Caltex Petroleum Australia Pty Ltd.

Occupier: Caltex Petroleum Australia Pty Ltd.

Address of Premises: Lot 2055 Hamilton Rd, South Hedland WA 6772

Date of Preparation: 24-Jul-13

Site Plan Number:

Emergency Contacts:
 Emergency response :
 Occupier: Caltex Petroleum Australia Pty Ltd
 Business Manager: TBA

BULK STORAGE

Tank No.	Dangerous Goods					Tank	
	Name	Class	Sub Risk/s	UN No.	PG	Type	Capacity
1	PETROL	3	N/A	1203	II	U/G	45,000 ltrs
2	PETROL	3	N/A	1203	II	U/G	20,000 ltrs
3	PETROL	3	N/A	1203	II	U/G	15,000 ltrs
4	DIESEL	C1	N/A	N/A	N/A	U/G	10,000 ltrs
5	DIESEL	C1	N/A	N/A	N/A	U/G	20,000 ltrs
6	DIESEL	C1	N/A	N/A	N/A	U/G	35,000 ltrs
7	LPG	2.1	N/A	1075	N/A	U/G	7,500 ltrs

PACKAGED STORAGE

Storage Area	Dangerous Goods					Quantity	
	Name	Class	Sub Risk	UN No.	PG	Average	Maximum
PG1	LPG	2.1	N/A	1075	N/A	528 ltrs	528 ltrs
PG2	LPG	2.1	N/A	1075	N/A	528 ltrs	528 ltrs
PG3	LPG	2.1	N/A	1075	N/A	630 ltrs	630 ltrs

STANDARD NOTES:

- THIS DRAWING HAS BEEN PRODUCED FOR THE PURPOSES OF DANGEROUS GOODS LICENSING AND EMERGENCY PLANNING AND MAY NOT BE USED FOR CONSTRUCTION.
- ALL DIMENSIONS IN MILLIMETRES U.N.O.
- AN EMERGENCY PLAN SHALL BE PREPARED IN ACCORDANCE WITH DMP EMERGENCY PLANNING CODE ON THE DMP WEBSITE.
- IT REMAINS THE OWNER AND LICENSEES RESPONSIBILITY TO INSTALL AND OPERATE THE FACILITY IN ACCORDANCE WITH DANGEROUS GOODS REGULATIONS 2007:
 - AS1596; STORAGE AND HANDLING OF LP GAS.
 - AS1940; THE STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.
 - AS4897; THE DESIGN, INSTALLATION AND OPERATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS.
- ALL WORK MUST COMPLY WITH WORKSAFE SAFETY STANDARDS AND RELEVANT AUSTRALIAN STANDARDS.
- TANK SELL TO BE CONSTRUCTED TO AS1692 (STEEL TANKS FOR FLAMMABLE AND COMBUSTIBLE LIQUIDS).

UNDER GROUND TANK NOTES:

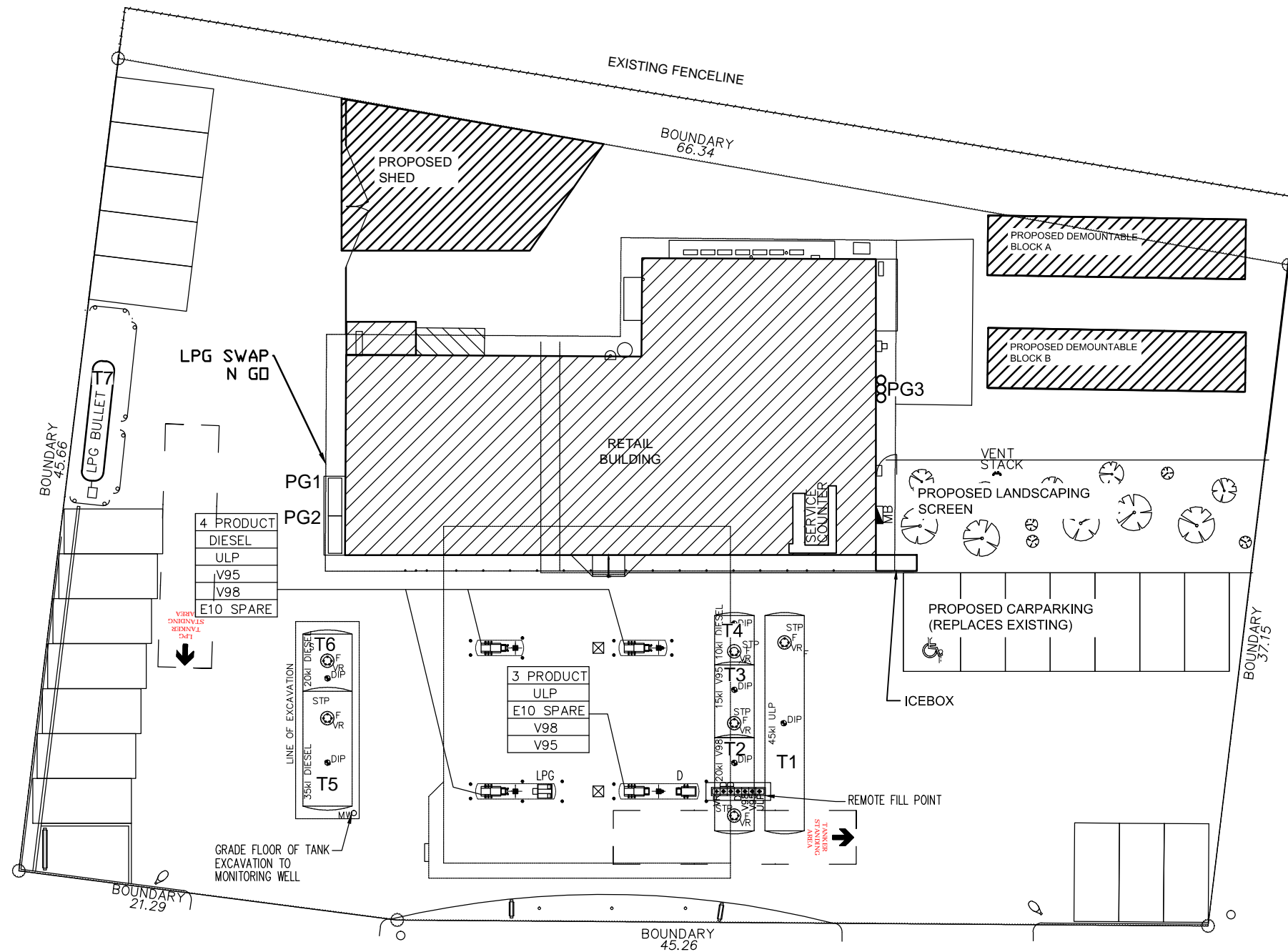
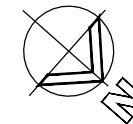
- ALL BELOW GROUND TANK MARKINGS TO COMPLY WITH CP5-1995.
- UNDERGROUND TANKS, ITS ANCHORAGE AND ASSOCIATED PIPING SHALL BE PROTECTED FROM CORROSION BY METHODS OUTLINED IN AS1940-2004 5.11.7 & AS4897-2008 (THE DESIGN, INSTALLATION AND OPERATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS).
- ALL PIPEWORK TO AS4041 &/OR CP5.

DRAINAGE NOTES:

- AREAS WHERE VEHICLES STAND TO REFUEL SHALL DRAIN AWAY FROM SITE BUILDINGS AND SPILLAGE WILL BE RETAINED ON SITE AS REQUIRED BY SECTION 7.3.2 OF AS1940-2004.

SIGNAGE NOTES:

- SIGNAGE FOR TANK AND DISPENSER IDENTIFICATION AND NOTICES FOR EMERGENCY INFORMATION TO BE DISPLAYED AS REQUIRED BY SECTION 3.8.2 AS1940-2004.
- VALVES AND SWITCHES FOR EMERGENCY SHUT DOWN SHALL BE CONSPICUOUSLY LABELLED.



SITE PLAN
SCALE 1:150



NOTE:
 PROPOSED DEMOUNTABLE, REAR FENCE LINE,
 BOUNDARIES AND RETAIL BUILDING LOCATIONS BASED ON
 WHELANS FEATURE SURVEY 15494-016-021-00

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0674-03-T1	LPG POPULATION & SITE LOCATION PLAN					20/06/13	ISSUED FOR DMP APPROVAL	CB	JM
						22/05/13	ISSUED FOR DISCUSSION	MA	JM

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A1

SCALE: AS SHOWN

CalTEX
 LOT 2055 HAMILTON RD, SOUTH HEDLAND WA 6722
 SITE LAYOUT
 DANGEROUS GOOD DRAWING

DRAWN: MA DATE: 22/05/2013 DRW # 0674-03-T2
 FILE NAME: 0674-03

Caltex Petroleum Australia Pty Ltd.
SERVICE STATION
DANGEROUS GOODS MANIFEST

Owner: Caltex Petroleum Australia Pty Ltd.
Occupier: Caltex Petroleum Australia Pty Ltd.
Address of Premises: Lot 2055 Hamilton Rd, South Hedland WA 6772
Date of Preparation: 24-Jul-13
Site Plan Number:
Emergency Contacts:
 Emergency response:
 Occupier: Caltex Petroleum Australia Pty Ltd
 Business Manager: TBA

BULK STORAGE

Tank No.	Dangerous Goods					Tank	
	Name	Class	Sub Risk/s	UN No.	PG	Type	Capacity
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3	PETROL	3	N/A	1203	II	U/G	15,000 ltrs
4	DIESEL	C1	N/A	N/A	N/A	U/G	10,000 ltrs
5	DIESEL	C1	N/A	N/A	N/A	U/G	20,000 ltrs
6	DIESEL	C1	N/A	N/A	N/A	U/G	35,000 ltrs
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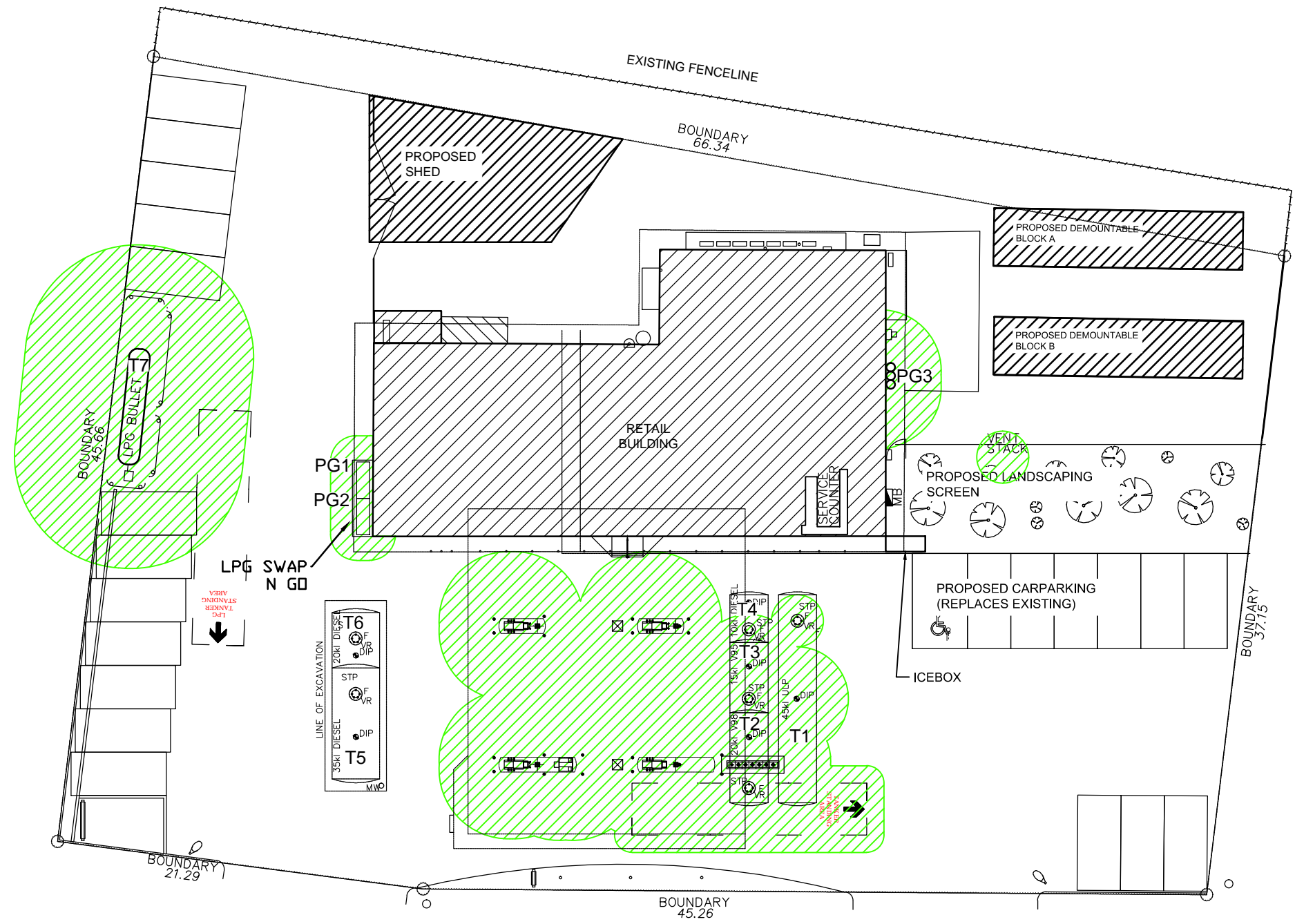
LEGEND

HAZARDOUS ZONE. MAXIMUM EXTENT OF ZONE 2

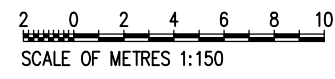
HAZARDOUS AREA RADIUS:

- LPG/ULP BOWSER = 4.0m
- TANK DIP = 3.0m
- TANK TURRET = 1.5m
- OPEN DRAIN = 0.5m
- OIL / WATER SEPARATOR = 0.5m
- LPG TANK = 6.0m
- LPG SWAP&GO = 2.0m
- 0.8KL LPG TANK = 2.0m
- VENT = 1.5m
- TANKER = 1.0m

HAZARDOUS ZONES NOTES:
 1. HAZARDOUS AREA SHOWN IS MAXIMUM EXTENT OF ZONE 2 AS PER AS60079.10.1. OTHER ZONES OMITTED FOR CLARITY
 2. NO IGNITION SOURCES SHALL BE WITHIN ANY HAZARDOUS ZONED AREAS



HAZARDOUS AREA PLAN
 SCALE 1:150



NOTE:
 PROPOSED DEMOUNTABLE, REAR FENCE LINE, BOUNDARIES AND RETAIL BUILDING LOCATIONS BASED ON WHELANS FEATURE SURVEY 15494-016-021-00

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Checked: [] Approved: []
 Scale: AS SHOWN

CALTEX
 LOT 2055 HAMILTON RD, SOUTH HEDLAND WA 6722
 HAZARDOUS AREA PLAN
 DANGEROUS GOOD DRAWING

Drawn: MA Date: 22/05/2013 DRW # 0674-03-T3
 File Name: 0674-03