

Fire Prevention Plan

Submitted on Behalf of **Associated British Ports**

Site Name: **Roath Dock Cardiff**

Environmental Permit Number: **TBC**

Prepared By:

Beyond Waste Ltd



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DOCUMENT CONTROL SHEET

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Project:	Biomass & RDF Export Facility
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Signed	
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1 Key Information

SITE DETAILS			
Location: Roath Dock, Cardiff CF10 4LY (ST 20312 74837)			
Postcode: CF10 4LY			
SITE CONTACTS	Name	Office Hours (specify)	Out of hours
Site Contact:	Craig Christoforato	+44 (0) 87 0609 6699	0845 6018870
Competent Manager	Mark Robson	07769 157042	
EMERGENCY SERVICES		Office Hours	Out of hours
Police, Fire Ambulance		999	999
REGULATORS		Office Hours	Out of hours
Natural Resources Wales (Local) Gareth Danter-Hill		0300 065 3000	
Natural Resources Wales (emergency hotline)		0800 80 70 60	0800 80 70 60
Local Authority Environmental Health: Cardiff City Council		029 2087 2087	
UTILITY / KEY SERVICES	Name	Office Hours	Out of hours
Water Supplier:	Welsh Water	0800 052 0130	0800 052 0130
Electricity Supplier:	Haven Power	+44(0)1473 725943	0800 052 0400
Clean Up Contractors:	Bio Clean Jetting	0121 602 5835	0121 602 5835
OTHER KEY CONTACTS	Name	Office Hours	Out of hours
Specialist advisor:	Alan Potter Beyond Waste	07795 216374	07795 216374
Insurance Provider	Griffiths & Armour Insurance Brokers	+44 (0)151 600 2120	+44(0)7976 152973

Materials	Max Quantity (approximately)	Solid/Liquid/Gas or Powder	Fire Implications	Location
Woodchip Stockpile	5, 000Tonnes	Solid	Combustible	Stored on tarmac surface. Shown on site location plan in Appendix 1.
Baled RDF	5,000 Tonnes	Solid	Combustible	Stored on an impermeable concrete surface Shown on site location plan in Appendix 1.

2 Site Materials Inventory

3 Introduction

3.1 This Fire Prevention Plan explains how the proposed acceptance and storage of woodchip and baled RDF will be conducted to ensure that the risks of fire is effectively assessed and controlled. As such it supplements those measures described in the Environmental Incident Response Plan.

4 Fire Prevention Plan

4.1 This Plan has been prepared with reference to the following documents:

1. Fire Prevention Plan March 2015. Environment Agency Guidance.
2. Reducing Fire Risk at Waste Management Sites, Waste 28. Wish Guidance Issue 1 October 2014.
3. Pollution Prevention Guidance: PPG 21 Incident Response Planning. July 2014.
4. Pollution Prevention Guidance: PPG18 Managing Fire Water& Major Spillages
5. Pollution Prevention Guidance: PPG 28 Controlled Burn.

4.2 The plan of controls and measures is aimed at reducing the chance of a fire occurring and the impact should a fire occur based on a risk assessment that has considered:

- The nature of combustible materials stored - this being principally woodchip and baled RDF.

- The presence and location of potential ignition sources - this being principally accidental sources or those risks that may arise from 'spontaneous' combustion.

5 Fire Risk Reduction measures

The risk of fire will be controlled in a number of ways.

1. Preventative Action
2. Fire Detection
3. Fire Response Plan

6 Preventative Action

A. Storage methods

- Stockpiles of material ie woodchip and RDF bales are kept separate onsite to reduce the risk of a fire spreading between the two materials, as shown in Appendix FDPP 3.
- Stockpiles are kept at a distance from the site boundary to ensure that any outbreak of fire - should it occur - is contained within the site.
- Stockpiled material will be rotated on a regular basis and materials will not be stored in any single location for longer than 3 months maximum.
- Customer contracts ensure that material will only be kept on the dockside for around 3 months and so reduce the likelihood of build up of temperature such that outbreak of fire through spontaneous combustion may be avoided.
- The bulk of material stockpiled on the dockside will be cleared at the end of each campaign ie once ship has been loaded.

B. Operational controls

- The area will be a strictly NO SMOKING area with appropriate signage erected.
- Hot work contractors will be controlled in the vicinity of any stockpile. A hot works permit is required from ABP in order for contractors to carry out hot work.
- Access to the site has a fully manned security gate and the area is security controlled by CCTV to reduce the risk of accidental or deliberate ignition by intruders i.e. arson.
- An area of the impermeable concrete will be used as an emergency quarantine area to isolate burning materials, reducing the risk of fires spreading between material stockpiles. An indicative location is shown within Appendix FDPP3. The quarantine area will be bunded with sandbags if necessary to control firewater. All staff members are aware of the need to keep an area clear at all times when materials are stored onsite. The Site Compliance Manager will check to ensure a suitable area is kept available.

C. End of Day Operations

- Staff will ensure that all mobile machinery is parked at a distance from material stockpiles to avoid any electrical fault giving risk to an ignition risk.
- Staff will conduct a 'fire-watch' at the end of daily operations.

7 Fire Detection

To reduce the risk of fire the following procedures will be followed:

- Staff monitor woodchip stockpiles using temperature probes on a daily basis. Monitoring will be at an intensity to represent 10% of the overall stockpile volume present onsite at any one time.
- In the event that monitoring indicates elevated temperature building up within a stockpile, the stockpile will be hosed down to reduce temperatures and eliminate hot spots arising.

8 Fire Response Plan

- The Fire & Rescue Service will have access to fire hydrants located on the dockside, which are placed at 40-metre intervals. The hydrants will be able to provide enough water to extinguish a fire onsite. (A 300^{m³} pile of combustible material will normally require a water supply of at least 2,000 litres a minute for a minimum of 2 hours).
- Advice from the local Fire & Rescue Service (FRS) on the appropriate provision of fire extinguishing devices will be followed.
- All staff and contractors working on-site will be made aware of the Fire Prevention Plan and what they must do should an incident arise.
- Regular exercises will be carried out to test how well this response plan works.

9 Fire Alert Procedures

Procedure in Event of Fire on the site

- i. There must be no hesitation in raising the alarm. Any person discovering a fire must immediately operate the fire alarm, or (where an alarm is not provided) shout 'FIRE' to warn others in the vicinity. Fire alarms must not be used for any purpose other than as a signal for fire action or pre-arranged fire drills.
- ii. Everyone must immediately leave the site and proceed directly to the designated assembly area upon hearing the alarm. The mobile plant/machine operators are, if possible, to remove their machines from the fire vicinity at that time; park and turn off their machines at a safe distance from the fire without blocking any Emergency access routes. No-one is to return to the affected part of the site until it is confirmed safe to do so by the person in charge of the premises.

- iii. The person in control of the site must check that the Fire Service has been called and that a delegated member of staff knows where to direct the Fire Service. In addition, the person in control must check that occupants of adjacent units have been notified.
- iv. The person in control of the site must ensure that the site has been evacuated and in particular:-
 - a. Supervise the orderly evacuation of visitors and staff.
 - b. Supervise roll calls and collect and collate information. E.g. persons not at the assembly point, information about the fire location and source.
 - c. Ensure first aid is given if required.
- v. On arrival the Fire Service will take charge and the person in charge must co-operate with the Fire and Rescue Service Officers. See Fire Service Act 2004 Sect. 45 for Fire Service Powers of entry.

10 Procedure in Event of Fire on Neighbouring sites

- 1. On detection of a fire sound the alarm immediately and initiate safe evacuation of all staff to the assembly area.
- 2. Ensure the adjacent operators are notified of the outbreak if not aware already.
- 3. The procedure on the displayed fire notices to be followed when an alarm is raised.

11 Emergency Fire Procedures (Prior to FRS Arrival)

- 1. Raise the alarm and initiate evacuation people on site to the assembly area
- 2. Dial 999 and call for assistance from Fire & Rescue Service.
- 3. Attack the fire if safe to do so using equipment on site, e.g. Pressurised water delivery hydrants, extinguishers and personal protection equipment
- 4. If safe to do so isolate the source at least 6 m away from any potentially flammable materials.
- 5. Ensure appropriate machinery is standing by to help assist the Fire & Rescue Service to create appropriate breaks as instructed
- 6. A person will be appointed to liaise with the emergency services on site;
- 7. Management will elect one operative to notify the neighbouring operations of the fire risk
- 8. If appropriate use sandbags to form a barrier between the quayside and the affected waste and create a containment area so as to prevent the uncontrolled discharge of firewater to the dock.
- 9. Ensure access to site is clear for Fire & Rescue Service to gain easy access.
- 10. Notify Senior management, Contact ABP Office and Natural Resources Wales (contact number on page 1 of FDPP)

12 Emergency Fire Procedures (FRS Arrival)

11. On arrival of the Fire & Rescue Service (FRS) the most senior person onsite as identified in point 7 above will provide this Fire Prevention Plan to assist in combating the fire.
12. The appointed representative (most senior person onsite as identified in point 7 above) must inform the FRS about what measures have been taken to tackle the blaze.
13. The appointed representative (most senior person onsite as identified in point 7 above) must inform the FRS of the potential implications for firewater run off.
14. Using sprays and fogs rather than jets to reduce the amount of firewater run-off generated
15. Instigate a controlled burn; the final decision to do this will rest with the FRS's Incident Commander as per PPG28
16. Separate burning material from the fire and quench it with hoses or in pools of water. Hence reducing the amount of firewater produced.
17. Isolate and recycle firewater if it's not hazardous and it's possible to reuse.
18. Staff will assist in the remove of unaffected material as instructed by the FRS using mechanical equipment, (such as the crane, forklift or wheeled loader) if to a safe place.

13 Post-Incident Procedures

19. Remove all burnt material using appropriate and lawful disposal methods
20. Contact clean up contractors
21. Post incident reports and enquiries
22. Notify Natural Resources Wales, Local EHO and the FRS when the site has been reinstated
23. In the event of a fire this Fire Prevention Plan will be reviewed and improved as required and updated copies provided to the relevant authorities.

Appendix FDPP 1 Fire Risk Assessment

Table 1: Possible Causes Of Fire As Identified in PPG29 and Fire Prevention Plan Guidance 2015.

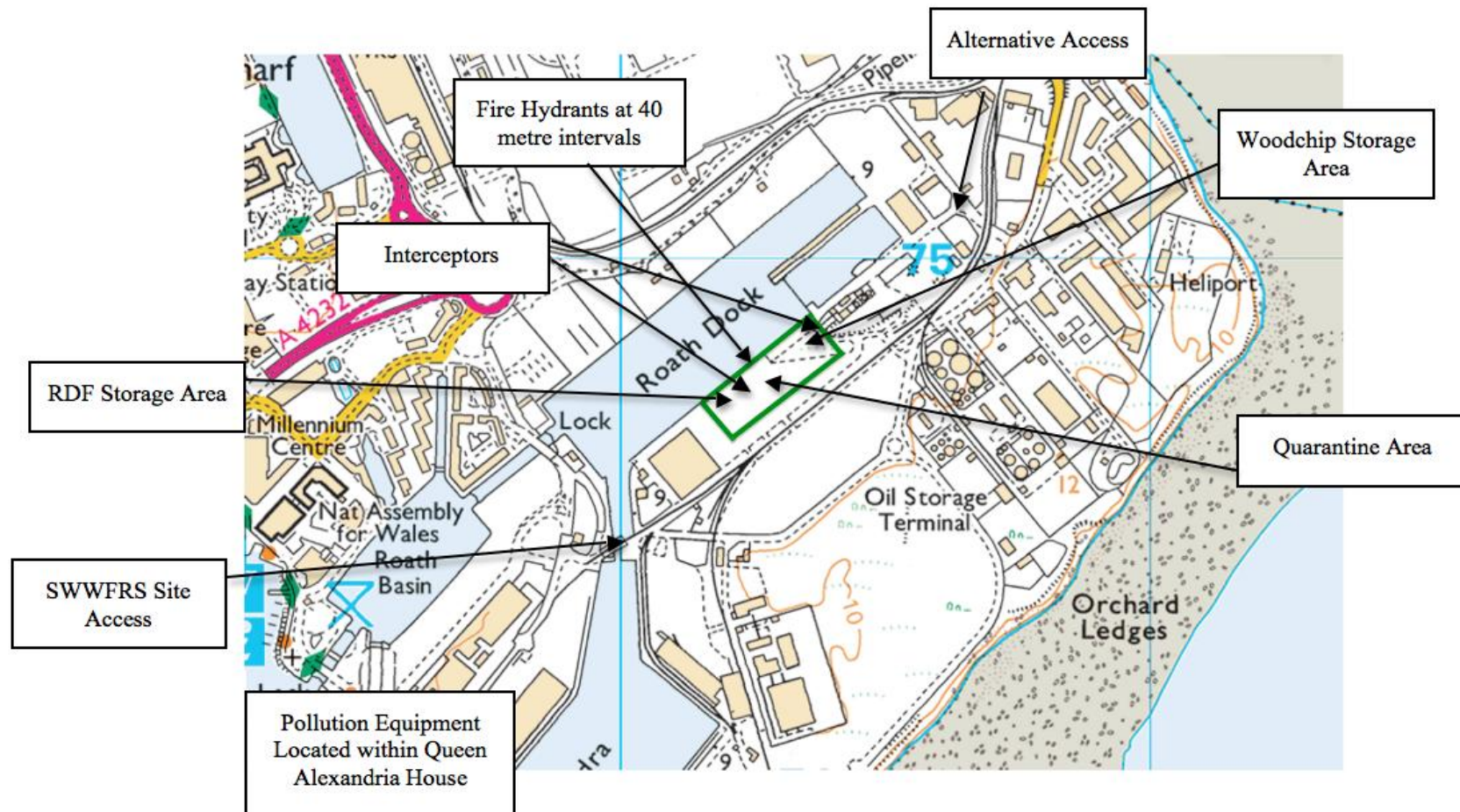
Possible causes identified in PPG29.	Applicable	Reason
• Self combustion;	Y	Woodchip and RDF bales can spontaneously combust if hot spots are allowed to build.
• Incompatible wastes;	X	Only two materials are stored onsite pending export. These are both kept on separate sections of the permitted area. Their chemical characteristics do not indicate any risk of adverse reaction.
• Arson;	X	Site has 24 hour manned security entrance with CCTV onsite.
• Plant or equipment failure;	Y	Electrical failure from mobile plant could present sparking risk Spills and leaks from failure of machinery hydraulics might provide fuel
• Electrical faults or damaged/exposed electrical cables;	X	Weekly inspections of all electrical equipment will prevent faults going unnoticed.
• Naked lights;	X	All light fixtures that may be heat sources are raised on posts high above ground level.
• Smoking;	X	The site is a designated NO SMOKING area
• Sparks from loading buckets;	X	Wheeled loaders use clamps rather than buckets to move RDF bales while a crane loads woodchip into ship holds.
• Hot works e.g. welding, cutting;	Y	The site is a HOT WORKS control area and any maintenance and repair will be conducted in isolation from the stockpiled materials.
• Hot exhausts;	Y	Mobile equipment can ignite waste trapped near their exhausts
• Industrial heaters;	X	No industrial heaters onsite
• Open burning onsite;	X	No opening burning takes place on the port
• Weather, e.g. lightning strikes	Y	Naturally occurring lightning strikes could be a source of ignition.

Appendix FDPP 2: Sources of Ignition & Preventative/ Mitigation Measures

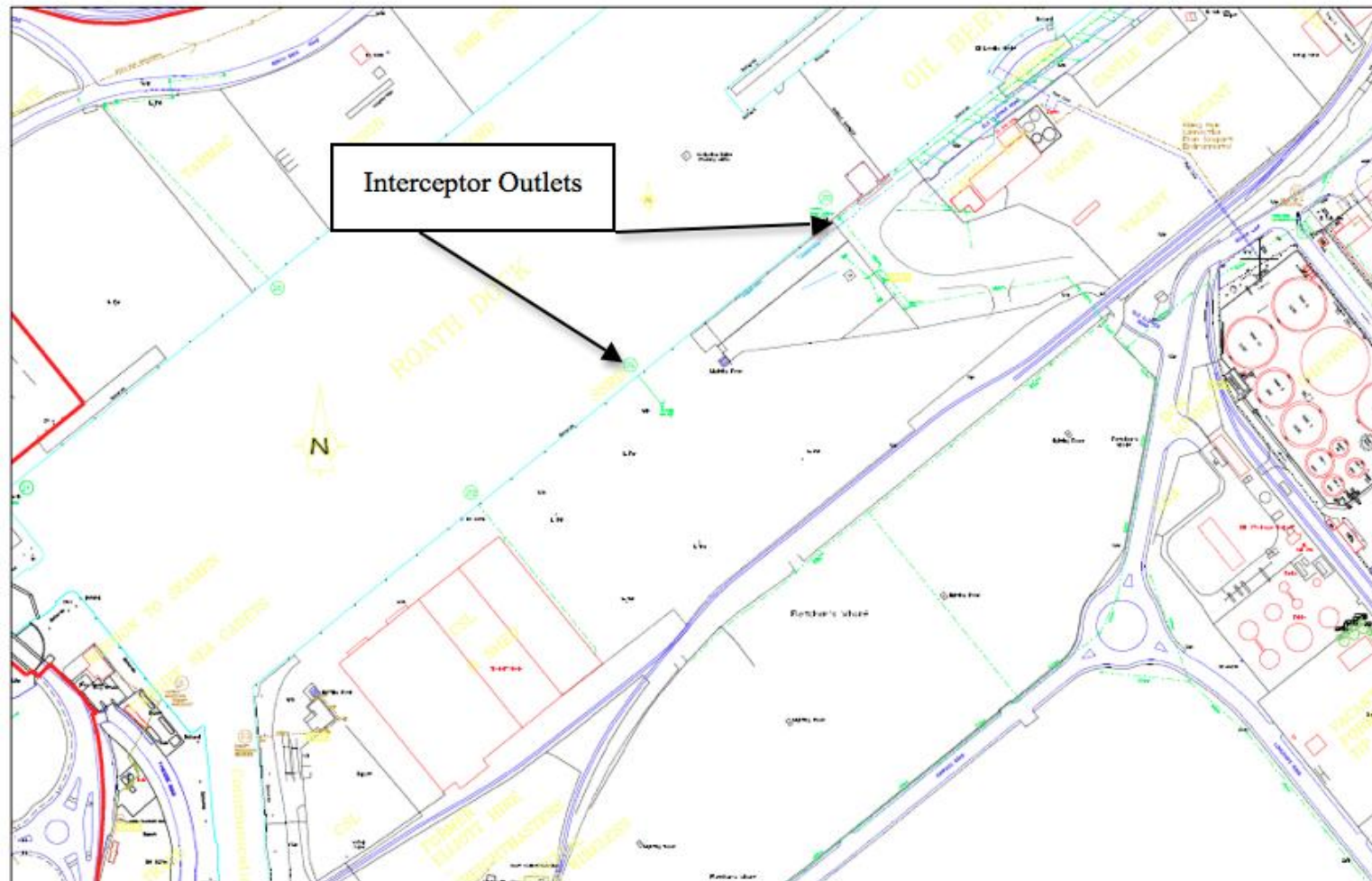
Table 2: Potential Fire Sources & Prevention Measures

Potential Causes	Primary	Secondary	Tertiary
Self-Combustion	Material will only be stored on the dockside for a maximum of three months and rotated to avoid hot spot build up.	Staff using temperature probes will monitor temperature material stockpiles systematically.	Staff will moisten material stockpiles to reduce temperature if hot spot indicated. Stockpile may be broken up in event of hot spot reoccurring.
Plant or equipment failure	Equipment isolated whilst awaiting repair and parked away from stockpiles overnight	Weekly maintenance inspections	Spillage and leakages procedure specified in the Environmental Incident Response Plan
Hot works	Staff and maintenance workers follow safe working practices when undertaking hot work repairs and maintenance.	As far as practical any hot work will take place away from waste stockpiles	Fire extinguishers are readily available. Water Supply every 40 metres
Hot exhausts	Staff are aware of the risk of hot exhausts igniting trapped waste	Staff clear away waste from exhausts at the end of shifts (End of Day Operations)	Fire extinguishers are readily available. Fresh Water Supply every 40 metres

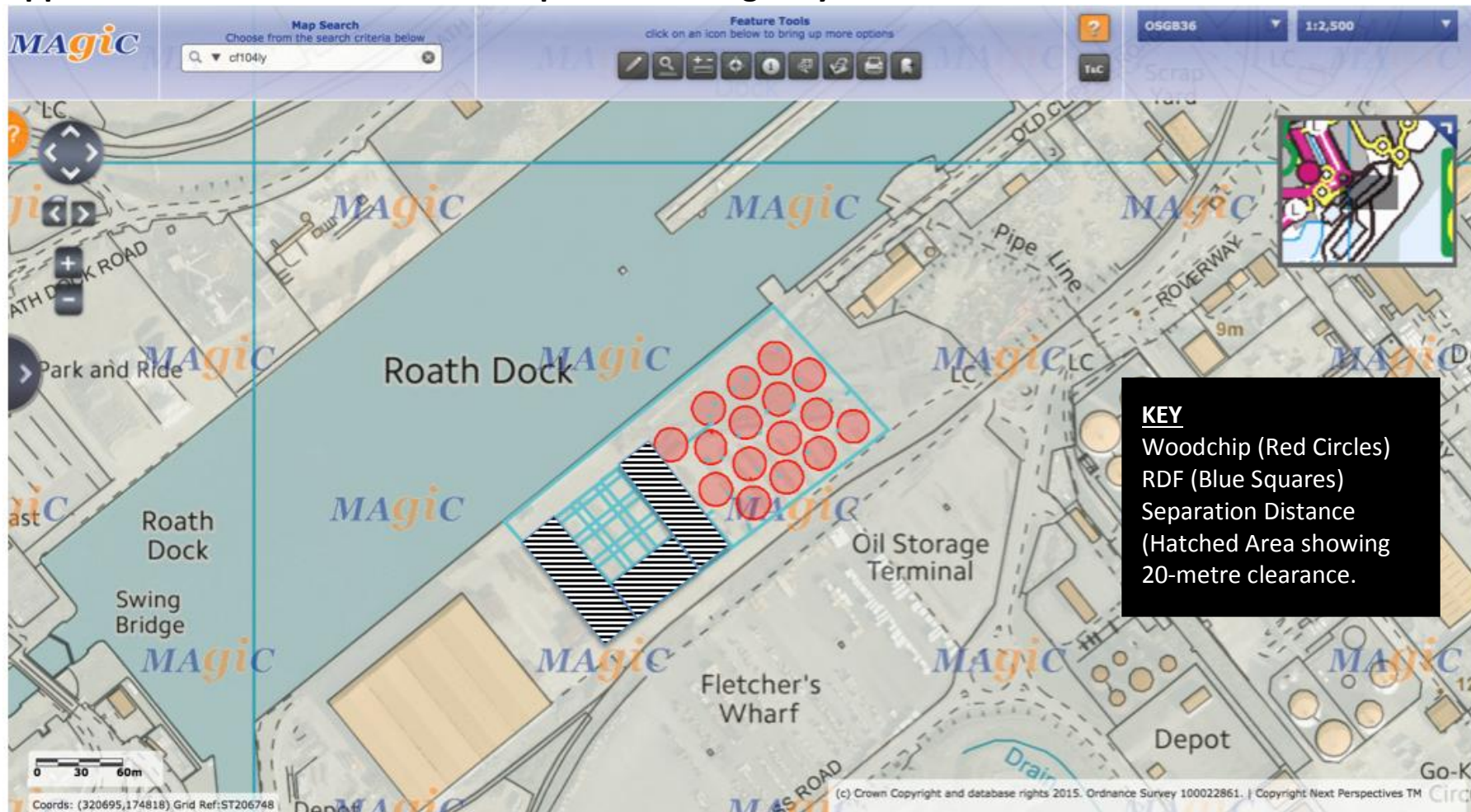
Appendix FDPP 3 Site Location Plan (@1:25000) Scale)



Appendix FDPP 4 Site Drainage Plan



Appendix FDPP 5 Indicative Woodchip & RDF Storage Layout



Appendix FDPP 6: Checklists

Item	Yes/No	Comments/Action
Material Storage		
Are combustible, flammable and other hazardous materials, including cylinders, stored on site?		
Does the management system describe how the quantity and type of material stored will be managed accounting for seasonal and market variations?		
Is the location and duration of storage in compliance with this Plan?		
Has the local FRS been consulted about stack layout, design and fire fighting strategy?		
Have fitting an automatic fire detection and suppression system been considered?		
Personnel safety		
Is suitable first aid, fire fighting equipment and training available to the site?		
Are escape means available for staff adequate?		
Is there a plan in place to raise the alarm and evacuate workers in the event of fire being detected?		
Access		
Is suitable access for fire fighting vehicles available?		
Have appropriate steps been taken to prevent potential for fire to spread on and around the site?		
Would any factors inhibit access to and around the site in the event of fire? such as prevailing wind causing smoke or buildings/debris; security/fencing		
Environmental considerations		
Is there a drainage plan of the site that identifies where firewater might run to on the site?		
Are fire fighting water supplies adequate? (Refer to FRS for advice)		
Are there plans to contain firewater?		
Is a controlled burn an acceptable option? (Refer to FRS for advice)		