THOMAS BROTHERS (TBS)

Fire Prevention & Mitigation Plan

September 2017

TABLE OF CONTENTS

TABLE OF CONTENS

1.0 FIRE PREVENTION & MITIGATION PLAN

1.1 Aim

This aim of this plan is to consider and implement fire prevention and mitigation measures at Thomas Brothers (TBS) Waste Transfer Station Facility at Plot 10, Waterston Industrial Estate, Waterston, Milford Haven, Pembrokeshire SA73 1DP.

This document has been written and developed in respect of requirements within the Natural Resources Wales Guidance Note 16 "Fire Prevention & Mitigation Plan Guidance – Waste Management" Version 2, July 2017. The plan has also incorporated the statutory requirements of the Fire Safety Order 2005.

1.2 Objectives

Include:

- Provide a detailed plan to reduce the risk of fire at the facility.
- Provide methods to mitigate and manage fire risk.
- Provide a coordinated multi-agency response and the resources required during an incident.
- Extinguish fire in the most effective manner.
- Identify and consider the risks to the local community, critical infrastructure and the environment.
- Establish clear lines of communication including warning and informing the public with expert guidance and reassurance.
- Protect in so far as possible the environment.

1.3 Scope

This plan details the preventive actions and responses to a fire incident at the facility, this includes the storage or processing of combustible materials including (but not limited to):

- Paper or cardboard,
- Plastics
- Textiles
- Unprocessed Wastes (including industrial, commercial, demolition and construction wastes).

Whilst site staff and management will manage the primary response this plan also outlines the extended activation and management of a Multi-Agency tactical response.

2.0 SITE LOCATION & OPERATIONS

2.1 Site Location and Local Receptors

The site is located on land at Plot 10, Waterston Industrial Estate, Waterston, Milford Haven, Pembrokeshire, SA73 1DP (National Grid Reference SM93260 06116), this is in a mixed Residential, Industrial & Commercial Area which is home to other Permitted waste management operations. The site is bordered to the east by a gas bottle depot and to the west by a competitor's skip hire business and waste transfer station.

Access to the estate is from the Main Road B4325, which is the only way in and out and the immediate neighbours are industrial/commercial businesses, the other side of the main road is an oil storage facility which is some 300 meters to the South, additionally, the nearest housing, i.e. Waterston Village, lays some 400m to the Southeast. The impacts and locations are reviewed in more detail in this plan along with a plan showing the location of the potential receptors.

2.2 Site Operations

The Environmental Permit allows the sorting and storage of waste prior to recovery and/or disposal. Specified waste management operations will include waste disposal and waste recovery operations listed in the Environmental Permitting Regulations (England and Wales) 2010.

- D9: Physico-chemical treatment of waste.
- D15: Storage of waste pending disposal.
- D14: Repackaging prior to submission.
- R3: Recycling or reclamation of organic substances.
- R4: Recycling or reclamation of metals.
- R5: Recycling or reclamation of inorganic materials.
- R13: Storage of waste pending recovery.

D9 code refers to the sorting activities that result in a residue of waste with no recycling or reuse potential which must be disposed of, the site produces less than 30 tonnes per day of such waste and the D15 code refers to the storage of such waste pending its disposal.

The operating hours for the receipt, sorting or removal of waste will be as per the granted planning permission:

Monday to Friday	07:00 to 17:00
Saturday	07:00 to 12:30
Sunday	No waste accepted.
Bank Holidays	No waste accepted.

Any proposal to conduct site operations outside the hours listed will be subject to prior notice to the Natural Resources Wales (NRW) and Local Planning Authority.

The maximum amount of waste to be stored on site at any time will be 1200 tonnes but typically it would be in the order of 600 – 800 tonnes.

3.0 MATERIALS

3.1 Materials Covered Under Plan

As per the requirements of the Natural Resources Wales' guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017 this plan lists all of the combustible materials stored and processed within the facility.

Materials covered under this plan are as follows:

- Mixed Demolition and Construction
- Industrial and Commercial
- Fines
- Paper or Cardboard
- Plastics
- Rubber
- Wood + Greenwaste
- Scrap Metals

3.2 Materials Not Covered Under Plan

Although Natural Resources Wales guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017 does not apply to the following wastes:

- Flammable (flash point of 60^{o}C or lower)
- Combustible liquids or gases
- Hazardous Waste (excluding any hazardous waste to which this guidance applies, as set out above)
- Dangerous Substances stored under the COMAH (Control of Major Accident Hazards) Regulations.

Thomas Brothers (TBS) have within the production of this document considered the above listed materials for their potential to cause fire at their site, and even though the site's waste acceptance procedure does not include any of the listed waste materials, it is also recognised that as part of mixed unprocessed loads, the receipt of some of the listed materials may occur and as such, has included a waste rejection process to ensure any such materials are rejected at the point of tipping.

Where this is not acceptable, the storage arrangements pending removal from site have been identified within the site plan, which clearly shows the location of such materials.

4.0 FIRES! CAUSES, PREVENTION & POTENTIAL IMPACTS

4.1 Causes of Fires

As per Natural Resources Wales' guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017, listed below are the potential causes of fires on site. All of these causes have been risk assessed and operational procedures for their management including abatement measures have been provided as part of this Fire Prevention & Mitigation Plan.

4.1.1 Arson Or Vandalism

As the risk of fire from Arson or Vandalism has been identified as medium we have provided the following abatement measures to reduce the risk to low. This includes the following measures:

- Provision of 24/7 site security cameras.
- Provision of 2 metre high steel gates.
- Daily / Weekly Inspection programme to ensure no breaches into the site.
- Weekly test of Fire system and CCTV system.
- Ensure all combustible wastes are kept within the storage in accordance with Section 5 of this Fire Prevention Plan.
- Install warning signs around the site fencing to warn of site security and prosecution.

4.1.2 Visitors & Contractors

All visitors and contractors have to acknowledge their understanding of the site's 'Site Safety Rules' for site users, which is contained within Appendix 2 of the site EMS, this information is present to protect the site and its users from accidents and incidents, which includes fire.

4.1.3 Ignition Sources

The risk of fire from naked flames has been identified as medium to high, therefore, the following abatement measures are provided to reduce the risk to low:

- The site operates a strict no smoking policy, with the only permitted smoking allowed outside of the main entrance gates off site.
- No hot works including welding or burning will be permitted within 6 metres of any combustible or flammable materials. This is covered in more detail in the Hot Works section 4.1.7.

4.1.4 Self-Combustion

As the materials handled at the site are predominantly of a commercial & industrial nature, specifically construction & demolition wastes the risk of self-combustion has been identified as low, therefore, the following abatement measures are provided to reduce the risk from low to very low:

- Limit the acceptance of Municipal/Household waste to reduce the risk of self- combustion. It has been identified that such wastes coming from domestic premises have the likelihood to generate more heat due to putrescible content, which is more readily degraded.
- Do not store any combustible materials for more than 1 month as per the NRW guidance on storage of self-combusting materials.
- Provide Fire Marshall who will carry out end of shift inspections to ensure no heat or smoke is present within the storage areas of combustible wastes.
- Ensure that the waste pile is not left for long period of time during hot weather and to ensure that the waste pile is processed throughout the working day.

4.1.5 Plant or Equipment Failure

As the materials handled at the site are predominantly of a commercial & industrial nature, specifically construction & demolition wastes, the risk of fire from Plant or Equipment Failure has been identified as low. Therefore, the following abatement measures have been produced to reduce the risk from low to very low:

- Ensure all plant and equipment are serviced and maintained as per the manufactures requirements to ensure reliability and to reduce the possibility of failure. This includes maintenance of fire extinguishers that are fitted to plant and equipment.
- Ensure all plant is parked a minimum of 6 metres from combustible waste at the end of each working day, where plant is static or cannot be moved readily then the plant must be cleaned down to ensure no potential combustible waste is in or around the item of plant or equipment.
- Ensure trained plant operatives carry out daily maintenance inspections with any and all defects being reported by no later than the end of the working day. If daily inspections reveal a serious defect, the plant or equipment will not be put in to service and will be quarantined in the plant parking area until the defect has been rectified.
- Servicing every 250 hours on plant to ensure integrity of fuel tanks to check for leaks etc. and make good any repairs.
- Ensure that back up plant and equipment is available at all times in order failed plant or equipment can be replaced within a reasonable timescale, thus allowing operations to continue safely and without increasing the risk of fire.
- Where plant or equipment has failed and cannot be repaired immediately, the site operation relating to the failed item will cease until a replacement item has brought in or the repair completed.

4.1.6 Discarded Smoking Materials

As the risk of fire from naked lights has been identified as medium to high, therefore, the following abatement measures have been produced to reduce the risk to low:

- The site operates a strict no smoking policy, with the only permitted smoking allowed outside of the main entrance gates off site.
- Cigarette disposal bins are provided within the designated smoking area to ensure all discarded smoking materials are contained and isolated.

4.1.7 Hot Works

As the risk of fire from Hot Works has been identified as high, therefore, the following abatement measures have been introduced to reduce the risk to medium.

- Where possible all hot works must be carried out away from the waste processing area and away from any stockpiles of waste that have the potential to fuel fire.
- If hot works must be carried out near combustible materials then a minimum of 6 metres must be maintained at all times during the hot works.
- All hot works must be carried out under permit to work that is part of the sites Environmental Management System.
- A site Fire Marshall will be present during all hot works to ensure full compliance with any permit issued under hot works rules. The Fire Marshall will inspect the area after the completion of the hot works to ensure no heat sources or fires are present.
- The area of the hot works will be dowsed with water to minimise risk of fires.
- Firefighting equipment including fire extinguishers will be available at all times during hot works.

4.1.8 Industrial Heaters

As the risk of fire from Industrial Heaters has been identified as low the following abatement measure has been produced to reduce the risk to very low:

- No industrial heating of any kind is utilised on this site.

4.1.9 Plant & Hot Exhausts

The risk of fire from hot exhausts has been identified as medium; therefore, the following abatement measures have been introduced to reduce the risk to low:

- Where possible all loading of plant or equipment will take place away from the exhaust system, this is to reduce the amount of combustible material that can be dropped in the area of the exhaust system.
- All exhaust systems must be cleaned down at the end of each shift ensuring that no combustible material is within 6 metres of the exhaust outlets as part of the fire watch.
- All exhaust systems will be checked daily as part of the maintenance routine to ensure they are functioning correctly.
- A fire marshal shall be nominated on site to carry out due diligence inspections throughout the day, and enter these in the site diary.
- Provide a fire marshal who will carry out end of shift inspections to ensure no heat or smoke is present within the storage areas of combustible wastes.

4.1.10 Damaged or Exposed Electrical Cables

The risk of fire from damaged or exposed electrical cables has been identified as medium; therefore, the following abatement measures have been produced to reduce the risk to low:

- All electrical cables installed will be armoured to reduce the possibility of damage.
- Over-current protection devices and residual current devices will be installed on all electrical final circuits, this is to ensure that any potential damage the electrical installation will trigger power isolation to the cable, protecting staff and equipment.
- The use of mobile power tools and power supplies will be limited to essential maintenance only; this will reduce the possibility of damage to electrical equipment and cables.
- An annual inspection of all electrical systems will be carried out to ensure that all systems are sound and safe.
- Annual PAT testing will be carried out on all relevant equipment to ensure they are compliant and safe to use.
- All non-essential electrical equipment will be removed from the waste-processing shed at the end of the working day.
- Any damaged cables will be isolated and repaired as soon as is practicable.
- Fire fighting equipment suitable for electrical fires will be available in multiple locations throughout the waste-processing shed at all times.

4.1.11 Reactions Between Wastes

As the materials handled at the site are predominantly of a commercial & industrial nature, specifically construction & demolition wastes, the risk of reactions between incompatible materials has been identified as Medium. Therefore, the following abatement measures have been produced to reduce the risk from Medium to low:

- Due to the non-hazardous nature of the incoming wastes and the tonnage limits imposed by the permit it is unlikely that reactions will occur.
- The waste acceptance procedure dictates that all incoming wastes are reviewed prior to and during acceptance, these measures ensure any materials that are not acceptable will be rejected.
- As most reactions occur between hazardous materials, such as oxidizers, the likelihood of acceptance of these materials are low due to the waste acceptance procedure.
- Should any material be discovered that is likely to cause a reaction with other wastes it will be removed from any potential combustible materials and placed in quarantine as per the EMS.

4.1.12 Hot Loads Deposited at Site

The risk of fire from Hot Loads has been identified as high; therefore, the following abatement measures have been produced to reduce the risk to medium.

- A hot load should **NOT** be accepted unless under severe circumstances, such as rejecting the load would endanger the public or amenities.
- Site management must establish why it is hot and whether any special precautions need to be taken.
- Depending on the severity of the heat within the load, where possible it will be removed to the quarantine area where it can be extinguished, however, the emergency services must be called immediately should site management be unable to manage the situation.
- Provided such acceptance has been granted, the load must be directed to a safe and contained area and it must be tipped as directed by site management, this will be done in the concrete quarantine area at near the site entrance as marked on the plan.
- If staff have any doubts about the suitability of the load, they should raise them before offloading the vehicle.
- Where possible all deposited hot loads must be carried out away from the waste-processing shed or away from any stockpiles of waste that have the potential to cause fire and will be treated in the quarantine area.
- The area of the hot works will be dowsed with water to minimise risk of fires, there will also be access to soils to smother the load should it be required.
- Fire fighting equipment including fire extinguishers will be available at all times during the management of hot loads.

4.1.13 Build-up of Loose Combustible Waste, Dust & Fluff

The site working area will be cleaned on a weekly basis to prevent long-term build up of fines etc., which would constitute a fire hazard.

Some wastes are inherently dusty such as sawdust and some fines; however, the fines produced are kept segregated to prevent dust migrating within the site. Sawdust waste types are damped down prior to processing and loading for disposal.

4.1.14 'Tramp' Metal

The site benefits from an over-belt magnet to extract all ferrous metals from the waste loaded onto the conveyor for sorting, any fugitive items of metal that escape during loading vehicles or containers are swept up, for re-processing or disposal into designated bays, during the process of keeping the floor area clean within the site.

4.1.15 Batteries Within Waste Deposits

As the materials handled at the site are predominantly of a commercial & industrial nature, specifically construction and demolition wastes, the risk of fire from batteries within the waste materials has been identified as Medium. Therefore, the following abatement measures have been produced to reduce the risk from Medium to low:

- As the site permit limits the types and quantities of waste inputs to the facility it is unlikely that due to the non-hazardous nature of the incoming wastes that reaction would occur.
- The waste acceptance procedure wastes dictates that all incoming wastes are reviewed prior to and during acceptance, these measures ensure that any non-acceptable materials will be rejected.
- Waste acceptance checks for wastes and rejection procedures are set out in the EMS.
- Should any material be discovered that is likely to cause a reaction with other wastes this would be removed from any potential combustible materials and placed in the quarantine area.

4.1.16 Cylinders (Gas) Stored at Site

The site does not accept gas cylinders except for any use by authorised people for hot works, which are removed at the end of the works, however, where gas cylinders are delivered within a mixed waste load and it is not possible to return them to the customer they will be contained and isolated in a dedicated area on site.

4.1.17 Leaks & Spillages of Oils & Fuels

The fuel storage tank is double bunded and located above a steel storage container and contains a maximum of 2000 Litres of red diesel, the delivery pipe and nozzle are checked regularly for working condition and serviceability.

All plant onsite is serviced as per the EMS, every 250 hours, and part of the servicing is to check for fuel leaks to tanks and lines. The site stores no more than 600 litres of a combination of hydraulic and engine oil at any one time.

Other vehicles entering the site are primarily road going vehicles e.g. skip lorries and articulated lorries. All HGV vehicles have regular 6 weekly vehicle inspections carried out in accordance with VOSA road haulage requirements.

A stock of emergency absorbent materials and bunding are kept on site should a spill occur.

4.2 Potential Impacts

In reviewing the potential impacts of Waste, consideration has been given to local receptors including critical infrastructure such as schools, hospitals, residential areas, workplaces, protected habitats and rivers within a 1km radius of the site.

4.2.1 Potential Impacts of a Fire Incident from the Site

Sensitive receptors that have been identified have been marked to show the prevailing wind direction and local topography e.g. roads, schools, residential areas, commercial/industrial installations and railways etc.

4.2.2 Toxic Smoke Fumes – Air Quality Impacts

Air emissions from uncontrolled waste fires have shown to be more toxic than those from controlled combustion sources (i.e. waste to energy facilities, cement kilns. etc.). These emissions contain contaminants that may include: oxides of nitrogen (NOx), Carbon Monoxide (CO), sulphur oxides (SOx), volatile organic compounds (VOCs) and various metal compounds. Depending on the length and degree of exposure, these emissions may cause irritation of the skin, eyes and mucous membranes with possible respiratory effects.

To manage the impacts of the smoke released from the fire it is essential that information regarding the contents and direction of the smoke released is identified and monitored at the earliest opportunity, as the smoke plume is most likely to impact the local residents and work places the quick management and control of a fire is important. In addition the ability to identify, monitor and predict the plume constituents and its behaviour would be of significant assistance.

An Emergency Procedure has been developed to deal with the impacts of Toxic Smoke Plumes from fire, as part of this Fire Prevention & Mitigation Plan, which considers measures to reduce the impact of Toxic Smoke Plumes on the local receptors.

4.2.3 Fire Water Run-Off

Water used to extinguish or control fires will be kept to the minimum required to effectively achieve the fire fighting tactical plan, however, it is accepted that there will be some water run off which potentially may contain harmful contaminants from the fire and waste materials. Therefore it is essential at the earliest opportunity to control the run off in order to minimise the potential impacts to the environment and local infrastructure.

Prompt partnership consultations between TBS, the NRW, Fire Services and Welsh Water will consider the impacts and possible solutions, all fire water run-off will naturally be directed to sealed drainage tank within the sorting area, due to the existing drainage falls.

4.2.4 Thermal Radiation

In this form of heat transfer, the heat does not travel through a material like conduction nor does it flow through air or liquid currents like convection, it simply travels in rays similar to sunrays, in straight lines away from the fire.
The main principle of radiation is: 'the closer a material is to a fire the more radiated heat it will receive' and when heat from such rays can be absorbed by combustible materials, that could lead to an increase in temperature and possible ignition.

Certain materials such as concrete do not allow radiation to pass through them; therefore, concrete makes a good construction material that also helps prevent fires spreading. Radiated heat from a burning building can, in some circumstances, give rise to fire in a nearby building, hence, its impact has been taken seriously and measures have been included within section 6 of this Fire Prevention & Mitigation to reduce the spread of fire through this method such as the installation of concrete walls and concrete block fire breaks.

4.2.5 Hazardous and Non Hazardous Wastes Residues

As part of this Fire Prevention & Mitigation Plan the impact of residual wastes from a waste fire has also been considered and is covered in more detail. The thermal process of fire has the potential to increase the residual impact of waste as it can chemically change the fire-damaged materials to hazardous, therefore, fire damaged wastes may need to be held in the quarantine area until testing has been completed and full assessment of the wastes has been carried out to determine if it is hazardous or non-hazardous. Should waste be found to be hazardous the removal of fire wastes procedure will be followed.

5.0 STORAGE & SEPARATION OF WASTES

Further to the guidance of the NRW on Fire Prevention & Mitigation Plans, Version 2 July 2017, this plan lists all of the combustible materials storage quantities and separation distances within the site. The Permitted site is approximately 1 acre in area that is completely undercover, the sides of the building are not entirely enclosed as open areas and Yorkshire Boarding have been utilised to assist with ventilation. Waste processing via sorting will be a continual process in order to prevent a backlog of loads and maintain manageable volumes, the processing of incoming waste is undertaken daily with an average turnaround period of 48 hours for pre-sorted material. Processed wastes will only be stored for an average period of four weeks prior to onwards transportation for treatment and disposal.

5.1 Unprocessed Wastes

This is waste that is usually as delivered i.e. in a mixed and un-reduced (size) form, the waste is pre-sorted and then stored in a stockpile pending further processing via a trommel screen and then over a picking belt.

Wastes will be stored in their largest form and all waste piles will be minimised as soon as possible with all wastes being processed and removed throughout the working day. In line with Table 2 of the NRW guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017, accepted material received at site will be directed to the main waste reception area located on the site plan, the maximum stockpile sizes and minimum separation distance of unprocessed wastes will be:

- Max. Height of unprocessed waste stockpile, as per Table 2, – 4m (A height line will be marked on the fence and on a marker post as a guide for the site operatives to ensure the waste pile remains below the 4m limit).
- Max. Width of waste stockpile - 10m (A length line will be marked within building for size of pile the pile to ensure the waste pile remains within the 10m width).
- Min. Separation of unprocessed waste from other combustible wastes - 5m (Taken from Graph 1 of the NRW Fire Prevention & Mitigation Plan Guidance, Version 2, July 2017).
- Max. Storage time – 2 Months though it is noted that putrescible and odorous waste which are the most potentially combustible will be removed within 48 hours.

5.2 Wastes for Disposal Out

The storage of all unrecyclable material that has been through the sorting process and is destined for onward disposal will go directly to the general waste storage area, which is located on the site plan. The bay is constructed of 100mm thick concrete partition walls along the back and side, the maximum stockpile sizes and minimum separation distance of wastes for disposal wastes will be:

The maximum height of the 'General Waste Out' stockpile is – 4m.

- Max. Length of General Waste Out – 10m
- Max. Width of General Waste Out – 5m
- Max. Volume of General Waste Out – 200m^3
- Max. Area of General Waste Out – 50m^2
- Min. Separation of General Waste from other combustible wastes - 6m
- Max. Storage time – 1 month, though it is noted that putrescible and odourous waste which are the most potentially combustible will be removed within 48 hours.

5.3 Cardboard

The storage of cardboard destined for onward recycling will go directly to the cardboard storage area, which is located on the site plan. The bay is constructed of 100mm thick concrete partition walls along the sides and the back, the maximum stockpile sizes and minimum separation distance of the cardboard stockpile will be:

The maximum height of the loose 'Cardboard' stockpile is – 4m.

- Max. Length of Cardboard - 8m
- Max. Width of Cardboard - 12m
- Max. Area of Cardboard - 96 m^2
- Max. Volume of Cardboard - 384 m^3
- Min. Separation of Cardboard storage from other combustible wastes – 6m
- Max. Storage time – 1 month

5.4 Processed & Unprocessed Wood Waste

The storage of wood both processed and unprocessed have their respective dedicated bays as marked on the plan; waste wood that is extracted from the mixed waste stream entering the site is placed in the unprocessed wood storage bay until the stockpile has reached the approved limit. The stockpile is then processed to reduce its volume and placed in the processed storage bay, where it remains pending onward disposal. The bays are constructed of 100mm thick shuttered concrete walls along the sides and the back, the maximum stockpile sizes and minimum separation distance of both wood waste stockpiles will be:

The maximum height of the 'unprocessed wood' stockpile is – 4m.

- Max. Length of Unprocessed Wood – 8m
- Max. Width of Unprocessed Wood – 10m
- Max. Volume of Unprocessed Wood – 320m^3
- Max. Area of Unprocessed Wood – 80m^2
- Min. Separation of Unprocessed Wood from other combustible wastes - 5m
- Max. Storage time – 1 month

The maximum height of the 'processed wood' stockpile is – 4m.

- Max. Length of processed Wood – 4m
- Max. Width of processed Wood – 10m
- Max. Volume of processed Wood – 160m^3
- Max. Area of Unprocessed Wood – 40m^2
- Min. Separation of Unprocessed Wood from other combustible wastes - 6m
- Max. Storage time – 1 month

5.5 Plastics

The storage of plastic destined for onward recycling is in either a artic trailer or a 40^{3}yd hooklift skip/containers sited along side the weighbridge, as marked on the site plan. Once the skip/containers are full they are removed from site for onward recycling, the turn around time from empty to full is typically two to four weeks, the maximum stockpile sizes and minimum separation distance of unprocessed wastes will be:

The maximum height of the loose 'plastic' stockpile is – 2.5m.

- Max. Length of Plastic - 5m
- Max. Width of Plastic – 2.5m
- Max. Area of Plastic – 12.5 m^2
- Max. Volume of Plastic – 31.25 m^3
- Min. Separation of Plastic storage from other combustible wastes – 6m
- Max. Storage time – 1 month

All skip/containers can be moved using a hydraulic excavator should it be necessary, they can also be easily smothered using inert (soil) waste from the inert stockpile.

6.0 FIRE DETECTION & SUPPRESSION

As per the requirements of the NRW guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017, this plan lists all of the fire detection/suppression systems used within the site. As this plan is being implemented for the first time some of the detection methods may still have to be installed, where this is the case it will be noted in the plan along with the specification of the detection/suppression equipment and its installation date. The purpose of the plan is designed to allow for a fire to be put out within a period of four hours.

The nearest fire station is located five minutes (2.5 miles) from the site and the nearest fire hydrant is located on the junction on Waterston Industrial Estate, 50 meters away from site. Milford Haven Fire Station is located on York Street. Mains water supply is available on site.

6.1 Fire Detection

All site staff will be trained in the principles identified in the Fire Prevention & Mitigation Plan, the emergency procedures, where applicable, and any personal emergency procedures or plans adopted during their induction process. Fire detection devices will be fitted in the weighbridge office (smoke detectors) these are tested weekly along with visual inspections of all fire fighting equipment. Fire drills will be carried out on a bi-annual basis; both practice and real evacuations will be recorded along with the date of the evacuation, reason for evacuation (incident or practice), the person the evacuation is being recorded by and any comments. To improve the detection of fires, site inspections will be undertaken throughout the day, including an end of day check, the site's CCTV is monitored outside of working hours.

Where fire is detected, site staff will be trained to raise the alarm by the sounding of an air horn to indicate the engagement of the evacuation procedure, the emergency services will then be contacted and after ensuring all customers, contractors and staff have been evacuated all personnel will congregate at the assembly point. The evacuation procedure will be communicated to all staff and contractors during the induction process.

6.1.1 Smoke Detection

The primary technique for detecting fires in the waste brought to site is visual and olfactory inspection of the material deposited in the quarantine area. If there are no obvious signs of fire, this it is then pushed into the main reception area before being fed into the waste treatment process, however, should there be a suspicion of fire i.e. smell of smoke but no visual indication, the material will be tested for temperature water will be used to quench any fire if safe to do so. The fire brigade will be informed as soon as possible if it is evident the fire is beyond the operator's capability to control.

6.1.2 CCTV Detection

As part of the overall security systems at the site a modification to the CCTV system will be considered, this will specifically include movement sensors fitted around the site. The system could also be upgraded to include movable dome cameras to allow the ability to remotely move and zoom the cameras around the site to look for any signs of smoke or fire should they be detected. Upon any detection the Emergency Procedure for notification of Fires will be triggered with all relevant people and agencies being notified. In the event of vandalism or arson following a break in, repairs will be made effective within 24 hours, unless this requires major capital investment such as new gates and fences, and this will be carried out within 7 working days.

6.1.3 Fire Training

In line with NRW guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017, the site will establish a Fire Marshal who will be the responsible for daily inspections of the waste stockpiles. As part of the Environmental Management System the site undertakes daily inspections of waste piles at the start and end of each shift, the findings of these inspections will be recorded in the site diary and daily inspection forms.

Training and drill details will be recorded and staff will be trained in the use of fire extinguishers, sources and types of fires, evacuation procedures, use of plant for moving fire waste, covering fires with inert waste etc. and have site training so as to comply with the Fire Prevention Order. Time will be set for discussion and explanation of the new permit, working plan and fire prevention and this will be recorded as per the EMS.

6.2 Fire Suppression

As per the requirements of the NRW guidance on Fire Prevention & Mitigation Plans, Version 2, July 2017, this plan lists the fire detection/suppression systems used within the site. As this plan is being implemented for the first time some of the methods may yet still to be installed, where this is the case this will be noted in the plan along with the specification of the detection/suppression system and its installation date.

6.2.1 Water Supply

There is one mains water supply placed near to the entrance to the site and the hose connected to a leg is pressurised at all times so ready for use in an Emergency. The hose is of sufficient length to reach any of the stored waste materials in the case of a fire or detected heat source.

6.2.2 Fire Extinguishers

There are multiple Portable Fire Extinguishers located around the site and inside the office & canteen cabins and machines. The Fire Extinguishers are dry powder.

All operating plant that is used to handle the waste is also fitted with fire extinguishers that can be used to suppress small fires should the operator or staff notice them.

6.2.3 Inert Stockpiles

Soil and other inert materials that are free of organic materials can be helpful in extinguishing fires, as soil acts like other extinguishing materials, absorbing heat and starving the fire of oxygen, hence, suffocating it. Soil can be used as a useful suppressant when fighting waste fires and there is always a 'work in progress' stockpile present on site, which the on-site excavators and/or loading shovels can utilise.

6.2.4 Mobile Plant Available

There is always two hydraulic excavators and two loading shovels on site which are available to help load, move, contain or spread the fire materials to allow for the fire to be quenched.

7.0 EMERGENCY FIRE RESONSE & ACTIVATION PLAN

7.1 Emergency Fire Response & Activation Plan

This emergency fire and activation plan shall be executed when fire or smoke is suspected or discovered, either by investigating an operating smoke alarm or seeing, smelling or being advised of the fire or smoke. The sequence of these steps may vary according to the circumstances of the fire emergency, but priority must always be given to the staff, visitors and local public/amenities.

A varied approach may be required when activating the plan but the plan is flexible and following staff training the plan can be activated at any given point, e.g. if a load comes in that is smoking this can be immediately quenched in the skip and moved to the quarantine area. If the waste pile is seen to be smoking or on fire the immediate action will be to remove the hot load to quench and follow the procedures set out below. The degree of action will be subject to the scale of the potential fire risk but this plan will be available at all times for immediate implementation.
A fire in the offices is likely during office hours to be dealt with immediately using fire extinguishers, however, should there be a risk to life then an evacuation of the premises and a call to the fire brigade may be necessary.

The following procedures are to be followed upon observation of fire and/or smoke:

- Upon discovering smoke or fire the fire alarm shall be raised, by blowing on shouting and ringing the fire bell near the conveyor, these alarms are located within the main office and are inspected for worthiness on a weekly basis. In the event that these are not accessible a simple loud shout to evacuate and fire will be called by the designated fire marshal.
- Rescue and/or move people and plant in immediate danger, but only if it is safe to do so.
- Seal off the area where fire or smoke was observed, but only if it is safe to do so.
- Call the fire brigade on "999" and the other relevant agencies.
- Upon arrival, issue the Emergency services with the site plan showing locations of all fire suppression equipment including access to water hoses.
- Evacuate the waste picking station and other affected areas, starting with the most vulnerable such as injured personal.
- Follow any nominated measures specified.
- Collect the roll call list and then check at the assembly point. This can be done via site management and/or fire marshal.
- Delegate tasks to available staff members in relation to fighting or preventing the spread of fires.
- If during operational hours flames or smoke are detected in an area of waste or skip it will be dealt with immediately by smothering the skip or moving the waste and dowsing or smothering in the quarantine area.
- If a fire is present out of hours, waste will only be moved to the quarantine area once a major fire has been dowsed as moving waste when flames are visible is likely to allow for the fire to spread to other containers etc. As soon as possible the extinguished pile or skip will be moved to the quarantine area.

- If it is safe to do so, search all affected areas of the site, including toilets, storerooms and other areas not normally used, to ensure that everybody has evacuated from the site.
- Ensure that all staff proceed directly to the **Assembly Point** located Outside the Front Gates.
- Remain at the Assembly Point and conduct a headcount to ensure all visitors, contractors and staff are present.
- Advise the Officer in Charge of the emergency service if someone is missing.
- After all occupants are evacuated, and visitors and staff are accounted for, wait for the 'all-clear' from the fire brigade before returning staff to the effected building/area.

7.2 Fire Extinguishers & Suppression Systems

Site management or available staff may attempt to extinguish a fire using the correct extinguisher or fire suppression system if:

- It is safe to do so
- It is a small fire that can be managed by the onsite staff (e.g. a smouldering waste, overheating/smouldering electrical equipment, small isolated area of waste);
- Staff and Visitors have been moved from the danger area and an evacuation has commenced,
- The fire brigade has been called,
- The person using the extinguisher or fire system has been trained in its use.

7.3 Quarantine Area

Waste brought to site will be deposited on the floor at least 10m away from the main reception stockpile; this will also perform the function of the primary quarantine area if waste brought to site is identified as containing a fire. The operator will maintain a minimum 10m distance from the main reception stockpile or other stockpiles / containers holding potentially combustible waste, this is preferable to depositing potentially hot loads onto the main reception stockpile and having to segregate it once an issue has been identified. Once the material has been visually confirmed as not containing hot material it will be pushed into the main stockpile or fed directly into the waste treatment process.

All hook-lift and skip containers if on fire can be moved to the quarantine area, its unlikely that all containers would be on fire at the same time, hook-lift container is 6 metres long and 2.3 metres wide covering a floor space of 28m^2. The quarantine area is approximately 78m^2 and the waste pile for processing is 75m^2 and therefore all of the waste pile can be stored in the quarantine area:

8.0 EMERGENCY SERVICES ACCESS & TRAFFIC MANAGEMENT PLAN

The site has one access point only along the main road through Waterston Industrial Estate; there is ample parking at front of Lloyd & Pawlett offices in the yard near by to move staff vehicles and site plant to allow clear access for emergency response vehicles. There is only one access and this is also used for the fire brigade in event of a fire.

9.0 FIRE WATER RUN-OFF MANAGEMENT PLAN

The aim of the firewater run-off plan is to review firewater management including run-off and any possible recycling/reuse; it also considers general occupational health, environmental and economic disadvantages. The potential to recycle run-off will require a critical assessment and the agreement of the Natural Resources Wales with the Emergency Services, however, the equipment required will be available on site and be ready for deployment depending on the agencies involved.

The internal surrounding edges are sealed with walls and kerbs to prevent release from the site and all water is directed to a low spot in the reception area. In the event of a fire, all quench water runs to the 20,000 litre underground tank, which can be subsequently sampled to assess suitability for discharge or for third party removal.

9.1 Fire Water Run-Off Management

Where possible the following measures will be used**:**

- A water spray will be used to reduce the amount of firewater run-off.
- Soils from the inert stockpile will be used to reduce the amount of firewater needed for fighting the fire; this will further reduce any run-off.

10 REJECTION & DIVERSION OF WASTE

As with all waste closures or disruptions to normal activity at the waste transfer station there can be a requirement to divert waste during and following a fire. Consideration relating to this scenario has been given below:

- The site uses a Waste Acceptance Criteria which involves a load inspection of all skips prior to deposition in the main waste pile, should a load be noted as hot or on fire it will be immediately isolated moved to the load rejection quarantine area where the skip will be damped down with water. The producer of the waste will also be notified via the EMS Non-Conformance and the incident reported in the site diary.
- At the on set of a fire all deliveries of waste will be suspended, the majority of waste is collected by TBS so prevention of delivery is relatively straight forward, only a small number of third party customers use the site and these can be contacted via mobile phone.
- Alternative sites are available to TBS locally and these would be used in the first instance while the site is being cleaned up. Due to the volume of waste likely to be involved it is not anticipated that the site would be out of commission for more than two weeks.
- There are no immediate direct residents nearby, the nearest being in excess of 100 metres South east of the site, TBS has a working relationship with the nearby businesses and would communicate directly with these.

11 REMOVAL OF FIRE WASTE

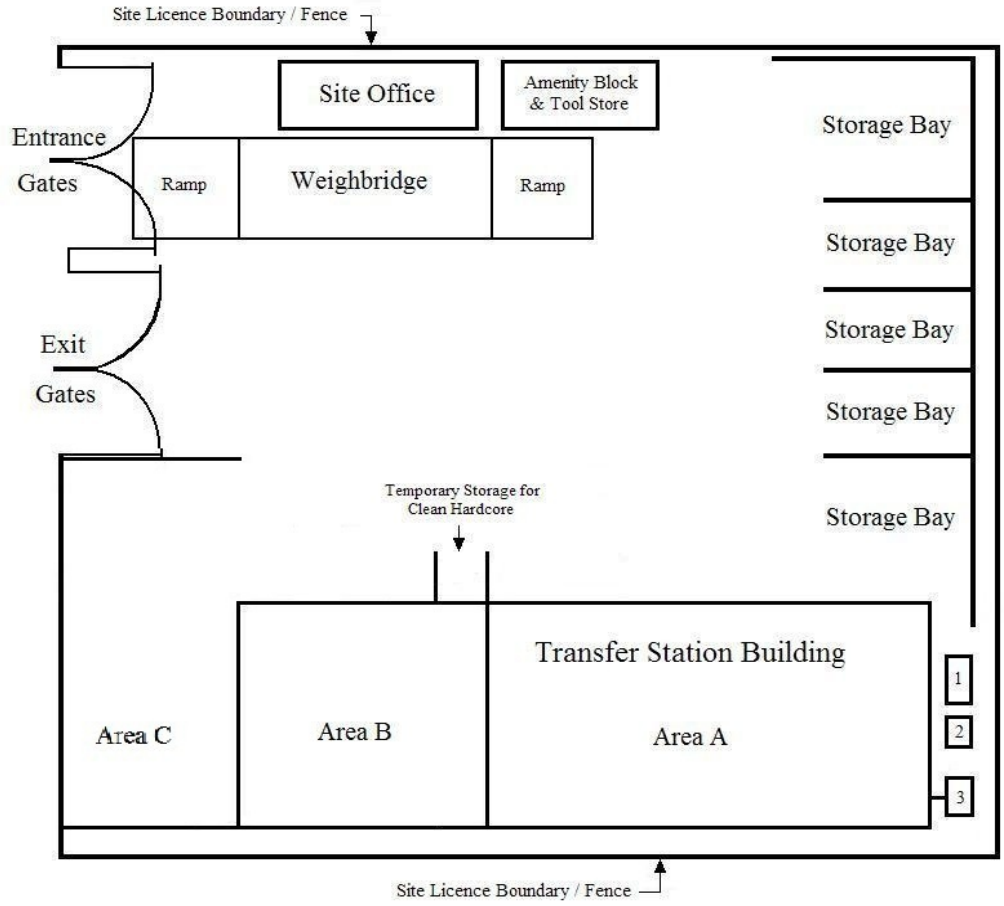
As with all waste fires there will be a residual amount of fire waste that will be required to be removed from site for disposal. In line with the requirements of the NRW the removal of fire waste must be considered and assessed, the considerations relating to these wastes are listed below:

- Possible contamination that could make the waste hazardous which may include asbestos fibres. As the possibility of contamination is very real all wastes must be tested once it is safe to do so for its hazardous content and an assessment will be made to determine if the material is hazardous or non-hazardous. On the outcome of this assessment the waste will be sent to an appropriately permitted site for that type of waste.
- As the waste has been subject to fire it must be assessed to ensure it no longer poses a fire risk and that no heat sources remain within the waste mass. This should be achieved by turning the waste material when it is safe to do so, checking for sources of heat and smoke. Site management and the fire marshal should sign off the disposal of all fire waste before it leaves site to confirm they have inspected the waste and that no heat sources remain.
- Where possible all fire waste should be kept separate and quarantined within the quarantine area as identified on the site plan, this should ensure it can be monitored and if needed it can also be managed with additional fire prevention measures such as water or soil.
- All fire waste should be removed from site when it is safe to do so but no later than 7 days after it has been extinguished or 7 days from its last reported sign of heat or smoke.

APPENDIX A

SITE LAYOUT PLAN

Thomas Brothers (TBS)
Plot 10, Waterston Industrial Estate, Waterston, Milford Haven,
Pembrokeshire, SA73 1DP



Area A	The tipping area for incoming waste
Area B	The main sorting & temporary storage area
Area C	Temporary storage area
1	Surface water interceptor for the site
2	Clean water soakaway for the site
3	Underground Sealed Drainage Tank

Scale: N.T.S.
Plan Ref: TB 10

APPENDIX B

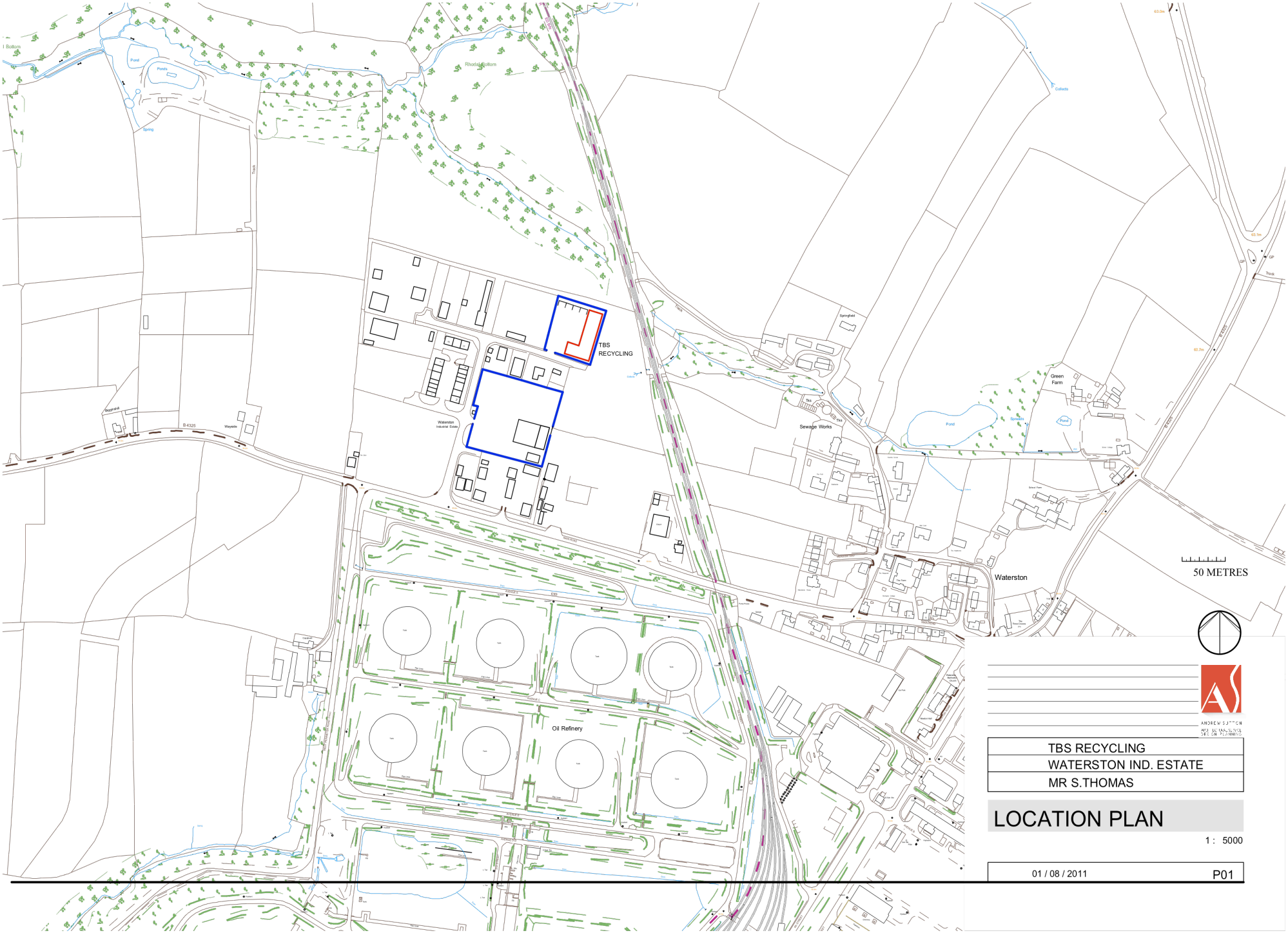
Thomas Brothers (TBS)

September 2017
Revision 1.00

APPENDIX C

Thomas Brothers (TBS)

September 2017
Revision 1.00



ANDREW SUTTON
ARCHITECTURAL DESIGN PLANNING

TBS RECYCLING
WATERSTON IND. ESTATE
MR S.THOMAS

LOCATION PLAN

1 : 5000

01 / 08 / 2011 P01