

DRAINAGE STONE

Tipping Area  
for Unsuitable

COLLIERY SHALE

February 2015  
Report No 2177/R/002/1

# **RANSFORDS SAWMILLS PART A2 PERMIT APPLICATION**

## **HABITATS AND ENVIRONMENTAL ASSESSMENT**

Carried out for: **Ransfords Sawmills**

**TerraConsult**

# **RANSFORDS SAWMILLS PART A2 PERMIT APPLICATION**

## **HABITATS AND ENVIRONMENTAL ASSESSMENT**

**Date: February 2015**

**Prepared for:**

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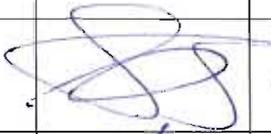
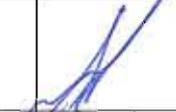
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**CHARLES RANSFORD AND SON LTD**

**WOOD TREATMENT FACILITY**

**PART A2 PERMIT APPLICATION: HABITATS AND ENVIRONMENTAL ASSESSMENT**

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## **1 INTRODUCTION**

### **1.1 Background**

1.1.1 This report has been prepared in response to Section B4 of the form 'Application for an A2 permit' issued by Shropshire Council. Question B4.1 asks prospective operators to assess the potential significant local environmental effects of the foreseeable emissions. Question B4.2 requires the operator to provide an assessment of whether the installation is likely to have a significant effect on Sites of Special Scientific Interest (SSSIs) or European protected sites.

1.1.2 This risk assessment process has been conducted by reference to Environment Agency Horizontal Guidance Note H1 – Annex (a), v2.1 December 2011 and also provides justification for the use of other more specific risk assessment methodologies if required. This assessment will consider impacts on amenity and other environmental receptors, including potentially sensitive habitats.

### **1.2 H1 - Assessment of Environmental Risk**

1.2.1 The H1 guidance document requires that everyone applying for a new environmental permit (other than a standard permit) or variation to an existing permit should present information in the form of risk assessments considering odour, noise, fugitive emissions (including dust), pests, birds and vermin and visible plumes. Identification of accidents scenarios and their prevention through operational management should also be detailed.

1.2.2 Where relevant hazards are identified, they should be considered with regard to potential receptors and the pathway from the hazard to those receptors. In addition the tables should also include the preventative risk management practices to be employed along with an assessment of the mitigated risk. These tables will be included in this assessment if a viable source of potentially harmful emissions is identified in combination with a potential pathway and sensitive receptor.

## **2 SCOPE OF THE ASSESSMENT**

### **2.1 Non-Technical Summary**

2.1.1 Charles Ransford and Son (Ransfords) propose to continue operation of their wood treatment facility within their larger Sawmill complex. As this activity has a throughput of > 75m<sup>3</sup>/day it is listed as a Part A(2) activity in Schedule 1 of The Environmental Permitting (England and Wales)(Amendment) Regulations (2013). This means the area of site where the wood treatment is currently carried out is classified as an installation and will require a Part A2 permit to operate after 6<sup>th</sup> July 2015.

2.1.2 The wood is placed in air-tight vessels and exposed to a vacuum. The vessels are then flooded with a liquid treatment agent and left to soak under positive pressure. The pressure is released, the vessels emptied of liquid, the wood removed and left to stand whilst the excess liquid drains off and the wood dries. This wood product is then packaged for export from site. All these activities are carried out inside an enclosed shed, on an impermeable surface with sealed drainage. There are no point source air emissions from the process. Further details are provided in the accompanying Installation Report referenced 2177/R/003.

### **2.2 Potential Hazards Associated with Activity**

#### ***Contaminated water***

2.2.1 Exposure to the treatment agent may occur when:

- vessels are filled with wood (residual liquid from previous treatments);
- there is liquid stored in the open mixing tanks beneath the pressure vessels;
- treatment agent is drained from the vessels into the mixing tanks; and,
- wood is removed and stacked for draining and drying.

2.2.2 Treated wood removed from the vessels will be saturated with a solution containing the treatment agent. This is stacked on the impermeable surface in the outrigger building or in the main building directly adjacent. The entirety of the sealed surface is kerbed by the walls of the building. The slope of the floor means any free liquid that does drain from the treated wood will flow toward the vessels via gullies and into the underlying catch pits for re-use.

2.2.3 The whole process of wood treatment takes place inside the enclosed shed. There are no engineered connections which may allow potentially contaminating liquid to leave the building deliberately or accidentally to impact on external receptors. The treatment agent is not agitated excessively in the mixing tanks and is unlikely to produce aerosols or spray into the air. The risks associated with potential emissions of contaminated water are discussed in Table 1. Operational practices relating to liquid management, the nature of the preservative used and potential historic contamination are discussed further in

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the accompanying Site Report referenced 2177/R/001 and Installation Report referenced 2177/R/003.

### ***Odour***

- 2.2.4 The water-based treatment agent does not have a strong odour potential. No personal or vehicular respiratory measures are required when operating in the shed. Odour is only detectable when in the immediate vicinity of treated wood or the mixing tanks. What limited odour is present is not considered to be offensive in nature.
- 2.2.5 The large doors to the sheds are often open during normal site operations. There would therefore be potential for odours to escape the building if a significant source were present. The low odour potential of the treatment agent means that odour is not detectable immediately outside of the building. It is therefore very unlikely odour would be detectable at adjacent receptors. It is understood no odour complaints have been received by the operator or regulator relating to this process. Odour will not be considered further by this assessment, however if the operator changes treatment agents in the future they should make appropriate consideration of its odour potential.

### ***Noise & Vibration***

- 2.2.6 Noise and vibration result primarily from the operation of the vacuum pumps, movement and operation of site plant and other on-site equipment during operational hours. All activities are carried out inside a building within the busy and potentially noisy sawmill complex. The plant has been operational on site in its current form for a number of years and the activities will not change as a result of this permit application. It is understood no noise complaints have been received by the operator or regulator. The operator is considering expanding the surface area of the treatment vessel part of the building (laterally) by approximately 70%. The operator is also considering installing a series of internal doors to enclose the treatment vessels to reduce the noise of the vacuum pumps. All future activities will also be carried out inside an extension to the shed and benefit from the same noise attenuation measures. Noise will not be considered further by this assessment.

### ***Dust***

- 2.2.7 The current activity does not generate significant quantities of particulate matter and this is unlikely to change after issue of a permit. No wood cutting or mechanical finishing is employed in the building before or after the treatment process. The treatment agent is diluted to a 4% solution that is fully absorbed into the wood. This does not leave a surface residue which might flake off and cause dust. The most likely source of dust or particulates is other background sources arriving with the untreated wood or those blown in from other areas of site.
- 2.2.8 All activities to be regulated under the permit will be carried out inside the building and will continue to do so for the foreseeable future. Although the doors to the shed are often left open, the likelihood of wind-blown dust or particulates being mobilised from the activity is minimal. All site surfaces will

continue to be maintained and cleaned as necessary to minimise the accumulation of mud or dusty materials. Fugitive dust emissions will not be considered further by this assessment.

#### ***Litter***

- 2.2.9 Raw wood product received on site for treatment may contain material which could present a litter risk such as bark, saw dust or wood shavings. All wood deposited inside the building has been pre-cut elsewhere and all bark, chippings etc removed. Loose fine material will continued to be checked for as a matter of routine and managed to ensure that it does not cause a litter problem. Routine inspections will be carried out to ensure that any residual material escaping the buildings or delivery vehicles will be collected on a regular basis to avoid any off site wind-blown litter. Fugitive litter emissions will not be considered further by this assessment.

#### ***Pests and Vermin***

- 2.2.10 The nature of materials to be treated at site is unlikely to attract pests and vermin. Animals or insects may attempt to shelter in the building, however the rate of product throughput and vehicular activity would disturb them from taking up long term residence. If pests or vermin did become an issue, the operator will employ suitable contractors to control any infestation.

#### ***Visible Plumes***

- 2.2.11 There are no activities carried out within the proposed installation which may result in a visible plume e.g. dust from cutting operations or products from fuel or waste combustion (smoke or other fumes). Visible plumes will not be considered further by this assessment.

#### ***Fires***

- 2.2.12 No combustion or combustive power generation activities are carried out within the proposed activity boundary. The wood being treated has the potential to be a significant fuel source in the event of a fire breaking out. Fires are considered in more detail in the accompanying Installation Report referenced 2177/R/003.

### **2.3 Hazard Pathways and Receptors**

#### ***Hazard Pathways***

- 2.3.1 When choosing the receptors, the closest and the most sensitive (if different from the closest) have been considered in each direction from the hazard. Account has be taken of the mechanism of transport to the sensitive receptor e.g. proximity to highway access and wind direction for airborne dust.
- 2.3.2 There may be an interrelationship between these risks and meteorological conditions. The pathway is determined by the location of the receptor relative to the site, the distance from the site boundary (m) and the frequency (likelihood) the prevailing wind will blow in the direction of the receptor as determined by historical windrose data available for Overton from the [www.windfinder.com](http://www.windfinder.com) website. Overton is located 25 km to the southeast of

Bishop's Castle and given the similar terrain expected to provide representative meteorological data.

***Probability of Exposure***

2.3.3 Probability of exposure is determined by the distance of the receptor to the site and the likelihood of the hazard reaching the receptor (e.g. frequency of prevailing wind in that direction). This stage of the assessment that exposure has resulted from an uncontrolled emission i.e. without mitigation.

***Hazard Receptors***

2.3.4 The nearest sensitive receptors to the site are identified in drawing 2177/1/002. The distance of these receptors to the site boundary, their direction relative to the site and the frequency the wind blows in the direction of the receptor is detailed in Table 1. Distance has been taken as measured from the site boundary (as indicated in Drawing 2177/R/001).

***Amenity Receptors***

2.3.5 A number of the identified receptors are unlikely to be sensitive to the types of emissions identified in Section 2.2 were they to occur. The agricultural land to the north and east would not be affected by odour, noise or low levels of particulate emissions. These emissions along with litter and vermin would however affect the quality of life for the residents in the domestic properties to the south and the adjacent town. The severity of any impacts on the commercial or industrial units would be determined in part by the nature of the activity, which itself may generate a potential nuisance e.g. the odour from the old abattoir or noise from the garage to the west-southwest. The employees of Ransfords Sawmill itself are unlikely to be adversely affected as they are used to the operations in the complex, will be given appropriate PPE to mitigate against any impacts identified and accept the site setting as being intrinsic to their employment.

**Table 1. Sensitive Receptors**

No.	Receptor	Distance	Direction from Site	Frequency Down-Prevailing Wind Direction (%)
1	Agricultural land	60 m	N	8.5
2	Wider Ransfords sawmill complex	0 m	NE to E	4.6 to 11.1
3	Agricultural land	200 m	NE to SE	6.9 to 11.1
4	Industrial units	<10 m	E to SE	6.9 to 7.2
5	Domestic housing	50 m	S to SW	4.6 to 8.5
6	Commercial units	60 m	W	3.6
7	Egg packing station	40 m	NW	6.6
8	Library	80 m	N	8.5
9	The Stiperstones and the Hollies SAC	6.9 km	N	8.5
10	Long Mynd SSSI	5.9 km	E	7
11	Pentre Wood	4.8 km	NW	6.6

***Sensitive Habitat Receptors - SSSIs***

2.3.6 The nearest sites of Special Scientific Interest (SSSI) are the Long Mynd (England) and Pentre Wood (Wales) SSSIs which are 5.9 km to the east and 4.8

km to the north west respectively. The Long Mynd site is so designated because of its Dwarf Shrub Upland Heath habitat. The Pentre Wood site is cited as an example of ash-wych elm woodland with frequent oak, field maple and hazel.

#### ***Sensitive Habitat Receptors - SACs***

- 2.3.7 The nearest Special Area of Conservation (SAC) is the Stiperstones and the Hollies SAC approximately 6.9 km to the north of the application site. It is classified as a European site due to its status as a dry heath which contains features transitional between lowland heathland and upland heather moorland.
- 2.3.8 There are no RAMSAR or SPA sites within 13 km of the application site. If the SSSI or SAC sites identified were sufficiently close to the site they may be sensitive to disturbance by noise, predation by vermin attracted to the facility or their quality degraded by wind-blown litter.

## **2.4 Risk Assessment**

### ***Amenity Impacts***

- 2.4.1 It has been determined that the activity is unlikely to be a significant source of odour, noise, dust, litter and visible plumes, nor is it likely that pests or vermin will be attracted to the activity. Although there are a number of sensitive receptors in close proximity to the activity, it is unlikely they will be adversely impacted. The significant distance and terrain barriers between the site and sensitive habitats also makes it unlikely they will be impacted in any way. If however the nature of operational practices change at a point in the future, the operator should re-evaluate such risks.

### ***Impacts to Surface Water***

- 2.4.2 The wood treatment process requires the use of a large volume of liquid chemical agent on a continual basis. This chemical may have a harmful effect on a water course or groundwater if it were to enter them in significant quantities.
- 2.4.3 The entire activity is carried out inside an enclosed building on an impermeable surface with sealed drainage. There is no direct connection from the inside of the shed to external drainage via an engineered system. All free liquid draining from the treatment vessels or the surfaces where treated wood is left to dry flows via channels to a concrete-lined mixing tanks recessed into the floor where it can be re-used for the treatment process. There is sufficient capacity in the mixing tanks and bunded area (150 % of total volume of liquid stored on site) to contain the liquid if one of the tanks or vessels were to fail and all liquid contained within was to discharge.
- 2.4.4 The sealed surface of the building slopes toward the mixing tanks from all areas of the building. The main access points to the building are at the highest point of this gradient and if there were to be any spillages it is very unlikely liquid will flow out of the doors and onto external ground. The treatment agent is not applied to the wood by spray or similar method so atomisation of the liquid into an aerosol which may leave the premises as fugitive emission is unlikely.

***Environmental and Accident Risk Assessment***

- 2.4.5 The H1 Guidance requires the completion of Environmental and Accident Risk Assessments and Management Plans to the template provided in Table A4 of the guidance. This should assess potential hazards identified as being associated with the proposed activity. Detailed operational procedures for the management of the site will be listed in the associated Management Systems. The Accident Risk Assessment is a summary of the Accident Management Plan currently being drafted for the site in accordance with draft Sector Guidance Note SG11 Guidance for Wood Products Preservation with Chemicals.
- 2.4.6 The risk assessment table represents the risk of exposure to a hazard before mitigating controls are put in place. The probability of exposure is therefore not necessarily a reflection of the severity of the impact on the receptor, which may not be sensitive to the hazard. The severity of the unmitigated consequence presumes the receptor has been exposed to the hazard. However, if the receptor is unlikely to be exposed, then the overall unmitigated risk is low and vice versa. The mitigated risk is the residual risk presented by the hazard after control measures have been instigated. This is the most realistic representation of the risk as effective controls will be maintained under the requirements of the environmental permit and the operators Management Systems.

**Table 2. Water Fugitive Emissions Risk Assessment and Action Plan**

Hazard	Receptor	Probability	Consequence	Overall Risk	Risk Management	Residual Risk
<b>Contaminated Water</b> from wood treatment agent as received at site and normal site operations  <b>Spillages</b> of liquids on site  <b>Leakages</b> from vehicles	Neighbouring residential and businesses properties	Low – lack of pathway	Medium – human health if direct contact is made	Low	Engineered site concrete surface and drainage system will prevent uncontrolled surface water run off from site.	Low
	Water courses to the south of site.	Medium – surface run-off / shallow groundwater pathways	High – aquatic pollution	Medium	In-building, engineered site concrete surface and drainage system will prevent uncontrolled surface water run off from site.  Liquid from operational areas will not be discharged to surface water or drains.  Sealed surface of site will prevent pathway from existing between surface and groundwater.  Spill kit kept on site and site operatives aware of spillage procedures  All site plant/vehicles to be properly maintained	
	Local Groundwater	Low – site surfaced	Medium – groundwater pollution	Medium	Sealed surface of site will eliminate pathway between surface and groundwater.  Engineered site concrete surface and drainage system will prevent uncontrolled surface water run-off from site.  Liquid from operational areas will not be discharged to surface water or drains.  Spill kit kept on site and site operatives aware of spillage procedures  All site plant/vehicles to be properly maintained	

**Table 3. Accident Management Plan Summary**

Hazard	Receptor	Pathway	Probability	Consequence	Overall Risk	Risk Management	Residual Risk
<b>Fuel / engine oil leak</b>	Surface water / groundwater	Site drainage / Runoff	Low	Medium - pollution of surface water	Low	Site vehicles and plant subject to regular preventative maintenance in line with site procedures. Site covered by building above concrete hard-standing. No surface water enters the building and is effectively managed externally.	Low
<b>Fire</b> Uncontrolled burning of wood, site facilities or forklift diesel	Surface water / groundwater	Site drainage	Low	Medium - pollution of surface water / groundwater through firewater run-off or leaks from damaged equipment	Medium	Site to be operated in accordance with EMS and Installation Report Internal building surface ensures fire waters will run to an enclosed sump. Damp wood has lower combustion potential. No deliberate burning of wood or other fires to be undertaken at site. Fire detection system installed Fire control equipment will be on hand, with major incidents to be dealt with by the Fire Brigade in accordance with the site procedures. Appropriate maintenance carried out on forklift vehicles No smoking on site	
	Receptors listed in Table 1 Site personnel	Airborne	Low	High - smoke / odour annoyance High – Site personnel injury			
<b>Chemicals used</b> Chemical reaction of incompatible treatment agents	Receptors listed in Table 1 above Site personnel	Airborne	Low	Medium - odour annoyance or smoke from oxidising agents High – Site personnel injury	Low	Site management systems will exclude the receipt of chemically reactive treatment agents. Those used will not generate noxious gases.	
<b>Vandalism</b> Damage to site vehicles, plant, or buildings.	Surface water / groundwater	Site drainage	Low	Medium - pollution of surface water / groundwater through leaks from damaged equipment	Low	Site security will prevent access by unauthorised persons.	

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### **3 CONCLUSIONS**

- 3.1.1 The risk assessments detailed above indicate that site activities are unlikely to cause any disturbance to the surrounding area. Residential and commercial properties in the vicinity of the site are most sensitive to proposed site operations. However given the low potential for the site to generate excessive noise, dust, odour and litter and appropriate mitigation measures employed at the site means these properties will continue to not be affected by the activity.
- 3.1.2 Accidents such as fire / explosion or leakages may pose a threat to the local environs. However safe site working practices, effective control measures make such accidents highly unlikely.
- 3.1.3 The site design provides an impermeable surface to mitigate the contamination of surface water and ground water. The building will benefit from site containment which has been designed to retain any fire water in the event of a spillage or fire incident at the site.
- 3.1.4 It has been concluded that with the use of appropriate mitigating controls where necessary, the facility will not present a significant risk to surrounding receptors.