

Llay Industrial Estate, Wrexham

Erection and Operation of a Small Scale Concrete and Mortar Batching Plant (In Retrospect)

Supporting Statement
December 2009



Prepared for



Marshalls Mono Ltd.

Revision Schedule

Supporting Statement

December 2009

Rev	Date	Details	Prepared by	Reviewed by	Approved by
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Submitted Plans

Plan Number	Title
D128251.001	Site Location
D128251.002	Land Ownership and Application Boundary
D128251.003	Site Layout
D128251.004	Plant Details and Elevations
D128251.005	Typical Portacabin Details
D128251.006	Vehicle Manoeuvres
D128251.007	Vehicle Manoeuvres (2)
D128251.008	Aggregate Bays

Application Form and Certificates

Supporting Statement

1. Introduction

1.1 Background

Marshall's Mono Ltd (operating as Premier Mortars) are applying to Wrexham County Borough Council (in their capacity as Local Planning Authority) for planning permission to develop and operate a small scale concrete and mortar batching plant on part of the Marshall's factory site lying within Llay Industrial Estate, Aerial Road, Llay.

A previous application (Ref. P/2009/0593) for the same type of development submitted in July 2009 was refused permission by the Planning Authority on the 18th September 2009. Prior to determination no objections were raised by the planning department or any statutory consultees.

Premier Mortars has successfully operated a similar plant to that proposed by this application within the Vauxhall Industrial Estate, Ruabon since 2000 and has an established local customer base. The Wrexham operation is one of seven other similar Premier Mortars concrete batching/mortar plants in the UK, including at Newport in South Wales.

The Vauxhall plant has been the subject of recent repeated vandalism which has made it inoperable. Despite substantial investment the Vauxhall site can no longer be considered secure. The Llay site provides a secure long-term alternative on an established industrial estate. The new plant will supply a maximum of 4 (but usually 3) Premier Mortars delivery lorries. It amounts to an investment of some £300,000 and will secure employment for up to 8 members of staff, transferred from the Vauxhall site.

This second application contains additional supporting information and clarifies a number of operating issues referenced within the refusal notice for application P/2009/0593. It includes comprehensive assessments on noise, traffic issues, dust and ecology.

The plant has been constructed and is operating in accordance with the details contained within this Supporting Statement and therefore the application is for retrospective permission.

The modern plant operates in accordance with an Environmental Permit issued by Wrexham CBC Public Protection Department to prevent the escape of dust etc (see Section 4.1 and Appendix A). A small batching plant of this type is not therefore considered to have any detrimental impact to the local environment or residential amenity.

1.2 The Llay Industrial Estate Site

The application site lies within the Llay Industrial Estate, to the north of Wrexham (as indicated on plan **D128251.001** attached), and is part of the extensive Marshalls factory site (see Photograph 1) owned by the Marshalls plc group. The factory site has been closed since May 2009 due to a decline in market demand.



Photograph 1: View of the former concrete block works at Llay Industrial Estate.

When operational, the factory manufactured a wide range of concrete products including blocks, kerbs and paving slabs for the construction sector and domestic markets. It employed 55 people and operated a large fleet of haulage vehicles creating between 80 and 120 HGV vehicle movements per day, substantially more than the 30 movements generated by the new plant.

The application area for the concrete and mortar batching plant lies on the site of a former factory service yard which lies directly adjacent to the east of the main block works site (see drawing **D128251.002** attached). The yard was used for the storage of finished products and the loading and unloading of heavy goods vehicles (HGV).

1.3 The Applicant

Marshalls Mono Ltd is the operating company of Marshalls plc, one of the largest building supplies providers in the UK and the largest supplier of natural stone building materials to the domestic and commercial market, operating quarries, factories and

supply yards. The Company also provides specific markets with niche materials, of which Premier Mortars supplies one product line.

The proposed plant at Llay Industrial Estate will operate under the subsidiary of Premier Mortars, which provides ready to use concrete, mortars and screeds to a high specification direct to construction sites rather than mixing on site. The Company is the largest UK independent producer of Ready to Use (RTU) mortars and coloured mortars.

Premier Mortars has operated in Wrexham since 2000 originally from the Vauxhall Industrial Estate, Ruabon and using the same small fleet of 3 batching lorries recently transferred to Llay.

Full details of Marshalls' business activities and corporate policies are available on the Company's web site: www.marshalls.co.uk.

2. Proposed Development

2.1 The Application Site

The application site (the Site) comprises an area of approximately 0.3 ha of land lying in the north eastern boundary of the former block works site at Llay Industrial Estate, as indicated on drawing number **D128251.002** attached. The former concrete product works (the 'Works') occupies land to the west and south west of the Site. The Site is situated within an established area of general industrial and commercial development, with various industrial units to the south and east. To the north is an area of brownfield land (a former colliery spoil heap).

The site is a former service yard, which was used previously in connection with the Works for the storage of finished products and loading and unloading of HGV's. The site is level, surfaced with concrete block paving and is secured with palisade fencing and lockable gates. Immediately adjacent to the west of the site and included within the planning application boundary are two water storage tanks (used for recycling water in connection with the Works).

2.2 Design and Access

A separate full Design and Access Statement accompanies this Supporting Statement. The following is a short summary.

It is proposed to locate a small-scale concrete and mortar production plant using principally mobile type equipment on land of approximately 0.3ha to the east of the former block Works main site, to the layout indicated on drawing number **D128251.003** attached.

The plant will produce ready mixed concrete, mortars and screeds using an 'Elkon Mobile Master 60' type engineered plant (as used on other Premier Mortars sites), as illustrated in Photograph 2 below and in more detail in the submitted drawings.

Vehicular access will be via Aerial Road the existing Industrial Estate access road, off the B5102 (Llay Road). The site is secured with a 1.8m high palisade fence and lockable gates.

The plant comprises an aggregate loading hopper, two cement silos, conveyors, mixing drum and small control room. Two silos of circa 100 tonne capacity will store cement and be fitted with appropriate safety valves and dust filters to prevent escape and discharge. A single wheeled loading shovel will load aggregate as needed. All the other materials are supplied through sealed systems from storage silos.



Photograph 2: The Llay Plant in Operation (view east to west)

The proposed concrete and mortar plant is a small volume batch production unit. It has a manufacturer's published production capacity potential of 60m³ per hour when operating continuously at maximum load and capacity. However, actual production volumes can be expected to be significantly less than production capacity (see Sections 2.3 and 2.6 below).

Details and elevations of the proposed plant are shown on drawing number **D128251.004** attached. Eight car parking spaces (including two disabled spaces) and space for HGV parking will be provided, as indicated on drawing number **D128251.003**. Portacabins (single storey) will be provided for general administration and welfare purposes.

All working surfaces are hardstanding of pavers or concrete as illustrated by Photograph 2, and pre-dated the batching plant construction.

2.3 Concrete/Mortar Production

The wet batch process to be utilised in the operation is illustrated in the flow diagram below. It differs from a traditional dry mix process in that all components (with the exception of the aggregate) are added in a computer-controlled system of feedstock and mixing to ensure quality and consistency. Mixing of the materials takes place in a fully enclosed mixer drum immediately over the vehicle-loading chute. Once mixed and

supplied to site the products retain a long shelf life, allowing delivery to more than one site at a time.

The proposed plant is one of the smallest capacity plants available and suits a small scale market like that centred around Wrexham. The production plant has a theoretical maximum production figure which assumes continuous operation hour on hour, which is unachievable in practice and far greater than required by the market. From experience at the Ruabon facility, and recent production levels, it is expected that the **maximum** rate of concrete or mortar production in a full working day is 75m³. With an average mixer lorry load of 5m³ each i.e. 15 lorry loads per day. **Typical** daily production will be in the order of 50m³, the equivalent of 10 lorry loads.

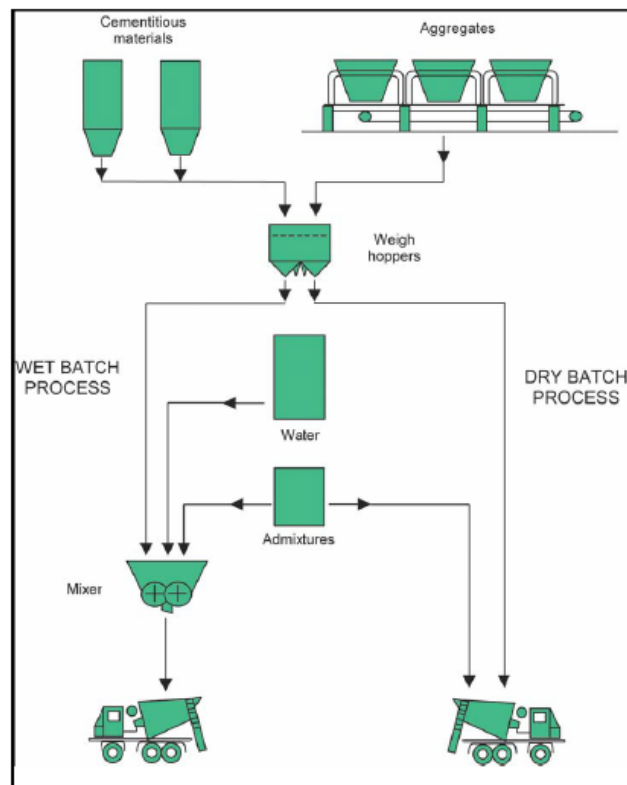


Figure 1: Concrete/mortar batching process design flow chart.

2.4 Employment

The proposed concrete and mortar batching plant will provide permanent employment for up to 10 members of staff (4 drivers, 3 plant personnel, 2 lab staff and a regional manager). The operation of the plant will also help to support associated industry staff, servicing and maintenance personnel, workers in the supply chain, and assist the local construction industry in providing high grade materials.

2.5 Operating Hours

It is proposed that the operating hours of the plant will be:

- Monday to Friday: 6am to 6pm
- Saturday: 6am to 1pm

The plant will not operate on Sundays or Bank Holidays. The start time of 6am is required in order to meet the needs of the construction industry, to allow concrete and mortars to be mixed, loaded and dispatched to reach the building sites at the commencement of the working day which is often 7am, and to help avoid the rush hour. Only the mixer lorries located at the site would depart within the 6-7am period (on an as needed basis). No aggregate or cement imports would be received during this time.

2.6 Traffic and Highways

Access to the site will be via the existing Industrial Estate access road, off the B5102 (Llay Road) via Aerial Road. No new access will be required from the public highway and the B5102 can be accessed directly without passing residential properties.

A review of traffic numbers and access into the Site by a qualified Highways Engineer is enclosed as Appendix C. The assessment finds the level of traffic expected is well below the design capacity for Aerial Road and there are no safety issues which require to be addressed outside the scope of the measures proposed below for signage. The findings are summarised below.

Operational practice at other Premier Mortars sites proves that the plant could be expected to supply a **maximum** of 75m³ of mortar and concrete per day which equates to approximately 15 deliveries (30 movements). This level of production is sufficient to employ 3 delivery vehicles. A 4th may be added if required to meet an incremental increase in demand but a substantial market improvement would be required. Deliveries of primary raw materials (sand aggregate and cement) are not expected to exceed a total of 4 HGV deliveries (8 movements) per day (3 aggregate and 1 of cement).

A more **typical** daily operation based on recent production, is 10 lorry loads departing and 2 deliveries of raw materials, providing sufficient custom to operate three mixer lorries across the working day.

The mixer lorries have a design capacity of up to 6m³. Variations in the day to day vehicle numbers depend on the level of demand, size of order, and delivery time to the construction site. The Works site generated 80-120 movements per day.

Table 1: Predicted Heavy Goods Vehicle Generation (per day).

Vehicle Type	Aggregate (sand/stone)	Cement	Mortar/Concrete	Total
Predicted maximum deliveries per day	3	1	15	19
Typical/Average deliveries per Day	1-2	0.33 (one every third day)	10	13

Vehicle manoeuvres for the largest vehicles that could be expected to enter the site (e.g. an articulated cement delivery lorry) are indicated on drawing number **D128251.006 and 007** attached.

The double access gates into the site are approximately 5.5m wide. Long distance views are provided down Aerial Road from the site for departing vehicles. Signage is provided for departing vehicles to give way to arriving vehicles (as indicated by Photograph 3) in order to avoid any waiting traffic on the approach to the Site.



Photograph 3 Site Entrance and view of Aerial Road

3. Planning Policy

3.1 Planning Background

There are a number of planning permissions dating back to the late 1950s that have previously been granted by Wrexham County Borough Council (CBC) and its predecessors in respect of the former Works site at Llay Industrial Estate.

The Development Plan for Wrexham comprises the Wales Spatial Plan (updated in 2008) and the Wrexham Unitary Development Plan (UDP) adopted in February 2005. The most relevant emerging policy document is the Wrexham Local Development Plan Preferred Strategy Draft for Consultation, which was published in October 2007. Given the nature of the proposals, the most pertinent policies are found within the adopted Wrexham UDP.

3.2 Local Planning Policy

Strategic Policies PS1, PS2 and PS3 and Policies GDP1 and E1 of the Wrexham UDP are considered to be most relevant to this application (these policies are provided in full in Appendix B).

It is considered that the proposed development accords with the policies outlined above, given that:

- the application site comprises previously developed, currently vacant land which is situated within an existing area of industrial and commercial development;
- the scale, design and layout of the proposed development is in keeping with the character of the site and the surrounding area;
- there will be no detrimental affects on the quality of the environment since the operation will be subject to the requirements of Environmental Permitting;
- the application site is a former service yard therefore there will be no detrimental affects on conservation or wildlife habitats and the development will not give rise to any significant impacts in respect of flooding, soil erosion, landslides or contamination.

In addition to the above, within the supporting text relating to Policy E1 (pg. 43, para.7.5) it states that all new employment development will be directed to sites allocated for employment development and to sites with planning permission for employment use. The application site has previously been used as a service yard in connection with the former Works and therefore has an established planning history for employment land use.

Furthermore, within the supporting text relating to minerals development (pg. 70, para. 11.3) it states that sand and gravel working is the principal mineral working activity within the County Borough, with output contributing significantly to the total regional output of North Wales. It is considered therefore that the proposed development contributes to sustainability by providing an ancillary minerals processing activity close to the location of arisings, meaning that aggregates travel considerably less before being processed into a product which can be used by local markets.

3.3 Planning and Pollution Control

Minerals Technical Advice Note (MTAN) 1: Aggregates Minerals Planning Policy Wales is the leading policy guidance on the development and regulation of mineral activities. Although not a mineral extraction activity per se, concrete batching is often carried out at quarry sites and is an analogous activity as it has the potential for some similar impacts.

Paragraph 76 of MTAN 1 reiterates government policy that planning control should avoid duplication of regulatory control by other regimes e.g. the Environmental Permitting regime.

4. Environmental Issues

4.1 Environmental Permit

In compliance with UK regulations for the operation of plants handling cement the facility has been issued with an Environmental Permit under Part B of the Environmental Permitting Regulations 2007, by the 'Chief Housing and Public Protection Officer' at Wrexham CBC. The Permit is attached as Appendix A, and contains a number of standard controls and operating standards for type of plant.

Premier Mortars are committed to operating the facility in accordance with best practice and at least to the standards required by the Permit.

4.2 Visual Impact

The application site lies in the heart of the Llay Industrial Estate and is surrounded by land and more prominent buildings in industrial use, that shield it from public view (from outside the industrial estate). Views of the site and plant can only be obtained from close proximity to the Site itself and the northern approach of Aerial Road.

Immediately to the north of the application site lies the flanks of a former colliery spoil tip and beyond it Llay Industrial Estate (north). To the east lies a series of large industrial and distribution warehouse type units. To the west is the Marshalls factory site that includes large multi-storey buildings, offices, silos and stockyards. To the south and west lies West Bank Tiles (a small brick constructed single storey unit), a series of warehouse buildings, and a laundry business each occupying buildings of 2 or 3 storeys high.

The height of the buildings located on either side of Aerial Road, and the former colliery tip completely screen out views of the application area and plant from Llay Road.

The rectangular West Bank Tiles brick building occupies the majority of the southern site frontage (separated from the site by a palisade fence). The singular structure of the building (which is windowless) provides significant screening of the plant.

The Site has been developed with a single 'portacabin' office and a steel 'ISO' container type amenity block and stores. Both are positioned on the southern edge immediately adjacent the boundary palisade fencing. The proposed 3rd portable office type structure would house a small testing laboratory but has not been installed.

The effect of locating the cabin units along the edge of the Site is to significantly screen the day to day (vehicle) operations taking place inside the fenced compound from external view. The upper sections of the tallest structures i.e. the cement silos, are

visible above the height of the other neighbouring structures but are in keeping with these adjacent land uses.

As a result of the local setting and effective screening created by the site layout and nature of adjacent land uses no landscape screening is considered necessary or appropriate.

4.3 Noise

Appendix D to this Supporting Statement contains a comprehensive noise risk assessment of the development. The scope of the noise assessment has been discussed and agreed with the Public Protection Dept of Wrexham CBC. The assessment included measurements at the site boundary, on the edge of the industrial estate, and within the neighbouring tile showroom.

Since the site has been operational no noise complaints have been received.

In summary, the operation of the wet mix concrete and mortar batching plant is intrinsically a low noise industrial activity. Noise sources are restricted to unloading aggregate and cement (piped from lorry tanker to silo), loading aggregate in the hopper, the use of conveyors, mixing, and lorry loading.

The location of the proposed plant at Llay is within the perimeter of an established Industrial Estate and on land previously used by the applicant in connection with the Works operation. There are no residential properties located in close proximity; the closest is 'Mountain View' at approximately 200m from the site on Llay Road, located opposite the junction of Aerial Road with Llay Road.

Similar batching plants of this nature operate within 100m of residential properties at many locations in the UK without creating a noise nuisance.

The site layout has also been designed to afford the neighbouring West Bank Tiles showroom facility further noise attenuation - with the main plant working area and aggregate bays located furthest from the southern boundary of the application site.

The noise impact assessment concludes that noise levels at Mountain View are dominated by traffic on Llay road. Noise levels as a result of operation of the site will be at least 6dB below baseline levels and thus cause no impact.

At the tile showroom noise levels were measured at well below guideline levels for noise within retail and warehouse units and is thus considered to cause no significant impact.

4.4 Dust Control Procedures

There is only a negligible potential for a modern concrete batching plant to generate any dust, further still that any such dust could escape from the site or cause any form of nuisance to the environment or local amenity.

The design of modern batching plants and their standard operating procedures, reinforced by Environmental Permit conditions, requires the safe storage and mixing of all dry materials which prevents dust generation arising as a problematic issue.

Dust is defined by BS6069 (Part 2) as particulate matter in the size range 1-75 microns in diameter (1 micron is a 1000th of a mm), though it is sometimes used generically as a term for all fine matter resting on surfaces. In principle, dust arising from the site can only be sourced from dry powdered cement (which is very fine). The aggregate components of coarse sand and crushed aggregate is unlikely to generate dust because material particles size lies in the range of 1-20mm.

Cement storage, delivery and batching into the mixer are through an entirely sealed system so that cement is not released to the air at any time and therefore does not escape as dust. Visible and audible alarms with automated shut down are standard fittings to prevent overfilling of cement silos at delivery.

The storage of sand and crushed aggregate in low level three sided bunkers prevents windblow from storage stockpiles. Aggregate (crushed rock) is too large a size (10mm plus) to be the source of dust of any consequence. Sand is delivered coarse grained (1-4mm), in bulk and when in a damp state (as a result of the mineral washing process at the producing quarry). It is also therefore not a high risk dust source, unless it is allowed to dry out over a substantial non-operational period of dry weather. The operations of the site and local climate are such that sand will be continuously used and replenished so stockpiles are unlikely to dry out. In the event of exceptionally dry weather and high winds leading to the potential for wind blow to generate dust, the periodic damping down of the stockpile with a hose pipe spray is sufficient mitigation.

All the batching plant structures and conveyors include cladding and shields to prevent escape of dust by windblow when the aggregate materials are handled and transferred. These structures are illustrated on Plan **D128251.009** and Photograph 2.

Hard surfacing, adequate drainage and regular sweeping of the entire yard area prevents the potential of excessive build up and tracking of detritus or mud by vehicles. A mechanical sweeper attached to the wheeled loading shovel and employed on a regular basis keeps the yard area clean.

The prevailing wind in this location is understood to be from a south westerly direction, that is, away from the nearest properties of the industrial estate and nearest residential properties lying some 200m south east. In the unlikely event of an escape of dust prevailing wind conditions would carry the dust against the adjacent colliery tip rather than towards the closest residential properties.

In conclusion it is not considered the potential risk from dust is significant and sufficient controls exist in the form of planning permission and Environmental Permit conditions to provide effective regulation.

4.5 Ecology/Habitats

The site comprises hard standing with a limestone aggregate edging, largely absent of vegetation or exposed ground. In July 2009 (within the context of application P/2009/0593) the site was assessed for the potential to support Great Crested Newts (GCN). A Reasonable Avoidance Methodology (RAM) site assessment report was submitted to Wrexham CBC and Countryside Council for Wales (CCW) and is enclosed as Appendix E. The report concluded the Site had negligible potential to support or provide foraging for GCN and therefore suggested a mitigation strategy be adopted only if GCN were encountered during construction. No long term protection strategy was considered necessary.

No GCN were encountered during site construction. No further ecological protection measures are therefore considered necessary.

4.6 Drainage/Sewerage

The storage and mixing of raw materials will take place within sealed silos, hoppers or storage operations to prevent (as far as reasonably possible) the spillage of raw materials. The water supply and management systems are also self-contained.

The entire operational area of the site is hard surfaced and kerbed so that surface water runoff from the site will be contained so as to avoid dirty runoff from the batching area escaping the site boundary. Ground profile and drainage channels direct surface water to drain and an intercept prior to foul discharge.

The existing surface drainage system installed at the site will be supplemented with a new catch pit and recycler for mixer washout.

The mixing operation is water demanding, therefore runoff will be will be routed for reuse in the mixing system where possible.

Foul sewage from the amenity block is connected into the existing foul sewer in the site.

4.7 Fuel

No fuel will be stored within the site but should it be necessary to store fuels the standard bunding and containment measures will be adopted to conform to legislative and good practice requirements.

4.8 Lighting

Lighting will be provided to illuminate the site for use during the winter months or when poor visibility occurs. Lights will be shrouded to prevent glare and spillage from the site.

4.9 Water Usage

The water demand for the plant is calculated at approximately 100m³ per day. Recycled water from runoff and the washout bays will be filtered and used within the batching process where possible. A mains water supply will be made available to ensure the continuity of supply.

4.10 Waste

The only waste produced by the concrete and mortar mixing process is batching lorry washout residue produced by the cleaning out with water of the mixer vehicles (usually once per day). The wash out residue is emptied into a separator to recover the unused aggregate from water residue. The water fraction is stored for reuse in a small tank and the aggregate is stockpiled and reused incrementally in the aggregate feedstock. This method of reusing waste results in a resource utilisation of close to 100%.

Office and other general waste will be disposed of as commercial waste under contract to an appropriately licensed facility.

5. Conclusion

The operation of a small scale concrete and mortar batching plant on land of approximately 0.3ha on an otherwise redundant plot at the site of the former concrete block works on the Llay Industrial Estate is considered to meet the policy criteria of the adopted Wrexham UDP by utilising the land for beneficial employment use with minimal environmental or amenity impact.

The application site, having previously been used as a service yard in connection with the concrete factory works operation, is not considered to be particularly sensitive in environmental terms and traffic generation numbers will be far less than before.

The operation of the plant will be controlled via an Environmental Permit, which will regulate those elements of the plant that may emit or produce substances that may have an impact on the environment (e.g. cement, dust, process waters, etc.).

The plant will help retain employment for approximately 10 full time staff and will also help to support associated industry staff at quarry sites, and assist the local construction industry in providing high grade materials on an as needed basis.

APPENDIX A: ENVIRONMENTAL PERMIT

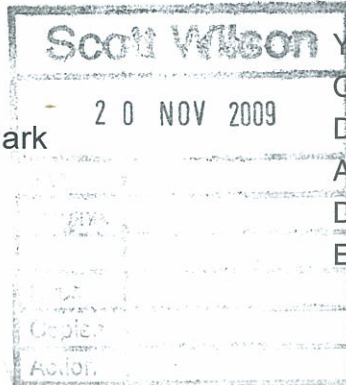
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FAO Angela Graham



Your Ref/Eich Cyf

Our Ref/Ein Cyf

Date/Dyddiad

Ask for/Gofynner am

Direct Dial/Rhif Union

E-mail/E-bost

EPR/MA/19/11/09

19.11.09

P Campini

01978 813726

paul.campini@wrexham.gov.uk

Visit our website at/Ewch i'n gwefan:
www.wrexham.gov.uk

Dear Angela

Environmental Permitting (England and Wales) Regulations 2007 Concrete and Mortar Batching Plant Permit

I write to advise you that Wrexham County Borough Council has resolved to grant a Permit to, Marshalls Plc, Llay Mortar Plant, Llay Industrial Estate (South), to use cement in bulk in the batching of ready mixed concrete.

I therefore enclose a Permit with respect of the process, which is granted subject to the Conditions contained therein.

The Permit is issued specifically to satisfy the requirements of the above Regulations and must not be taken to replace any responsibilities you may have under the workplace health and safety legislation.

I would be grateful if you could confirm in writing that you have received the Permit and that you accept the conditions.

Yours Sincerely

Toni Slater
Public Protection Service Manager
Enc

Would you like to receive a copy of this information/correspondence in a different language or format (Braille, Audio Tape etc.)? If so, please contact Public Protection Services on 01978 813700 so arrangements can be made.

A hoffech chi dderbyn copi o'r wybodaeth/gohebiaeth hyn mewn iaith neu ddiwyg gwahanol (braille, tâp sain ac ati)? Os hoffech, yna cysylltwch â Gwasanaethau Diogelu'r Cyhoedd ar 01978 813700 fel y gellir gwneud trefniadau.



INVESTOR IN PEOPLE
BUDDSODDWR MEWN POBL

Permit

Environmental Permitting (England and Wales)
Regulations 2007



**WREXHAM
COUNTY
BOROUGH
COUNCIL**

Permit

Permit number: **WCBC/PG3/1/M**

Wrexham County Borough Council (the Council), in exercise of its duties under Part 2, Chapter 2, Regulation 13 of Environmental Permitting (England and Wales) Regulations 2007, hereby authorises.

Llay Mortar Plant ("the Operator"),

Whose Registered Office is

**Marshalls PLC
Birkby Grange
85 Birkby Hall Road
Birkby
Huddersfield
HD2 2YA**

To operate an Installation at

**Llay Mortar Plant
Llay Industrial Estate (south)
Llay Road
Llay
Wrexham
LL12 0TL**

To the extent authorised by and subject to the conditions of this Permit.

Signed

A handwritten signature in blue ink, appearing to read 'T. Slater', enclosed in a rectangular box.

T. Slater

Public Protection Service Manager

Authorised to sign on behalf of Wrexham County Borough Council.

Date

A handwritten date '19/11/09' in blue ink, enclosed in a rectangular box.

WCBC/PG3/1/M

Date of Granting Permit: 19th November 2009

The Permitted Installation

The Operator is authorised to carry out the activities and/or the associated activities specified in Table 1.

Activity under Schedule 1 of the Regulations	Schedule 1 Activity Reference (if applicable)
Storing, loading or unloading cement or cement clinker in bulk prior to further transportation	Part 2, Chapter 3, Section 3.1, Part B (a)
Blending cement in bulk or using cement in bulk other than at a construction site, including the bagging of cement and cement mixtures, the batching of ready-mixed concrete and other cement products.	Part 2, Chapter 3, Section 3.1, Part B (b)

Date of Application	17 th July 2009
Date of Current Authorisation	19 th November 2009

This permit shall relate to the area of land edged around in red on the site plan reference M1, henceforth called "the site." A detailed layout of the site is shown on plan M2.

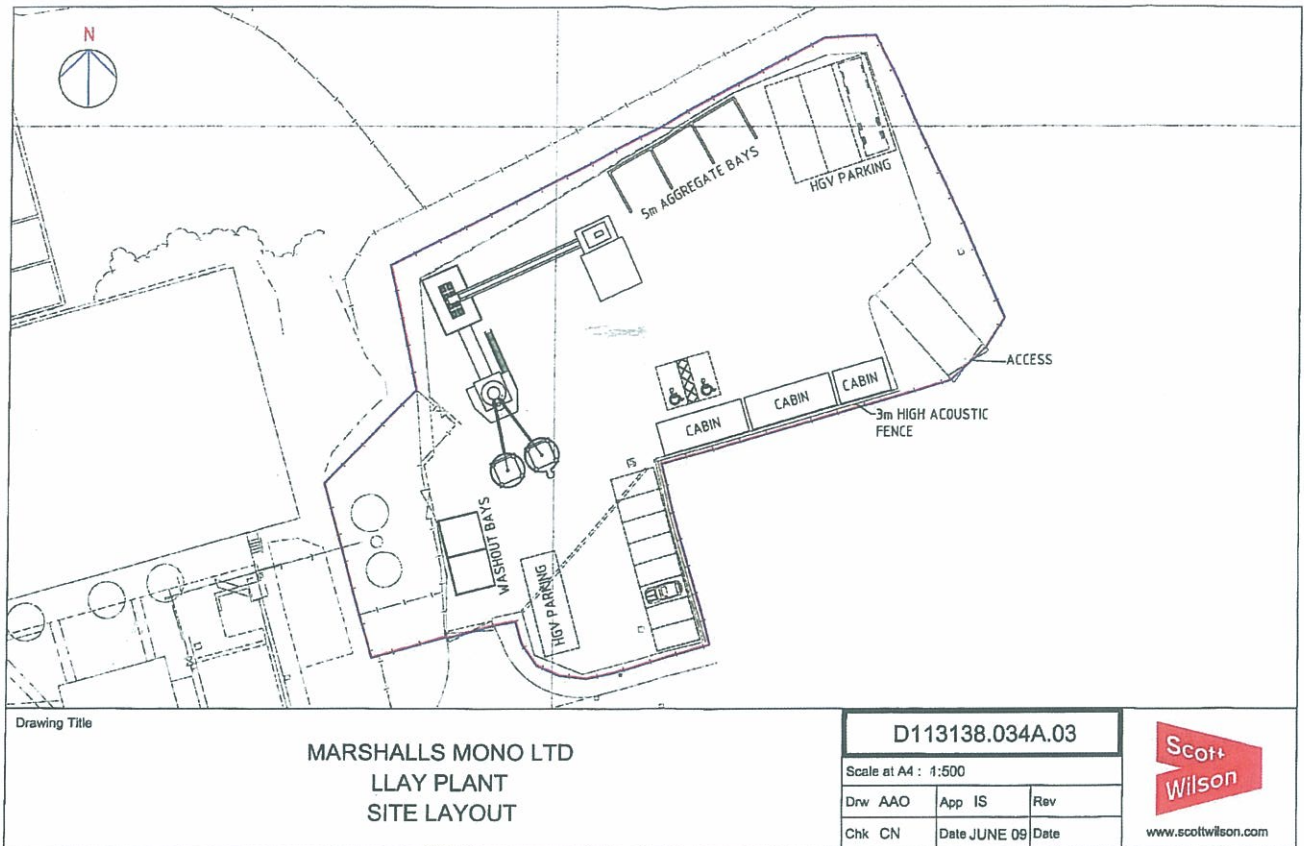
Chief Public Protection Officer
High Street,
Ruabon,
Wrexham
L14 6NH
Telephone: 01978 813700
Fax: 01978 813709.

WCBC/PG3/1/M
Marshalls Mono Ltd
Llay Mortar Plant

Date : 4/11/2009



Authorised Process Site Plan and Process Layout Plan M2



DB4H

Process Description

The Authorised process consists of the manufacture of concrete which is manufactured by mixing, in carefully controlled proportions, Portland cement or a mixture of cementitious materials in powder form, together with coarse and fine aggregates (gravel, crushed stone or sand), and water. The proportions chosen are determined by the performance or composition necessary to meet the specification, handling or performance requirements of the product. Small amounts of admixtures may be included to modify the properties of the mix to improve handling characteristics, shelf life, strength and durability.

Cement and other powdered cementitious materials are delivered by road in bulk tankers. The powdered materials are transferred through a closed system of heavy duty hoses to storage silos, using compressed air as a carrier medium. Silos are vented to allow air to escape through filters, so controlling dust emission.

The delivery of powder from road tankers relies on a compressor (blower) mounted on the tanker lorry providing a supply of air which is used in three ways:

- To pressurise the tank vessel with air so that inside the vessel there is significant pressure which helps feed the powder out of the tankers. The tank is pressurized at the start of the blow, and can be re-pressurised as necessary during the course of discharging;
- A separate feed from the air supply passes to the distributor system which fluidizes the powder around the distributor plate;
- A third feed of air receives fluidised powder and flows from the tanker, along the connecting pipe work and into the silo. The powder fed from the distributor system is thus transferred to the silo in the air stream.

To control the generation of dust from the process the following will be incorporated into the system to achieve No visible airborne dust emissions across the site boundary.

- The cementitious delivery systems into the silos will be by closed loop at less than 2m³/min.
- The silos will be fitted with Portasilos Pressure Relief Vales.
- All silo filtration plant should be designed to operate to an emission standard of 10mg/m³ to avoid visible emissions for particulate matter using WAM Filtration Reverse Air Jet self cleaning filters which shall be inspected monthly.
- Each silo will have audible/visual high level and low level alarms.
- The alarms shall activate if the high contents level and/or the over pressure cut out system is reached/activated. This will automatically stop discharges from the delivery vehicle.
- Delivery to silos from road vehicles shall only be made by tankers with an onboard relief valve and filtration system or using a technique that affords an equivalent level of protection to the environment.
- The free fall height of the aggregates will be kept to a minimum height on the conveyors to prevent the unnecessary generation of airborne dust.
- Protection of pipe work from freezing will be undertaken using suitable lagging materials to ensure that the suppression and feed systems will function during the winter season.

- During dry conditions aggregates shall be conditioned with water, if required, to prevent the generation of dust.
- Internal hauls roads between the process and the stockpile areas will be maintained to a high level of cleanliness using mobile sweepers fitted with water spray bars. Where dry weather persists the use of either mobile or static water suppression systems will be used to suppress potential dust emissions arising from the use of the haul roads. All traffic using the site will keep speeds to below 10kph.

Conditions

All conditions shall have immediate effect unless stated otherwise

Emission Limits and Controls

1. All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist. All emissions to air shall be free from persistent fume and free from droplets.
2. There shall be no emission of any dust or other effluvia, arising on the premises, which is prejudicial to health or a nuisance.
3. Where, in the opinion of the regulator, there is evidence of airborne dust from the process off the site, the operator should make their own inspection and assessment, and where necessary undertake ambient monitoring with the aim of identifying those process operations giving rise to the dust. The monitoring may either be by a British Standard method or by a method agreed with the regulator. In these situations, determination of wind direction may be required. Once the source of the emission is known, corrective action should be taken without delay.
4. There will be no emissions of visible dust across the site boundary.

Monitoring, Sampling and Measurement of Emissions

5. Visual assessments of particulate emissions shall be carried out as detailed in the table below:

Particulate Matter	Emission Limit	Type of Monitoring	Monitoring Frequency
Whole Process	No visible emissions across site boundary	Operator observations	At least daily
Silo Inlets and Outlets	No visible emissions	Operator or driver observation	Every delivery

These assessments shall be recorded in the Log Book under the following headings,

- (a) time and date,
 - (b) the assessor's name,
 - (c) silo in use,
 - (d) nature and extent of any particulate emissions,
 - (e) remedial action taken.
6. When any visible escape of dust is observed or when any malfunction or breakdown likely to lead to an escape of dust is found then:
 - (a) an immediate investigation shall be carried out,
 - (b) prompt corrective action shall be taken,
 - (c) the observation, finding, result of the investigation and actions taken shall be entered into the Log Book required by Condition 5 under the headings specified.

7. A Log Book containing all records of monitoring, inspections, other required information and action taken against adverse results shall be maintained and kept by the operator for a minimum of 2 years. The Log Book shall be made available to an Authorised Officer of Wrexham County Borough Council for inspection at any time.

Materials Handling

8. All cementitious materials shall be delivered in bulk tankers and transferred pneumatically to the cementitious material storage silos. Particulate emissions from the silos shall be vented through the WAM Filtration reverse air jet bag filters / cartridge.
9. Seating of pressure relief valves to all silos shall be checked and the valves re-seated if necessary at least once per working week, or before a delivery takes place, whichever is the longer interval. Details shall be recorded in the Log Book required by Condition 5. If it appears that a valve may have become unseated, the delivery shall cease, immediately and no further deliveries shall take place until any faults are corrected.
10. The reverse air jet filters fitted to the cementitious material storage silos shall be inspected at least once per month and details shall be recorded in the Logbook required by Condition 5. If defects or significant blinding are detected, corrective action shall be taken promptly and before another delivery occurs. In any case where cementitious material deliveries are made prior to corrective action being taken, details shall be recorded in the Logbook required by Condition 5.
11. Each silo will have audible and/or visual high level and low level alarms. The alarms shall activate if the high contents level and/or the over pressure cut out system is reached/activated. This will automatically stop discharges from the delivery vehicle. Unless specified otherwise under the manufacturer's instructions, the correct operation of these alarms shall be checked weekly or before a delivery takes place, whichever is the longer period.
12. Delivery to silos from road vehicles shall only be made by tankers with an onboard relief valve and filtration system or using a technique that affords an equivalent level of protection to the environment.

All new silos should be installed with automatic protection systems to control the delivery of material from the tanker such that it is not possible to over-fill or over-pressurise the silo. An alternative automatic system fitted to the tanker may be acceptable, provided that it is demonstrated to protect the silo to an equivalent degree.
13. When charging material from the delivery tanker into the storage silos care shall be taken to ensure that the tanker pressure does not exceed that acceptable for the transfer lines, silos and bag filter plant. Care shall be taken to ensure that the transfer lines are securely connected to the tanker discharge point and silo delivery inlet point.
14. All aggregates and other materials used in the process shall be delivered to the site in sheeted vehicles.
15. The internal transfer of cementitious materials, not being delivery to site storage, shall be by gravity and screw feed.
16. Aggregates shall be discharged into the aggregate hopper in such a way as to prevent or minimise emissions of particulate matter.
17. All dusty material spillages shall be cleaned up promptly by dampening prior to removal. Details of any spillage shall be recorded in the Log Book required by Condition 5.

18. Aggregates stored in stock bays shall be dampened as necessary by water spray to minimise dust emissions. All conveyors used to transfer aggregates shall be covered to minimise dust emissions.

General Operations

19. A copy of this Permit shall be kept on the premises at all times. The Permit shall be posted in a location whereby it can be readily accessed by all staff.
20. If any malfunction or breakdown of processes or plant leading to abnormal emissions occurs then:
- (a) an immediate investigation shall be carried out,
 - (b) prompt corrective action shall be taken,
 - (c) the observation, finding, result of the investigation and actions taken shall be recorded in the Log Book required by Condition 5 under the headings specified.
21. If there is likely to be an effect on the local community, the Public Protection Service Manager, Wrexham County Borough Council shall be informed of the nature of the malfunction or breakdown and the process and plant involved. The Council shall be informed within one hour of the malfunction.
22. Written confirmation of the nature of the malfunction or breakdown and the process and plant involved shall be forwarded to the Public Protection Service Manager, Wrexham County Borough Council before the end of the next working day.
23. All staff shall receive proper training and instruction in their duties relating to control of the process and emissions to air. Particular emphasis shall be given to training for plant start-up, shut down and abnormal conditions. The operator should maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment. These documents should be made available to the regulator on request.
24. Roadways shall be dampened down at regular intervals, particularly during weather conditions likely to give rise to dust, to prevent dust emissions.
25. All areas of hard-standing located within the site boundary shall dampened down at regular intervals, particularly during weather conditions likely to give rise to dust, to prevent dust emissions.
26. All areas which are not hard-standing shall be dampened down at regular intervals, particularly during weather conditions likely to give rise to dust, to prevent dust emissions.
27. All vehicle exhausts, wherever practicable, shall be directed above the horizontal in order to minimise exhausts raising dust when travelling on internal roadways.
28. A high standard of housekeeping shall be maintained.
29. A comprehensive maintenance programme shall be instigated on site. A written copy of the programme shall be available on site and accessible to staff. Essential spares and consumables shall be held on site or be available at short notice from a supplier in order to rectify breakdowns rapidly.
30. A regular programme of cleaning shall be instigated on site. A written copy of the cleaning programme shall be available on site and accessible to staff.

31. The process shall, at all times, be under the supervision of a competent person.
32. If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition "change in operation" means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.
33. The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation, which is not regulated by any other condition of this permit.

END OF PERMIT

SUPPLEMENTARY NOTES

These notes do not comprise part of the Permit but contain guidance relevant to the Permit.

Inspections and Powers of Entry

Regular inspections will be conducted by Authorised Officers of Wrexham County Borough Council to check and ensure full compliance with the Permit Conditions. These inspections may be undertaken without prior notice.

Under Section 108(6) of the Environment Act 1995 (as amended by Schedule 10 paragraph 16 of the Pollution Prevention and Control Regulations 2000) Authorised Officers of Wrexham County Borough Council have been granted powers of entry into any premises for the purposes of discharging relevant duties under the Pollution Prevention and Control Regulations 2000.

Residual Duty

Best Available Technique (BAT) is described as the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

It should be noted that management systems are an integral part of BAT. It is not sufficient for an operator to have adequate technical control. Operating staff must be properly trained and regulators will recognise and encourage environmental management systems e.g. Eco-Management Audit Scheme and ISO 14001 Environmental Management Systems.

Other Statutory Requirements

This Permit does not detract from any other statutory requirement, such as the need to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, Building Regulations approval, or a Waste Disposal licence.

Correspondence and Reporting

All correspondence shall be forwarded to:

Chief Public Protection Officer
Public Protection Service
Wrexham County Borough Council
Ruabon Offices
High Street
Ruabon
Wrexham
LL14 6NH

Other contact details:

Telephone No: 01978 813700 (08.45 hours to 17.15 hours Monday to Thursday)
(0.8.45 hours to 16.45 hours Fridays)

Telephone No: 01978 367900 (All other times)

Fax No: 01978 813709

Permit Transfers

Transfers of Permits between operators must be the subject of a joint application to Wrexham County Borough Council, who will consider the application. If the Council considers that the conditions specified in the Permit will not be complied with, the permit will not be transferred. Unless a longer period is agreed, Wrexham County Borough Council will determine the application within 2 months. Failure to do so will be deemed a refusal. There is a right to appeal against refusal (See section relating to Appeals).

Failure to inform Wrexham County Borough Council of a change of operator is an offence.

Permit Reviews

Wrexham County Borough Council must periodically review the conditions of the Permit and may do so at any time.

Variation of Conditions

Wrexham County Borough Council may vary the conditions of the Permit at anytime. It is also possible for the operator to apply for a variation to the Permit conditions. Further details of this procedure and the relevant application forms can be obtained from the Environmental Protection Section of Wrexham County Borough Council. The prescribed fee must accompany all applications.

There is a right to appeal against a change of conditions and against a refusal to grant an application for change. (See section titled appeals)

Surrender of a Permit

Where an operator of a Part B activity intends to cease operations, Wrexham County Borough Council must be informed.

Noise

This Permit does not include reference to noise. Statutory noise nuisance is regulated separately under the provisions of Part III of the Environmental Protection Act 1990.

Offensive Odour

Where a process has the potential to give rise to offensive odour, then specific technical conditions are included in the Permit which are designed to prevent (rather than minimise) the escape of offensive odour. These specific conditions are supplemented with a general condition to require emissions to be free from offensive odour beyond the permitted process boundary.

In determining whether odour is offensive then Officers of the Council will take into account the nature, persistence, frequency and intensity of the odour. Additionally, Officers of the Council will take into account circumstances where offensive odours are released for reasons that are beyond the direct control of the operator. Allowance will be made for such occurrences, and it will not be a breach of the condition in a particular case, if the operator can demonstrate that he or she took all reasonable steps and exercised due diligence to prevent the release of offensive odour and to minimise the duration of the release.

Health and Safety

This Permit is given in relation to the requirements of Environmental Permitting (England and Wales) Regulations 2007. It must not be taken to replace any workplace responsibilities the operator has under Health & Safety legislation. Whenever emission limits quoted in this Permit conflict with occupational exposure limits set under the Health and Safety at Work Act 1974 to secure the health, safety or welfare of persons at work, the tighter limit should prevail.

Processes must be operated in order to protect persons at work as well as the environment. In achieving conditions in this Permit the operator must not adopt any course of action that would put at risk the health, safety or welfare of persons at work.

Appeals

An operator may appeal to the Secretary of State for the following reasons:-

- (a) refusal of an application
- (b) refusal of an application to vary the Permit
- (c) the service of a revocation , enforcement or suspension notice
- (d) determination that information is not commercially confidential.
- (e) refusal of an application to transfer or surrender a Permit
- (f) the service of a variation notice on the Local Authority's initiative.

Further information can be found in the Environmental Permitting (England and Wales) Regulations 2007 (Part 2, Chapter 5, Regulation 31).

Offences

Offences committed against any of the requirements of the Pollution Prevention and Control Regulations are punishable, on summary conviction, of a fine up to £20,000 and /or up to 6 month imprisonment. Conviction in the Crown Court may lead to an unlimited fine and/or to imprisonment for up to 5 years.

The Environment Agency Local Authority Unit (LAU) operate a Local Air Pollution Prevention Control (LAPPC) information and briefing web-site on behalf of the Department of the Environment, Food and the Rural Affairs (DEFRA) at the internet addresses below:

www.environment-agency.gov.uk/business/lappc

www.defra.gov.uk

APPENDIX B: WREXHAM UDP - Most Relevant Policies

Policy PS1

New development for housing, employment and community services will be directed to within defined settlement limits/employment areas.

Policy PS2

Development must not materially detrimentally affect countryside, landscape/townscape character, open space or the quality of the natural environment.

Policy PS3

Development should use previously developed brownfield land comprising vacant, derelict or underused land in preference to the use of greenfield land, wherever possible, particularly so where greenfield land is of ecological, landscape or amenity value, or comprises agricultural of grades 1, 2 or 3a quality.

Policy GDP1

All new development should:

- a) Ensure that built development in its scale, design and layout, and in its use of materials and landscaping, accords with the character of the site and makes a positive contribution to the appearance of the nearby locality.*
- b) Take account of personal and community safety and security in the design and layout of development and public/private spaces.*
- c) Make the best use of design techniques, siting and orientation in order to conserve energy and water resources.*

- d) Ensure safe and convenient pedestrian and vehicular access to and from development sites, both on site and in the nearby locality.*
- e) Ensure that built development is located where it has convenient access to public transport facilities, and is well related to pedestrian and cycle routes wherever possible.*
- f) Ensure the safety and amenity of the public and safeguard the environment from the adverse effects of pollution of water, land or air, hazards from industry and quarrying, and associated noise, odour or vibration arising from development.*
- g) Secure public services (e.g. gas, water, electricity) to development at minimum public cost.*
- h) Safeguard sites and areas of nature conservation and wildlife interest, and to provide new habitats where there is an unavoidable loss of existing habitats and areas of wildlife interest.*
- i) Ensure that development does not result in, or is subject to, flooding, soil erosion, landslides or contamination, either on or off the site.*
- j) Have regard to the need to safeguard those areas that possess a strong Welsh cultural and/or linguistic identity from development that could harm this identity.*
- k) Secure the development of sustainable communities, through the promotion of the economic, social and environmental well-being of the area.*

Policy E1

Sufficient land will be allocated for employment development between 2001 and 2011 at...

[Llay Industrial Estate..].

APPENDIX C: HIGHWAY ASSESSMENT

1. Introduction

This appendix assesses the potential traffic impacts resulting from operation of the concrete and mortar batching plant facility as described within the Supporting Statement.

As mentioned in the Supporting Statement, a previous application (Ref. P/2009/0593) for the same type of development submitted in July 2009 was refused on highways terms by the Planning Authority on the 18th September 2009 for the following reason:

“The access is of restricted width and increased use of it is likely to cause nuisance and difficulty to nearby properties and be detrimental to road safety”.

This report is structured in the following way to provide the supporting information required:-

Section 2 outlines the proposed development;

Section 3 reviews the level of traffic to be generated by the batching plant;

Section 4 considers the impact of traffic associated with the batching plant on the access road to the site;

Section 5 assesses the suitability of the entrance to the batching plant; and

Section 6 presents conclusions.

2. Proposed Development

The proposed concrete and mortar batching plant facility lies within the Llay Industrial Estate, to the north of Wrexham and is part of the extensive Marshalls factory site. The factory site has been closed since May 2009 due to a decline in market demand. When operational it generated between 80 and 120 HGV movements per day. The application site comprises an area of approximately 0.3ha of land lying to the north eastern boundary of the former

concrete product works site as indicated on drawing number D128251.002 of the Supporting Statement.

The proposed batching plant is a small volume batch production unit. It has a production capacity potential of 60m^3 per hour when operating continuously at maximum load and capacity. However actual production volumes can be expected to be significantly less than production capacity.

The proposed concrete and mortar batching plant will provide permanent employment for up to 10 members of staff consisting of 4 HGV drivers, 3 plant personnel, 2 lab staff and a regional manager.

Generally the site operates from Monday to Friday between 06:00 and 18:00 and Saturday between 06:00 and 13:00. The plant will not operate on Sundays or Bank Holidays.

Access to the site is via the existing Industrial Estate access road, off the B5102 (Llay Road) via Aerial Road.

3. Traffic Generation

The volume and profile of vehicle generation associated with the batching plant has been derived from information provided by Marshalls based on recent production at the site.

Operational practice at other Premier Mortars sites indicates that the plant could be expected to supply a **maximum** of 75m^3 of mortar and concrete per day. Mixer lorries have a design capacity of up to 6m^3 therefore this equates to approximately 15 HGV deliveries per day using up to four mixer lorries. Deliveries of primary raw materials (sand, aggregate and cement) would not exceed 4 HGV deliveries per day. This equates to 38 HGV movements (in and out = 2 movements) per day or 3 / 4 HGV movements per hour over the 12 hour working day. **Table 3.1** summarises daily HGV generation.

A more **typical** daily operation based on recent production at the batching plant is 10 HGVs departing per day using three mixer lorries and 3 HGV deliveries of raw materials per day (see **Table 3.1**). This equates to 26 HGV movements per day or 2 / 3 HGV movements per hour over the 12 hour working day.

Table 3.1: HGV Generation per day

	Aggregate	Cement	Mortar / Concrete	Total	Average HGV movements per hour
Predicted maximum deliveries per day	3	1	15	19	3 / 4
Typical deliveries per day	2	1	10	13	2 / 3

Marshalls staff will arrive at the site between 06:00 and 08:00 and leave between 16:00 and 18:00. **Table 3.2** shows the staff arrival and departure profile.

Table 3.2: Staff Arrivals and Departures

Hour Beginning	Arrivals	Departures
06:00	5	0
07:00	5	0
08:00	0	0
09:00	0	0
10:00	0	0
11:00	0	0
12:00	0	0
13:00	0	0
14:00	0	0
15:00	0	0
16:00	0	5
17:00	0	5
TOTAL	10	10

4 Highway Impact

To assess the impact of the development, Scott Wilson commissioned Road Data Services Ltd to conduct a 7-day ATC on Aerial Road. The location of the ATC is shown in **Attachment A**. This survey was undertaken between the 17th and 23rd November 2009. **Table 4.1** shows the base weekday traffic flows. The raw data is shown in **Attachment A**.

Table 4.1: 2009 Base Flows (Aerial Road)

Hour Beginning	Aerial Road (Two-Way Total)		
	Car	HGV	Bus
00:00	1	0	0
01:00	1	0	0
02:00	0	0	0
03:00	1	0	0
04:00	1	0	0
05:00	8	0	0
06:00	9	1	2
07:00	26	2	0
08:00	37	4	0
09:00	32	5	0
10:00	28	4	2
11:00	29	3	1
12:00	29	4	1
13:00	27	3	0
14:00	29	4	1
15:00	32	4	0
16:00	29	1	0
17:00	22	0	0
18:00	4	1	0
19:00	2	0	0
20:00	3	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
TOTAL	349	35	8

As the concrete and mortar batching plant is currently operational, development flows associated with the batching plant are included within the base flows shown in **Table 4.1** above.

To ensure that Aerial Road can accommodate development traffic, a comparison of forecast base plus development flows against design flow capacity has been undertaken.

TA79/99 (DMRB, Volume 5, Section 1) states that the capacity of a two-way single carriageway road in any one hour is 1,850 vehicles. The maximum base plus development two-way flow in any one hour shown in **Table 4.1** above is 41 vehicles in hour 08:00 – 09:00. This analysis demonstrates that Aerial Road is forecast to operate well below its design threshold.

5 Suitability of Entrance to Batching Plant

One of the reasons for refusal in the previous application (Ref. P/2009/0593) was that the entrance to the site was of restricted width. Indeed the access gate is measured at 5.5 metres and is therefore too narrow for two HGVs to pass.

However, there is ample room within the site for a departing vehicle to give-way to allow an arriving vehicle to proceed into the site. Forward visibility for the vehicle departing the site measures approximately 100 metres (see **Attachment B**) therefore the driver of the departing vehicle can make an informed decision as to whether they need to give-way to the arriving vehicle.

Indeed there is a procedure in place at the site whereby signage has been erected to inform drivers of departing vehicles to give way to arriving vehicles as indicated by **Photograph 1** shown below.

Photograph 1: Erection of Signage



6 Conclusion

This report has been prepared to assess the vehicle impact resulting from the operation of a concrete and mortar batching plant located on Llay Industrial Estate, Llay, near Wrexham.

Information on the volume and profile of vehicle generation has been derived from information provided by Marshalls and knowledge of the sites typical operating characteristics.

A 7-day ATC survey was conducted on Aerial Road to provide a link flow on the access road to the industrial estate.

An assessment on the suitability of the site entrance has been undertaken and shows that there is ample room for a departing vehicle to give-way to an arriving vehicle at the site entrance. Indeed forward visibility from the site entrance along Aerial Road measures 100 metres. To ensure drivers of

departing vehicles give-way to arriving vehicles, signage has been erected at the site entrance.

In summary, it is not considered that the addition of up to 29 vehicles (58 two-way movements) per day generated by the concrete and mortar batching plant will have a material impact in terms of capacity or safety on the local road network.

APPENDIX D: NOISE ASSESSMENT

1. Introduction

This appendix assesses the potential noise impacts resulting from operation of the facility as described within the supporting statement. The facility will operate 0600 to 1800 Monday to Friday and 0600 to 1300 on Saturday.

The significance of any noise effects are assessed at the closest residential receptors and also within the closer retail property (tile showroom) which adjoins a section of the southern boundary of the site.

The assessment benefits from several noise surveys undertaken on the boundary of the site itself, at the closest residential receptor location and within the tile showroom.

The scope of the assessment has been discussed and agreed with Nick Minshall, Wrexham County Borough Council (WCBC) Environmental Services at a meeting on 17.09.09 and during subsequent correspondence on 16.11.09.

2. Planning Policy

2.1 TAN 11: Noise

Planning Guidance (Wales) Technical Advice Notice (Wales) 11, Noise (TAN 11¹) was introduced by the Welsh Office in 1997. TAN 11 was issued to:

'...provide advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business. It outlines some of the main considerations which local planning authorities should take into account in drawing-up development plan policies and when determining planning applications for development which will either generate noise or be exposed to existing noise sources.'

For new developments that would introduce noise into an area TAN 11 confirms, in Annex B, that it is appropriate to continue using previously established noise assessment methods, for example for 'Noise from road

traffic' (Annex B, paragraph B1) and 'Noise from industrial and commercial developments' (Annex B, paragraphs B17-B18).

2.2 MTAN 1: Aggregates

Minerals Planning Policy (Wales) Minerals Technical Advice Note (Wales) 1: Aggregates (MTAN 1²) states in paragraph 87 that 'conditions on planning permissions should identify the noise sensitive properties at which noise limits are set and establish a scheme of monitoring that identifies how, where and when noise is to be measured and how the results will be used and assessed.'

With regards to noise limits MTAN 1 states in paragraph 88 that noise limits should relate to the background (L_{A90}) noise levels, subject to a maximum daytime noise limit of 55 dB(A) where background noise levels exceed 45 dB(A). Where background noise is less than 45 dB (A), noise limits should be defined as the background noise level plus 10 dB (A). Night-time working limits should not exceed 42 dB (A) at noise sensitive properties. Daytime working is defined as 0700-1900 hours and night-time as 1900-0700 hours.

Noise limits should be set in terms of $L_{Aeq,T}$ over a 1-hour measuring period. L_{Aeq} is the noise index used to describe the "average" level of noise that varies with time (T) and should be measured "free-field" that is, at least 3.5 metres away from a façade to prevent reflection of noise by any façade that faces the noise source.

Background noise levels should be measured in terms of the $L_{A90,T}$ over a 1-hour measuring period. L_{A90} is the level exceeded for 90% of the measuring period T.

2.3 BS 4142

BS 4142: 1997 'Method for rating industrial noise affecting mixed residential and industrial areas'³ provides a methodology for assessing the significance of new industrial type noise sources affecting residential properties.

The basis of the standard is a comparison between the background noise level in the vicinity of residential locations and the specific noise level of the industrial noise source under consideration. The relevant parameters in this instance are as follows:

- background noise level - $L_{A90,T}$ - defined in BS 4142 as the 'A' weighted sound pressure level at the assessment position, without the industrial source operating, which is exceeded for 90% of the given time interval, T, measured using the fast time weighting.
- specific noise level - $L_{Aeq,T}$ - the equivalent continuous 'A' weighted sound pressure level of the industrial noise source in question at the assessment position over a given time interval, T.
- rating level - $L_{Aeq,T}$ - the specific noise level plus any adjustment made for the characteristic features of the noise.

BS 4142 indicates that the ambient background noise level, L_{A90} , should be measured at a receptor and compared to the noise level from the industrial source (the rating level), expressed as a free field L_{Aeq} .

During the daytime (07:00-23:00) a one hour assessment period is recommended. At night a 5 minute assessment period is used.

BS 4142 attempts to account for acoustic characteristics present in a noise source such as a 'distinguishable, discrete, continuous note (whine, hiss, screech, hum etc.)' or 'distinct impulses (bangs, clicks, clatters or thumps)' by applying an additional +5 dB (A) weighting to the specific level of the source (i.e. a 5 dB (A) 'penalty') before its comparison with the ambient background noise level. The penalty should also be applied if 'the noise is irregular enough to attract attention'.

BS 4142 suggests that a rating level excess of up to 5 dB (A) above the ambient background noise level at the receptor is of marginal significance. This has been interpreted, since the introduction of the Standard in 1967, that a 5 dB (A) excess due to a new, industrial noise source is, in general, acceptable. An excess of between 5 and 10 dB (A) falls into an intermediate area where local conditions may affect the likelihood of complaints arising (such as local feeling towards the development, the nature of the development etc.). An excess above the background noise level of greater than 10 dB (A) can be taken as a positive indication that complaints are likely.

WCBC have no particular local interpretation of this Standard and therefore a rating level of 5 dB above the background level is considered 'acceptable' in this assessment.

2.4 BS 8233

BS 8233: 1999 'Sound Insulation and Noise Reduction for Buildings'⁴ provides guidelines on acceptable internal noise levels during the day and night for a range of building uses.

The most applicable building use in BS 8233 to the retail area of the tile showroom is considered to be a department store, this is the only 'retail' type use identified in BS 8233. For department stores, 50 dB $L_{Aeq,T}$ is considered 'good' for speech and telephone communications, and 55 dB $L_{Aeq,T}$, 'reasonable'.

The tile showroom also contains a warehousing area. BS 8233 recommends that for 'garages and warehouses' 65 dB $L_{Aeq,T}$ is considered 'good' for industrial working conditions, and 75 dB $L_{Aeq,T}$, 'reasonable'.

3. Methodology

In order to assess the potential effects of the facility upon the existing environment, it is necessary to establish a good understanding of the acoustic climate of the area and the likely levels of noise to be introduced. Consequently, a number of noise surveys have been undertaken on the site itself and at selected surrounding locations. Details of the noise surveys are provided in the following sections.

3.1 Background noise survey

Between 05:55 and 12:15 on 17.11.09, noise levels were continuously monitored adjacent to Llay Road at a location which is considered representative of the closest noise sensitive (residential) properties to the site, see location 7a on Figure D.1. The closest residential properties are:

- 'Mountain View', First Avenue; and
- 2, Acacia Court

During the background noise survey the facility was operating normally. However, no noise from the facility was audible at the measurement position. Therefore the results are considered to be representative of background noise levels at the closest residential properties.

3.2 Site boundary and specific noise measurements

Between 10:00 and 14:00 on 09.09.09 continuous noise monitoring was undertaken for two hours at each of ten locations on the site boundary, see Locations 1a to 5b on Figure D.1. This monitoring was initially undertaken to facilitate the formation of a noise related planning condition being proposed at the site boundary. Details of all site activities and operational times were noted during the monitoring, which has enabled the measured noise levels to be correlated with ongoing activities, and the calculation of sound power levels for specific items of plant.

On 17.11.09, additional noise measurements were taken adjacent to two specific activities which did not occur on site on 09.09.09:

- Aggregate (gravel) delivery; and
- Cement delivery and silo charging.

3.3 Noise measurements at the tile showroom

On 17.11.09 between 09:50 and 10:10 noise measurements were undertaken within the tile showroom (locations 6a and 6b) simultaneous to measurements external to the façade facing the batching plant site (between Location 4a and 4b). This was undertaken to establish the transmission loss afforded by the façade of the tile showroom.

During these measurements, significant activities were ongoing on site, including a cement delivery and the wheeled loader loading aggregate into the reception hopper.

Two sets of measurements were undertaken within the tile showroom, see Figure D.1:

- Within the retail area of the showroom (location 6a) ; and
- Within the storage/warehouse area (location 6b) which comprises approximately one third of the showroom building at its western end.

Analysis of the results has provided a 'level difference' which can facilitate the proposal of a noise condition in order to sufficiently protect the occupants of the showroom.

3.4 Instrumentation

The following instruments (for which calibration certificates are available upon request) were employed during the measurements:

- Norsonic integrated sound level meter, type 118, serial number 31441;
- Norsonic integrated sound level meter, type 118, serial number 31442;
- Brüel & Kjær integrated sound level meter, type 2238, serial number 2562627; and
- Brüel & Kjær field calibrator, type 4231, serial number 2217876.

The calibration of the instrumentation was checked immediately before a measurement at each location and verified at the end. No significant changes ($\pm 0.5\text{dB}$) in the calibration level were noted.

All noise measurements were taken at 1.5 metres above ground level. The background, site boundary and specific activity noise measurements were all taken in a free-field position at least 3.5 metres from any reflecting surfaces, complying with the requirements of British Standard BS 7445 'Description and Measurement of Environmental Noise'⁵. The noise measurements external to the tile showroom were taken at approximately 2 metres from the showroom façade.

During the background noise survey at the closest residential properties the noise monitoring equipment was programmed to log various parameters including the L_{Aeq} and L_{A90} values in 5-minute contiguous intervals. During the site boundary measurements, the equipment was programmed to log at 1-minute contiguous intervals. During the measurements of additional specific activities and tile showroom noise measurements, the equipment was programmed to log at contiguous 1-second intervals.

Meteorological conditions were noted during each measurement period to be suitable for noise measurements i.e. no precipitation and low wind speeds.

3.5 Noise propagation

Worst case noise levels due to the operation of various plant at the facility have been calculated at the closest residential receptors using recognised acoustic formulae. The predictions are based on the sound power level of the source, distance to the receptor, the shielding effect of any intervening

buildings, and on-times of the plant / activities. The predictions follow the noise prediction method in BS 5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites'⁶. In accordance with BS 4142, operational noise levels have been calculated over a 1-hour period during the day and over a 5-minute period at night (i.e. before 07:00).

3.6 Road traffic noise

A qualitative assessment of HGV movements associated with the development has been undertaken. The data for the number of HGV movements are contained within the main body of the supporting statement.

4. Results

4.1 Background noise survey

Measured noise levels throughout the background noise survey are presented in Figure D.2 and summarised in Table D.1.

Figure D.2: Measured noise levels at Location 7a, near the closest residential receptors on 17-11-09

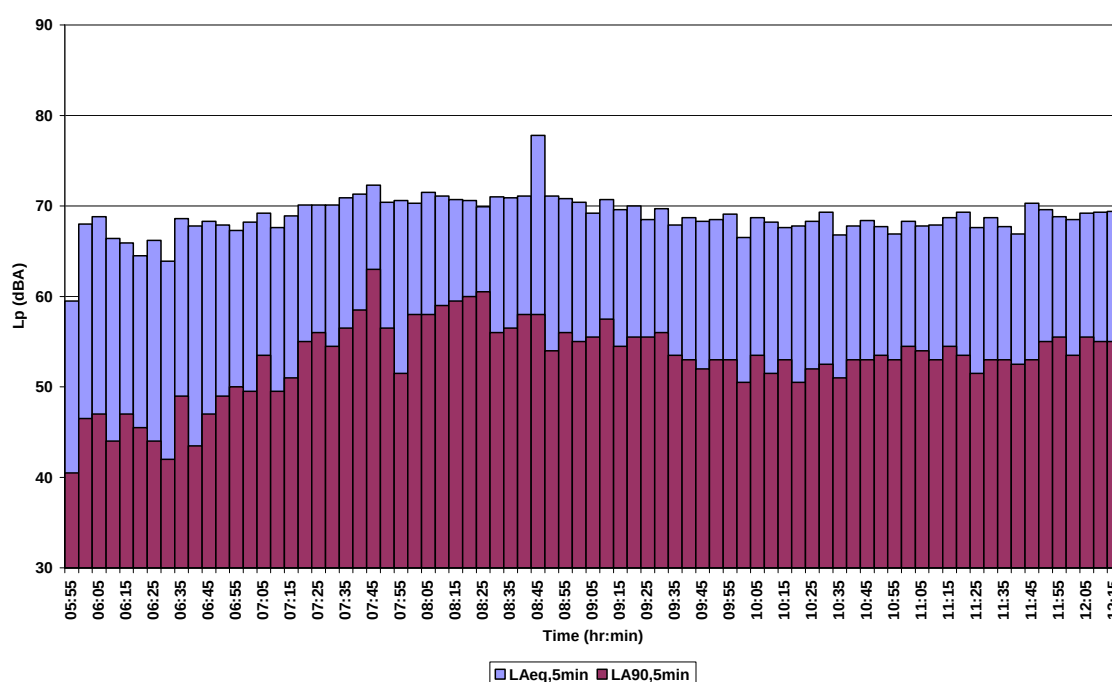


Table D.1: Summary of measured noise levels at Location 7a, near the closest residential receptors on 17-11-09

Start Time	$L_{Aeq, 1hr}^1$ (dB)	$L_{A90, 1hr}^2$ (dB)
06:00	67	46
07:00	70	55
08:00	72	58
09:00	69	55
10:00	68	52
11:00	69	54

¹ Logarithmic average of $L_{Aeq, 5min}$ measurements

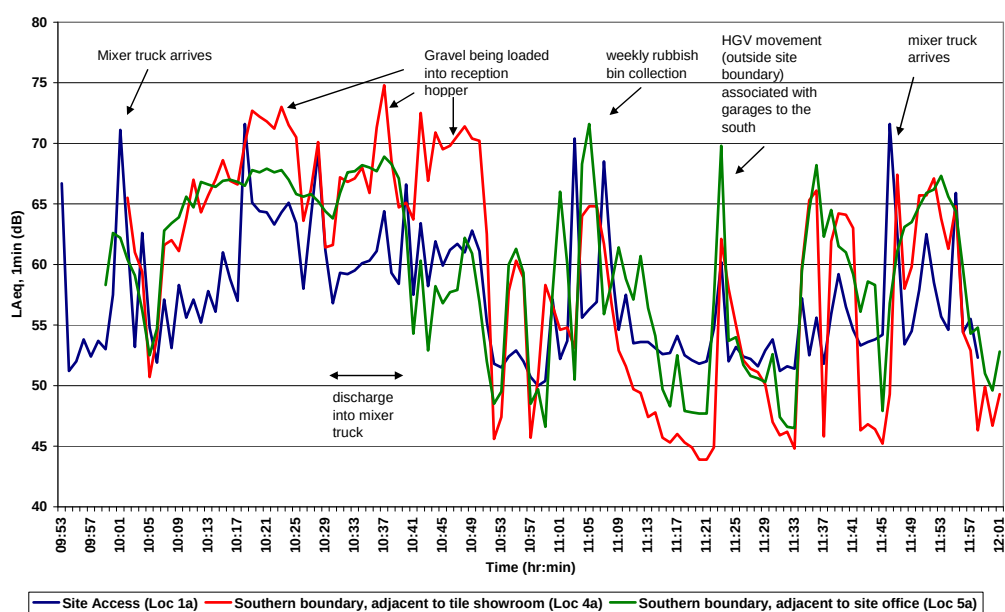
² Arithmetic average of $L_{A90, 5min}$ measurements

The dominant noise source noted throughout the measurement period was road traffic noise. Notably, no noise from the facility was audible at this measurement location; the facility was operating normally throughout the monitoring period.

4.2 Site boundary noise surveys during specific activities

Full details of the site boundary noise surveys and a presentation of the results were provided to Nick Minshall and Paul Campini of WCBC Environmental Services on 17.09.09⁷. A sample of the measurements is illustrated within Figure D.3.

Figure D.3: Site boundary noise measurements on 09.09.09



From these noise surveys and from additional measurements undertaken on 17.11.09, the following sound power levels have been attributed to the most significant on-site activities / plant:

- Cement delivery (charging silo) 96 dB(A)
- Aggregate delivery (gravel) 111 dB (A)
- Mixing and cement discharge 105 dB (A)
- Loading aggregate into hopper 105 dB (A)
- General loading shovel movements 104 dB (A)
- HGV movements 104 dB (A)

The listed sound power levels have been employed to predict the resulting worst case noise levels at the closest residential receptors.

4.3 Noise survey within tile showroom building

Table D.2 contains the results of measurements within the tile showroom (retail and warehouse areas) taken simultaneously to measurements outside the showroom façade facing the batching plant site. Indicative measurement locations are shown in Figure D.1.

Table D.2: External to Internal Level Difference (dB)

Area of Showroom building	Internal Noise Level $L_{Aeq,T}$ (dB)	External Noise Level $L_{Aeq,T}$ (dB)	Level difference $L_{Aeq,T}$ (dB)
Warehouse area	60 ¹	76 ¹	16
Retail area	34 ²	67 ²	33

¹ based on approx 7 mins of 1-second L_{Aeq} measurement data taken between 09:51 and 09:59 at location 6b

² based on approx 4 mins of 1-second L_{Aeq} measurement data taken between 10:06 and 10:11 at location 6a

The noise levels reported in Table D.2 have been chosen from the total measurement data to demonstrate the worst-case effect of noise from the site when activities within the tile showroom itself were not occurring (e.g. deliveries, staff and customers talking and moving around).

In the retail area of the showroom, on-site activities were just audible, but were not considered intrusive. In the warehouse area, on-site activities were clearly audible.

The relatively low level difference of 16 dB $L_{Aeq,T}$ between internal and external measurements in the warehouse area compared to 33 dB $L_{Aeq,T}$ in the showroom area is likely to be a result of a significant gap observed between the wall and roof of the warehouse area, through which daylight could be seen during the noise monitoring.

The 11 dB $L_{Aeq,T}$ (dB) difference between the two sets of external measurements was due to the revving of a lorry engine, close to the external monitoring position whilst measurements were being taken within the warehouse area of the showroom.

4.4 Noise predictions – closest sensitive (residential) receptor

Table D.3 outlines the predicted daytime 07:00-18:00 and night time 06:00-07:00 noise levels due to the operation of the facility at the closest residential property (Mountain View).

Table D.3: Predicted free-field operational noise levels at Mountain View

Receptor	Daytime $L_{Aeq,1h}$ (dB)	Night $L_{Aeq,5mins}$ (dB)
Mountain View	43	40

The predictions are based on the following assumptions:

- Distance from activities at the facility between 190m to 210m;
- Acoustic screening from intervening buildings of 10 dB; and
- On-times of various plant and activities per hour (daytime) and per 5 minutes (night-time) based on site observations.

4.5 Noise predictions – inside tile showroom

The highest $L_{Aeq,T}$ noise measurement taken on the site boundary on 09.09.09 was 65 dB (free-field) at location 4a. On 17.11.09 the highest $L_{Aeq,T}$ on the site boundary was 76 dB (free-field) taken at location 4b adjacent to the showroom facade.

An external free field level of 76 $L_{Aeq,T}$ dB , with a 33 dB level difference will result in a noise level of 43 $L_{Aeq,T}$ inside the retail area.

An external free field level of 76 $L_{Aeq,T}$ dB , with a 16 dB level difference will result in a noise level of 60 $L_{Aeq,T}$ inside the warehouse area.

5. Impact Assessment

5.1 Closest sensitive residential receptor

Table D.4 shows the predicted operational $L_{Aeq,T}$ and the measured L_{A90} background levels.

Table D.4: Comparison of predicted operational $L_{Aeq,T}$ and measured L_{A90} (dB) at closest residential receptor Mountain View

Time period	Measurement period (T)	Predicted $L_{Aeq,T}$ (dB) (1)	Measured $L_{A90,T}$ (dB) (2)	Difference (1) – (2) (dB)
06:00 to 07:00	5 min	40	46	-6
07:00 to 18:00	1 hour	43	52 to 58	-9 to -15

BS 4142

No noise from the site was distinguishable at the monitoring location from other industrial estate noises, or in excess of existing road traffic noise. Therefore, it is considered that addition of the BS 4142 +5 dB 'penalty' is not warranted, and the predicted $L_{Aeq,T}$ is the rating level to be used in the BS 4142 assessment.

The predicted rating level for the night-time period from 06:00 to 07:00 of 40 dB $L_{Aeq,5min}$ is 6 dB below the corresponding $L_{A90,5min}$, in terms of an average of the measured 5-minute periods. In terms of the lowest measured $L_{A90, 5min}$ of 42 dB, the predicted $L_{Aeq, 5 min}$ remains 2 dB less.

For the period between 07:00 and 18:00 the predicted rating level of 43 dB $L_{Aeq,1hr}$ is 9 dB below the lowest measured $L_{A90,1hr}$ and 15 dB below the highest measured $L_{A90,1hr}$.

BS 4142 states that if the rating level is more than 10 dB below the measured background noise level then this is a positive indication that complaints are unlikely. A difference of around + 5 dB is of marginal significance and a difference of around +10 dB or more indicates that complaints are likely.

Therefore for the nearest residential receptor during day-time hours complaints are unlikely and for the night-time period (06:00 to 07:00) the threshold for marginal significance is typically 11 dB higher than the predicted noise levels.

The predicted operational noise level corresponds with the observation during the monitoring at the residential property (location 7a) that activities at the facility were not audible.

MTAN 1

The predicted operational noise level in the night-time period (06:00 to 07:00) of 40 dB $L_{Aeq,5min}$ is 2 dB below the suggested night time limit of 42 dB in MTAN1. It should be noted that the MTAN1 limit is over a full one-hour period rather than a 'worst case' 5 minutes as required by BS 4142. In addition, existing ambient L_{Aeq} and L_{A90} noise levels at the residential property between 06:00 and 07:00 already exceed the MTAN1 suggested limit of 42 dB, $L_{Aeq,1h}$ when the facility is not audible.

From 07:00 to 18:00 the predicted operational noise level of 43 dB $L_{Aeq,1hr}$ is 12 dB below the MTAN1 suggested daytime limit of 55 dB $L_{Aeq,1hr}$ limit. Again existing ambient noise levels at the residential property already exceed 55 dB when the facility is not audible, due to the influence of other local noise sources, in particular road traffic.

5.2 Road Traffic Noise

An estimate of the maximum number of HGV movements at the facility has been provided within the supporting statement of 38 per day (19 in and 19 out). This gives an hourly average of 3.2 movements during the operating hours 06:00 to 18:00. It has been advised that a maximum of 4 movements could occur in the period 06:00 to 07:00.

A more typical number of HGV movements has also been provided as 25 per day, giving an hourly average of 2.1 movements per hour during the operating hours 06:00 to 18:00.

The tile showroom is open from 09:00 so vehicle movements between 06:00 and 09:00 should not affect the operation of the showroom.

A relatively large change in traffic conditions is required to result in a significant effect on existing traffic noise levels. For example, an increase in traffic flows of 25% results in only a 1 dB increase in traffic noise.

Observations while on site and the ambient noise levels monitored at location 7a, facing onto Llay Road, strongly indicate that the number of HGV movements generated by the batching plant (maximum 4 movements per hour) would be very unlikely to affect ambient traffic noise levels at the tile showroom or residential receptors on Llay Road.

5.3 Noise within the Tile Showroom

Retail area

The worst case measured external free field level of 76 $L_{Aeq,T}$ dB, is predicted to result in a noise level of 43 dB $L_{Aeq,T}$ inside the retail area.

The BS 8233 guideline for internal noise levels in a retail environment is 50 dB, $L_{Aeq,T}$ for good conditions for speech or telephone conversations, and 55 dB for reasonable conditions. The worst case internal noise levels of 43 dB, L_{Aeq} inside the retail area of the tile showroom are well below these guidelines. It should be noted that this internal noise level is very much a worst case as it relates to an activity of very limited duration occurring immediately adjacent to the tile showroom.

Warehouse area

An external free field level of 76 $L_{Aeq,T}$ dB, is predicted to result in a noise level of 60 $L_{Aeq,T}$ inside the warehouse area.

The BS 8233 guideline for internal noise levels in a warehouse environment is 65 dB, $L_{Aeq,T}$ for good industrial working conditions, and 75 dB for reasonable conditions. The worst case internal noise levels of 60 dB, L_{Aeq} inside the warehouse area of the tile showroom are well below these guidelines. Again it should be noted that this internal noise level is very much a worst case as it relates to an activity of very limited duration occurring immediately adjacent to the tile showroom. In addition, the visible gap between the wall and roof of the warehouse will considerably reduce the attenuation of external noise by the showroom facade.

5.4 Mitigation

Based on the assessment outlined above no additional mitigation measures are considered to be required to protect either residential properties or the tile showroom.

5.5 Noise condition

In order to protect occupants within the tile showroom an external free field limit of 81dB $L_{Aeq, 1hr}$ (location 4a/4b) would result in the BS 8233 'good' criteria for internal noise levels in a retail environment in the retail area of the showroom and for a warehousing activity in the warehouse area of the showroom being achieved. This is based on the noisiest activity occurring immediately adjacent to the showroom.

The majority of the site boundary is not publically accessible, therefore if a noise condition is to be set, it is recommended that it is set at location 5a, which is easily accessible off Aerial Road at all times. Based on the site boundary measurements and the above assessment, a conservative noise limit of 70 dB $L_{Aeq, 1hr}$ (free-field) is suggested at this location.

6. Conclusions

6.1 Noise impact at nearest residential receptors

The analysis of the effects of the operation of the facility at the nearest residential receptors indicates that the effects are not significant. The criteria in MTAN 1 for both day-time and night-time (06:00 to 07:00) operations at mineral sites are met and predicted operational noise levels are well below the 'marginal significance' criterion in BS 4142. Observations during the background monitoring survey at the nearest residential properties indicate that the operation of the facility is not audible at the properties.

6.2 Noise impact within the tile showroom

The analysis of the measurements of noise from activities at the facility occurring immediately adjacent to the tile showroom indicates the effects inside the showroom are not significant. Internal noise levels inside the retail and warehouse areas are well below the applicable criteria in BS 8233 for 'good' internal noise levels.

6.3 Noise Condition

It is recommended that any noise condition specify location 5a as the monitoring location for any compliance noise monitoring due to accessibility issues and its proximity to the tile showroom. It is considered that a level of 70 dB $L_{Aeq, 1hr}$ (free-field) at this location will result in 'good' internal noise levels in both the retail and warehouse areas of the tile showroom, as recommended in BS 8233.

7. References

1. Technical Advice Note 11 Noise, 1997 (TAN11), Planning Guidance (Wales): Planning Policy, Welsh Office.
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4. British Standard BS 8233, 1999 'Sound insulation and noise reduction for buildings – Code of practice' British Standards Institution.
5. British Standard BS 7445, 1991 'Description and Measurement of Environmental Noise', British Standards Institution, 1991.
6. BS 5228, 2009: 'Code of Practice for Noise and Vibration Control on Construction and Open Sites'. British Standards Institution
7. Premier Mortar Plant, Llay Industrial Estate, 2009, Scott Wilson. Provided to Nick Minshall and Paul Campini of WCBC Environmental Services on 17.09.09

APPENDIX E: GREAT CRESTED NEWT RISK AVOIDANCE METHODOLOGY

Marshalls Mono Ltd

Llay Mortar Plant

Great Crested Newt Reasonable Avoidance Methodology (RAM)

Ref: D113138
July 2009



Revision Schedule

Marshall's Mono Ltd
Llay Mortar Plant
Great Crested Newt Reasonable Avoidance Methodology (RAM)

July 2009

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	July 2009	FINAL	Jo Atkinson Consultant Ecologist	Richard Wilson Principal Ecologist	Richard Wilson Principal Ecologist

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1 Summary

Marshall's Mono Ltd intends to establish a concrete and mortar batching plant on a currently vacant site adjacent to the former concrete block works site in Llay Industrial Estate, Llay, nr. Wrexham.

Great Crested Newts are known to be present and breeding within ponds on the former Llay Colliery which lies immediately adjacent to the northern boundary of the site.

The site itself comprises entirely intact block-paved hardstanding, with no foraging potential and negligible terrestrial refuge/ hibernacula potential for great crested newts.

Following consultation with Wrexham County Borough Council (WCBC) and the Countryside Council for Wales (CCW), and in the knowledge that in the 20 years that Marshall's has operated here there have been no documented encounters with great crested newts, it was determined that despite the negligible potential for encountering great crested newts on the site during works, reasonable precautionary measures should be applied to further minimise the risks of encountering this species.

This Reasonable Avoidance Methodology (RAM) document has therefore been developed to provide a proportionate and reasonable approach to minimising any residual impacts on great crested newts, and to satisfy the concerns of WCBC and CCW that this species will be adequately accounted for.

2 Introduction

2.1 Introduction

Scott Wilson was commissioned by Marshall's Mono Ltd (part of Marshall's plc) to address the potential issues associated with great crested newts (*Triturus cristatus*) accessing a proposed concrete and mortar batching site during construction works and being incidentally captured or injured during works. Following consultation with the WCBC Ecologist (Zara Lomax), it is understood that a 'medium' sized population of great crested newts (in accordance with English Nature guidelines (English Nature, 2001)) is present in waterbodies (ponds) within the former Llay Colliery, which lies immediately adjacent to the northern boundary of the site. However, no information was forthcoming on their precise location.

The potential issue of great crested newts being present on the site was raised by WCBC at a site meeting on the 6th July 2009. Subsequent consultation with the Wrexham County Ecologist and a member of the local Countryside Council for Wales (CCW) team (Matthew Ellis) identified the need for avoidance measures to be implemented to prevent the accidental capture or injury of great crested newts during construction operations at the site. This is on the basis that there is a breeding population of great crested newts in the former Llay Colliery within 500m of the site boundary, and based on previous experiences of both WCBC and CCW where great crested newts have been recorded crossing areas of hardstanding to access terrestrial refuges and hibernacula, even within heavily trafficked industrial sites.

2.2 Proposed Development

Marshall's Mono Ltd owns the former concrete block works site at Llay Industrial Estate approximately 4 km north-west of Wrexham. The site has been used historically for the manufacturing of a wide range of concrete products. Marshall's Mono Ltd has submitted a planning application to WCBC for the erection of a concrete and mortar batching plant and silos on land to the east of the main block works site. The plant will produce ready to use concrete, mortars and screeds for sale direct to the building industry.

The development will involve the construction of small raised concrete platforms to support the machinery, which is principally mobile-type equipment craned into position. The plant will comprise an aggregate loading hopper, two cement silos, conveyors and a mixing drum. There will also be three single storey portacabins on the site for general staff welfare. There will be no deep excavations or significant disturbance to the areas of existing hardstanding.

2.3 Site Description

The site is located in the southern part of Llay Industrial Estate in Llay, approximately 4 km north-west of Wrexham, centred on National Grid Reference SJ 328 561 (see Figure 1). The site comprises 0.28 hectares of vacant hardstanding and is bound to the north by the former Llay Colliery, to the south by a tile warehouse ('West Bank Tiles') and West Bank Road, to the east by a small band of woodland beyond which lies further industrial units, and to the west by the former concrete block works site.

The site comprises a level area of intact and well-kept block paving with raised kerbed edges (Appendix 1 Photographs 1 and 2). A c.2.5 m high palisade fence surrounds the site and there is a small area of gravel batter between the paved hardstanding and the palisade fence on the northern, eastern and western boundaries which has been sparsely colonised by species such as rosebay willowherb (*Chamerion angustifolium*), common ragwort (*Senecio jacobaea*), creeping thistle (*Cirsium arvense*), common bird's-foot trefoil (*Lotus corniculatus*), common centaury (*Centaurea erythraea*), false oat-grass (*Arrhenatherum elatius*) and colt's-foot (*Tussilago farfara*) with occasional butterfly-bush (*Buddleia davidii*), bramble (*Rubus fruticosus* agg.) and silver birch (*Betula pendula*) saplings (Appendix 1 Photographs 3 and 4). The width of this vegetated strip varies between 300 - 1, 500 mm. A Phase 1 habitat map of the site has been provided as Figure 2.

2.4 Pre-existing Information

Information obtained from WCBC (Zara Lomax, *pers comm.*) and CCW (Matthew Ellis, *pers comm.*), indicated that a 'medium' sized population of great crested newts is present and breeding in several ponds on the former Llay Colliery which lies immediately adjacent to the northern boundary of the site. The exact location of the breeding ponds was not given, although as part of the former colliery lies within 500m of the site boundary, it could be reasonable to assume that they may also lie within 500m of the site.

There are also great crested newt populations known to the north of Llay, and it is considered that there is a fairly extensive meta-population in the Llay area. Great crested newts are widespread and abundant in the county.

3 Legislation and Planning

3.1 National Legislation

Great crested newts are protected under European legislation, translated into the UK Conservation (Natural Habitats &c.) Regulations 1994 (as amended) and the Wildlife and Countryside Act 1981 (as amended).

Under the Conservation (Natural Habitats &c.) Regulations 1994 it is an offence to “*deliberately disturb wild animals of a European Protected Species including in particular any disturbance which is likely to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate*”

Under Section 9 of the Wildlife and Countryside Act, it is an offence to:

- intentionally kill, injure or take a great crested newt;
- intentionally damage, destroy or obstruct access to any structure or place used by great crested newt for shelter or protection; or
- intentionally disturb a great crested newt whilst it is occupying a structure or place used for shelter or protection.

3.2 Planning Policy

The Wrexham Unitary Development Plan (UDP) has been developed following guidance published by the Welsh Assembly Government (Welsh Assembly Government, 2002). The plan covers the administrative area of Wrexham County Borough Council and supersedes previously adopted plans for Wrexham Maelor, Glyndwr District and Clywd.

Policy EC6: Biodiversity Conservation states

“Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.”

4 Conclusions

4.1 Site Suitability for Great Crested Newts

The site is entirely hardstanding except for the narrow gravel batter separating the kerbed area of the well maintained block-paved hardstanding areas and the palisade fencing. The hardstanding is well maintained and subsequently intact with no opportunities for the provision of potential great crested newt hibernacula or terrestrial refugia.

Semi-natural habitats within the site boundary are limited to a very narrow strip of gravel batter between the perimeter palisade fence and the kerbed area of hardstanding along the northern, eastern and western boundaries. The width of the strip varies between c. 300 - 1, 500 mm, with the most extensive area along the eastern boundary of the site. This strip supports an ephemeral/short perennial habitat that has been colonised by a typical suite of species with occasional bramble, young silver birch and butterfly-bush also becoming established. These areas also provide poor habitat for great crested newts, and do not represent suitable foraging habitat or terrestrial refugia and hibernacula.

There is therefore negligible potential for great crested newts to be present on the site owing to the poor quality habitat for great crested newts.

4.2 Potential Impacts on Great Crested Newts

Within the site boundary, the habitats present offer no suitable foraging or breeding habitat. Furthermore, there are no areas of potential great crested newt refugia or hibernacula (natural or artificial) such as rubble or brash piles or areas of broken hardstanding. To the south of the site, there is no suitable terrestrial habitat that provides potential foraging habitat, refugia or hibernacula that would attract/encourage newts to migrate across the site. A tile warehouse building surrounded entirely by hardstanding is present immediately adjacent to the southern boundary of the site, beyond which lies West Bank Road and further industrial units including workshop and storage units. Opportunities for great crested newts to hibernate within these areas are considered limited, and it is evaluated that it is very unlikely that great crested newts will be attempting to migrate across the site and therefore be impacted either during construction or during the operational phase of the development.

There will be no significant excavations, as raised concrete platforms will be constructed to support the concrete batching machinery, which will be lifted into place using a crane. All buildings on the site will be portacabins and therefore there will be no excavations for foundations, or disturbance to the hardstanding. None of the semi-natural habitat strip around the perimeter of the site will be affected.

WCBC and CCW have expressed concern that great crested newts may be attempting to migrate across the site to access areas of terrestrial refugia and hibernacula (either within the site or to the south), despite the extensive areas of hardstanding, based on their experiences elsewhere in the county (in particular in Wrexham Industrial Estate) as there are large populations of great crested newts in this area.

The proposed development will be operational 06:00 - 18:00 hrs (Monday to Friday) and 06:00 - 13:00 hrs (Saturdays). For the majority of the year, this will be during daylight hours when amphibians, including great crested newt are generally inactive. The only potential exception to this will be in early spring and late autumn when daylight hours will be reduced and therefore, it is theoretically conceivable that individual great crested newts may wander on to the site during this period. However, during these periods of the year, great crested newts will be either making their way from hibernation areas to their breeding ponds (early spring) or from foraging habitat to hibernation areas (late autumn). As the site neither provides hibernation areas, foraging habitat or breeding ponds, and nor does it lie between any such habitat, thus falling within a theoretical pathway connecting suitable habitat, it is highly unlikely that any individuals would be actively migrating across the site at this time.

There is therefore a negligible risk of great crested newts being present on site and it would be unreasonable to consider that the proposed development would have any impact on the neighbouring great crested newt population.

Despite the negligible risk of encountering great crested newts, WCBC have proposed the use of a Reasonable Avoidance Methodology (RAM). Following further consultation with CCW, it is understood that they expect a RAM to be employed on sites such as this during the construction phase, where a known great crested newt population is present adjacent to a development site where potential disturbance would fall below the usual threshold for licensing through the Welsh Assembly Government, i.e. where the likelihood of committing an offence under the Habitats Regulations 1994 is very low but cannot be ruled out entirely.

A RAM will therefore be undertaken to satisfy the concerns of WCBC and CCW with regard to incidental capture and/or injury, and that appropriate measures will be taken to minimise the risk to great crested newts.

4.3 Reasonable Avoidance Methodology

4.3.1 Pre-construction Check

It is proposed that the most effective, proportionate and reasonable approach to avoid any impact on great crested newts would be for a licensed ecologist to check the areas of hardstanding prior to construction and to relocate any great crested newt to suitable terrestrial habitat adjacent to the site. If any great crested newts are located on site, all works should stop until an ecologist with an appropriate license is called for further investigation.

4.3.2 Temporary Amphibian Fencing

If a small number of great crested newt (1 - 3 individuals) are encountered as a consequence of the pre-construction check then it would be advisable that one-way temporary amphibian fencing (TAF) is erected along the boundary of the site with the Llay Colliery and elsewhere as appropriate. It should be erected such that individuals can move from the site in the direction of the Colliery.

Specialist contractors would be employed to erect the TAF, given that its proposed location is relatively constrained and specialist knowledge will greatly assist the construction of a suitably robust exclusion barrier.

TAF will be erected on the northern, eastern and western boundaries of the site (see Figure 3). As the development is scheduled to proceed this year (2009), the fencing would be erected immediately, as great crested newts are now beginning to move away from their breeding ponds and into the terrestrial phase of their life-stage.

The TAF would be constructed within the narrow gravel strip between the perimeter palisade fence and the kerbed hardstanding area. A small excavator ('bobcat' type) would be used to excavate a trench, and the plastic exclusion fence would be sunk to a depth of approximately 200 mm. The TAF would be around 0.5 m in height, with a top-curl on the outer face to prevent amphibians from climbing over and entering the site.

Upon completion of the development, the TAF would be removed. TAF should only be removed when newts are active (March to October), as newts can hibernate in the loosely packed substrate around the posts etc and are more vulnerable to harm if disturbed when hibernating.

4.4 Permanent Amphibian Fencing

The provision of permanent fencing is not recommended at this stage, given the negligible potential for great crested newts to be attempting to migrate across the site. However, should great crested newts be frequently encountered on the site in their migratory periods (in early spring and late summer/early autumn), the requirement for permanent exclusion fencing will be reviewed and may be constructed to prevent newts from entering the site during its operational phase.

As stated above, the site will only be operational between 06:00 - 18:00 hrs (Monday to Friday) and 06:00 - 13:00 hrs (Saturday). There will therefore be no night-time working to coincide with the peak of the great crested newt's terrestrial activity within its active season as this species is largely nocturnal, and therefore it is reasonable to assume that should this species attempt to migrate across the site at night, individuals will not be at risk from vehicular movements.

4.5 Additional Mitigation Measures

- A copy of this Reasonable Avoidance Methodology document will be kept in the site office at all times.
- All contractors working on the site will be briefed as to the potential presence of great crested newts and how to identify them prior to commencing work. An identification guide has been provided in Appendix 2.
- Should great crested newts be encountered during the works, work should be suspended and the advice of a suitably qualified ecologist sought.
- Excavations that are not covered overnight will have escape ramps placed in them to prevent amphibians from becoming trapped.

5 References

English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.

Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001) *Great Crested Newt Conservation Handbook*. Froglife, Halesworth.

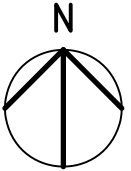
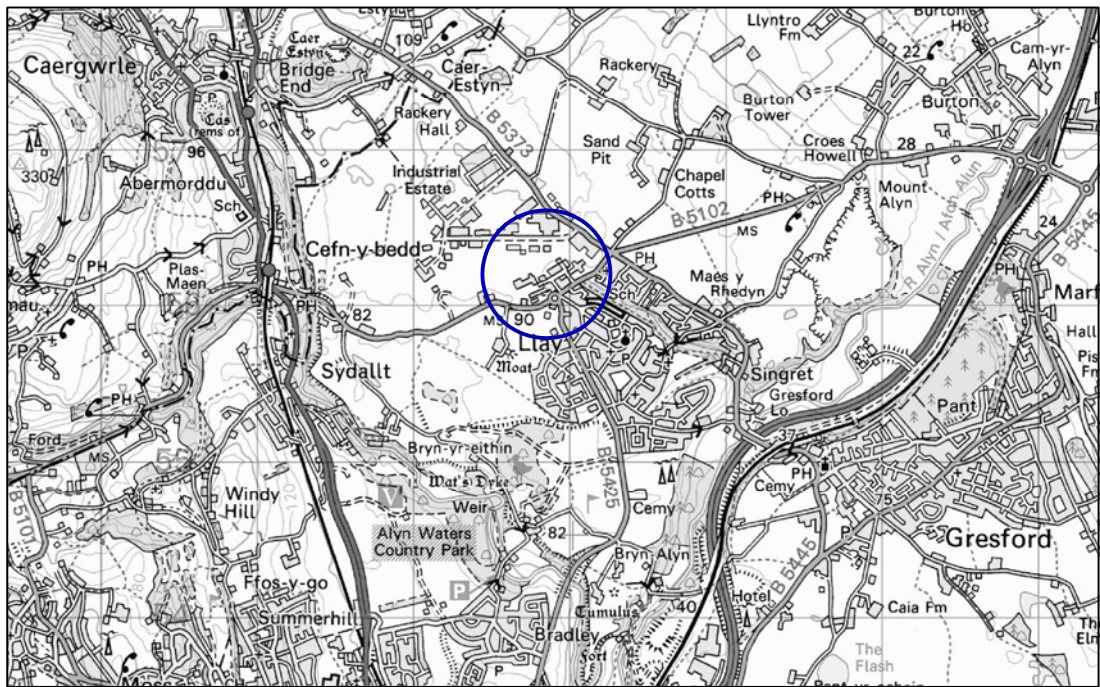
Welsh Assembly Government (2002) *Planning Policy Wales*. National Assembly for Wales, Cardiff.

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http://www.wrexham.gov.uk/english/planning_portal/plan_policy/planning_policy.htm

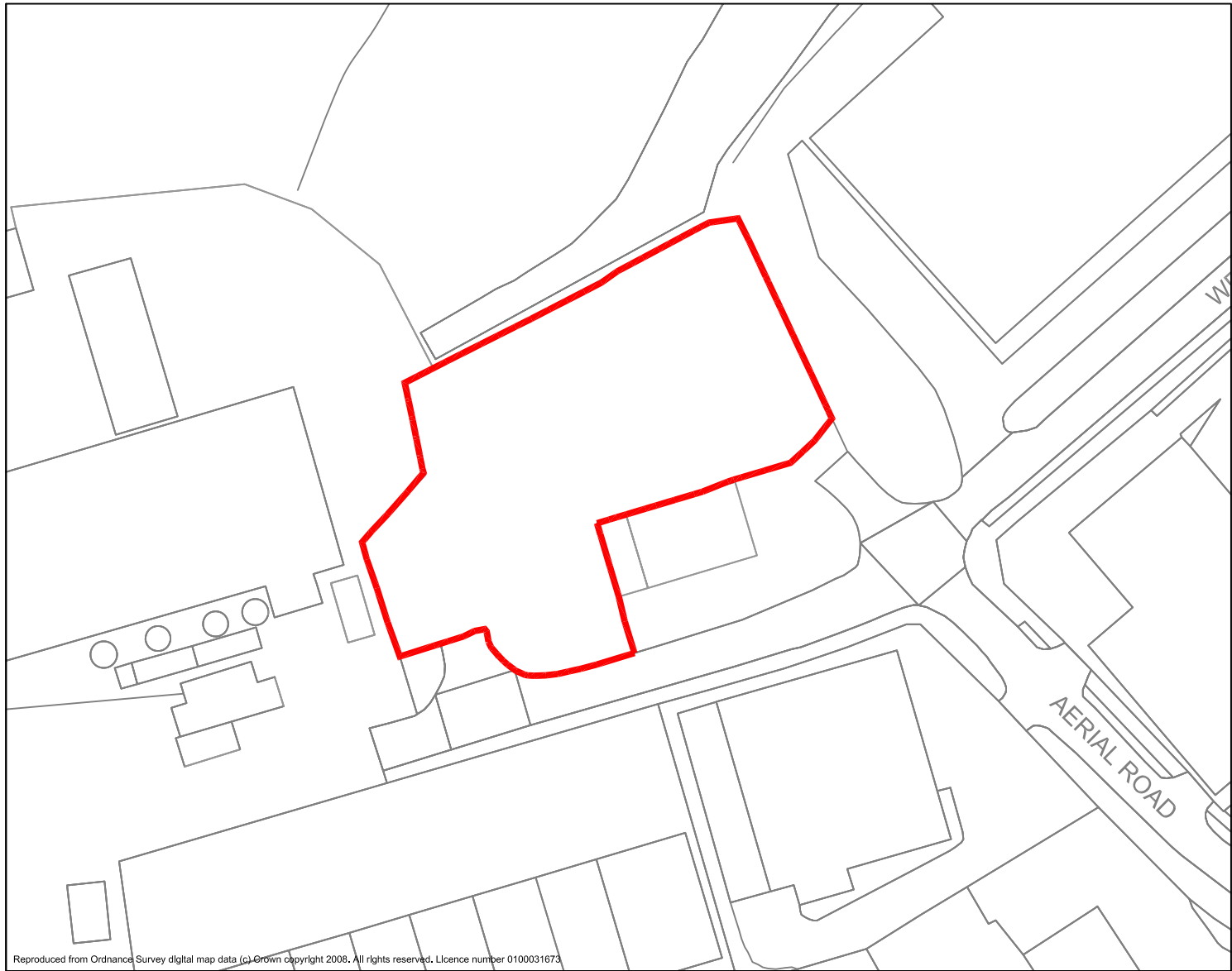
Figure 1

Site Location Plan



Key

- Site location
- Application boundary

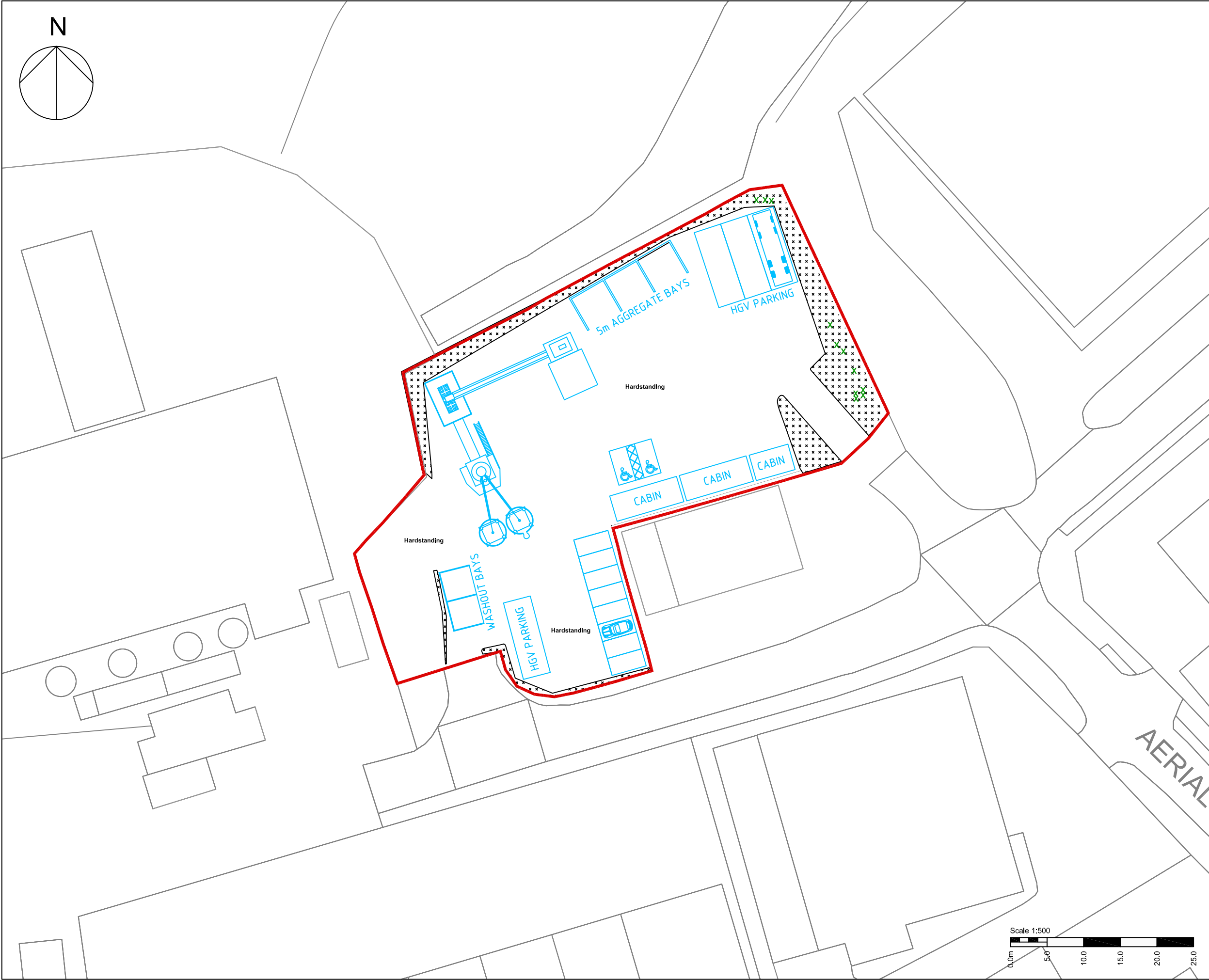


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		Scale(s) @ A4					
Drawing Title	Site Location Plan	1:50,000 & 1:1,000					
		Drm	Chk	Date	Figure Number		
		CLH	RW	16.07.09	Figure 1		
			RW App				

Figure 2

Phase 1 Habitat Plan



This drawing may be used for the purpose intended and only written dimensions shall be used.

Key

- Site boundary
- Proposed scheme layout

Phase 1 Habitat Survey

- A2.2 Scattered scrub
- J1.3 Ephemeral/short perennial
- Areas of hardstanding

Amending Phase 1 details	CLH / JA	21.07.09	A
Revision Details	By / Check	Date	Suffix

Job Title

**Marshalls Mono Ltd
Llay Plant**

Drawing Title

Phase 1 Habitat Plan

Scale(s) at A3

1:500

Dm	Chk	App	Date
CLH	JA	RW	20.07.09

Dwg Ref Number

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Figure Number

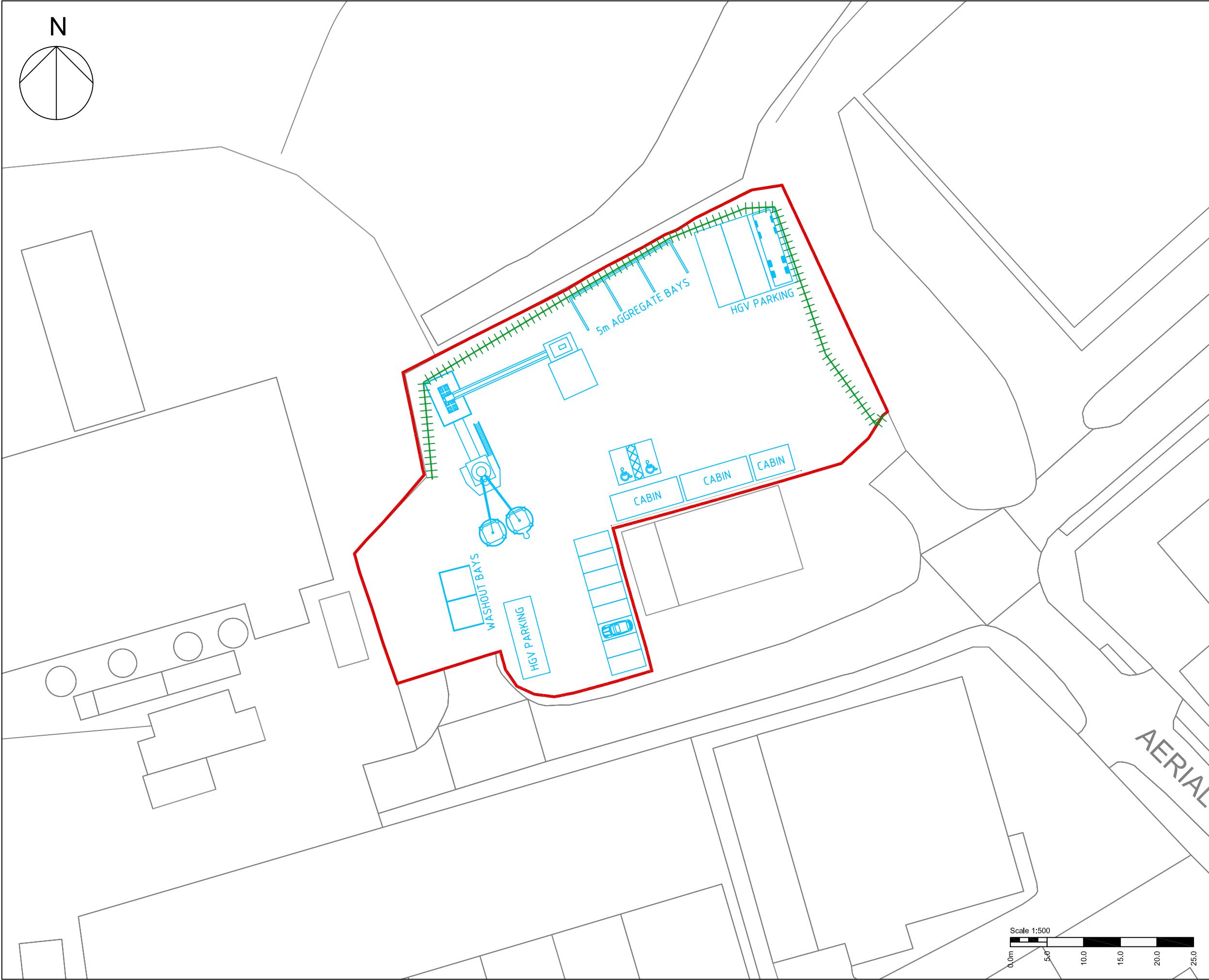
Figure 2

Rev

A

Figure 3

Temporary Amphibian Fencing (TAF) Layout Plan



This drawing may be used for the purpose intended and only written dimensions shall be used.

Key

- Site boundary
- Proposed scheme layout
- Temporary Amphibian Fencing (TAF) layout

Amending layout details	CLH JA	21.07.09	A
Revision Details	By Check	Date	Suffix

Job Title

Marshalls Mono Ltd
Llay Plant

Drawing Title

Temporary Amphibian
Fencing (TAF) Layout

Scale(s) at A3
1:500

Drm	Chk	App	Date
CLH	JA	RW	20.07.09

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Figure Number	Rev
Figure 3	A

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Appendix 1

Site Photographs

Photograph 1: Paved hardstanding within site boundary



Photograph 2: Demonstrating intact nature of hardstanding



Photograph 3: Colonised gravel strip on eastern perimeter



Photograph 4: Colonising gravel strip along northern perimeter (bordering former Llay Colliery)



Appendix 2

Great Crested Newt Identification Guide

Great Crested Newt Identification Guide

Confusion often arises in the identification of newts, as on land the distinguishing features of each species are less obvious to the untrained observer. The following sections summarise the characteristics of each of the native newt species, and may be used as a guide to their identification.

Great Crested Newt

- Great crested newts are the UK's largest species of newt, much larger than smooth or palmate newts.
- Adults can reach a maximum length of 170mm but generally up to 110-130mm for females and 110-120mm for males.
- The skin of great crested newts is dark brown or black and granular in appearance and is often described as 'warty'.
- Male great crested newts have a jagged crest along the top of their body (although this lies flat to the body on land) and a white stripe along the side of their tail.
- Female great crested newts lack a crest or white tail stripe, but have a yellow-orange stripe running along the bottom edge of their tail.
- The belly of both sexes is bright orange and marked with irregular black blotches.

Smooth Newt

- Smooth newts are much smaller than great crested newts, with adults typically reaching a maximum length of 100mm.
- Adult male smooth newts have a smaller crest which is wavy unlike the jagged crest of male great crested newts.
- The skin of smooth newts is less granular and is generally lighter overall in colouration when compared to great crested newts.
- The belly may appear similar in colouration to that of a great crested newt, although smooth newts typically have fewer, more rounded black spots.

Palmate Newt

- Palmate newts are similar in size to smooth newts and reach a typical maximum length of 100mm.
- Palmate newts are also very similar in appearance to smooth newts, although male palmate newts have a low ridge along their back rather than a true crest.
- Male palmate newts have a protruding filament at the tail tip.
- Male palmate newts often have 'webbed' hind feet.

Adult male great crested newts displaying characteristic white tail stripe



Adult female great crested newt displaying characteristic yellow stripe along base of tail and 'warty' skin



Characteristic brightly coloured spotted belly of a great crested newt



The difference in size and colouration between great crested newt (bottom) and smooth newt (top) is clear when they are compared together



PLANS AND DRAWINGS

