

# **Design and Access Statement**

Demolition of the existing cement storage and loading facilities and the erection of a new Vertical Roller Mill (VRM), rail loading facility and modification to and extension of the existing railway line, together with ancillary development (including three steel cement storage silos, belt conveyors and pneumatic pipelines) at the Padeswood Cement Works, Padeswood, near Mold, Flintshire, CH7 4HB

June 2017

REVIEW & SIGN OFF FORM				
ISSUE	Writer	Review	Date	
1.1	AS	RJ	05/06/2017	
1.2	AS	RJ	06/06/2017	
1.3	AS	RJ	07/06/2017	

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#### 1 Introduction

#### 1.1 Background to the Development

- 1.1.1 This Design and Access Statement has been prepared by 3rE Planning Limited to accompany an application for Planning Permission that has been submitted to Flintshire County Council (FCC) by Castle Cement Ltd (which trades under the name "Hanson Cement"). The planning application is for the demolition of the existing cement storage and loading facilities and the erection of a new Vertical Roller Mill (VRM), rail loading facility and modification to and extension of the existing railway line, together with ancillary development (including three steel cement storage silos, belt conveyors and pneumatic pipelines) ("the Development") at the Padeswood Cement Works, Padeswood, near Mold, Flintshire, CH7 4HB ("The Site"). The Site is located at National Grid Reference SJ329220 362263 and is shown on Plan 1 – Location Plan included in Appendix 1 at the end of this Statement.
- 1.1.2 The purpose of the Development is to provide updated milling facilities (in the form of a new vertical roller mill) to grind clinker to produce finished cement and new loading and rail capacity. The new mill will re-balance cement production to clinker production from the Padeswood Cement Works, eliminating the need to export clinker for processing elsewhere off-site.
- 1.1.3 The need to install the VRM has arisen in response to increasing demand for cement nationally, which has resulted in Hanson Cement reviewing its UK wide supply strategy with the aim of ensuring that the business remains a strong and sustainable competitor in the UK market.

#### 1.2 The Purpose of this Statement

- 1.2.1 This Statement has been prepared both in order to explain the design principles and concepts that have been applied to the Development and in response to the Statutory requirement set out in the Town and Country Planning (Development Management Procedure) (Wales) Order 2012<sup>1</sup> (as amended<sup>2</sup>), Article 7, for Planning Applications for certain types of development to be accompanied by a Design and Access Statement ("the Statement).
- 1.2.2 The requirement for the submission of a Design and Access Statement applies to types of development defined as "Major Development" in the Order. Major Development includes development involving the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more or, development carried out on a site having an area of 1 hectare or more. In this case of the Development, both of these criteria apply as the buildings proposed would provide 3,010 square metres of new floorspace and the area of the application site is 3.1 hectares.
- 1.2.3 Article 7 requires that a Design and Access Statement must: (a) explain the design principles and concepts that have been applied to the Development;



<sup>&</sup>lt;sup>1</sup> Welsh Statutory Instrument 2012 No. 801 (W.110) The Town and Country Planning (Development Management Procedure) (Wales) Order 2012

<sup>&</sup>lt;sup>2</sup> By Welsh Statutory Instrument 2016 No. 59 (W.29) The Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016

(b) demonstrate the steps taken to appraise the context of the Development and how the design of the Development takes that context into account;

(c) explain the policy or approach adopted as to access, and how policies relating to access in the Development plan have been taken into account; and

(d) explain how any specific issues which might affect access to the Development have been addressed.

- 1.2.4 Further guidance on Design and Access Statements is set out in the Welsh Government's Technical Advice Note 12 on Design<sup>3</sup> and the accompanying Guidance on Design and Access Statements<sup>4</sup>.
- 1.2.5 The following sections of this Statement according addresses each of the statutory requirements set out above.



<sup>&</sup>lt;sup>3</sup> Welsh Government – Technical Advice Note 12: Design, March 2016

<sup>&</sup>lt;sup>4</sup> Welsh Government – Technical Advice Note 12: Guidance on Design and Access Statements, March 2016

### 2.1 The Design Principles and Concepts

- 2.1.1 In order to understand the design principles and concept that have applied to the Development, it is necessary to understand the reasons why Hanson Cement have brought the project forward, the components of the Development and the stages of the process that have been involved in developing the design, including the assessment of the Development in terms of the environmental impacts.
- 2.1.2 The key design principles and concepts include the following:
  - Enabling a significant upgrade to the milling capacity of the cement works to align with clinker production:
  - Ensuring the new plant makes good use of modern technology so that it will be more energy efficient and environmentally sustainable;
  - Reducing the transport of materials by road and making it more environmentally sustainable by increasing the transport of finished product by rail;
  - Ensuring that the scale of the new plant and equipment to be installed fits in with the existing plant and does not have a significant impact of the local landscape and character of the area; and
  - Minimising the environmental impacts of the construction of the plant on the local community and the surrounding area.
- 2.1.3 The following sections accordingly set out the details of the cement manufacturing process, the proposed works and what they will consist of and how the design of the plant has been developed and will be operated in accordance with the above design principles.

### 2.2 The Cement Manufacturing Process

- 2.2.1 Cement is manufactured through a closely controlled chemical combination of calcium, silicon, aluminium, iron and other ingredients. Common materials used to manufacture cement include limestone, shells, and chalk or marl combined with shale, clay, slate, blast furnace slag, silica sand, and iron ore. These ingredients, when heated at high temperatures form a rock-like substance, called clinker, that is then ground into fine powder to produce cement.
- 2.2.2 The most common way to manufacture cement is to quarry the principal raw materials, mainly limestone, clay, and other materials, which are then crushed. The crushed rock is combined with other ingredients such as iron ore or fly ash and ground, mixed, and fed to a cement kiln.
- 2.2.3 The cement kiln heats all the ingredients to about 1500°C in huge cylindrical steel rotary kilns. As the material moves through the kiln, certain elements are driven off in the form of gases. The remaining elements unite to form clinker. Clinker comes out of the kiln as grey balls, about the size of marbles.



2.2.4 The clinker is then ground in a mill and mixed with small amounts of gypsum and limestone, to produce the finished cement, which is then ready for transport offsite for use, for example in ready-mix concrete production.

### 2.3 The Historical Development of the Padeswood Cement Works

2.3.1 The Padeswood Cement Works opened in 1949 following a post-war requirement for cement. When the Works opened there were initially two wet kilns, later supplemented by a dry kiln added in the mid-1960s. Kiln 4, which was a modern pre-calciner designed to burn alternative fuels, was commissioned in 2006 and the three older kilns were decommissioned.

### 2.4 The Current Proposals for the Padeswood Cement Works

- 2.4.1 The current proposals for the Padeswood Cement Works, which form the subject of this Planning Application, comprise the installation of a new Vertical Roller Mill (VRM), which will be known as Mill 5, and a new rail loading facility. The installation and commissioning of the new VRM will allow the mothballing of three of the existing four older mills at the Works, known as Mills 1, 2 and 4. Being the most modern and efficient of the existing mills, Mill 3 will remain operational.
- 2.4.2 There are existing cement rail loading facilities which are obsolete. These will be demolished and replaced with new loading facilities and silos. The new loading facility will allow 4,000 to 5,000 tonnes of cement to be transported by rail from the cement works each week. As part of the installation of the new rail loading facility, there will also be modifications to and an extension of the existing railway line into the cement works. The railway line is currently used for importing coal to the cement works and it is proposed that this will continue.
- 2.4.3 With the provision of the rail loading facility there will be a reduction in the number of HGV movements from the cement works as cement product will then be able to be exported via train directly to market.

### 2.5 The Reason for the Proposed Development

- 2.5.1 Growth in the UK cement market in recent years has resulted in a position where the Padeswood Cement Works is utilising all of its current milling capacity. As a result, excess clinker is having to be transported by road to Hanson Cement's Ketton Works near Stamford in Rutland, for grinding and onward sale. In 2014 the volume of clinker transported by road reached 191,800 tonnes, although this has now declined slightly to 151,000 tonnes in 2015 and 118,000 tonnes in 2016.
- 2.5.2 In response to increasing demand nationally, Hanson Cement has reviewed its UK wide supply strategy with the aim of ensuring that the business remains a strong and sustainable competitor in the UK market. The outcome of the review has identified a number of key investment opportunities at the cement works that will help make a significant contribution towards these aims.
- 2.5.3 As a short-term measure, in order to keep pace with market demand, Mills 1 and 2 were refurbished and restarted in February 2016. However, Mills 1 and 2 use old and inefficient technologies and can only be used for the manufacture of packed cement. Therefore, in the medium to long term, significant investment is needed at the cement works in order to:
  - Re-balance clinker/cement production; and



• Enable transportation of cement by rail; initially to Hanson Cement's Ketton Works, but in the long term to the company's cement terminals at Glasgow, Avonmouth and Kings Cross.

### 2.6 What the Proposed Works Will Consist of and How It Will be Phased

2.6.1 The planning application is accordingly for the demolition of existing cement storage and loading facilities and the erection of the new VRM, rail loading facility and modification to, and extension of, the existing railway line, together with ancillary development, including three steel cement storage silos, belt conveyors and pneumatic pipelines to move the cement between the different parts of the plant. Details of the proposed Development are shown on the Drawings included in Appendix 1 at the end of this Statement.

### Demolition and Construction Programme

- 2.6.2 To allow the installation of a new VRM and rail loading silos some existing plant must be removed. The main items to be removed are four existing steel silos (Silos 7, 8, 9 and 10) and Silos 11 and 12. These silos were included within initial feasibility studies, as it was thought that they could be reused in connection with the new rail loading facility, but were found to be unsuitable and uneconomic for modification. The plant to be demolished is shown on Plan 4 Existing Site Layout and Structures to be Demolished.
- 2.6.3 In addition to these works, a small railway cabin situated adjacent to the existing railway track will also be demolished to allow the railway line to be realigned.
- 2.6.4 The removal of the silos and associated structures will allow the new rail loading facility to be installed in a location that facilitates access to the existing cement distribution system and allows good traffic and pedestrian segregation, shown on Plan 5 Proposed Development Mill 5 & Rail Loading Facility.

### Ground Preparation and Civils Works

- 2.6.5 A plant storage and assembly area will then be established adjacent to the proposed VRM.
- 2.6.6 The area where the new VRM is to be situated will first be levelled and then piled (approximately 45 piles) to form the foundations for the vertical roller mill equipment and building.

### 2.7 Vertical Roller Mill

- 2.7.1 In order to re-balance cement production with clinker production a new VRM (Mill 5) will be erected, with the capacity to produce 95 tonnes of cement per hour or 650,000 tonnes per annum.
- 2.7.2 Vertical roller mills can have a number of advantages over other grinding technologies, including:
  - 30-50% less energy use than ball mill systems
  - Reduced vibration, less wear
  - Reduced water injection, less pre-hydration
  - Improved particle size distribution, better concrete workability
  - Higher fineness, faster strength development
  - Higher powder flowability of the finished cement, good de-loading of silos and trucks
  - High productivity with stable, reliable operation



- Mill 5
- Long lifetime
- Simple, compact layout
- Proven technology
- 2.7.3 Once Mill 5 is operational, Mills 1, 2 and 4 will be mothballed. Being the most modern and efficient of the existing four mills; Mill 3 will remain in operation.

#### 2.8 Rail Loading Facility

- 2.8.1 The Padeswood Cement Works has an existing operational rail connection and sidings, which are currently used for importing coal. The cement works also has a rail loading facility, but this is now obsolete and therefore it is proposed to demolish it (including Silos 7, 8, 9, and 10) and erect a new rail loading facility, replacing the existing cement silos with three new 1000t silos. In order to optimise the Site layout and accommodate trains, it will also be necessary to realign sections of the existing railway line and to extend the railway track further into the cement works.
- 2.8.2 The new rail loading facility will accommodate maximum train lengths of 350 metres and will enable between 4,000t and 5,000t of cement to be transported from site by rail each week. The rail loading facility will have the ability to load up to a maximum of 1700 tonnes and it is expected that 2-4 trains will be loaded per week, with each train taking up to 8 hours to load. The facility will be designed to load and weigh both the 2 and 4 axle types of rail tanker, as well as road tankers.
- 2.8.3 The rail loading facility will provide the following benefits:
  - employ the best available techniques to prevent/minimise the potential for dust emissions;
  - be energy efficient;
  - provide safe access for operators; and •
  - provide the ability to load road tankers utilising the rail loading spouts and weighbridge.
- 2.8.4 A summary of equipment proposed to be installed is as follows:
  - Static Rail Tanker weighbridge facilities;
  - Three 1000 tonne steel cement storage silos; •
  - Silo aeration including blowers; •
  - Rail tanker loading facilities rated at 250tph per outlet; •
  - Road Tanker loading facility rated at 250tph from silo; and •
  - Silo level & safety systems. •
- 2.9 Modification and Extension of Existing Railway Line including associated civil works & weighbridge
- 2.9.1 The Liverpool to Wrexham railway line runs adjacent to the Padeswood Cement Works and includes a set of signals and rail points. Once the rail loading facility and track modifications are complete, the cement works will be able to both receive deliveries of coal and export cement.



- 2.9.2 The works required to the railway line will involve approximately 600m of new rail track, which will either directly renew, realign or extend the existing railway line and will include a curve through the proposed location for the new rail loading facility and proceed towards the main site road. The planning application area includes the circa 445m of railway line that will be new or realigned to service the proposed rail loading facility.
- 2.9.3 The railway line will cut the existing site into two halves and form a natural division between finished product and raw material processing. Access through both halves of the Site has been considered and incorporated into the civil design and the proposed future traffic management plans.
- 2.9.4 The project has been designed to minimise the impact on road traffic within the cement works whilst trains are being loaded and dispatched.

### 2.10 Control and Automation

- 2.10.1 The new VRM and associated plant will be incorporated into the existing cement works automation system for use by the central control room operators.
- 2.10.2 Close integration of the rail tanker loading equipment with the static weighbridge facility will be required.

### 2.11 Proposed Cement Milling and Storage Operations

- 2.11.1 A new material feed system will also be installed in order to transport materials (comprising mainly of gypsum, clinker and limestone) from storage to the VRM for grinding. This will be facilitated through the modification of the existing Mill 4 storage hoppers. New weigh feeders will be fitted to the existing clinker and gypsum hoppers and the existing limestone weigh feeder will be upgraded.
- 2.11.2 The existing raw material storage hall is located between the Mill 4 feed hoppers and the proposed location of the VRM. To overcome this obstacle an over ground tunnel will be installed within the material store at the existing ground level. The new tunnel will form the route for a new mill feed conveyor from the Mill 4 feed hoppers to the VRM. The feed conveyor will be of an enclosed 'Sicon' tube style belt conveyor. The 'Sicon' style conveyor belt has the capability to incline and turn without the requirement for any transfer points.
- 2.11.3 From the point of leaving the new tunnel on the north side of the raw materials storage hall the mill feed conveyor will be elevated to reach the VRM by means of a gantry.
- 2.11.4 The new VRM is the type of grinder used to grind materials into extremely fine powder. It will use two pairs of rollers on hinged arms, which are pulled down using hydraulic pressure on to a rotating table driven using an electric motor. The clinker, gypsum, limestone and other raw materials used to make cement, will be fed into the mill and crushed between the rollers and the table. The mill fan draws air into the mill which lifts the crushed material off the table into the mill body, the heavier and larger particles fall back onto the table for further grinding. Above the mill, a dynamic classifier will be used to separate the particles that meet the size requirements of the finished cement, with the oversize material being returned to the mill for further grinding.
- 2.11.5 Once ground, the resulting cement will then be collected in a bag filter and transported to cement storage and distribution facilities:



- Via pneumatic transport to Silo 6: Silo 6 is an existing concrete silo with a capacity of 4,400 tonnes. The silo has three loading spouts and weighbridge facility. This silo will be the main location for cement from the VRM and therefore the mill has been positioned in close proximity to it. Access to the top of the silo, for maintenance of the pneumatic pipeline, will be via a personnel lift.
- Via pneumatic transport to Silos 1 and 2: Silos 1 & 2 are concrete silos with a capacity of 2,200 tonnes each. The silos are used for the storage of packed products and are connected to the cement works plastic and paper bag packing facilities. These silos will be connected to the VRM via pneumatic transport, which will spur off from the pneumatic transport to silo 6 and be fixed to the existing limestone conveyor gantry, which runs from the limestone intake to the raw materials storage hall.
- Via pneumatic transport to rail loading facility cement storage silos: Each of the three cement storage silos will be constructed from steel and will have a storage capacity of 1,000 tonnes.
- 2.11.6 The pneumatic pipeline transport system selected for cement transport is of a modern design compared to the conventional blowing lines style and is considered best available technology within the cement industry.
- 2.11.7 The selected style of pneumatic transport technology adopted results in the following advantages:
  - Lower solids velocities;
  - Lower conveying pressure;
  - Lower wear;
  - Lower power requirements; and
  - Simplified material feeding.
- 2.11.8 In addition to the conveying benefits, above the selected transport method provides additional benefits specific to the project as follows:
  - Limited effect on site roads and potential internal road obstruction;
  - Reduced structures required compared to mechanical transport; and
  - Reduced potential risks to existing structures and silos compared to mechanical transport.
- 2.11.9 Hanson Cement has installed this type of pneumatic transport previously at the cement works and at Avonmouth and it is therefore tried and tested technology.

### 2.12 Summary of the Proposed Development

- 2.12.1 The above proposals will require planning permission and therefore form the subject of the planning application, which broadly comprises the following elements:
  - Site profiling to achieve required ground levels;
  - Civil foundations, services and access roadways for the VRM;
  - the demolition of silos 11 and 12, the existing rail loading facility (including silos 7,8,9 and 10) and a small railway cabin;
  - The construction of the VRM approximately 41.8m in height and with a stack height of approximately 47m.
  - Ancillary development, comprising mainly belt conveyors and pneumatic pipelines,



required to feed clinker and other raw materials to the mill and feed the resulting cement to existing and proposed cement storage silos and rail loading facility;

• Erect three new steel cement storage silos approximately 37.2m in height, each with a storage capacity of 1000 tonnes, fitted with rail and road loading facilities; and

The laying of approximately 445m of new or realigned railway track to service the proposed rail loading facility

### 2.13 Construction

### Construction Programme and Phasing

- 2.13.1 The construction phase of the Development is planned to be undertaken over a period of 50 weeks.
- 2.13.2 The construction programme includes elements of demolition and site clearance, and the construction of the extension to the railway and installation of the VRM. The following is a list of the main construction items associated with the project:
  - Demolition of redundant plant & buildings;
  - Ground preparation and Civils Works;
  - Rail Loading Facility;
  - Modification and Extension of Existing Railway Line including associated civil works & weighbridge: and
  - Construction of Cement Milling and Storage Operations.

### Temporary Construction Compound and Storage Area

2.13.3 During the construction period, there will be a requirement for temporary construction facilities including storage and laydown areas for construction vehicles, plant, equipment and other materials, a site office and welfare facilities. These will be provided within the Site.

### Construction Access and Traffic

- 2.13.4 Construction traffic will use the existing access point onto the A5118.
- 2.13.5 Hanson Cement and the main contractor will plan and manage deliveries and collections from the Site to minimise the impact on the surrounding road network and to minimise the impact on the existing operation of the Site and cement works.
- 2.13.6 In order to manage the delivery of materials and plant, Hanson Cement will implement the following measures where possible during the construction period:
  - The number of delivery trips shall be minimised through a combination of consolidated ordering, rationalising suppliers and consolidated deliveries;
  - On-site waste shall be minimised through recycling and re-use to minimise the number of collections from site; and
  - Under no circumstance shall lorries be allowed to lay-up in surrounding roads.
- 2.13.7 The contractor will plan and manage deliveries and collections from the Site to minimise the impact on the surrounding road network. Deliveries will be planned well in advance and on-site activities will be co-ordinated so that concentrated peaks in traffic movements on and off the Site are avoided.



- 2.13.8 Hanson Cement will agree construction routes with suppliers so that only these routes are used in order to avoid any impacts on other residential areas. This will be in accordance with current arrangements for the cement works.
- 2.13.9 It is anticipated that no more than a maximum of 85 construction workers would be employed at the Site during the construction period. Car parking for the workforce will be provided entirely within the confines of the cement works boundary and no overspill will be permitted onto the public road network within the immediate area, especially on Padeswood Drive.

### Construction Site Hours of Working

2.13.10 Hours of working during the construction phase will be 08:00 - 19:00 Monday to Friday and 08:00 to 13:00 on Saturdays. No works will be undertaken on Sundays or Bank Holidays.

### Construction Environmental Management Plan (CEMP)

- 2.13.11 During construction, the Contractor will be required to operate under a site-specific Construction Environmental Management Plan (CEMP). The CEMP will set out a variety of control measures for managing the potential environmental effects of construction works including control and management of noise, dust, surface water runoff, waste and pollution control. It will draw upon general construction practice taking into account the guidance contained within, but not limited to, the following good practice guidance documents:
  - CIRIA Document C692 Environmental Good Practice on Site;
  - PPG01 General Guide to the Prevention of Pollution;
  - PPG02 Above Ground Oil Storage Tanks;
  - PPG03 Use and Design of Oil Separators in Surface Water Drainage Systems;
  - PPG04 Treatment and Disposal of Sewage where No Foul Sewer is Available;
  - PPG05 Works and Maintenance in or Near Water;
  - PPG06 Working at Construction and Demolition Sites;
  - PPG07 Refueling Facilities;
  - PPG08 Safe Storage and Disposal of Used Oils;
  - PPG21 Pollution Incident Response Planning;
  - PPG22 Dealing with Spill; and
  - Environmental Permitting Regulations.

### Construction Waste Management

2.13.12 Construction waste will be disposed of off-site to a licensed waste disposal facility, in accordance with the relevant legislation; the Environmental Protection Act 1990 and the Environmental Permitting (England and Wales) Regulations 2016.

### Health & Safety

- 2.13.13 Health and safety during construction will fall under the Construction (Design and Management) (CDM) Regulations 2015. A Construction Phase Health and Safety Plan will be prepared.
- 2.13.14 Suitable signs will be erected at the entrance to the Development in order to highlight that construction activities are being undertaken and provide directions and health and safety information.

### Site Restoration & Commissioning

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2.13.15 At the end of the construction period all temporary facilities will be removed. This will be followed by a period of commissioning.

### 2.14 Operational Phase

### Operation

2.14.1 Whilst current operational hours of the Site are 24/7 for manufacturing, deliveries from the plant operate 6 am Monday to 12 noon Saturday with none on Sunday. The dispatch of limestone clinker occurs Monday to Friday and Saturday morning.

### Site Environmental Management

2.14.2 Whilst activity on-site will be limited during the operational phase the requirements of the CEMP including control measures with respect to noise, emissions, surface water runoff, waste and pollution control will remain in place in order to determine when any maintenance works are required.



### 3 The Steps Taken to Appraise the Context of the Development and how the Design of the Development takes that Context into Account

#### 3.1 The Steps taken to Appraise the Context of the Development

3.1.1 The steps taken to appraise the context of the Site have included a number of studies and assessments which are reported in the supporting technical assessments included with the planning application. These reflect the issues considered most likely to be significant in the context of the potential impacts on the local community and the environment of the area surrounding the Padeswood Cement Works.

#### 3.1.2 The scope of the assessments includes the following:

- Landscape and Visual Impact Assessment; •
- Ecological Assessment; •
- Transport Technical Note;
- Air Quality Assessment; •
- Noise Impact Assessment; •
- Phase 1 and Phase 2 Contaminated Land Assessment: and
- Health Impact Review.
- 3.1.3 This Section sets out details of the Site and the Surrounding Area and provides a summary of the steps taken to appraise the context of the Development in relation to each of the above assessments, with transport and access issued considered in Sections 4 and 5 below.

#### 3.2 The Site

- 3.2.1 The Site which has an area of 3.1 ha, as shown on Drawing No. P103/48 Rev A - Site Context Plan, is centred on OS grid reference NGR SJ 29230 62300 and lies wholly within the existing Padeswood Cement Works. The application area currently comprises hardstanding and disturbed ground and is used for vehicle or rail access and general open storage.
- 3.2.2 The Site will be accessed via the existing cement works access onto the A5118 to the north, although it is also served by private railway sidings which connect to the Liverpool to Wrexham railway line.

#### 3.3 The Surrounding Area

- The Site is bounded to the north by a belt of mature woodland and agricultural land with the 3.3.1 residential properties on Padeswood Drive lying approximately 200m beyond. To the east lies natural woodland and agricultural land bisected by the Liverpool to Wrexham railway line, which runs in a north-south direction. The cement works lies to the west (Silo 6 and the cement packing bay and building) and south (the raw materials storage hall).
- 3.3.2 The Site lies within the industrial setting of the cement works, which itself lies within open countryside, to the west of the villages of Penyffordd and Penymynydd.



### 3.4 Landscape and Visual Impact Assessment

### The Appraisal

- 3.4.1 In relation to landscape and visual impact the context of the Development has been appraised through the use of computer generated visualisations of the proposed development in accordance with current best practice guidance, based on the Guidelines for Landscape and Visual Impact Assessment, (GLVIA) produced by the Landscape Institute with the Institute of Environmental Management and Assessment (Third Edition, 2013), taking account of the findings of LANDMAP (Landscape characterisation, Natural Resources Wales).
- 3.4.2 The assessment comprises:
  - A description of the existing baseline conditions, including identification of key landscape characteristics, relevant planning designations /constraints and potential visual receptors which may be affected by the Development;
  - An assessment of the potential landscape effects resulting from the proposed Development; and
  - An assessment of the potential visual effects resulting from the proposed Development.
- 3.4.3 Landscape Effects are those which relate to changes to the fabric, character and quality of the landscape. These could include direct impacts such as loss of woodland, individual trees, or effects on landscape character, and landscape/planning designations.
- 3.4.4 Visual Effects are those which relate to specific changes in views and the effects of those changes on visual receptors (e.g. residents, users of public rights-of-way or recreational facilities). Changes to the visual setting of protected cultural heritage features are also considered (e.g. Scheduled Ancient Monuments, Listed Buildings or Conservation Areas).
- 3.4.5 The study area for the landscape and visual assessment extends to 3 km from the Site boundary, although the effects on important landscape features/ designations further afield, including the Waun-Y-Llyn Country Park and the Leeswood Hall Conservation Area have been taken into consideration. The Development may be visible beyond 3 km although within the context of the existing cement works, which contains a number of prominent structures, it is unlikely that the Development would give rise to significant landscape or visual events beyond this distance.

### How the Development Takes the Context into Account

- 3.4.6 The assessment did not find any significant landscape or visual effects because the Development has in its design taken the context adequately into account by:
  - Being located within the existing cement works, which has been operational for many years and has become an established feature of the area;
  - The value of the landscape within the study area, (within which the cement works is located) being considered to be of Moderate Value and of Local Importance;
  - The Development being located on an existing area of hard-standing or made ground which would be physically divorced from the surrounding landscape by perimeter fencing and woodland planting;
  - Utilising previously disturbed 'brownfield land' there would be minimal effect on the topography, vegetation or landscape features;



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- The existing cement works containing a number of buildings/structures which are either larger or more prominent than the proposed Development. The existing Kiln 4 is 109 m high, whereas the tallest proposed structure, the stack adjoining the VRM, would be 47 m high;
- The existing infrastructure within the cement works providing substantial screening of the Development, particularly from the more sensitive Afton Alun Valley to the south and the Wat's Dyke Way recreational route; and
- The Development not affecting the setting of any designated cultural features, including the Grade II\* Listed St Johns the Baptist Church to the northeast, or Wat's Dyke Scheduled Ancient Monument to the south.
- 3.4.7 Overall, within the context of an existing industrial complex the assessment concludes that there will be minimal landscape and visual effects.

### 3.5 Ecology

### The Appraisal

- 3.5.1 The Ecological Impact Assessment provides an appraisal of the potential effects of the Development on ecological and nature conservation interests (flora and fauna) and, where relevant, the surrounding locality of the Site.
- 3.5.2 The assessment comprises:
  - A Phase 1 Habitat survey (to standard Joint Nature Conservation Committee method) to record type, location and extent of vegetation and habitats within a survey area that included the proposed development;
  - An appraisal of habitats present for their suitability to support protected or notable species of fauna, including birds, mammals and herpetofauna;
  - Further survey work undertaken for bats (roosting and activity) and great crested newts; and
  - Where protected or notable species are known or suspected to be present, sufficient information is provided against which an assessment of the impact of the Development upon them can be made and proportionate avoidance/reduction or mitigation measures provided to satisfy planning and/or wildlife legislation.
- 3.5.3 The methodology used to assess the significance of impacts on ecological receptors is based on the Guidelines for Ecological Impact Assessment (EcIA) published by the Chartered Institute of Ecology and Environmental Management (CIEEM).
- 3.5.4 Areas and/or species of ecological importance within the survey area are identified and the main factors contributing to their importance are described.
- 3.5.5 The assessment describes and evaluates any existing ecological features within the survey area and immediate wider locality and assesses the potential impacts resulting from the Development upon them. It includes recommendations for avoidance; mitigation and compensation are provided along with an assessment of any residual impacts.

### How the Development Takes the Context into Account

3.5.6 The assessment reports that a walkover undertaken in June 2015 found the Site to be largely bare and sparsely vegetated ground but with small areas of developing scrub. It identifies



that the area, including the Site, is bounded to the north and east by broad leaved woodland beyond which are pastures with several ponds. The ponds have been shown to contain populations of great crested newts along with other ponds to the south east and south west and a small number of great crested newts were found under matting in the area during the survey in June 2015. Two oak trees and a small railway cabin were assessed and surveyed for roosting bats in 2015 but no signs of use were found. Activity surveys undertaken found the boundary with the woodland to be used by small numbers of foraging and commuting bats; largely common pipistrelle. The developing scrub and adjacent woodland was found to be suitable for nesting birds.

- 3.5.7 The assessment identifies that the area within which the Development is located is used for storage of materials and because of finding great crested newts, a licence has been applied for to allow the area to continue to be used for storage. Under the licence, a fence must be erected along the boundary of the area with the woodland and a period of trapping and searching will be undertaken to ensure great crested newts are no longer present in the area. The area has been assessed as not critical to the populations based in the ponds to the north and north east but without removal of the animals and erection of the fence the assessment identifies that it is possible that small numbers of great crested newt could be disturbed or come to harm through movement of materials. As part of the licence application, a management plan has been produced that provides for the long-term benefit of the populations of great crested newts throughout the wider area around the cement works complex and not just in the north and north east.
- 3.5.8 The assessment concludes that the Development would have no significant effect on foraging/commuting bats. There would be no direct effect on the adjacent woodland edge, which would remain intact and indirect effects from lighting would be kept to a minimum through use of directional lighting and using the minimum essential for health and safety. The assessment identifies that the species recorded; all in low numbers and particularly pipistrelles are tolerant of light and can forage around lighting, as it attracts moths and other insects.
- 3.5.9 Standard measures would be taken to avoid nesting birds; small areas of scrub would be lost to the Development but most of the area is bare, with hardstanding and rubble.
- 3.5.10 The assessment identifies that the habitats to be lost are common and typical and no significant impact would result from the Development.
- 3.5.11 A management plan has been produced for the land around the cement works complex, which is primarily aimed at enhancement of both aquatic and terrestrial habitat for great crested newts but other species would also benefit. In the south-west of the cement works complex, a biodiversity park is being created.
- 3.5.12 The assessment concludes that provided the measures put forward for great crested newts and nesting birds are undertaken, the Development would have no significant effect on biodiversity and that the commitment to the management plan for the areas around the cement works complex and the biodiversity park in the south west, afford an opportunity for the long -term benefit of the populations of great crested newts but also wider biodiversity.



### 3.6 Air Quality

### The Appraisal

- 3.6.1 The Air Quality Assessment provides an assessment of the potential air quality impacts of the operation of the VRM. The assessment has been undertaken principally in support of the planning application but also provides information to support the variation to Environmental Permit for the cement works.
- 3.6.2 It focuses on potential emissions of fine particles. As the Padeswood Cement Works is a source of particle emissions from a wide variety of sources, the assessment includes a cumulative assessment of existing emissions and the additional emissions to air from the operation of the VRM.
- 3.6.3 The main focus of the assessment is to provide the following:
  - The quantification of particle emissions from the cement works for the various sources;
  - A dispersion modelling assessment of emissions of particles from the cement works with and without the additional emissions from the VRM; and
  - An assessment of other emissions associated with the VRM including changes in vehicle movements.
- 3.6.4 The assessment:
  - Summarises the relevant assessment criteria, reviews air quality monitoring data in the vicinity of the proposed VRM and provides a discussion of local meteorological conditions affecting the dispersion and dilution of emissions;
  - Provides an assessment of the potential air quality impacts associated with the construction of the VRM and associated activities (e.g. construction dust impacts);
  - Provides an overview of the assessment methodology for operational impacts;
  - Provides an assessment of the potential air quality impacts arising from the operation of the VRM; and
  - Includes recommendations for further work or consultation, where necessary.

### How the Development Takes the Context into Account

- 3.6.5 The assessment identifies that the main emission from the VRM is total suspended particles (TSP) which will comprise a range of particle sizes. For human health effects, fine particles (i.e. particles of less than 10  $\mu$ m in diameter, termed PM<sub>10</sub> or less than 2.5  $\mu$ m termed PM<sub>2.5</sub>) are of most concern. Therefore, as a worst-case the assessment assumes that particle emissions from the cement works comprise entirely of these finer fractions. The larger particles will settle quicker and be less likely to remain airborne as well as being of less concern for human health effects.
- 3.6.6 The assessment identifies that fugitive emissions from the VRM and associated facilities will be minimal as all transport and storage of product will be covered or enclosed. Therefore, it concludes that the impact of fugitive emissions on human and habitat receptors would be minimal and have been screened out of the assessment.
- 3.6.7 As a result of the introduction of the new cement mill, the assessment identifies that there will be a reduction in road traffic vehicle movements but an increase in rail movements. The



reduction in road traffic is estimated as 31 vehicles per day (62 vehicle movements into and out of the Site). The number of additional rail movements is estimated to be 175 trains (350 rail movements) per year. Therefore, there would be approximately one movement per day on average. Therefore, the assessment concludes that the impact of rail traffic and road traffic on local air quality can be screened out of the assessment.

- 3.6.8 In addition to operational impacts of the VRM, the assessment identifies that it is necessary to assess the potential impact on air quality of the construction phase and associated activities. These include the following:
  - Construction activities associated with the VRM, associated silos and upgrading of the railway sidings; and
  - Increases in vehicle movements (e.g. road and rail) associated with the commissioning of the new VRM.
- 3.6.9 At most, the number of heavy duty vehicles (HDV's) accessing the Site during construction is estimated at an average of 10 movements per week over the duration of the construction period. Construction personnel will result in an additional 85 vehicles (170 movements) per day assuming each worker travels in their own vehicle.
- 3.6.10 Consequently, the focus of the assessment is on operational impacts from the operation of the kiln and emissions via the stack, and construction dust impacts.
- 3.6.11 In relation to the operational phase of the Development, a quantitative assessment of particle emissions from the cement works with and without the new VRM was undertaken. Dispersion modelling was undertaken using the US EPA AERMOD Prime dispersion model and five years of meteorological data from Hawarden (2012 to 2016).
- 3.6.12 Predicted ground level concentrations for emissions of PM<sub>10</sub> and PM<sub>2.5</sub> from low-level sources at the Site are compared with air quality objectives and existing air quality.
- 3.6.13 The results of this assessment indicate that maximum predicted annual mean and 24-hour mean ground level concentrations would be substantially less than the relevant air quality objective set for the protection of human health. Furthermore, predicted concentrations with the new cement mill would be less than existing emission sources. However, the assessment concludes that this reduction in concentrations would not be significant.
- 3.6.14 The construction dust assessment considers the impact of demolition, earthworks, construction and trackout on dust soiling and human health. The impact on habitat sites was screened out of the assessment given the distance from construction activities and construction routes. Prior to mitigation, the impact of demolition and earthworks was assessed as 'low risk' whereas the impact of construction and trackout was assessed as 'negligible risk'. Mitigation measures for minimising impacts are recommended, including the preparation and implementation of a Dust Management Plan (DMP) for the construction site, which includes the requirement for visual inspections to be carried out to ensure mitigation measures are effective.
- 3.6.15 Overall, the results of the assessment indicate that the additional releases from the proposed Development will not have a *significant* impact on local air quality.

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#### 3.7 Noise

### The Appraisal

- 3.7.1 A Noise Impact Assessment has been undertaken to determine the potential noise impact from the installation of the VRM and the mothballing of cement mills 1, 2 and 4.
- 3.7.2 The assessment identifies that baseline noise levels from the works have been measured at 10 locations as part of historic PPC permit conditions between 2007 and 2013. As part of the assessment, measurements were taken again at these locations during February and March 2017 to assess the existing background noise levels in the area with the works operational. Comparisons with the historic data and the 2017 data have been made.
- 3.7.3 An identical VRM, of similar construction, is in operation at Hanson's Purfleet Works; this was also visited and noise levels were assessed inside and outside the building. This data has been used in the modelled predictions.
- 3.7.4 The noise impact from the reduction in traffic movements and the addition of train movements have also been assessed. Measurements of typical train movements and loading were taken at Hanson Cement's Ketton Cement Works. The movements are of a similar nature and measurements were not influenced by the main works noise.
- The data collected has been used in the predictions of the noise from the operation of the 3.7.5 VRM using CadnaA noise modelling computer software based on ISO9613.
- 3.7.6 Typical sound insulation specifications for the VRM and buildings were used within the model. Point sources were added on the VRM building facades and on the silo tops to represent fans and motors. Line sources were used to represent conveyors and rail lines.
- 3.7.7 Predictions of noise levels have been made for the surrounding area and specifically for nearby residential properties to show the existing situation and the proposed situation. The construction and demolition works have also been assessed. The assessment results have been compared to Technical Advice Note (Wales) 11: 1997 'Noise' (TAN11), BS4142:2014, and World Health Organisation recommendations and criteria. Where appropriate, proposals for suggested mitigation measures, in order to minimise any potential negative impacts arising from the development were provided with a prediction of any residual affects which may remain following implementation of the proposed mitigation measures.

### How the Development Takes the Context into Account

The BS4142 assessment, based on the comparison between noise predictions, with the 3.7.8 existing situation and the addition of the VRM indicates that there will be little impact on nearby residential properties as the increase in noise level from the introduction of the new mill will be less than 1dB at all the receptor positions. Although the noise levels have not increased significantly or at all at some receptors, the assessment identifies that the cement works and VRM has the potential to have tonal sources which may be audible at receptor positions. It concludes that the mothballing of mills 1, 2 and 4 will reduce the total number of tonal sources from the cement works, but that the VRM may have audible tonal sources, and that the difference between the existing situation and the proposed VRM gives rating values of +5, +4 and +2dB, with the threshold of +5dB indicating where it is likely to be an adverse impact. The output of this assessment indicates that there is likely to be little change to the



existing situation and that the small increase in dB level at some receptors, and any tonal characteristics from the VRM are unlikely to be discernible from the existing situation.

- 3.7.9 The assessment conclude that the propagated noise associated with the operational facility within the private and communal garden areas at all the receptor locations will achieve the lower limit of 50dBA as recommended by the WHO for external amenity spaces. The recommended facade level of 45dBA to achieve the 30dBA in bedrooms assuming 15 dB reductions from an open window based on the guidance in BS8233 and WHO guidance, will not be met at several locations by a small margin, although this is identified as not being a consequence of the addition of the VRM, as existing noise levels are above 45dB.
- 3.7.10 The noise assessment has also used the worst-case situations with all available cement mills operational (which only excludes mill 4, which cannot be operated concurrently with the VRM) to assess the noise impact at receptors. This scenario with all mills running simultaneously is in reality unlikely during normal operations with the VRM being likely to be the only mill in operation for the majority of the time. The assessment identifies that noise levels are lower at all the receptors than the predicted worst-case scenario and at some receptors a significant reduction in noise levels is seen due to the removal of the noise sources from cement mills 1 to 4.
- 3.7.11 The assessment also concludes that the 10% decrease in HGV traffic accessing the works is not significant in regard to noise impact. The decrease would give rise to an imperceptible drop in the  $L_{Aeq,16hr}$  and  $L_{Aeq,8hr}$  levels when compared to the current site situation.
- 3.7.12 Consequently, the assessment identifies the VRM, as designed, would not have a significant effect on nearby noise sensitive receptors and no additional noise mitigation is recommended.

### 3.8 Contaminated Land

### The Appraisal

- 3.8.1 A Phase I and Phase 2 Contaminated Land Assessment has been prepared which comprises:
  - An examination and review of information collected and presented in a Landmark Envirocheck report (including historical maps) to ascertain the likelihood and potential significance of historical contamination;
  - A review of readily available relevant geological, hydrological and hydrogeological information for the Site and its immediate surrounds to ascertain the implications with regard to contaminated ground, groundwater or surface water that may be present;
  - A Site walkover;
  - A review and summary of potentially sensitive receptors (e.g. aquifers, watercourses, human, etc.); and
  - A risk analysis using the identified source-pathway-receptor model to assess the severity of any potential contamination of ground, groundwater or surface water.
- 3.8.2 The report of the assessment sets out details of the setting of the Site, its environmental setting and summarises the Site walkover observations. A conceptual site model is presented and a risk analysis is undertaken using the identified source-pathway-receptor model to assess the likelyhood of any potential contamination of ground, groundwater or surface



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water. The report then presents the conclusions and recommendations, including advice on mitigation measures.

### How the Development Takes the Context into Account

- 3.8.3 The assessment identifies that the cement works has been operational since 1949 and therefore, there is the potential for contaminative activities to have been carried out on Site. However, it confirms that no visual evidence of contamination, such as staining of the ground was observed during the Site walkover and that intrusive investigations carried out on Site have not indicated the presence of elevated concentrations of contaminants in the ground, although it acknowledges that groundwater quality beneath the Site has not been characterised.
- 3.8.4 The Phase 2 Assessment Report presents the findings of the environmental intrusive investigation carried out to characterise the shallow soils in the area of raised Made Ground and in the area of the railway track. A total of 14 trial pits were excavated and the soil arisings logged and photographed. No visual or olfactory evidence of contamination was noted during excavation of the trial pits. A total of 23 soil samples were analysed for a standard suite of analysis (comprising pH, moisture content, metals, volatile organic compounds, semi-volatile organic compounds, including polyaromatic hydrocarbons and phenols, and total petroleum hydrocarbons). Eleven of these samples were scheduled for additional analysis comprising total alkalinity, total organic carbon, antimony, chloride, fluoride, total sulphate, soluble sulphate and asbestos identification.
- 3.8.5 An assessment of the laboratory analysis results against the UK screening criteria for potential human health impacts was carried out. The determinands analysed did not exceed the screening criteria and the samples are therefore not considered to pose a risk to Site users for the proposed land use. The material is therefore considered appropriate for re-use on Site.

### 3.9 Human Health

### The Appraisal

- 3.9.1 Finally, a Health Impact Review, has been undertaken, the aim of which is to summarise the potential health risks associated with the erection of a new VRM and to recommend relevant mitigating measures as required.
- 3.9.2 The review identifies that a comprehensive health impact assessment (HIA) of the existing Padeswood Cement Works has been undertaken already following health concerns raised by local community representatives in 2010. This followed health concerns expressed by Penyffordd Community Council and Buckley Town Council, including concerns about rates of specific cancers, the age and geographical spread of disease, local food production issues and occupational health effects from cement production.
- 3.9.3 The review further identifies that the HIA, led by Public Health Wales, covered baseline health status and health impacts associated with emissions from the cement works of dust, noise, particulate matter, oxides of nitrogen, sulphur dioxide, carbon monoxide, metals, dioxins, odour and smoke.
- 3.9.4 The review refers to the final report of HIA which looked at whether any emissions from



Padeswood Cement Works are harmful to health and that the final report concluded that no evidence was found that emissions from the cement works have resulted in harm to physical health; that whilst the particulate and gaseous emissions may in themselves present hazards (in that they have the potential to cause harm) the level of risk that they present is minimal. The levels of emissions were identified as being within safety limits and so did not pose a risk to health and that no evidence of any persistent increase in ill-health was found, and that the health of people living near the cement works was generally as good, or better than that of those living elsewhere in Wales.

- 3.9.5 Emissions considered by the investigation comprised particulates (as PM<sub>10</sub>), dioxins, oxides of sulphur, nitrogen and carbon, and metals. Other pollutants of concern were associated with nuisance and included coarse dust, noise, odour and visible smoke. The investigation noted that whilst there were occasional breaches of operational emission limits, in particular dioxin emissions to air in 2004 and 2008, the concentration of these emissions, even during breach periods, remained well below health based thresholds and that the risk of these increased emissions to air to the local community was considered very low.
- 3.9.6 In addition to reporting the outcome of the HIA, the review considers the Community Health and Occupational Heal impacts of the Development.

### How the Development Takes the Context into Account

- 3.9.7 The review identifies that the Development will not introduce any new processes and as such is not anticipated to have any significant adverse impact on health or the environment. It identifies that the VRM is known to have a number of advantages over the existing grinding technologies employed at the cement works, including reduced noise and vibration, that the new rail loading facility will enable between 4,000 and 5,000 tonnes of cement to be transported from the cement works by rail each week, employing the best available techniques to minimise the potential for dust emissions during loading of train tankers, and the removal of 31 heavy vehicle movements from the surrounding local roads per day. The review identifies that there are no proposed changes to the kiln processes at the cement works, which are the most relevant processes in terms of many of the emissions and impacts covered by the HIA.
- 3.9.8 In terms of community health, the review consequently concludes that it is not anticipated that this will be adversely affected by the Development and that conversely there is likely to be a positive impact on local communities as a result of the project.
- 3.9.9 In terms of occupation health, the review confirms that UK Construction & Health and Safety standards will be applied to the existing plant and that, in line with the recommendations from HSE, Hanson Cement will re-assess any risks to the health of the workforce as a result of the installation of the VRM and consider the need for different or additional control measures in line with their Health and Safety system.
- 3.9.10 Finally, the review confirms that the cement works is and will continue to be operated in line with its Environmental Permit (Reference No. EPR/BL1096IB (as amended)), and that a permit variation application will be submitted to Natural Resources Wales setting out in detail the proposed changes in operations and associated changes to emissions from the cement works. Existing emission limit values will be reviewed by Natural Resources Wales and appropriate changes made to the Environmental Permit conditions with which the cement works has to



maintain compliance.

3.9.11 As part of the Environmental Permit variation application, existing management plans for noise and odour emissions from the cement works will be updated.

### 3.10 Pre-Application Consultation

### Statutory Pre-Application Consultation

- 3.10.1 In addition to the technical assessments pre-application consultation is being undertaken as part of the appraisal of the context of the Development and how the design of the Development takes the context into account. This has been undertaken in accordance with Regulation 2C and 2D of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 (as amended). Regulation 2C requires the display of a notice on or near the land to which the proposed application relates for not less than 28 days; and that written notification be given to any owner or occupier of any land adjoining the land to which the proposed application in the writing of the planning application documents available for inspection at a location in the vicinity of the Development for not less than 28 days.
- 3.10.2 Regulation 2D also requires the applicant to consult with the local councillor and Community Council and specialist statutory consultees on their proposals and given them time to respond.

### **Public Exhibitions**

- 3.10.3 In addition to the statutory requirements, Hanson Cement has held two public exhibitions as part of the consultation process. The exhibitions were held on Tuesday 23<sup>rd</sup> May 2017 at Buckley Library, The Precinct, Buckley CH7 2EF 3.30pm to 7pm and on Wednesday 24<sup>th</sup> May 2017 at Penyffordd and Penymynydd British Legion Club, Chester Road, Penyffordd CH4 0JZ 3.30pm to 7pm.
- 3.10.4 The aim of the exhibitions was to introduce the project to the community and provide an opportunity for all stakeholders to feed back on the proposal from a very early stage. Forms were provided to enable visitors to leave feedback. By doing this, Hanson Cement has been able to consider community feedback in the design of the scheme.

### 3.11 Consultation Findings

- 3.11.1 Once the pre-application consultation is completed, the responses will be considered by Hanson Cement, and if appropriate further amendments made to the design of the proposed Development.
- 3.11.2 The full findings of the consultation, will be reported in a pre-application consultation report that will be submitted with the planning application. This will set out the issues raised in the course of the consultation and details of how the comments have been taken into account in developing the final design.



# 4 The Approach adopted to Access, and How Policies Relating to Access in the Development Plan have been taken into Account

### 4.1 The Approach to Access

- 4.1.1 The approach to access related issues has been one the key considerations in developing the design of the VRM and the associated infrastructure. This has been an inevitable part of the design process because, as set out in the discussion of the design principles and concepts in Section 2 above, a key challenge has been how to enable a significant upgrade to the milling capacity of the cement works, whilst simultaneously reducing the transport of cement by road. This has been an absolutely central part of the process because cement production involves the transport of significant quantities of high volume bulky finished products
- 4.1.2 In accordance with the principles of sustainable development, and because it makes good business sense from a commercial perspective, the approach adopted has been to develop a solution to transport which makes better use of the opportunities afforded by the existing rail link to increase the transport of finished product to national markets by train.

### 4.2 Policies Relating to Access in the Development Plan

- 4.2.1 This approach is consistent with the policy objectives of the statutory Development Plan in Flintshire. This currently comprises the Flintshire County Council Unitary Development Plan (UDP) 2000-2015 which was adopted in September 2011. The Plan includes strategic and general development management policies relating transport and access.
- 4.2.2 The strategic policies include:
  - Policy STR1 New Development which sets out the Plans main overall strategic development management policy and makes clear in relation to transport and access that new development should generally located within existing settlement boundaries, allocations, development zones, principal employment areas and suitable brownfield sites and will only be permitted outside these areas where it is essential to have an open countryside; and
  - Policy STR2 Transport and Communications under which new development is expected to minimise the number and length of journeys especially by private car; make the best use of existing roads and addressing congestion and safety issues through traffic management and calming measures; and facilitating the transfer of freight from road to rail or water.
- 4.2.3 Relevant General Development Management Policies include the following:
  - Policy GEN1 General Requirements for Development which seeks to ensure that new development does not have a significant adverse impact on the safety and amenity of nearby residents, other users of nearby land/property, or the community in general,



through increased activity, disturbance, noise, dust, vibration, hazard, or the adverse effects of pollution and that it will provide safe and convenient access for pedestrians, cyclists, persons with disabilities, and vehicles, together with adequate and suitably located parking spaces and servicing/manoeuvring space and will not have an unacceptable effect on the highway network as a result of problems arising from traffic generation; and provide convenient access to public transport, and wherever possible is well related to pedestrian and cycle routes

- Policy AC9 Provision of New Rail Freight Facilities which states that proposals for the development of new or improved railway freight sidings will be permitted provided that; it utilises wherever possible land with an existing or allocated industrial use, or other suitable brownfield land; the access, and surrounding highway network are capable of adequately accommodating the nature and volume of traffic generated; it would not adversely affect residential or other amenity by virtue of noise, vibration or fumes; and it would not result in significant adverse harm to features or areas of landscape, nature conservation, historic value or water quality; and
- Policy AC13 Access and Traffic Impact makes clear that development proposals will be permitted only if approach roads to the Site are of an adequate standard to accommodate the traffic likely to be generated by the development without compromising public safety, health and amenity; and safe vehicular access can be provided by the developer both to and from the main highway network.

### 4.3 How Policies Relating to Access in the Development Plan have been Taken into Account

- 4.3.1 In relation to the overall location of the Padeswood Cement Works and the overall spatial development strategy of the Flintshire County Council Unitary Development Plan set out in **Policy STR1 New Development**, the Padeswood Cement Works, as an existing operational manufacturing site, is a major existing employment location, albeit one located in the open countryside. The area where the new VRM and renewed rail link is to be located already forms part of the industrialised operational cements works and some demolition of redundant existing plant will be required. As such policy relating to access has to be applied in this context.
- 4.3.2 The details of how the other policies relating to access in the Development have been taken into account are set out in the Transport Technical Note submitted with the planning application. This identifies that the Development will facilitate a significant change in the transport arrangements associated with the Padeswood Cement Works, because, as set out above, the intention is that there will be a noteable shift from road based transport of materials to rail based transport, in line with **Policy STR2 Transport and Communications** and **Policy AC9 Provision of New Rail Freight Facilities.**
- 4.3.3 The approach has been to identify the changes that will take place in the transport arrangements for the cement works including the benefits that the Development will bring in terms of reducing HGV movements on the road network in line with the requirement of **Policy GEN1** on the **General Requirements for Development and Policy AC13 Access and Traffic Impact.**
- 4.3.4 The temporary transport impacts associated with the construction stage of the Development have also been considered. The Transport Technical Note identifies that the approach is to



minimise traffic impacts during the construction works associated with the Development and to minimise impacts on local residents and users of the area. Potential management and mitigation measures are identified that could be used to address the potential impacts during the duration of the construction works.

- 4.3.5 The approach has also sought to define the mechanisms for managing the movement of construction related vehicular traffic associated with the Development and also the processes for monitoring and consultation with parties who may be affected by construction traffic and construction activities.
- 4.3.6 Accordingly, the Transport Technical Note:
  - Details the existing site characteristics (including transportation arrangements) and provides information on the existing transport network around the Site;
  - Sets out information for the Development and the transport arrangements that will be in place once the Development becomes operational. This includes details on the reduction in road-based transport to and from the cement works compared with the existing operation; and
  - Identifies the activities to be undertaken during the construction stage and provides construction details for the project including the programme, predicted construction traffic movements and workforce trip generation characteristics. A range of potential measures to manage the construction process and to control and manage construction vehicle movements is identified.



## 5 How Specific Issues affecting Access to the Development have been Addressed

### 5.1 Assessment in The Transport Technical Note

- 5.1.1 The Transport Technical Note concludes, in relation to the cement work's baseline accessibility that while it sits in a rural location, it is still accessible by a range of transport modes. It concludes that the existing network is suitable to serve the cement works during construction and following the completion of the Development without any changes to the external network.
- 5.1.2 The existing traffic movements have been identified travelling on and off the cement works. These flows have been compared with the future operation of the cement works in a situation where there is no redevelopment work (Do Minimum Scenario) and compared with the scenario whereby the VRM and rail loading facility are constructed. The analysis shows that the construction of the rail loading facility will bring about a significant reduction in road-based HGV movements. This equates to a reduction of 8,089 two-way annual HGV trips. This represents a reduction of 31 HGV movements per day or approximately 10%. This reduction will benefit the local road network in the vicinity of the cement works and will give rise to environmental benefits through a large reduction in HGV miles travelled.
- 5.1.3 The volume of construction traffic has been calculated and there will be a maximum of 1,748 HGV movements over the 50 week construction period. This equates (on average) to 35 HGV trips per week. It should be noted that there is an initial 8 weeks for site clearance and ground levelling which equates to a maximum of 1,350 HGV movements. This is an average 169 trips per week.
- 5.1.4 This level of trip generation is not considered significant in capacity terms and will not significantly impact the surrounding road network. It is however recognised that the HGV movements to and from site for the construction workers could be by different drivers not normally serving the cement works so it is important to consider what measures are required to maintain safety and minimise disruption to others.
- 5.1.5 Management measures have been identified for the construction stage of the Development to ensure on-site safety is maintained and to ensure that there are no issues created externally to the cement works. It is considered that when these measures are implemented, there will be no significant impacts on local residents or existing road users.
- 5.1.6 Overall, the assessment set out in the Transport Technical Note concludes that the proposed development will bring about significant benefits in terms of increasing the transportation of goods by rail and at the same time reducing road based HGV movements. This will bring about a reduction in HGV movements on the adjacent A5118 and an overall reduction in HGV miles travelled.



5.1.7 The impact of traffic associated with the construction of the Development is low compared to the traffic arising from the normal operation of the plant and can be appropriately mitigated with measures put in place to minimise the impact on local residents.

### 5.2 Key Access Related Conclusions in Relation to Development Plan Policy

- 5.2.1 Accordingly, the key requirements of development plan policy in relation to access have been addressed and the proposal does comply with:
  - Policy STR2 Transport and Communications, in that it does seeks to minimise the number of road journeys and facilitates the transfer of freight from road to rail or water;
  - Policy GEN1 General Requirements for Development by ensuring the safety and amenity of nearby residents, other users of nearby land/property, and the community in general and will not have an unacceptable effect on the highway network as a result of problems arising from traffic generation;
  - Policy AC9 Provision of New Rail Freight Facilities by providing for improved railway freight sidings within an existing industrial use, using brownfield land with good access and will reduce the volume of road traffic on the surrounding highway; and
  - Policy AC13 Access and Traffic Impact in that the approach roads to the cement works are of an adequate standard to accommodate the traffic likely to be generated by the Development without compromising public safety, health and amenity; and safe vehicular access can be provided both to and from the main highway network.





# Appendix1 Drawings

