

**LAND OFF COITY ROAD,  
BRIDGEND**

**INFRASTRUCTURE SERVICES REPORT**

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## APPENDICES

### **Appendix 1 - Plans**

CEC Plan 2980/200	Site Location Plan
CEC Plans 2980/SER/100	Existing Utilities (Gas, Telecommunications, and Electricity)
CEC Plans 2980/SER/101	Existing Utilities (Potable and Foul Water)

### **Appendix 2 - Utility Correspondence and Plans - Existing Infrastructure**

### **Appendix 3 – Utility Correspondence - New Supply**

## 1.0 INTRODUCTION

- 1.1 This *Infrastructure Services Report* has been prepared by Cole Easdon Consultants (CEC) on behalf of BRB Residuary Limited in respect of a scoping assessment on land to the north of Coity Road, Bridgend. The scoping assessment, of which this report forms part, is intended to identify the constraints and possible development opportunities that could be accommodated within the site. Refer to CEC Plan 2980/200 [*Site Location Plan*] contained within Appendix 1.
- 1.2 The objective of this Report is to identify any constraints on development relating to existing utility services, and seeks to identify how development at the site can be accommodated.

### **Development Proposal**

- 1.3 Bridgend County Borough Council's (BCBC) *Unitary Development Plan (UDP)* identifies the parcel of land for mixed use development, specifically:
- § employment;
  - § residential;
  - § amenity space;
  - § improvements to passenger rail infrastructure (to include a Park and Ride facility);
  - and
  - § a 'Community Route'.
- 1.4 The scoping assessment aims to bring these ideas further forward and to identify the constraints and any other possible development opportunities.

- 1.5 A master plan has been developed for the site, and during the process it has been identified that the most feasible type of development for the site will be residential, without any employment use. However, the amenity space, Park and Ride facility and community route can form an integral part of the master plan for the site. Further to a meeting held with planning officers of Bridgend County Borough Council on 28th May 2010, a planning brief containing the draft master plan, and constraints plans and other enclosures, were submitted to the Council. BCBC have provided feedback on the submission and have broadly welcomed the proposal.

### **Existing Site**

- 1.6 The site comprises a long, thin stretch of land (approximately 1km in length) which was formerly a section of the Great Western Railway Llynfi Valley Line that was used mainly as a minerals railway, with a large portion of the land used as railway sidings.
- 1.7 The site over recent years has to some extent been reclaimed by nature, with thick impenetrable vegetation in parts. The southwest corner of the site is used as a builder's storage yard. The Maesteg railway line and Wildmill rail halt forms the western boundary to a large portion of the site and is operational with regular trains running past the site. Residential properties, school playing fields, a cemetery, electricity substation, allotments and commercial/industrial units also bound the site.

### **Topography**

- 1.8 Crossfalls across the site are largely level although, being a former railway sidings, the parcel of land forms a cutting with steep sides in parts where neighbouring land is higher.

### **Existing Records**

- 1.9 The primary source of records for existing on and off site infrastructure utility services are from Utility Companies, who are obliged to provide copies of their records upon request.
- 1.10 Enquiries have been issued to the following companies for records of existing services, the impact of the proposed development and their capability to provide new supplies:
- i) Openreach (BT)
  - ii) Welsh Water – public sewer and public water main
  - iii) Wales and West Utilities, British Gas – gas supply
  - iv) Western Power Distribution - electricity
  - v) Virgin Media - telecommunications
  - vi) Miscellaneous - oil pipelines
  - vii) Envoy - Multi-utility asset management (gas, electricity, water)
- 1.11 Copies of plans received showing existing utility services are included within Appendix 2. CEC Plans 2980/SER/100 and 2980/SER/101 [*Existing Utilities*] show all the apparatus identified by the various operators (relevant to the site), and are contained at Appendix 1.

## 2.0 ELECTRICITY

### Western Power Distribution

- 2.1 Western Power Distribution (WPD) have provided plans showing their existing apparatus in the vicinity of the site. Refer to Appendix 2.

#### Existing Apparatus

- 2.2 The plans received from WPD confirm that 132,000 volt overhead lines on steel towers cross the site in an east-west alignment from the electricity substation plant to Maes-Y-Felin on the western side of the live railway. The electricity substation is located adjacent to the eastern boundary of the site, approximately mid-way along its length.
- 2.3 Adjacent to the site, high voltage underground cables run within Coity Road and Great Western Avenue. These underground cables lead to the aforementioned substation. A high voltage underground cable leads from the substation and continues north within the site before running along the rear of properties on Greenwood Close. A similar high voltage underground cable also leads from the substation southwest across the site towards the northern end of the cemetery. Elsewhere, low voltage underground and overhead cables run within adjacent streets.
- 2.4 Alterations to ground levels and erection of buildings, lighting columns or other structures within 15 metres of the outer conductors of the 132,000 volt overhead lines first require advice from the electricity company. Works within 15 metres of the outer conductors must be carried out in accordance with the HSE's *Notes of Guidance GS6*. However, development is not precluded from being located beneath the cables, although a clearance of 6.5m from the lowest sag of the cables is required from buildings, also taking into account the swing of the cables. On receipt of detailed site layout plans that include building heights etc., WPD offer a service whereby they can undertake modelling to confirm the clearances.

'Notice to Quit' - Undergrounding of 132kV Overhead Cables

- 2.5 Should a developer wish for the 132,000 volt overhead cables to be lowered underground, then the land owner may serve a 'notice to quit' to WPD. This is possible since the easement agreement with BRBR is terminable, rather than permanent. WPD would require as long a notice period as possible in order to investigate and implement a solution (lowering or diverting).
- 2.6 We have been advised that for the overhead cables that cross the site to be laid underground will cost in the region of £1.3m. Undergrounding the cables that run parallel to the north eastern site boundary within the allotments will incur further costs. However, WPD would require planning permission for the erection of new terminal towers (refer to photograph 2.1 below which shows an example of such a structure). WPD would seek to underground cables over the minimum distance that is practicably possible, taking account of the extent of the terminable easement. Since the easement agreement with BRBR is terminable, the costs associated with the works will be at WPD's expense in the first instance.
- 2.7 Initial discussions with WPD have identified that the most appropriate place for one of the terminal towers is within land owned by BRBR, requiring a dedicated area of some 15m<sup>2</sup>. However, should BRBR not wish for the terminal tower to be located within the site, or should planning permission for the terminal towers not be forthcoming, then negotiations could be held with WPD regarding alternative solutions, for which BRBR/the developer would be required to contribute a proportion of funding. New easement agreements could be made with WPD with respect to relocated services.
- 2.8 Our discussions with WPD have identified that locating a terminal tower outside of the site boundary is unlikely to be feasible. Immediately to the west of the site is the cemetery, and west of the cemetery is the live single track railway line.

2.8 Cont'd.

Although there is a narrow parcel of land between the cemetery and the railway line, WPD have undertaken a site visit and have related to CEC that there is insufficient space to accommodate a terminal structure. Furthermore, should BRBR be able to use some of the land immediately adjacent to the railway line and within the chain link fence, this could undermine the railway embankment or railway lines.

2.9 To the west of the railway line is an existing residential area and there is already a supporting electricity tower within this area. However, due to the residential development that has been constructed around it, there is limited opportunity for replacing the existing tower with a terminal structure due to the 'land-locked' nature of the area and the requirement to then route underground electricity cables beneath the railway and cemetery.

2.10 A further consideration is that any undergrounding works would require the construction of an additional tower within the electricity substation located to the east of the site.

2.11 While it may seem beneficial from the outset to underground the existing overhead electricity cables, this will necessitate a terminal structure being located within the site (the only practical solution) and an additional tower within the adjacent substation. The resulting aesthetics are unlikely to represent a significant improvement over the existing situation, especially given the financial implications that may arise for carrying out such works (refer to Photograph 2.1 below showing a typical terminal structure). We therefore recommend that the overhead cables remain as per the existing situation.



*Photograph 2.1 - Typical Terminal Structure  
(located off the A473 north M4 Junction 35)*

Diversion - 33kV/11kV and 'Pilot' Cable

- 2.12 WPD require that their underground apparatus is located within "defined and accessible locations, normally footways or road carriageways". As such, they require that a length of some 450 metres of their existing underground 33,000/11,000 Volt and 'Pilot' cables which run west and north within the site from the existing electricity substation are diverted to follow the alignment of the proposed road that will run throughout the length of the site.
- 2.13 WPD have provided CEC with an 'Offer for Works', contained within Appendix 3. The offer consists of applicable charges, estimated commencement date and conditions of acceptance of the offer, together with a cost estimate.

2.13 Contd.

The offer has a validity of 90 days. It would obviously not be appropriate to take up the offer at this stage in the development process, however, it provides an indication of the likely work required and the costs that are involved. The offer describes how the works would be completed within six months of its acceptance.

- 2.14 Based on the masterplan provided to WPD, the cable diversion work will cost (to the developer) some £113,518.05. This is an estimate based on a time and material non-profit basis. The estimate does not include for civil works or any contribution required for affording connection to any new development. It does include for the provision of ducts. Obviously, the highway alignment shown on the aforementioned CEC master plan could be amended in due course to reflect the alignment of these HV cables, however, this would have implications for the gas apparatus (refer to Section 3.0 of this report), whereby at present, the highway alignment follows the route of the latter.

New Supply

- 2.15 We have been advised by WPD that due to an anticipated load of the order of 320kVA and the site geography, it is unlikely that the existing WPD network will be able to support the development without reinforcement works. WPD have provided CEC with a Cost Indication for electricity connection for a development consisting of 135 dwellings (refer to Appendix 3). The Indication does not include for civil works which should be undertaken by and at the cost of the developer. It is anticipated that eight weeks will be required from acceptance of the Cost Indication before connection works are started.

- 2.16 The necessary works to provide the development with an electricity supply include the following:
- § Establishing a 315kVA substation located at the centre of the development and looped into the existing 11kV WPD network (an alternative possibility is supplying the substation via a radial circuit with reduced security of supply and at a reduced cost).
  - § Laying LV and services to supply the 135 dwellings (services based on an average length of no more than 20 metres).
  - § Individual service connections.
- 2.17 The costs to the developer of the above works is indicated to be some £133,018. A large element of the works (to the value of £126,631) are 'contestable', and the developer may seek competitive prices for some or all of these contestable works.
- 2.18 As related earlier in this report, it is suggested that the existing 132,000 volt overhead cables that cross the site remain *in-situ*. Any detailed layout plans should take account of the likely swing and sag of these.

#### **Independent Power Networks Limited**

- 2.19 Envoy, the asset management provider for the multi-utility market, have confirmed that Independent Power Networks Limited (electricity) do not have any apparatus within the vicinity of the site.

### 3.0 GAS

#### **Wales and West Utilities**

- 3.1 Wales and West Utilities have provided plans showing their existing apparatus in the vicinity of the site. Refer to Appendix 2.

#### Existing Apparatus

- 3.2 Wales and West Utilities' records show a medium pressure gas mains within ~~nearby~~ Coity Road. The Jewson Builders Yard located in the southwest corner of the site has a gas supply from the main located within Coity Road.
- 3.3 Toward the centre of the site, medium and intermediate pressure mains lead from a gas governor located adjacent to the electricity substation. The medium pressure main heads in a south-westerly direction toward and then alongside the live railway line travelling southwards. The intermediate pressure gas main initially runs southwest, parallel to the medium pressure main, and then runs northwest but then north alongside the western boundary of the site. After passing the Wildmill Railway Station, it diverts to the eastern side of the site and continues its route northwards within the site boundary.
- 3.4 We are advised that the easements and guidelines listed below will be required to be adhered to along the pipelines' length in order to retain access to the apparatus for maintenance etc. Tree planting guidelines would also be applied to any development proposal.

§ easements of 3m are required either side of each pipeline;

§ no buildings will be located within 5m of the Intermediate Pressure Pipeline;

§ no buildings will be located within 3m of the Medium Pressure Pipeline;

3.4 Contd.

- § it is not appropriate to locate private gardens over the top of the pipelines
- § it is suitable to locate roads over the top (subject to them being adopted by the local highway authority).

3.5 As noted in Section 2.0 of this report, the present CEC master plan indicates the main highway alignment following the route of the intermediate pressure gas main, due to the reasons outlined above. However, the electricity supply also requires their underground HV cables to follow the road alignment. Therefore, either the gas or electricity supply will require diversion such that both services follow the main highway alignment. Based on the current CEC master plan, the work and associated costs of diverting the latter have been provided by Western Power Distribution.

New Supply

3.6 Wales and West have relayed that the 12 inch ST Medium Pressure main, located within the site boundary, has sufficient capacity to accommodate the proposed development. This has been based on an estimated gas consumption rate. When accurate gas consumption details of the proposed development are known, Wales and West should be consulted again. Refer to correspondence received from Wales and West, contained in Appendix 3.

**Independent Pipelines**

3.7 Envoy, an asset management provider for the multi-utility market, have confirmed that Independent Pipelines Limited (gas) do not have any apparatus within the vicinity of the site.

## **4.0 WATER SUPPLY**

- 4.1 Welsh Water have provided details of their existing clean and waste water network. (Refer to Appendix 2).

### Existing Apparatus

- 4.2 Existing clean water mains most easily accessible within close proximity of the site are shown to be located within both Coity Road and Wild Mill Lane. Elsewhere, clean water mains are located within the roads and footways of the neighbouring residential streets and cul-de-sacs.

### New Supply

- 4.3 Welsh Water have identified that a water supply can be made available to development at the site. The developer may be required to contribute towards the provision of new off-site and/or on-site water mains and associated infrastructure. The level of contribution can be calculated by Welsh Water on receipt of detailed site layout plans. Refer to correspondence received from Welsh Water, contained within Appendix 3.

## **5.0 SEWERAGE (FOUL AND SURFACE WATER)**

- 5.1 Welsh Water have provided details of their existing network of public sewer (waste) apparatus. (Refer to Appendix 2).

### Existing Apparatus

- 5.2 Waste water infrastructure pipes lie within Wild Mill Lane, but not Coity Road. Other adjacent streets and cul-de-sacs also have such sewerage infrastructure. A combined sewer runs north from Great Western Avenue through the community playing fields and connects to Wild Mill Lane after running within the eastern boundary of the site to the east of the Wild Mill railway halt.

### New Discharge

- 5.3 Welsh Water have confirmed that the discharge of foul water flows from the development at the site can be accommodated within the adjacent public foul sewerage system.
- 5.4 Welsh Water have further confirmed that surface water flows from the proposed development should be disposed of separately by other means. Highway or land drainage run-off (including roof run-off) will not be permitted to discharge directly or indirectly into the public sewerage system, until all alternative options have been fully explored. Alternative means of disposal of this surface water could include the provision of soakaways, or discharging directly to a watercourse. Any such proposals should be developed in liaison with the Land Drainage Authority and/or Environment Agency.

- 5.5 Specifically, surface water will not be allowed to drain to combined sewers. However, we note that a surface water sewer runs along Cemetery Road to the west of the railway line, and that in the event that disposal to the existing infrastructure is required, this may present one possible solution. At this stage, Welsh Water will not investigate the capacity of this surface water sewer until it has been demonstrated that there is no suitable alternative.
- 5.6 On-site and off-site sewers that will be offered for adoption must meet with the specifications laid out in '*Sewers for Adoption*'. Refer to correspondence received from Welsh Water, contained within Appendix 3.

## 6.0 TELECOMMUNICATIONS

### Existing Apparatus

- 6.1 Existing BT Openreach plant is shown by their plans to be located within the footway on the eastern side of Coity Road as well as in the footways of adjacent roads. Overhead BT cables cross Coity Road from the east and enter the site at its current access location. The cables then run along the south western boundary of the site to the existing Jewson's unit located within the site boundary. Underground infrastructure also leads from Great Western Avenue to the electricity substation via the surfaced access road.

### New Supply

- 6.2 BT Openreach have confirmed that development at the site can be accommodated, but that capacity within existing infrastructure is not sufficient. BT Openreach will carry out all network reinforcement works outside the site boundary and in the public highway. The costs of this will be paid by BT Openreach up to an allowance of £3,400 per plot (excluding VAT). BT Openreach relate that the associated costs are not likely to exceed this amount per plot, and so charges to a developer of the site are unlikely to be incurred. Refer to correspondence received from BT, contained within Appendix 3.
- 6.3 When a detailed layout plan of the development site receives planning approval, Openreach will provide a suitable drawing showing their actual proposals to serve the site.
- 6.4 We conclude that telecommunication supply to the development site can be provided in an efficient and sustainable manner.

**Virgin Media and Viatel**

- 6.5 Virgin Media and Viatel have confirmed that their plant should not be affected by work within the site. They also confirm that no strategic additions to their existing network are envisaged in the immediate future.

## 7.0 OIL PIPELINES

7.1 We have received confirmation via the Linesearch that apparatus owned by the following companies is not located within 2 kilometres of the centre of the land parcel:

- § BOC Limited
- § BP Exploration Purbeck Southampton Pipeline
- § BPA
- § Centrica Energy
- § ConocoPhillips (UK) Ltd.
- § ConocoPhillips Ltd. Humber Refinery
- § Coryton Energy Co. Ltd. (Gas Pipeline)
- § E-on UK Plc (Gas Pipelines Only)
- § Esso Petroleum Company Ltd.
- § Fibrespeed Ltd.
- § Geo Networks Ltd.
- § Government Pipelines & Storage System
- § INEOS Manufacturing (Scotland and TSEP)
- § Ineos Enterprises Ltd.
- § Mainline Pipelines Ltd.
- § Manchester Jetline Ltd.
- § Marchwood Power Ltd. (Gas Pipeline)
- § NPower CHP Pipelines
- § National Grid Gas and Electricity Transmission
- § Oikos Storage Ltd.
- § Premier Transmission Ltd. (SNIP)
- § Sabic UK Petrochemicals

7.1 Contd.

§ Scottish Power Generation Ltd.

§ Shell UK Ltd.

§ Total UK (Finaline, Colnbrook & Colwick Pipelines)

§ Wingas Storage UK Ltd.

## 8.0 CONCLUSIONS & WAY FORWARD

### Existing Apparatus

- 8.1 Existing records have been received for BT, water supply, sewerage, electricity and gas utilities.
- 8.2 There are no oil pipelines either located within or in the vicinity of the site.

### Diversions of Existing Utilities

- 8.3 Some localised diversions of existing BT cables may be required to implement any proposed access arrangements off the said highways and to facilitate development.
- 8.4 It has been established that the easement agreement with BRBR with respect to the 132,000 Volt overhead electricity cables is terminable, and as such a notice to quit could be served to Western Power Distribution. The feasibility of lowering the existing overhead electricity cables underground has been explored with WPD. The costs associated with such works would, in the first instance, be at WPD's expense. However, the benefits of undertaking this work are questionable. Based on the existing proposed layout, some diversion costs will be incurred for the relaying of existing underground HV cables within the site such that they follow the route of the main access road through the site.

### New Supply

- 8.5 Servicing of the site for telecommunications, gas, electricity and water supply has been confirmed as feasible. Welsh Water have confirmed that foul water from the proposed development can also be accommodated.

8.5 Contd.

However, further investigation is required with regards to surface water disposal (either via infiltration or direct discharge to a watercourse), before Welsh Water will advise on the available capacity within their existing surface water sewers. We therefore recommend that testing is undertaken to establish the potential for infiltration across the site.

8.6 Subject to an appropriate surface water drainage strategy being agreed with Welsh Water, there is considered to be no reason with regard to services to preclude development from proceeding at the site.

8.7 This Report should be updated as any further information is determined.

Cole Easdon Consultants - August 2010