

**CD07/066
REPORT ON INFRASTRUCTURE SERVICES**

April 2010

Revision #

**REPORT ON INFRASTRUCTURE SERVICES
AT THE ROYAL BATH AND
WEST SHOWGROUND**

Prepared by: Kriston Harvey

Authorised by: Lawrence Pacey

Issued by: Kriston Harvey

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1.00 INTRODUCTION

- 1.01** This note considers the infrastructure service implications in relation to the improvement of the Royal Bath and West Showground. It has been prepared to inform the Planning Framework for the site's enhancement.

- 1.02** The water, gas, electricity and telecommunication providers which operate in the area have been contacted to determine any constraints for development of the site and to establish the location and importance of any existing services which may be affected by development.

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2.00 ASSESSMENT METHODOLOGY

- 2.01** The study area covers the site and highways in the immediate vicinity.
- 2.02** The assessment considers the constraints of existing water, gas, electricity and telecommunication supplies. Consideration of foul sewerage and surface water drainage is undertaken in a separate report.
- 2.03** The assessment identifies the existing services in the vicinity of and within the site to determine those which may be affected by the improvement proposals and which may therefore require protection or diversion to enable development works.
- 2.04** The utilities companies set out in Table 2.1 have been approached to provide the requisite information as the appropriate service providers for the site.

Table 2.1 Data Sources

Source	Information
Bristol Water	Details of existing water mains in the vicinity of the site
Western Power Distribution	Details of electricity in terms of existing high and low voltage cables within and in the vicinity of the site
Wales and West Utilities	Existing gas mains within and in the vicinity of the site
British Telecom	Existing telecommunication apparatus in the vicinity of the site.
Virgin Media	Information not received at the time of writing

2.05 Assessment Criteria

The assessment considers the impacts of the development to enhance and improve the Showground facilities to ensure that development can be accommodated and present supplies to existing users are not compromised.

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3.00 BASELINE CONDITIONS

- 3.01** The existing appropriate service providers of this area were contacted to determine the location of utilities in the vicinity of and within the site.
- 3.02** The site covers an area of approximately 91 hectares and presently consists largely of grassed areas bounded by a mixture of fence lines, established trees, shrubs and hedgerows surrounding the central core Showground area which comprises a network of internal roads and several existing buildings. A local watercourse enters the site approximately midway along the Eastern boundary and runs in a Westerly direction toward the centre of the site. Here it turns to run toward the South, before leaving the site along the Southern part of the East boundary. The site is affected by some statutory undertaker's apparatus, as identified below.

Water Supply

- 3.03** Bristol Water mains records (see Appendix A) indicate a 10" diameter water main located beyond the A371 to the East of the site. No easement or protective strip is indicated, however due to the distance of the main from the site boundary, it is not considered that any easements associated with the water main would impact upon the site.
- 3.04** The records also indicate a water main of unspecified diameter terminating to the North of the site. No easement or protective strip is indicated, however due to the distance of the main from the site boundary, it is not considered that any easements associated with the water main would impact upon the site.
- 3.05** On site, private mains are shown on the Bristol Water mains records of varying diameters ranging from 1.25" to 4". Currently these are located within the core showground area, and diversion works may be necessary in relation to improvement works to ensure that present supplies to the site are not compromised during development.

Electricity

- 3.06** Western Power Distribution records (see Appendix B) indicate an 11 kV cable entering the site in the North East corner heading in a Westerly direction to a pole mounted transformer located close to the Northern boundary. From here, an LV cable runs to the North to an adjacent building. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the site is developed to establish whether they would affect the development proposals.

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- 3.07** The records indicate a 400kV overhead line located in fields to the North of the Northern site boundary. Due to the distance from the site, it is not anticipated that wayleaves or easements associated with this overhead line would affect the improvement proposals
- 3.08** There is also a 11 kV overhead line located to the North East of the site which terminates at a pole mounted transformer. From here a below ground LV cable supplies the properties located adjacent to the Eastern boundary of the site off the A371. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the site is developed to establish whether they would affect the development proposals.
- 3.09** A further 11 kV overhead line terminate at a pole mounted transformer on the Eastern site boundary close to the junction of the A371 with the B3081 (Prestleigh Road). From here a below ground LV cable runs toward Waterside Farm. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the Showground is developed to establish whether they would affect the improvement proposals.
- 3.10** To the East of the site, an 11kV overhead line terminates at a pole mounted transformer near to Wayside Farm. From here, LV cables supply nearby properties. Due to the distance from the site, it is not anticipated that wayleaves or easements associated with this overhead line would affect improvements to the Showground.
- 3.11** To the West of the site, a 33kV overhead line runs in a North West-South East direction before crossing the A371 to the South of the site. It appears that a section of this overhead line passes through the Western boundary of the site. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the Showground is developed to establish whether they would affect the improvement proposals.
- 3.12** A further 11 kV overhead line is shown entering the site approximately midway along the Western boundary, terminating at a pole mounted transformer close to the boundary line. From here, 11kv cables run in a North Eastern direction toward the existing on-site buildings. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the Showground is developed to establish whether they would affect the development proposals.

Gas Supply

- 3.13** Wales & West Utilities records (see Appendix C) indicate a below ground high pressure main crossing the North West corner of the site. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the site is

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developed to establish whether they would affect the development proposals.

- 3.14** The records also indicate a low pressure main entering the North West corner of the site and heading in a South Easterly direction before terminating within the site. It is anticipated that this apparatus will have associated wayleaves or easements, which should be confirmed as the masterplan for the site is developed to establish whether they would affect the development proposals.

Telecommunications

- 3.15** BT records (see Appendix D) indicate underground plant located within the A371.
- 3.16** The records also indicate a large network of underground plant within the site along with a few shorter stretches of overhead plant. Improvement of the Core Showground could impact upon a large amount of the underground plant, and diversion works may be necessary to ensure that present supplies to the site are not compromised during redevelopment.
- 3.17** No service records for Virgin Media apparatus had been received at the time of writing.

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4.00 PREDICTED IMPACTS

- 4.01** Development to deliver improved facilities at the Showground will increase demands on the existing service supplies. Without mitigation of those existing supplies, services to existing customers may be compromised, and supplies to be proposed for the development restricted.

Construction Impacts

- 4.02** In undertaking the provision of new infrastructure within the site, there is the potential for a number of impacts. However, these will be minimised by following best practice guidelines and will only be short-term in nature, mostly related to the laying of cables and pipes underground. The works will be carried out with appropriate consideration for other environmental aspects and are likely to follow the construction of internal road systems of the proposed development. During the operational phase, the effects on the local environment would be negligible.

5.00 MITIGATION MEASURES

5.01 As the masterplan is developed and service loading demands for the site become known, supply quotations should be requested from the utilities companies listed in Table 2.1 to determine whether sufficient capacity is available within current networks or if reinforcement will be required to ensure that present supplies to existing users are not compromised.

5.02 An assessment should also be made of the off-site and on-site diversion works required to facilitate development, whether any existing on-site apparatus will become redundant as a result of the development and whether any of the diversion works required can be incorporated with the works to provide additional supplies.

Impact Summary - Introduction

5.03 The existing provision of relevant infrastructure services for the proposed development has been assessed.

Baseline

5.04 Consultations were carried out with Bristol Water, Western Power Distribution, Wales & West Utilities and BT and. The presence of current services has been identified in the vicinity of the site.

Likely Impacts

5.05 The improvement proposals will increase demand on the existing service supplies. Without mitigation of those existing supplies, services to existing customers could be compromised, and supplies to the Showground may be restricted.

Mitigation Measures

5.06 The construction impacts of the implementation of this infrastructure will be short term in nature and are considered to be negligible as are likely to be undertaken in line with internal road alterations.

5.07 Network reinforcement may be required to accommodate the improvement proposals and should be determined via consultation with the appropriate utilities companies once service loading demands for the site are known.

5.08 Any diversions of existing apparatus can be minimised by careful consideration of levels during detail design of roads, parking areas, landscaping and access junctions.

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6.0 CONCLUSION

- 6.01** From the initial service enquiries and the established information to date, it is considered that the provision of infrastructure services will not preclude the Showground improvements. However, this is subject to further communication with utilities companies. The additional services required for the development site should not result in any significant environmental impact.

Signed on behalf of Rodgers Leask Limited:

Date:

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APPENDIX A

Bristol Water mains records

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APPENDIX B

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APPENDIX C

Wales & West Utilities mains records

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**APPENDIX D
BT mains records**