Full Planning Application: Station Utilities Statement and Foul Water Drainage Strategy Report

February 2018
Waterbeach Railway Station Relocation

Utilities Statement & Foul Water Drainage Strategy Report

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RLW Estates Ltd.
Waterbeach Railway Station Relocation

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## Issue and Revision Record

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<tr>
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<th>Date</th>
<th>Originator</th>
<th>Checker</th>
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<th>Description</th>
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1 Introduction

1.1 Background

Mott MacDonald Limited have been engaged by RLW Estates Ltd. to prepare a Utilities Statement Report in support of a Full Planning Application (FPA) for the development proposals to relocate the existing Waterbeach railway station.

1.2 Site Description

The site is located immediately North of Waterbeach Village, which is approximately 6km north-east of the urban edge of Cambridge. The OS site grid reference is 550498 E, 266122 N.

The site is bounded by The Fen Railway line to the East. Waterbeach Village is located to the South of the site. Several watercourses flow through the site. This includes a drain owned by the Waterbeach Internal Drainage Board (IDB); The Bannold Drain. The existing site comprises greenfield land, which is currently used for agriculture. An Anglian Water (AW) Recycling Centre (WRC) is located North-West of the development boundary.

1.3 Proposed Development

Full planning permission is sought on behalf of RLW Estates for the following development:

- A two platform station with partial shelter on either side of the existing railway line;
- Two pedestrian bridges spanning between the new platforms (one with accessible lift, one step only);
- Surface level car park;
- Cycle parking provision;
- Bus stops;
- Taxi rank;
- Passenger drop-off area;
- Emergency pedestrian escape route from the platforms via overbridges;
- Staff welfare facilities within portakabin;
- Access road from the eastern side of Cody Road to the station car park, providing access for buses, taxis and private vehicular traffic associated with the railway station;
- Hard and soft landscaping including Sustainable Drainage System and boundary fencing; and
- Platform lighting, station information and surveillance systems.

Beyond the application site it is envisaged that further minor works would be undertaken to the highway network (within Public Highway Land, and to be secured via planning obligation/s278 agreement), including:

- Resurfacing of the southern section of Bannold Drove and introduction of stud lighting to improve attractiveness for pedestrian and cycle movements (and for existing vehicular traffic associated with Midload Farm);
- Traffic calming and footway enhancements along Cody Road.
1.4 Design Stage

WSP are currently progressing the railway station design through Network Rail’s Governance for Railway Investment Projects (GRIP) process. Network Rail have signed off on the GRIP Stage 2 (Pre-feasibility) and Stage 3 (Option selection) is currently being progressed.

1.5 Purpose of Document

The purpose of this document is to identify the services likely to be required for the proposed development in addition to their likely point of connection. Utilities will be required for the following services on day 1 of station opening:

- Passenger Information displays for platforms.
- CCTV for platform and car park
- Lighting for platforms, car park and access road.
- Public Address for platforms
- Lifts
- Help Points on platforms
- Temporary Portacabin for 1-2 staff from the train operating company.

Initial utility connection applications have been issued to statutory undertakers and responses are currently pending.

Any utilities required by the Contractor for the construction of the proposed development are to be determined and procured by the Contractor and are outside the scope of this document.
2 Existing Utility Assets

2.1 Utility Record Enquiries

For the purposes of this report Mott MacDonald contracted Groundwise to undertake utility search enquiries with the statutory utility providers to determine the presence of any utilities assets located within the proposed development boundary.

Table 1: Assets in Development Boundary

<table>
<thead>
<tr>
<th>Utility</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>UKPN</td>
</tr>
<tr>
<td>Gas</td>
<td>GTC</td>
</tr>
<tr>
<td>Gas</td>
<td>Cadent (Formerly National Grid Gas)</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>BT</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>Instalcom Ltd</td>
</tr>
<tr>
<td>Railway &amp; Associated Utilities</td>
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<tr>
<td>Potable Water</td>
<td>Cambridge Water</td>
</tr>
<tr>
<td>Foul &amp; Surface Water</td>
<td>Anglian Water</td>
</tr>
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<td>Foul Water</td>
<td>Private</td>
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<tr>
<td>Street Lighting</td>
<td>Cambridgeshire County Council</td>
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Table 2: Assets Not in Development Boundary

<table>
<thead>
<tr>
<th>Utility</th>
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<tr>
<td>Electricity</td>
<td>Energetics</td>
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<td>Gas, Street Lighting</td>
<td>ESP</td>
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<tr>
<td>Telecommunication</td>
<td>Virgin Media</td>
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<tr>
<td>Mobile Phone Masts</td>
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<td>Telecommunication</td>
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<tr>
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<td>LinesearchbeforeUdig</td>
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It is to be noted that all asset records were undertaken at a given point. Consequently, the above assets may be subject to alteration, reinforcement, diversion etc. by their relevant owner(s).
2.1.1 Private Utilities

As-built records for the nearby Barracks were also obtained to determine if any utilities coming from the East crossed the proposed development site. A number of drains have been noted to run from the Barracks to the Water Recycling Centre, located to the North West of the proposed development. However, these are outside of the proposed boundary.

2.2 GPR Survey

Mott MacDonald commissioned Survey Solutions to undertake a Ground Penetrating Radar (GPR) survey of the site in 2017 to determine the location of any buried utilities that may not have been captured on statutory utility company or private records. The GPR survey showed the presence of an additional Foul water (FW) rising main drain from the South at a depth of approximately 0.9m below ground level, which crosses the proposed access road. It is unknown if this FW drain is the same as a drain shown on utility records or a separate drain. Trial pits should be carried out at the next stage of design to verify the presence, position and depth of drain shown on the record information.

A utility record drawing, which combines statutory utility company, private and GPR records can be found attached in Appendix A.
3 Electricity Infrastructure

UKPN are the distribution Network Operator for the Waterbeach area. UKPN records were obtained by Groundwise on behalf of Mott MacDonald and incorporated into Utility Plan drawings. These drawings also detail the proposed connection point and route for the new supply. A copy of Mott MacDonald’s Proposed Utility Plans (MMD-328331-C-DR-01-XX-234 to 2343) can be found in Appendix A.

A summary can be found below:

3.1 Existing Assets inside Site Boundary Red Line

Information obtained from UKPN asset records and a site walkaround show that overhead power lines are present along Bannold Drove, which is located to the south of the site. These overhead lines run to the AW Water Recycling Centre to the north of the development.

Asset records show that Cambridge City Council have street lighting assets in Cody Road.

There is existing overhead line equipment (OLE) within the existing Network Rail (NR) corridor.

3.2 Diversion/Protection requirements of existing assets

Existing UKPN overhead lines are to be maintained and protected during all stages of construction of the development.

Modifications will be required to the existing NR OLE to facilitate the development. This is included as part of the GRIP process.

3.3 Proposed supply

An application for an electricity connection for the development has been submitted to UPKN. The submitted application accounts for the expected demand for the proposed development in addition to any future development in the immediate vicinity. A response is currently pending. The initial proposal is to provide one point of connection to serve the railway station, car park and access road and it is anticipated that this will be in the form of a new HV/LV substation. Refer to the utility drawings MMD-328331-C-DR-02-XX-2341-2343 in Appendix A for an indicative layout (subject to UKPN confirmation).

3.3.1 Car Park and Road Lighting

Lighting is to be provided to the car park, access road, bus stops and taxi rank as well as pedestrian and cycle routes. The proposed connection to the UKPN network will provide the electricity supply for these elements. Provision will be made for future electric vehicle charging points.

3.3.2 Station platforms

Electricity to the proposed station and associated platforms is also proposed to come from the connection to the UKPN network. This is to supply lighting, CCTV, PA etc. around the station.
3.4 Wayleaves/Easements

The proposed electricity supply will require an easement to enable excavation work for maintenance purposes. The typical easement is 3m but is subject to confirmation with UKPN. It should be noted that that these easements are typically not exclusive to each utility and may overlap or be ‘shared’ with other utilities by agreement. The proposed electricity supply cable is to be located in a dedicated utilities corridor in accordance with NJUG guidance and the required UKPN easements will therefore overlap with adjacent utilities.
4 Gas Infrastructure

Cadent (Formerly National Grid) and GTC asset records were obtained by Groundwise on behalf of Mott MacDonald and incorporated into Utility Plan drawings. A copy of Mott MacDonald's Proposed Utility Plans (MMD-328331-C-DR-01-XX-2341 to 2343) can be found in Appendix A.

A summary can be found below:

4.1 Existing Assets inside Site Boundary Red Line

Information obtained from Cadent and GTC asset records show that they have no apparatus within the red line boundary. Both Cadent and GTC have existing assets and connections in Cody Road, which is proposed to have off site improvements.

4.2 Diversion/Protection requirements of existing assets

Existing assets and connections are to be maintained. No works to these assets are currently proposed as part of the works on the basis that only footway improvements are proposed on Cody Road and there is no carriageway widening proposed.

4.3 Proposed supply

No gas supply connection is required as part of the proposed development.
5  Potable Water Infrastructure

Cambridge Water asset records were obtained by Groundwise on behalf of Mott MacDonald and incorporated into Utility Plan drawings. These drawings also detail the proposed connection point and route for the new supply. A copy of Mott MacDonald’s Proposed Utility Plans (MMD-328331-C-DR-01-XX-2341-2343) can be found in Appendix A.

A summary can be found below:

5.1  Existing Assets inside Site Boundary Red Line

Information obtained from Cambridge Water asset records show that they have no apparatus within the red line boundary. However, the records do show 4-inch uPVC water mains running up Bannold Drove and Cody Road, which supply nearby housing developments.

5.2  Diversion/Protection requirements of existing assets

Existing Cambridge Water assets in Bannold Drove and Cody Road are proposed to be maintained.

5.3  Proposed supply

The Station itself is not expected to have any potable water demand at this stage of the development. However, the nearby station staff portacabin will require a potable water connection.

An application for a water supply connection, required for the portacabin in the development, has been submitted to Cambridge Water. The submitted application accounts for the expected demand for the proposed development in addition to any future development in the immediate vicinity.

5.4  Wayleaves/Easements

The proposed water supply will require an easement to enable excavation work for maintenance purposes. The typical easement is 3m but is subject to confirmation with Cambridge Water. It is to be noted that that these easements are typically not exclusive to each utility and can overlap or be ‘shared’ with other utilities by agreement. The proposed electricity supply cable is to be located in a dedicated utilities corridor in accordance with NJUG guidance and the required Cambridge Water easements will therefore overlap with adjacent utilities.
6 Telecommunication Infrastructure

BT records were obtained by Groundwise on behalf of Mott MacDonald and incorporated into Utility Plan drawings. These drawings also detail the proposed connection point and route for the new supply. A copy of Mott MacDonald’s Proposed Utility Plans (MMD-328331-C-DR-01-XX-2341 to 2343) can be found in Appendix A.

A summary can be found below:

6.1 Existing Assets inside Site Boundary Red Line

Information obtained from BT asset records show existing telecommunication infrastructure are present along Bannold Drove. This BT infrastructure supply telecommunication to the existing Water Recycling Centre.

Correspondence between Instalcom and Groundwise have also highlighted that Instalcom also has infrastructure located within the rail corridor.

6.2 Diversion/Protection requirements of existing assets

The existing BT infrastructure needs to be maintained. A local diversion/protection may be required where the proposed access road crosses Bannold Drove during the construction phase.

6.3 Proposed supply

The Station itself is not expected to have any telecommunication requirement at this stage of the development. However, the nearby station staff portacabin will require an external data cable connection.

6.4 Wayleaves/Easements

The proposed telecommunication supply will require an easement to enable excavation work for maintenance purposes. The typical easement is 3m but is subject to confirmation with BT. It is to be noted that these easements are typically not exclusive to each utility and overlap or be ‘shared’ with other utilities. The proposed BT supply is proposed to be located in a dedicated utilities corridor in accordance with NJUG guidance and the required BT easements will overlap with adjacent utilities.
7 Foul Water Drainage Infrastructure

Anglian Water (AW) records were obtained by Groundwise on behalf of Mott MacDonald and incorporated into Utility Plan drawings. A copy of Mott MacDonald’s Proposed Utility Plans (MMD-328331-C-DR-01-XX-2341 to 2343) can be found in Appendix A.

A summary can be found below:

7.1 Existing Assets

Waterbeach is currently served by a Water Recycling Centre (WRC) operated by AW. This facility discharges treated flow into the River Cam via an existing drainage ditch, Bannold Drain, that is maintained by the Internal Drainage Board. As previously mentioned, this WRC is located to the West of the proposed development, outside the red line boundary. As detailed in Section 2 a number of foul water drains, which discharge to the WRC, have been noted. This includes 1 no. foul water drain in Bannold Drove and 2 no. drains from housing developments to the South, which cross under the proposed access road.

7.2 Diversion/Protection requirements of existing

The existing foul water drains identified on the GPR survey and utility records, which cross under the proposed access road, are to be maintained and protected during construction and operation of the proposed development. Equally, the foul water drain running in Bannold Drove is to be maintained and protected.

7.3 Proposed Foul Water Drainage Strategy

The proposed development access roads, cycleways, footways and public open spaces will not generate any foul water flows.

At this stage of development, the station itself will not require foul drainage infrastructure as there are no public toilets proposed at the station. However, the temporary station staff portacabin will have welfare facilities that cater for 1-2 staff from the train operating company and as a result will require foul water drainage. The preferred option for Foul Water drainage is a storage tank integral with the portacabin, which will be emptied at regular intervals by a tanker. This is considered the preferred option due to the following

- Temporary nature of the Station portacabin;
- Low anticipated foul water flows from the 1-2 train operator staff working at the portacabin;
- No public access to toilets, thereby limiting the risk of flows increasing beyond the flows expected from 1-2 staff members

Should the Station be developed further in the future to include permanent facilities for both train operator staff and the general public, then a permanent connection to the sewage mains network will be proposed.

WSP are currently discussing this option with Network Rail as part of the GRIP process.

7.4 Wayleaves/Easements

Any foul water infrastructure for the portacabin is to remain private and as a result will not require any wayleave/easement.
It is expected that easements will be required for the existing foul water sewers owned and maintained by AW. In accordance with Sewers for Adoption 6th edition and AW addendums a typical easement is 3m. However, this is dependent on the sewer size and depth, which require confirmation on site.
8 Summary

Groundwise were commissioned by Mott MacDonald to undertake utility search enquiries with the statutory utility providers to determine the presence of any assets in the vicinity of the development. A Ground Penetrating Radar (GPR) survey of the site was commissioned to determine the location of any buried utilities that may not have been captured on statutory utility company or private records. Identified utilities from Statutory undertaker and private records and GPR survey were collated onto proposed Utilities Plan drawings.

Based on initial discussions with Network Rail by WSP during the GRIP design process and the Statutory Undertakers, the following is understood to be required for the scheme. Note that this is subject to a formal written report for each of the Statutory Undertakers:

**Existing Utilities to Protect/Divert**
- UKPN Electricity: Temporary protection as required during construction.
- BT Comms: As above
- Anglian Water Foul Water drains: Protection required where crossing proposed access road

**New Supplies for Development**
- UKPN Electricity: Supply to proposed railway station. Proposed connection point in Bannold Drove.
- BT Comms: Supply to proposed railway station. Proposed connection point in Bannold Drove.
- Cambridge Water Potable Water: Supply to proposed railway station. Proposed connection point in Bannold Drove.

Easements for utilities are likely to be required for maintenance purposes. It is considered that these easements will be in the region of 3m and are non-exclusive. Easement requirements are subject to confirmation with each statutory undertaker.
Appendices

A. Drawings
A. Drawings

- Mott MacDonald Drawing
  - MMD-328331-C-DR-02-XX-2341 to 2343 (Proposed Station Proposed Utilities)
It is assumed that the existing surface and foul water drainage crossing the site (not shown on the drawings) were manufactured and installed by the previous owner(s). It is important that all in-situ surface and foul water drainage systems are located as accurately as possible prior to commencement of works to avoid interference. Any existing drainage system should be diverted to the nearest point without causing any harm to existing structures.

Abandoned services may not be shown in this plan. If not possible, these may need to be shown on site on the relevant drawings. Abandoned services may not be shown in this plan. If not possible, these may need to be shown on site on the relevant drawings.

Protection slab/surround may be required at road crossing points.

Any drawing errors or discrepancies should be brought to the attention of Mott MacDonald.

All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (OD). All other symbols, linework, areas, points and reference points are for general guidance only. Abandoned services may not be shown in this plan. If not possible, these may need to be shown on site on the relevant drawings.
These existing assets should be located within the roads or open space (not in private gardens) to ensure future access / maintenance. If this is not possible, these may need to be relocated to improve access to existing assets. The new development will therefore require careful planning and design to achieve this. GPR survey (Survey Solutions, September 2017).

All dimensions are to centimeters unless otherwise stated. All heights in this drawing are shown above Ordnance Datum (mOHD). All observations & levels should be checked on site.

Existing BT (Overhead)

Existing SW Drainage (From C2 Utility Records)

Proposed Electric HV

Key to symbols - Proposed Utilities

Waterbeach Development
Proposed Train Station
Proposed Utilities
Sheet 3 of 3

RLW Estates

MOT MACDONALD

22 Station Road
Cambridge, CB1 1AD
United Kingdom

+44 (0)1223 461 007

Ordnance Datum (mOHD). All dimensions & levels should be checked on site.

Ch'k'd

Designed

+44 (0)1223 461 007