

BELLWAY HOMES (WESSEX)

LAND AT PALK ROAD, HAVANT

UTILITIES ASSESSMENT (FOR PLANNING)

**REPORT REF.
2108040-02C**

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Document Control Sheet

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Distribution

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EXECUTIVE SUMMARY

This report demonstrates the extents of the utility works required to serve the proposed development of 90 residential units at Palk Road, Bedhampton, Havant, Hampshire. Asset plans obtained show electrical, potable water, gas, sewage infrastructure and telecommunication assets are all present within the extents of the application boundary line; however, only assets located under areas of development are of interest. Assets within the areas of construction are to either be abandoned, diverted or had easements applied with the relevant enquiries made to each utility provider. Responses to capacity checks and budget estimates have been received with no known capacity issues in the area declared.

Gas

Scotia Gas Networks (SGN) own several low-pressure mains within the application boundary line underneath Palk Road and West Street. It is not anticipated that any diversionary works will be required as all assets are located in areas free from proposed development. The development is to be served wholly by electricity and subsequently, no budget estimate or capacity check for gas were required.

Potable Water

In addition to trunk and distribution mains underneath West Street, Portsmouth Water own a distribution main spanning Palk Road and a trunk main which intersects the south-western corner of the site. The assets underneath West Street and Palk Road do not need diverting as they are located in areas free from development. Diversion of the trunk main is also not required due to an easement being placed within the site layout. A pre-development enquiry was submitted to Portsmouth Water and in their response, the utility company confirmed capacity within their network with an assumed connection point to the site's east from Palk Road.

Electricity

Scotia and Southern Electricity Networks (SEN) own multiple low and high voltage assets within the application boundary line that serve both the existing site and its surrounding areas. While low voltage cables are present within West Street, these cables are located in areas free from proposed development. The western end of the low voltage cables located in Palk Road currently serve the existing site and will need to be abandoned as part of the development proposals. Additionally, two high voltage cables currently run across the northern perimeter of the site before cutting directly through the centre of the proposed development area to the western end of Palk Road. SEN confirmed within their

diversionary works quotation that the cables will need to be redirected along the perimeter of the proposed development. A budget estimate was also submitted, SSEN quoting a figure that included installation of a new on-site 500kV substation. While SSEN could not reserve capacity for the development, the design of the 500kV substation that serve's the development was based on the site's maximum load of 355.5 kVA.

Telecommunications

The asset plans obtained from BT Openreach show the presence of several assets within the application boundary line. Specifically, multiple boxes and cables are present along West Street and Palk Road, with the cabling along Palk Road serving the existing site before being directed southwards across Hermitage Stream to Meyrick Road. The assets serving the existing site are within areas of proposed development and will therefore need diverting. BT have responded to a diversionary works enquiry, the figure quoted including the diversion of existing overhead services, cables and poles on site.

Foul and Surface Water Drainage

Asset plans from Southern Water show both foul and surface water drainage assets located within the site's proposed areas of development. The foul gravity-based system comprises a 525mm sewer spanning from the north-western corner of site to the end of Palk Road. The surface water system runs north-south directly through the centre of the site. While an easement for the surface water sewer has been accounted for in the site layout, diversion of the 525mm foul water sewer is required. The assumed diversion route is to redirect the sewer along the northern and eastern perimeters of the area of proposed development.

In regards to capacity, the preliminary drainage system discharges both foul and surface water from the development into Southern Water networks; networks with no known capacity constraints.

1. INTRODUCTION

- 1.1. Ardent Consulting Engineers (ACE) has been instructed by Bellway Homes (Wessex) to provide Utilities and Servicing advice in relation to a proposed residential development at Palk Road, Bedhampton, Havant, Hampshire, PO9 1NL. This report has been prepared to support a full planning application to the local planning authority, Havant Borough Council, for the development of 90 residential units at the site.
- 1.2. In preparation of this report, ACE has consulted with the relevant Statutory Undertakers that provide services in the area to obtain asset plans, determine available capacity and assess any necessary diversions required to accommodate the proposed development.
- 1.3. This report aims to provide a summary of the provision of utilities to serve the development and demonstrate that the site can be suitably served without having a detrimental impact on the surrounding networks and environs. Where reinforcement works or diversions are required, these have been outlined.

2. BASELINE PARAMETERS

Site Location

- 2.1. The site, circa 1.28 ha, is located at a commercial premises located at Palk Road, Havant, Hampshire, PO9 1NL and is approximately centered on OS Grid co-ordinates 470807mN, 106483mE (SU 70807 06483).
- 2.2. The proposed development is located at a predominantly brownfield, urban site; however, an area of dense overgrowth exists in its north. To the south and south-west, Hermitage Stream forms a natural boundary for the site. A water treatment works with an accompanying solar panel farm binds the site in the green space to the west of the site. Railway tracks bind the site to the north/north-west with further residential units binding the north-east of the site. To the site's east, the site is bound by a combination of commercial and residential units along both Palk Road and West Street. **Figure 2-1** shows the Site Location Plan for the proposed development.

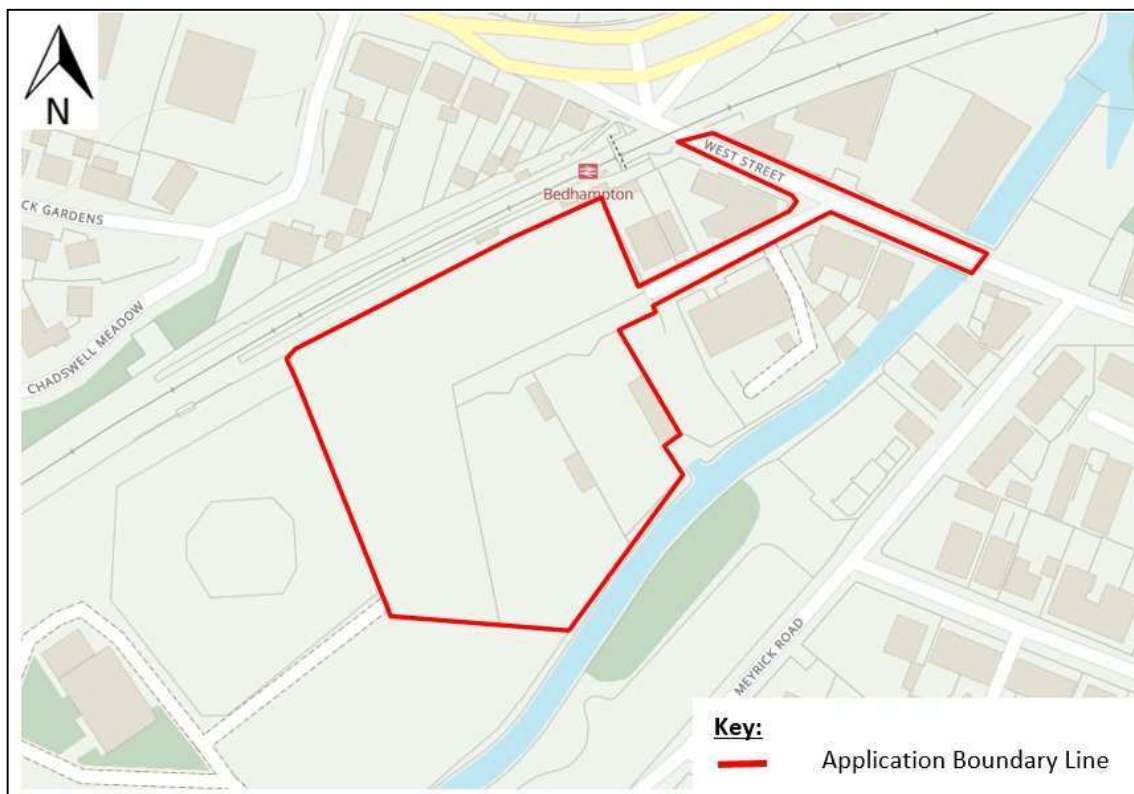


Figure 2-1: Site Location Plan

Existing Land Use

- 2.3. The predominant area of the site is currently predominantly used for a pipe supplying distributor with a large area of overgrowth to this site's north. To the east, the

application boundary line encompasses Palk Road and West Street; roads with active use in serving local residents and businesses.

2.4. An aerial view of the site in its immediate context is shown in **Figure 2-2** below.



Figure 2-2: Aerial View of the Existing Site

3. DEVELOPMENT PROPOSALS

3.1. The proposed development is comprised of 4 apartment blocks constituting 90 apartment units (Use class C3). The specific breakdown of the residential proposal can be seen in **Table 3-1** below.

Table 3-1: Accommodation schedule

Dwelling Type	No. of Units
1-bedroom flat (Wheelchair Access)	3
1-bedroom flat	31
2-bedroom flat (Wheelchair Access)	1
2-bedroom flat	47
3-bedroom flat (Wheelchair Access)	1
3-bedroom flat	7

3.2. **Figure 3-1** below shows an extract of the proposed Site Layout Plan for the development. Note, although the areas underneath Palk Road and West Street are within the application boundary line, these areas are remaining as existing post development. The inclusion of Palk Road is primarily for provision of access to the public highway, with West Street's inclusion for purposes of visibility splays.



Figure 3-1: Proposed Site Layout Plan

Access

- 3.3. Vehicular access to the proposed development will be via Palk Road to the site's east. The entirety of Palk Road is encapsulated within the application boundary line. Pedestrian access will be via the same access point.

4. UTILITY SERVICE PROVISION

Introduction

- 4.1. All relevant Statutory Undertakers were consulted in relation to the proposed development in November 2021.
- 4.2. Each statutory Undertaker with known plant in the region has been contacted and requested to provide details:
- Existing assets in the area;
 - The requirement for any off-site reinforcement works to meet the peak load demand generated by the development proposals; and
 - The potential point of connection to the supply distribution network.
- 4.3. Statutory undertakers with known plant in the planning outline were also contacted regarding any diversionary works that may be required to facilitate the proposed development.

Approximate Utility Demands

- 4.4. Anticipated approximate utility demands for the site were provided to utility providers, derived using BSRIA Guidance Documents and common benchmarks.
- 4.5. The following approximate loadings presented in **Table 4-1** below have been used to inform the overall site demands. Note, the site is to be served wholly by electricity and therefore gas demands are not included in the table.

Table 4-1: Approximate utility demands for various types of units

<i>Land Use</i>	Electricity Peak kVA (per unit)	Potable Water (l/head/d ay)	Foul Water l/day (per unit)
Flat - 1 bed	1.2	160	4000
Flat - 2 Bed	1.2	160	4000
Flat – 3 Bed	1.5	160	4000

Scotia Gas Networks

- 5.2. Within the application boundary line, multiple low-pressure mains are located within West Street and extend through to Palk Road. However, within the proposed areas of development beyond the western end of Palk Road, there is an absence of SGN assets. Subsequently, diversionary works are not anticipated as a result of the proposed development.
- 5.3. The site is intended to be supplied wholly by electricity and subsequently, there was no requirement for capacity checks or budget estimates for gas supply to the site.

6. POTABLE WATER

Portsmouth Water

6.1. Asset Plans of the existing potable water supply network have been obtained from Portsmouth Water as shown in **Figure 6-1** below.

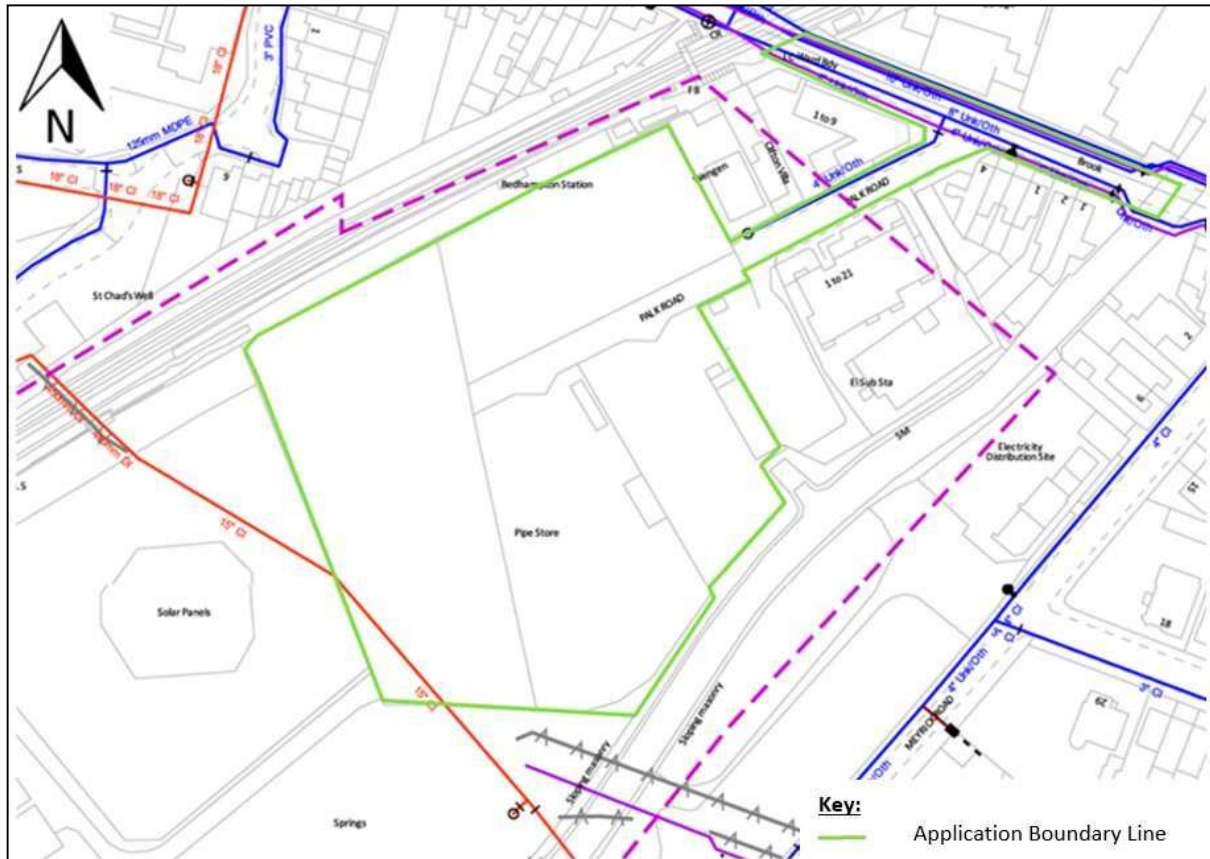


Figure 6-1: Asset plans from Portsmouth Water

6.2. **Figure 6-1** indicates the presence of multiple assets (distribution and water mains) outside the proposed area of development along Palk Road and West Street. A distribution main runs along West Street before extending near the western end of Palk Road. Within the areas of proposed development, a 15-inch cast-iron trunk main cuts across the site's south-west corner, extending north-south to serve Chadswell Meadow and Meyrick Road respectively.

6.3. While distribution and water mains are located within the application boundary along Palk Road and West Street, these assets are not located underneath proposed areas of construction and therefore do not require diversionary works. While the 15-inch cast-iron trunk main does intersect the south-western corner of the site, no diversionary works are required due to the facilitation of a 3m easement within the

site plan. The easement applied to the 15-inch cast iron pipe is shown within **Figure 6-2** below.

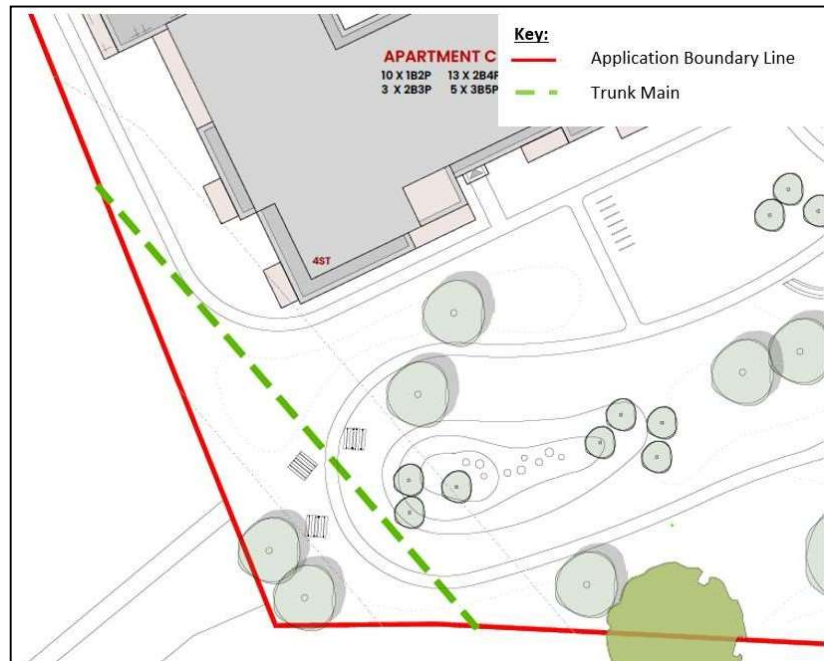


Figure 6-2: Potable Trunk Main easement

6.4. An enquiry was submitted to Portsmouth Water to confirm whether there is sufficient capacity to supply the site with potable water. In their response, Portsmouth Water confirmed there is sufficient capacity to supply the proposed development and provided a quotation to serve the site. The assumed point of connection is to the existing main within Palk Road to the east of the area of proposed development.

7. ELECTRICITY

Scottish and Southern Electricity Networks

- 7.1. Record plans of the existing low voltage (LV) electricity distribution network have been obtained from Scottish and Southern Electricity Networks (SSEN), an extract of which is shown in **Figure 7-1** below.

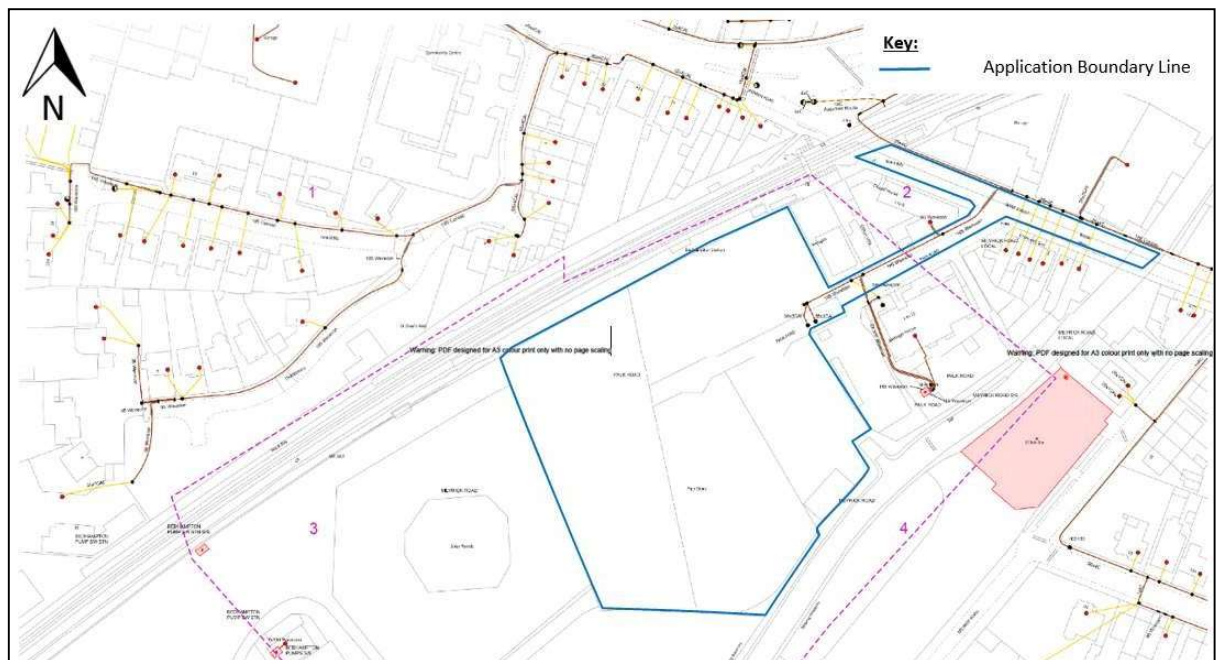


Figure 7-1: SSEN Low Voltage Asset Plan

- 7.2. **Figure 7-1** shows the presence multiple LV mains within the application boundary line underneath West Street and Palk Road. The LV cabling extends past Palk Road into the eastern area of proposed development; specifically, a 185 Wavecon LV cable terminates as two 35mm 3 core LV mains within the proposed area of development. The cabling is assumed to have served the pipe supplying distributor at the site.
- 7.3. Cross-referencing the Proposed Site Layout in **Figure 3-1** with the LV asset plans in **Figure 7-1**, the cabling encroaching the proposed area of development (circled blue in **Figure 7-2** below) is not located at points where it can be reused as part of the design proposals. Subsequently, the cabling will need to be abandoned as part of the development works. The other cabling within the application boundary line is outside areas of proposed construction and therefore does not require diverting.

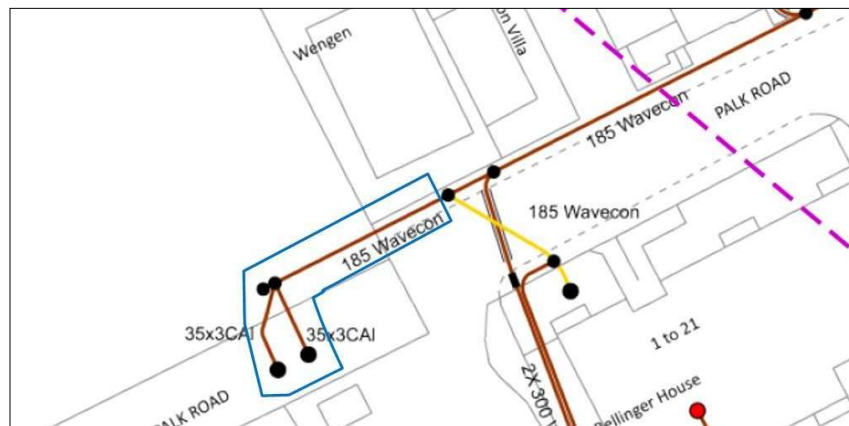


Figure 7-2: Proposed LV cables to be abandoned

7.4. Further asset plans in **Figure 7-3** obtained from SSEN show locations of High Voltage cables (HV) in the vicinity of the site. Within the application boundary line, the plans indicate HV cables run along the edges West Street and Palk Road. The cabling from Palk Road then extends into area of proposed development as it cuts across it's north-western corner before extending along the site's northern boundary.

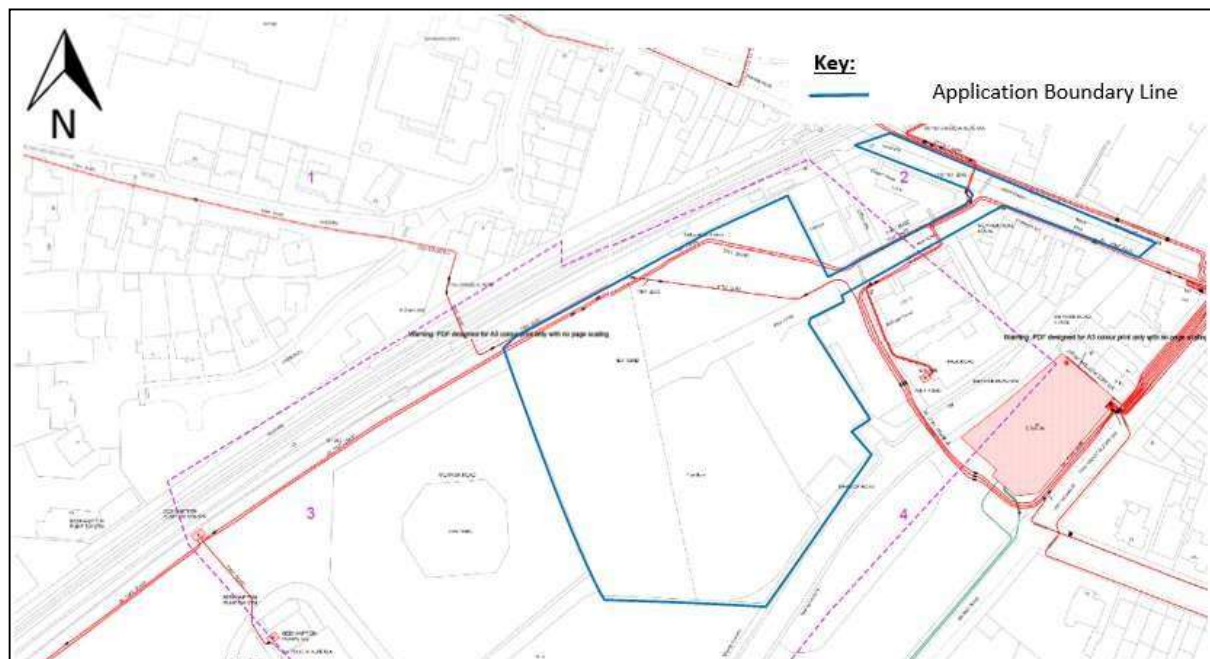


Figure 7-3: High Voltage SSEN Asset Plan

7.5. Due to the presence of high voltage cabling within areas of development at the site, diversions of SSEN's high voltage assets will be necessary as part of the development works. Subsequently, a diversionary enquiry was submitted to the SSEN. In their response, SSEN confirmed a diversion was possible with redirection of the HV cables as per **Figure 7-4** below.

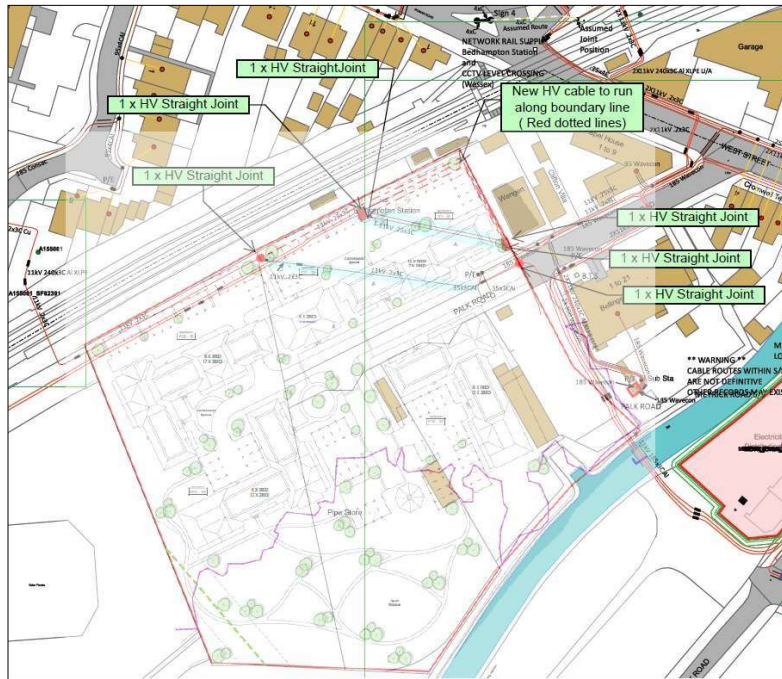


Figure 7-4: High Voltage SSEN Asset Plan

- 7.6. A budget estimate was also submitted to SSEN in regard to capacity at the site. In their quotation, SSEN stipulated that in order to supply the site with electricity, a new 500kV on-site substation was required. While SSEN could not reserve capacity for the development, the proposed substation serving the site was based on a total on-site demand of 355.5kVA. SSEN stated connection to the substation will be through two 150mm XPLE underground cables to the substation from Palk Road, with the development then being served by several LV distribution cables around the site.

Ingenious

- 7.7. A budget estimate was also submitted to Ingenious to supply the site with electricity. While their response did not declare any capacity issues in the area, it did also stipulate the need for a new 500kVA on-site substation as part of the development works. Their quotation did not include asset plans and therefore a point of connection is to be confirmed.

Sinewave

- 7.8. Sinewave were also consulted in regard to a budget estimate for supplying the site with electricity. In their response, Sinewave did not declare capacity issues in the area however it did also stipulate the requirement for an on-site substation. Sinewave did state that the point of connection to the substation must be via a HV cable which is assumed to be available directly adjacent to the site.

8. TELECOMMUNICATIONS

BT Openreach

- 8.1. BT Openreach asset plans for the areas at the site were obtained and an extract of the plans are included in **Figure 8-1** below.

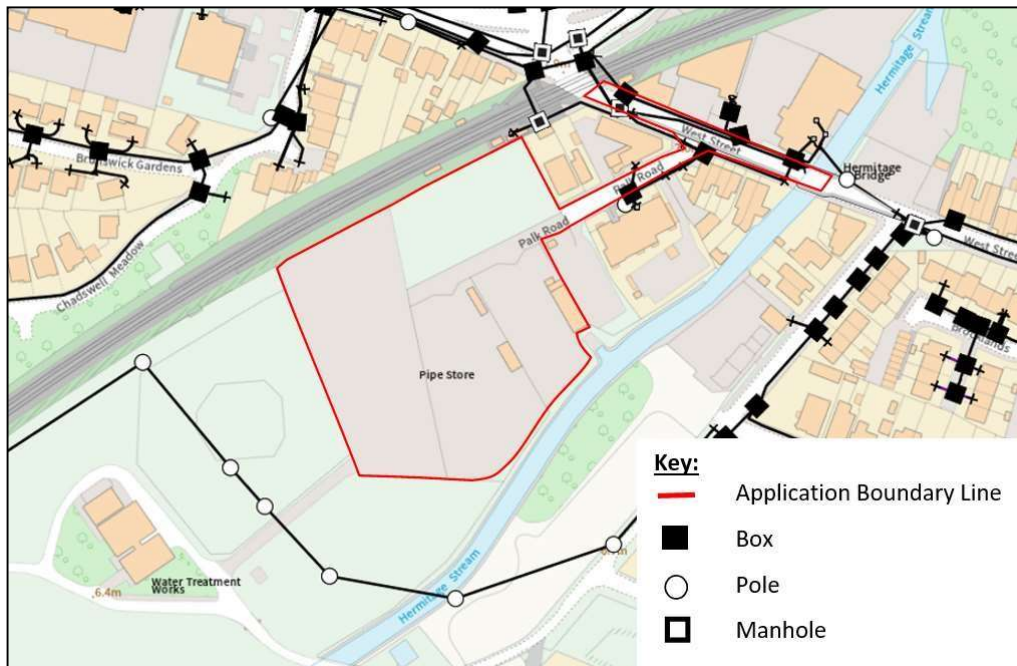


Figure 8-1: Asset plans from BT Openreach

- 8.2. **Figure 8-1** above shows the presence of BT Openreach assets within the application boundary line. There are a number of boxes and cables located outside the proposed areas of development along West Street and Palk Road. The overhead cabling and poles from Palk Road extend into the centre of the area of proposed development before directing either south towards Meyrick Road or terminating at the existing on-site pipe supplying distributor.
- 8.3. The presence of the cabling and poles through the centre of the site stipulates the requirement for diversionary works at the site. A diversionary enquiry was submitted to BT Openreach to determine the extent of associated costs of works required to divert their existing on-site assets. BT Openreach quoted a fee which includes the diversion of existing overhead services and the removal of all redundant overhead cables and poles on site.
- 8.4. In terms of supplying the site, BT is obliged to serve the development proposals. Once a planning consent has been granted, detailed costs and a specification of works will be provided by BT Openreach.

9. FOUL AND SURFACE WATER DRAINAGE

Southern Water

9.1. The local water authority, Southern Water, has provided asset plans of the existing foul and surface sewerage network within the vicinity of the site, as shown in **Figure 9-1** below. **Figure 9-2** shows a Location Plan for the extents of the Asset Plans in **Figure 9-1**.

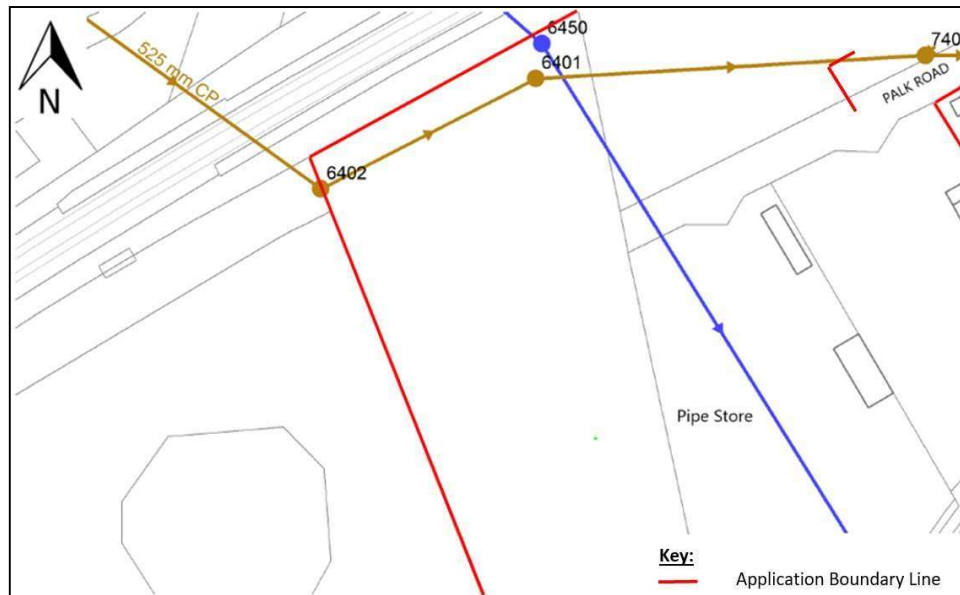


Figure 9-1: Asset plans from Southern Water

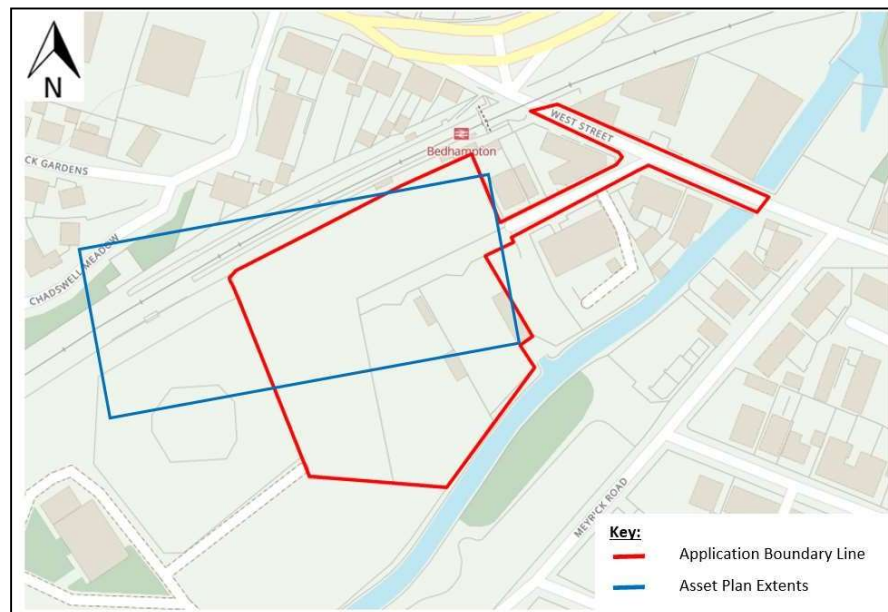


Figure 9-2: Extents of Southern Water Asset Plan

9.2. The asset plans in Figure 9-1 above show the presence of Southern Water assets within the application boundary line and the proposed development areas. A surface

water gravity sewer clips the northern corner of the site, running north-south towards Hermitage Stream. Additionally, a 525mm foul water gravity sewer runs west-east along the northern corner of the site towards West Street.

- 9.3. The surface water sewer has been accounted in design with a 3m easement shown in **Figure 3-1** and therefore does not require diverting. The 525mm foul water sewer shown above is approximately 3m below current ground levels and therefore is not deep enough to construct over. Subsequently, a diversion of the foul water sewer and its additional costs are acknowledged by the client and negotiations are ongoing with Southern Water.
- 9.4. The proposed surface water drainage strategy consists of a system for each catchment that both discharge to the existing surface water sewer identified in **Figure 9-1**. Two new connection points are to be created on the sewer, discharging at proposed locations in the site's centre south. Each catchment's runoff rate has been reduced from their greenfield value (for all storm events up to the 1 in 100-year plus a 45% allowance for climate change), resulting in a betterment of 92% from the existing scenario.
- 9.5. There are no known capacity constraints within SouthernWater's networks in the area.