UTILITIES ASSESSMENT
CHARLTON RIVERSIDE: PHASE 1
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OCSC
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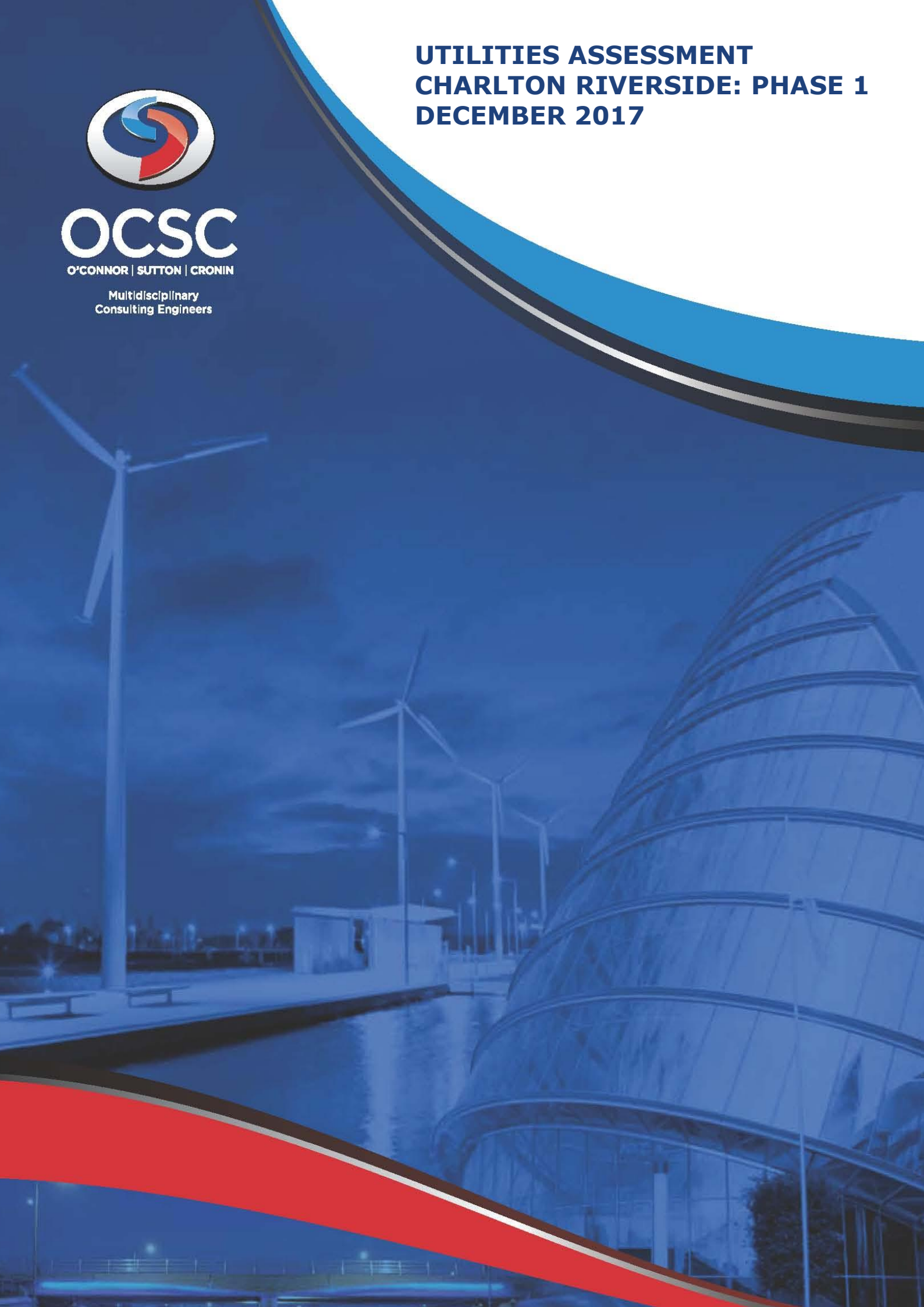

CHARLTON RIVERSIDE: PHASE 1

Utilities Assessment

NOTICE

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1. GENERAL DESCRIPTION

1.0 Introduction

This report reviews the existing services upon and available to the proposed development at Charlton Riverside, Anchor & Hope Lane, London, SE7 7SQ.

The proposed development involves the demolition of existing buildings and erection of 11 buildings ranging from 2 to 10 storeys in height for Class C3 residential use, with Class B1 employment space and flexible uses comprising Class A1 (retail), Class A3 (Café/ Restaurant), Class D1 (Community Use) and Class D2 (Leisure) at ground floor and first floor level, alterations to existing vehicular access and creation of new pedestrian access from Hope and Anchor Lane and the riverside, creation of new areas of open space and landscaping together with the provision of associated car parking, cycle space, refuse and recycling storage, plant and all other associated works'.

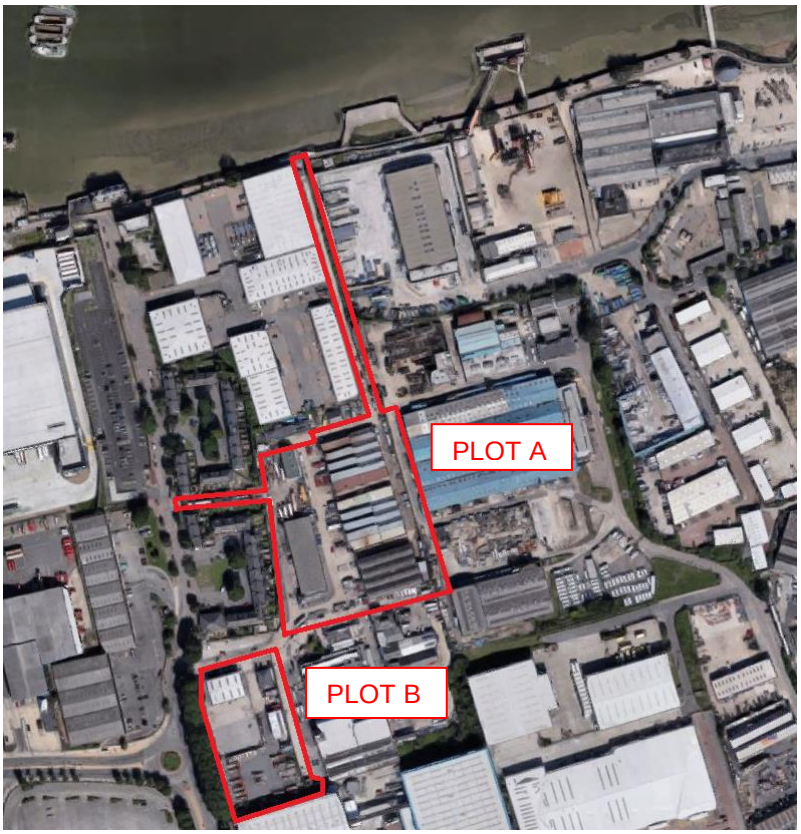


Figure 1 Charlton Riverside Proposed Site

All location references are from facing the site from Anchor & Hope Lane.

1.1 Existing Site Description

The existing developments cover the two plots A & B which occupy an area of approximately 1.67 Hectares and 0.87 Hectares respectively. Plot A is currently occupied by large industrial warehouses used for tool manufacturing and truck alignment facilities. Plot B is occupied with a large warehouse and parking area for industrial vehicle hire.

The site is located on relatively flat landscape and is in close proximity to the River Thames, approximately 800m north of the development.

Figure 2 Site Location

The surrounding area is made up of mostly of commercial and industrial developments with some small areas of terraced housing located near to the proposed development.

1.2 Limitations of Report

Enquiries have been sent to the appropriate authorities to ascertain this and obtain quotations, limitations or reinforcement works that may prove necessary, as well as copies of the latest records.

This report will be a live document and be updated as new information becomes available.

Local service providers do not generally retain records of “on site” final connections, only the primary infrastructure or points of entry. We therefore recommend that a site services survey, which may involve hand digging, is commissioned to ascertain the exact routes of existing services serving any buildings to remain operational during phase 1 works so any protection or diversion requirements can be established.

1.3 Basis of Incoming Services Sizing

The new supplies to the development will be based on the industry standards.

2.0 ELECTRICITY

2.1 Existing Services

There are currently 3 No. existing UKPN substations, distributing medium voltage (MV) (11,000 volts) and low voltage (LV) (400 volts) around and across the site.

The existing low voltage (LV) (400 volts) supplies currently routed across the site generally serve the existing buildings / units on the site. These would become redundant on the redevelopment of the site. Two of the existing substations are located outside the boundary, one is located on the site. The location of the latter is in the Northwest corner of the site to the other side of the residential properties along Derrick Gardens.

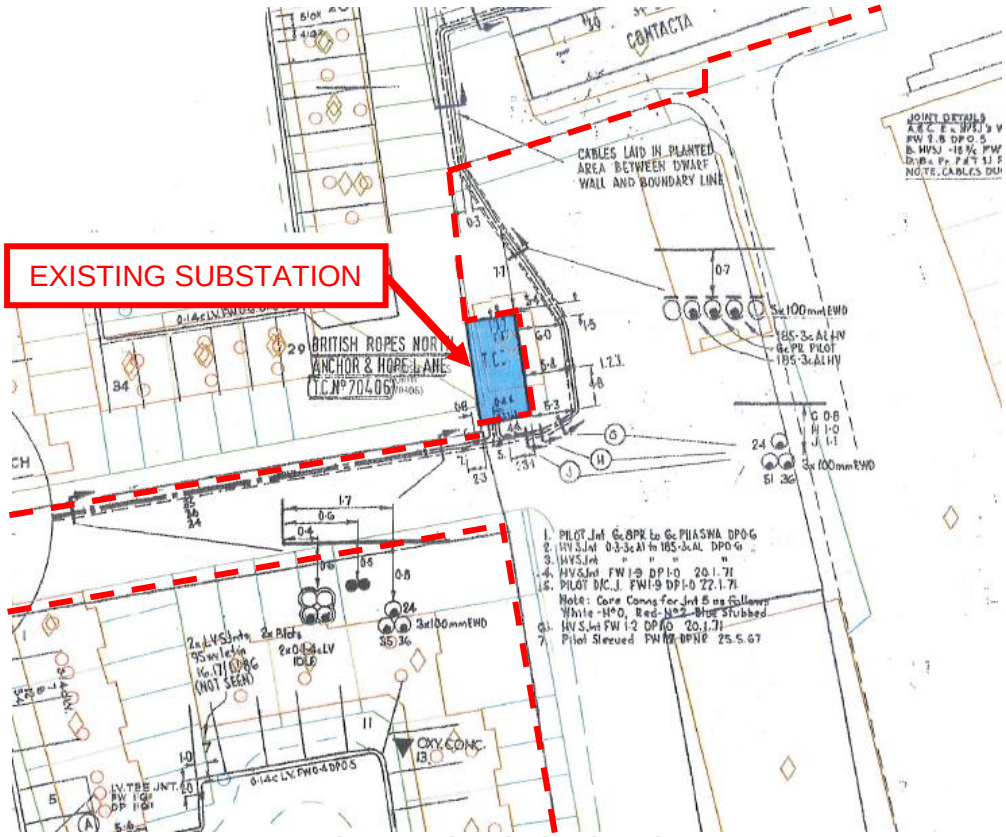


Figure 3 Electrical Substation

All three existing substations would be retained as part of the proposed works.

From the utility search information from UKPN and the topographical survey there is some conflicting information. The record drawings provided by UKPN do not indicate any main LV cables running through the centre of the site from north to south. On the survey a number of LV cable were identified indicated crossing the site and onto the adjacent site to the south. This would indicate that there are existing properties outside of the proposed site areas that are supplied from LV cables routed across the existing site. However there is a substation located locally to the site so this should be verified prior to development.

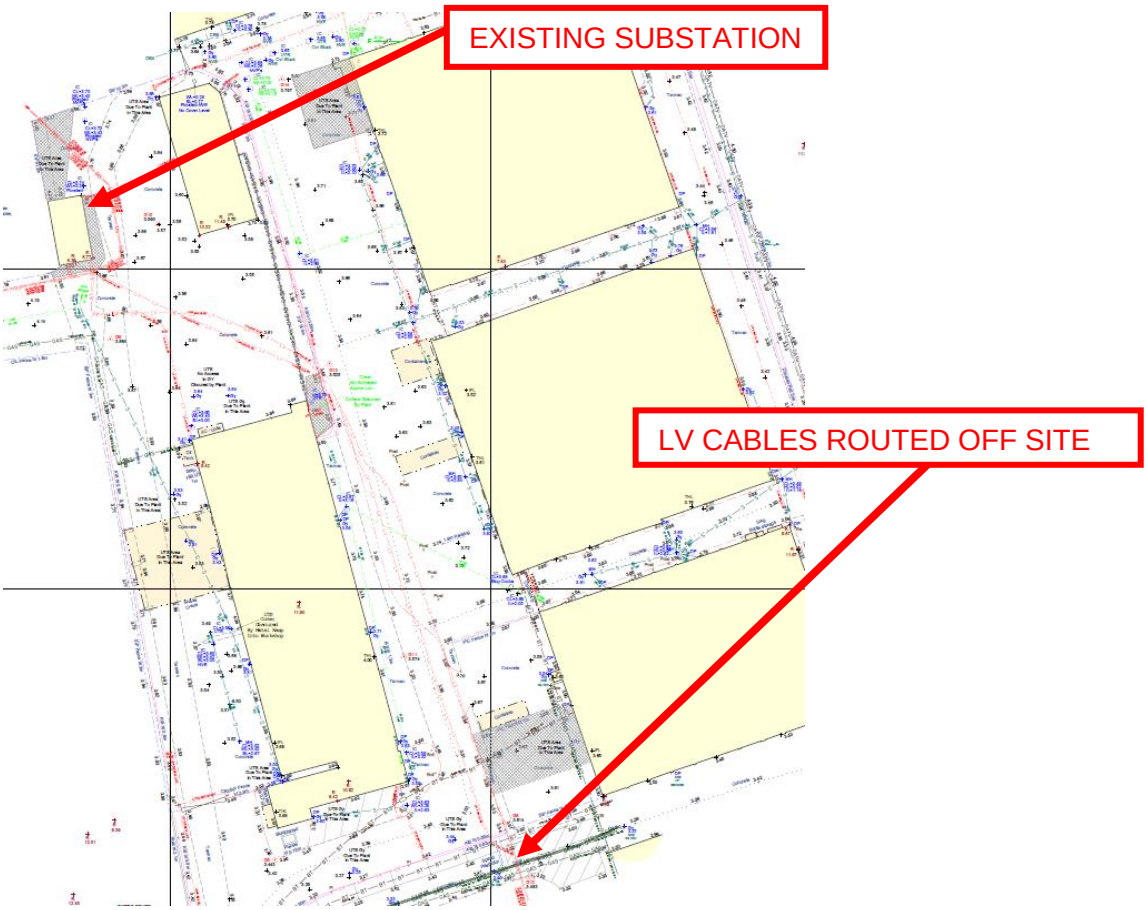


Figure 4 Topo Survey

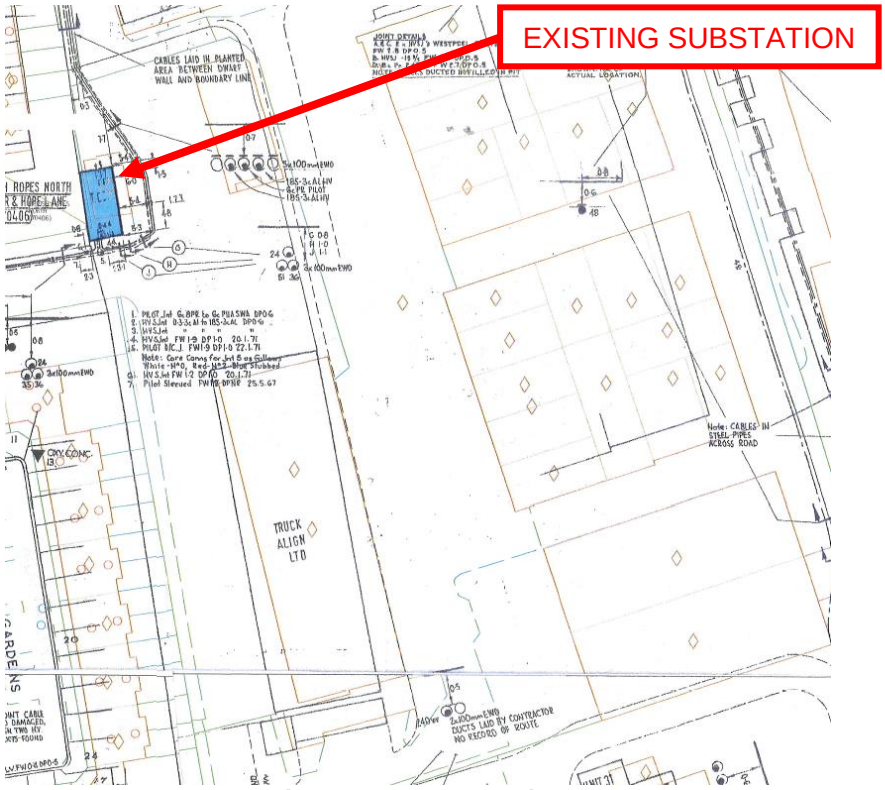


Figure 5 UKPN Drawing

It should be noted that the UKPN drawings do not indicate the LV supplies from the substations to each individual unit on the site.

Refer to existing electrical services plan within appendix B

2.2 Proposed New Services

The Proposed Development will be served from the existing substations

It is not anticipated at this point that the sub-stations will require upgrading.

The existing substations serve the existing industrial buildings on the site as well as a small proportion of existing services outside the proposed boundary line. When the existing industrial buildings are demolished as part of the re-development this will create additional spare capacity in the existing network.

Based on a proposed new site loading for Site A of 1004kVA and Site B of 906kVA, this gives a total proposed future site demand of 1910kVA. It is understood that the sites 3 no. substations are 1000kVA each, giving an existing site capacity allowance of 3000kVA.

2.3 Proposed Site New Services

The proposed layout is detailed on OCSC's drawing CSK/001 Rev A in Appendix A

3.0 GAS

3.1 Existing Gas Services

Scottish Gas Networks (SGN) are the gas providers for this area and have advised that the following gas networks exist around the development and surrounding areas. These include;

- Low pressure gas network
- Intermediate pressure gas network
- High pressure gas network

The extent of the low pressure gas pipe is laid either side of Anchor & Hope Lane and also serves the two small residential terraced housing plots located near the development and surrounding commercial developments.

Low and intermediate pressure pipework lies in the lane that runs through the industrial estate running east from Anchor and Hope Lane. The current facilities that occupy the proposed development areas are served from the low pressure gas network. The intermediate network also runs in close proximity to the front of the existing vehicle hire warehouse parallel to Anchor & Hope Lane and the boundary of the site.

Figure 6 SGN Gas (LP in Red, IP in Green, HP in Yellow)

The intermediate and high pressure gas network is routed from Bugsby's Way. The intermediate gas network serves the development as mentioned above. The high pressure gas network runs south on Anchor and Hope Lane away from the existing development, but, a tee connection runs to the south of the vehicle hire facilities and connects into the intermediate network at that point.

3.2 Proposed New Services

The Proposed Development will be provided with new gas supplies from the existing low pressure gas (LPG) main running along Anchor and Hope Lane and the existing LPG line running through the industrial estate.

It is proposed to have multiple connections, one connection serving each building 11 no. in total.

The anticipated gas demand for the total residential gas supply is 585.9m³/hour, with an annual demand of 23652197.1 kW hours.

3.3 Proposed Site Gas Supply Layout

The proposed layout is detailed on OCSC's drawing CSK/002 Rev A in appendix A

4.0 WATER

4.1 Existing Services

Thames Water is the main utility provider of water for this area. The main water pipework runs either side of the road in Anchor & Hope Lane. The side of the road closest to the site has a 125mm HPPE pipework running parallel to the existing development. There is a customer connection point at the entrance to the drive into the existing industrial estate, and it is assumed that this serves the existing development as neither the map of waterworks provided by Thames Water nor the topographical survey indicate any water mains within the boundaries of the site.

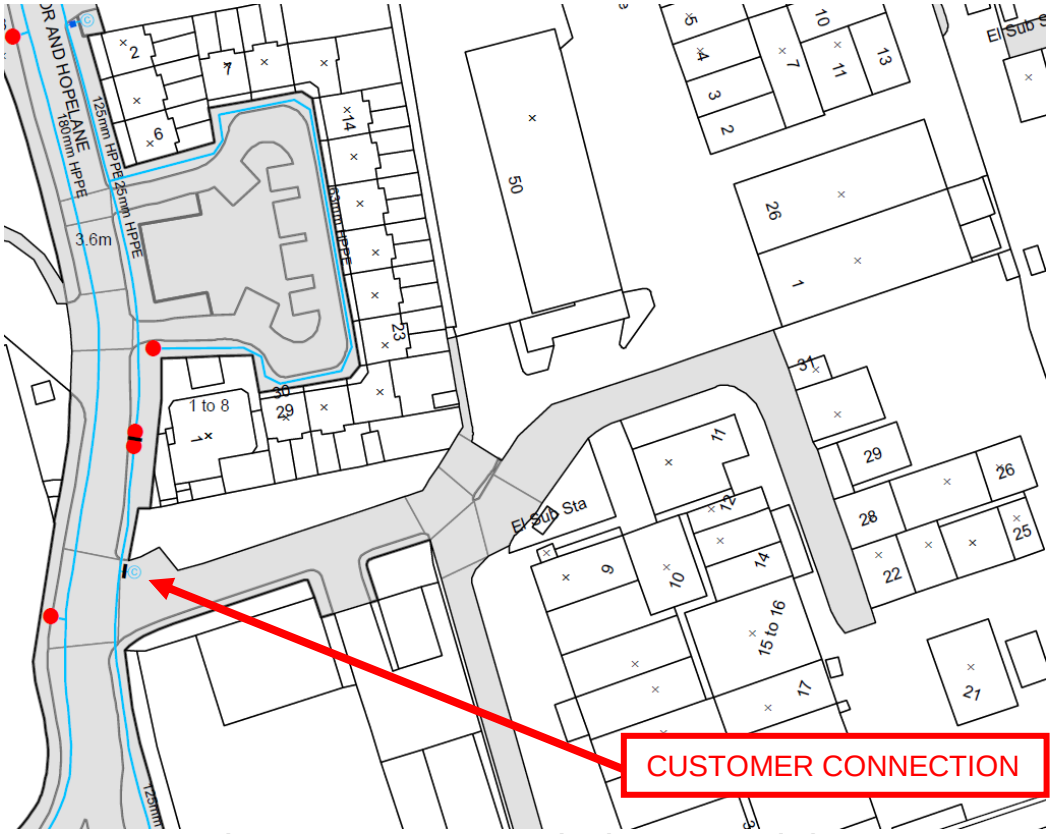


Figure 7 Customer Connection into Proposed Site

On the opposite side of Anchor & Hope Lane lies a 180mm HPPE with customer connection points at the entrance into the commercial/retail park. It is assumed that this development is served from this customer connection point. The site is also surrounded by numerous fire hydrants.

4.2 Proposed New Services

It is proposed to serve the new development by connecting into the existing water main on the site side of Anchor & Hope Lane. The connecting pipe will then be located under the access road/ pavement.

4.3 Proposed Site Water Supply Layout

The proposed layout is detailed on OCSC's drawing CSK/002 Rev A in appendix A

5.0 TELECOMMUNICATIONS

5.1 Existing Services

There are numerous existing BT (Open Reach) service running within the site boundary lines. The services are generally routed below ground within a duct/draw pit installation. There is also an existing overhead service to the west of the site.

All of the underground services to the site, apart from one, are derived from Anchor and Hope lane. This service is derived from adjacent industrial park area, and can be isolated and removed at boundary of the site. This service is installed within underground ducts and flush access chambers, so there are no above ground services to be removed.

Various service ducts and in ground access chambers are located across the remainder of the site, which serve the various existing properties on the site. The existing infrastructure can be isolated and removed to suit any new proposed development for the site.

There is an existing overhead line that is routed across the North West corner of the site

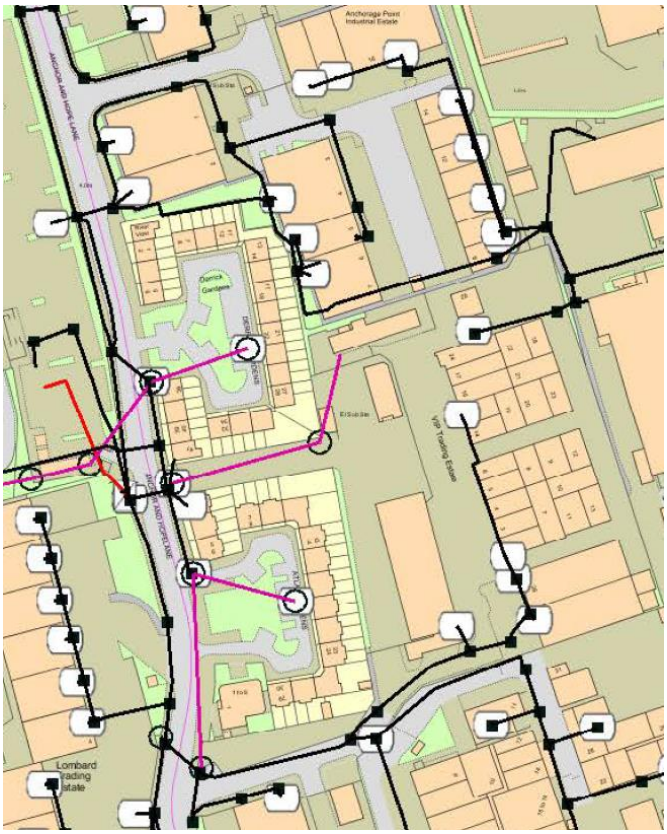


Figure 8 BT Services (Underground in Black, Overhead in Purple)

This existing service currently supplies the industrial unit adjacent to Kent Plant and Tools unit. The existing service cuts across the corner of the proposed site, which may affect the proposed buildings on plots 2 and 4-6.

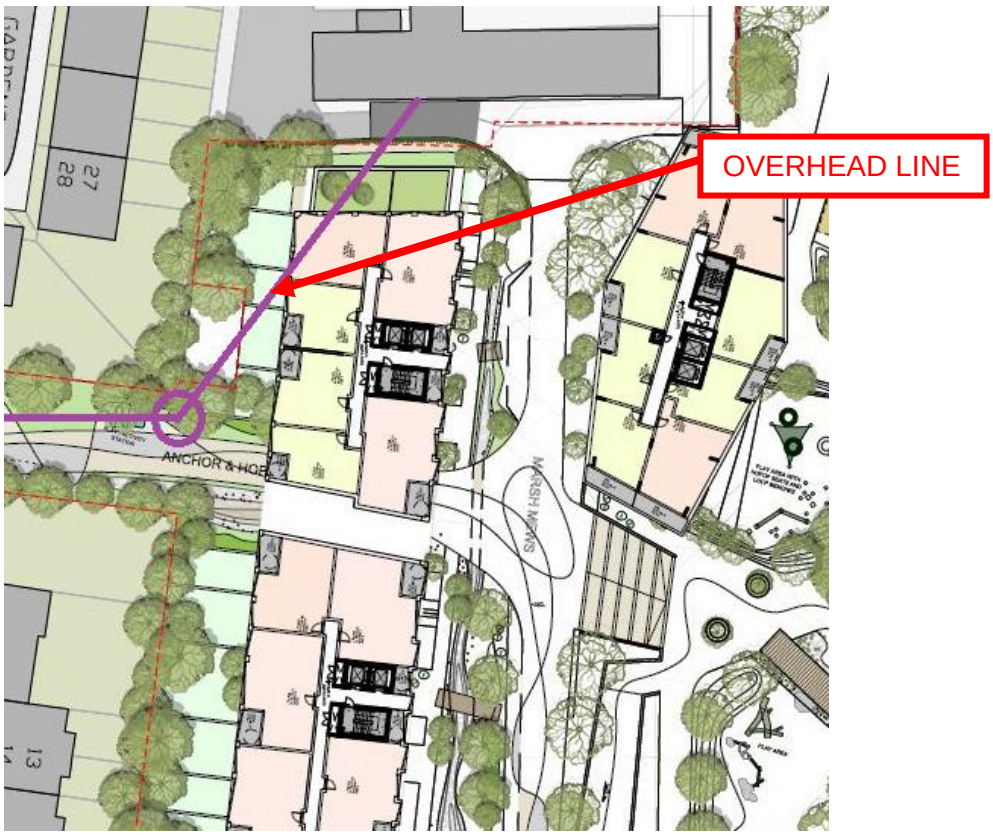


Figure 9 North West Corner of Site

5.2 Proposed New Services and Works

The Proposed Development will be served via a new duct and draw pit installation connecting into the existing installation along Anchor and Hope Lane

If the existing overhead service that runs from an existing BT pole located outside of the current boundary line to an existing industrial unit, impacts on the proposed construction of plots 2, and 4-6, then the service will need to be relocated.

It is unlikely that BT will be able to reroute this service below ground back into the existing industrial unit. Therefore a second BT pole would need to be installed between the existing BT pole and the existing industrial unit so to reduce the impact on the proposed development. The new BT pole would need to be installed along the site boundary to the left of plot 2.

The proposed layout is detailed on OCSC's drawing CSK/001 Rev A in Appendix A

6.0 FOUL WATER DRAINAGE

6.1 Existing Services

The existing site is split across 2 plots A+B which are 1.67 hectares and 0.87 hectares respectively and currently there are numerous industrial buildings/businesses situated on the site. The foul/storm discharges from these businesses currently flow via gravity in 100mm/150mm diameter pipes and outfall to the existing Thames Water combined sewer pipe located in Anchor and Hope Lane. For the existing Thames Water Records please refer to Appendix B. The existing foul and storm discharge from the site is shown below;

FOUL WATER

Commercial/Industrial Area = 6100 sqm
Flow = 4 l/day per person/m^2
Current peak flow discharge rate: **1.7 l/s**

SURFACE WATER
Size of existing site = 2.4 Hectares
Current discharge rate: **225 l/s**

6.2 Proposed New Drainage Network

The Proposed Development is the demolition of existing buildings and erection of 11 buildings ranging from 2 to 10 storeys in height for Class C3 residential use, with Class B1 employment space and flexible uses comprising Class A1 (retail), Class A3 (Café/ Restaurant), Class D1 (Community Use) and Class D2 (Leisure) at ground floor and first floor level, alterations to existing vehicular access and creation of new pedestrian access from Hope and Anchor Lane and the riverside, creation of new areas of open space and landscaping together with the provision of associated car parking, cycle space, refuse and recycling storage, plant and all other associated works. The discharge rate of the new development has been calculated as follows:

FOUL WATER

Size of proposed development = 771units @ 375 l/day per unit
Proposed discharge rate: **25 l/s**

SURFACE WATER
Size of existing site = 2.4 Hectares
Proposed discharge rate: **105 l/s**

It is envisaged that the proposed development will discharge foul and storm water under gravity to the existing 1050Ømm Thames Water combined sewer located in Anchor & Hope Lane. Each new block shall have a separate connection to a new main drain, and each building will have its drainage constructed in accordance with Part H of the Building Regulations Approved Document.

6.3 Proposed New Layout

The proposed layout is detailed on OCSC's drawing CSK/003 Rev A in Appendix A.

7.0 CONCLUSION

7.1 Drainage

The existing site is split across 2 plots A+B which are 1.67 hectares and 0.87 hectares respectively and currently there are numerous industrial buildings/businesses situated on the site. The foul and storm water from these premises are currently routed back into the main combined Thames Water sewer pipe located in Anchor and Hope Lane.

To serve the Proposed Development it is envisaged that all buildings located in Plot A and B will discharge foul and storm water under gravity into the existing 1050Ømm Thames Water combined sewer located in Anchor & Hope Lane. Each new building shall have its drainage constructed in accordance with Part H. To ensure that the network can handle the additional capacity it is recommend that a formal application is made through Thames Water.

7.2 Gas

The existing development is surrounded by a mixture of low pressure, intermediate pressure and high pressure gas networks. The low pressure network lies mainly in Anchor and Hope Lane and the existing development located at the site is served via this low pressure network.

It proposed to serve the Proposed Development via the existing LPG located in Anchor and Hope Lane. To ensure that the current network capacity can handle the proposed development it is recommended that a formal application is made to SGN.

The anticipated annual gas demand for the development is 23652197.1 Kw/Hrs.

7.3 Water

Thames Water are the main utility provider for this area. A 125mm HPPE lies in Anchor and Hope which runs parallel to the development. It is assumed that the existing development is served via this network as the information provided by Thames Water and the topographical survey do not indicate any internal mains within the site boundary.

It is proposed to serve the Proposed Development via this 125mm HPPE network which lies in Anchor and Hope Lane. It is envisaged to locate the pipework under the access road/ pavement and serve each building accordingly. To ensure that the network can handle the additional capacity it is recommend that a formal application is made through Thames Water.

7.4 Electrical

The existing site is currently served via 3No. existing substations that will be retained as part of the redevelopment of the site. The existing substations are understood to be 1000kVA units (3000KVA in total).

The proposed demand for the future development of the site is 1910kVA. To provide an increased level of comfort in relation to existing capacity it is recommended that a formal application is made to UKPN which will ensure that there is sufficient capacity within the existing infrastructure. This capacity could then be secured for an associated charge.

7.5 BT

Generally the existing BT infrastructure to the site will be removed back to the incoming points at the boundary of the site and a new below ground ducting network provided to serve the proposed development.

There is however a single existing overhead BT service that currently serves an existing industrial unit outside the site boundary.

If the existing overhead service that runs from an existing BT pole located outside of the current boundary line to an existing industrial unit impacts on the proposed construction of plots 2 and 4-6, then the service will need to be relocated.

It is unlikely that BT will be able to reroute this service below ground back into the existing industrial unit. Therefore a second BT pole would need to be installed between the existing BT pole and the existing industrial unit so to reduce the impact on the proposed development. The new BT pole would need to be installed along the site boundary to the left of the proposed plot 2.

APPENDIX A

CSK/001 REV A

LEGEND

ELECTRICAL SUPPLY

EX. ELECTRICAL SUPPLY

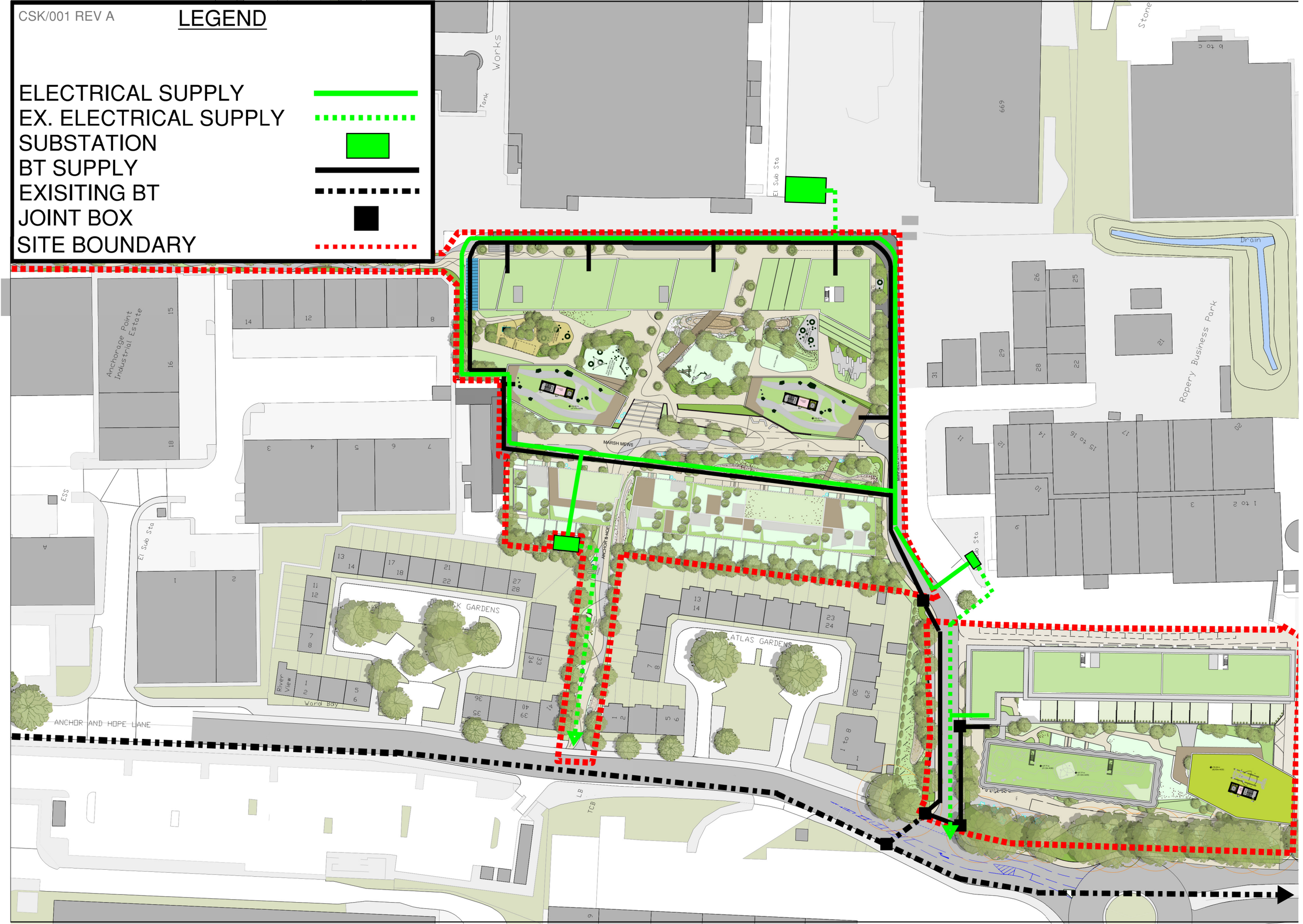
SUBSTATION

BT SUPPLY

EXISITING BT

JOINT BOX

SITE BOUNDARY



CSK/002 REV A

LEGEND

GAS SUPPLY

WATER SUPPLY

EXISITING GAS

EXISITING WATER

SITE BOUNDARY