

Planning Application for the Installation of a “private-wire” electricity cable between the Energy Centre, Tewin Road and Colt Technology Services Group Limited, 20 Black Fan Road, Welwyn Garden City, AL7 1QA (Option 4).

Welwyn Garden City Generation Energy Centre Limited

September 2022

REVIEW & SIGN OFF FORM

ISSUE	Writer	Review	Date
1.1	AS	AL	12/09/2022

Planning Application Statement

The Installation of a “private-wire” electricity cable between the Energy Centre, Tewin Road, Welwyn Garden City, AL7 1BD and Colt Technology Services Group Limited, 20 Black Fan Road, Welwyn Garden City, AL7 1QA (Option 4).

The Application

This Planning Application has been submitted to Welwyn Hatfield Borough Council, by Welwyn Garden City Generation Energy Centre Limited, for the Installation of a “private-wire” electricity cable between the Energy Centre, Tewin Road, Welwyn Garden City, AL7 1BD and Colt Technology Services Group Limited, 20 Black Fan Road, Welwyn Garden City, AL7 1QA.

Background

Planning Application Ref. 6/2022/0709/MAJ has been submitted by Henry Boot Developments (HBD) in March 2022 and is currently (September 2022) awaiting determination.

The planning application is for the development of two flexible use business units (E(g)(iii), B2 and B8 uses) and an Energy Centre (Sui Generis use), including details of access, servicing, landscaping, boundary treatment and earthworks, at Tewin Road Welwyn Garden City AL7 1BD.

The Energy Centre, which would be operated by Welwyn Garden City Generation Energy Centre Limited, would comprise a gas/biogas power generation facility, ancillary equipment, and welfare facilities, and would be intended to provide low carbon electricity to local businesses and the electricity network. The plant includes a number of high efficiency gas reciprocating engines providing up to 22.5MWe of generating capacity. The Energy Centre will procure renewable gas (and their associated certificates) that is injected into the gas network. The engines will then be supplied by equal amounts of gas from the local natural gas network.

The Energy Centre design includes a transformer to facilitate the supply of low carbon electricity to local businesses. The intention is that a new cable will connect the Energy Centre to an existing business nearby, with any excess electricity to be exported to support the local electricity grid.

The local user has now been confirmed as Colt Technology Services Group Limited (Colt), which currently operates a data centre from its site at 20 Black Fan Road, Welwyn Garden City. The data centre is an intensive energy user that already has its own 11kV substation, that is connected to the local grid.

It is therefore now proposed is to install a new electricity cable that would provide a dedicated “private-wire” connection between the Energy Centre in Tewin Road and Colt. This planning application is for this new cable.

The Development and the Site

The cables would be carried by two 200mm ducts buried 600mm below ground level in a trench measuring 875mm deep x 650mm in width. These would largely be

excavated below the pavement adjacent to the highway along the cable route, which would be reinstated at the surface to its original finish, once the cable has been laid. Within the Energy Centre site, and at any access crossing points along the route, the cable ducts would be placed slightly deeper at 750mm below ground level. There are currently five options for the cable route between Energy Centre and Colt, details of which are set out below. Each cable route would also have either four or five joint bays.

The total length of the cable route would be between 1150m and 1700m depending on which of the route options is followed, extending from the Energy Centre to Colt.

The Cable Route Options

Four of the five cable route options are broadly similar, running south-west down Tewin Road from the Energy Centre, then south-east along Bridge Road East and then via Knella Road, with alternative routes from Knella Road into Colt's existing 11kV substation at the southern end of its site. The fifth option would take an alternative route, extending north-east up Tewin Road from the Energy Centre, to Black Fan Road, and then south-east along Black Fan Road, and then into Colt site via their main gate to connect to Colt's existing 11kV substation at the southern end of their site.

Five separate planning applications are being submitted, one for each cable route option. The reason for doing this is that the programme for construction requires the applications to be submitted now, but it has not yet been possible to determine which of the cable route options will be selected, pending conclusion of negotiations with the landowners. Whichever cable route is selected, it would be the only route that is constructed, so that only one of the five routes would actually be built.

Option 1

Extends approximately 190m south-west down Tewin Road to Bridge Road East, and then 520m south-east along Bridge Road East, to Knella Road, and then approximately 240 east along Knella Road to Pollards Close, and then approximately 125m north-east along Pollards Close and into the Colt 11kV Sub-station.

The application site including the cable route, is shown on Drawing Ref. Q21062-CRP-01 Version 3 Proposed Cable Route Option 1, dated 11th August 2022.

The total length of the route would be approximately 1150m x 0.65m wide. The area of the site would be 747.5 sqm or less than 0.1 ha.

Option 2

Extends approximately 190m south-west down Tewin Road to Bridge Road East and then 520m south-east along Bridge Road East to Knella Road, and then approximately 360 east along Knella Road to Leafield, and then approximately 40m north-east along Leafield, and then approximately 135m north north-west across an area known as Hern's Wood, to the north-east of Knella Road, and into the Colt 11kV Sub-station.

The application site including the cable route, is shown on Drawing Ref. Q21062-CRP-02 Version 3 Proposed Cable Route Option 2, dated 11th August 2022.

The total length of the route would be approximately 1350m x 0.65m wide. The area of the site would be 877.5 sqm or less than 0.1 ha.

Option 3

Extends approximately 190m south-west down Tewin Road to Bridge Road East and then 520m south-east along Bridge Road East, to Knella Road, and then approximately 240 east along Knella Road to Pollards Close, and then approximately 120m north-east along Pollards Close, and into the Colt 11kV Sub-station.

The application site including the cable route, is shown on Drawing Ref. Q21062-CRP-03 Version 3 Proposed Cable Route Option 3, dated 11th August 2022.

The total length of the route would be approximately 1350m x 0.65m wide. The area of the site would be 877.5 sqm or less than 0.1 ha.

Option 4

Extends approximately 190m south-west down Tewin Road to Bridge Road East, and then 520m south-east along Bridge Road East to Knella Road, and then approximately 360 east along Knella Road to Leafield, and then approximately 115m north-east along Leafield, and then approximately 135m northwest along the boundary between Colt and the area known as Hern's Wood to the north-east of Knella Road, and into the Colt 11kV Sub-station.

The application site including the cable route, is shown on Drawing Ref. Q21062-CRP-04 Version 3 Proposed Cable Route Option 4, dated 11th August 2022.

The total length of the route would be approximately 1400m x 0.65m wide. The area of the site would be 942.5 sqm or less than 0.1 ha.

Option 5

Extends approximately 510m north-east up Tewin Road to Black Fan Road and then approximately 760 south-east along Black Fan Road to the main gate into Colt, and then approximately 350m south-west, with a connection into the Colt 11kV Sub-station, at the southern end of the Colt site.

The application site including the cable route, is shown on Drawing Ref. Q21062-CRP-05 Version 3 Proposed Cable Route Option 5, dated 11th August 2022.

The total length of the route would be approximately 1700m x 0.65m wide. The area of the site would be 1105 sqm or less than 0.2 ha.

Duration of the work.

It anticipated that the works would take approximately 6 months to complete with the trench in all cases following the line of the pavement adjacent to the highway. The cable route would be excavated, ducted, and backfilled in 25-50m sections and cable pulled through once the entire ducted route has been installed. Pedestrian diversions and barriers would be erected for the duration of the works on each section. An application for licence under the New Roads and Street Works Act 1991 would be submitted to local Highway Authority, before any works were commenced.

Protection of Trees along the Cable Routes

Because there are a number of trees adjacent to the cable route(s), consideration has been given as to how to ensure the protection of trees and to avoid damage to tree roots. Full details are set out in Appendix 1.

This Planning Application

This Planning Application is for the cable route Option 4. Separate applications have been submitted for each of the other cable route options, Option 1, Option 2, Option 3 and Option 5.

Appendix 1

Protection of Trees along the Cable Routes

As a part of the design process all five of the cable routes have been walked by an experienced team of electrical and civil engineers with a successful track record of installing these types of cables in an urban and suburban environment.

A great deal of attention was paid to ensuring that all design options allowed for small diversions along the route to avoid damage to tree roots and if necessary, hand digging techniques will be used to minimise tree root disturbance.

As a further check, based on the now finalised cable calculations and subsequent designs we have arranged for specialist contractors to again physically check that all the routes are viable with no risk to existing trees. Details of the controls to be adopted are set out below.

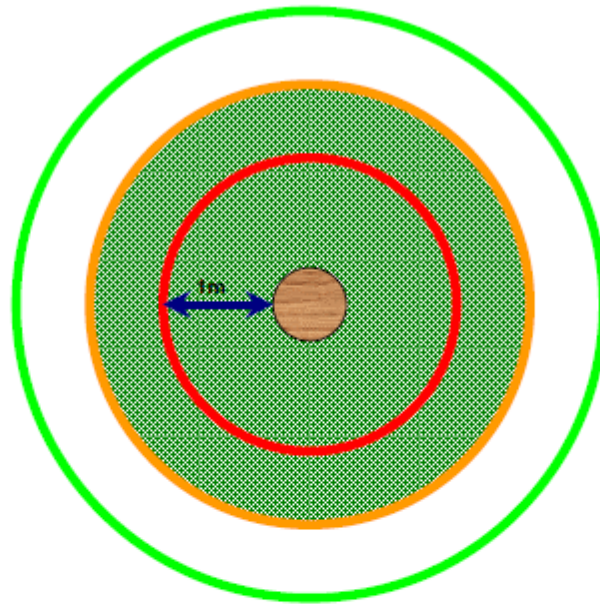
Before working close to trees, a briefing will be undertaken by the specialist contractor highlighting the issues below and ensuring work is undertaken in the appropriate manner.

The base of a trunk typically flares out in buttresses extending into the main lateral structural roots. These rapidly subdivide into the mass of smaller roots which serve to anchor the tree into the soil and transport water and nutrients. Even at a short distance (3m) from a large mature tree, most roots will be less than 10mm in diameter, but these may extend to well beyond the branch spread of the tree.



There are certain areas around trees, illustrated in Figure 1 – ‘Example Tree Protection Zone’, which highlights an example of where excavation either must not be undertaken or only undertaken under strict conditions to avoid any damage to a tree’s root system.

FIGURE 1 – Tree Protection Zone



Key



Trunk of tree



Canopy or branch spread



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with the local authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE - beneath canopy or branch spread. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with the local authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of the precautionary zone. Excavation works may be undertaken within this zone, however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

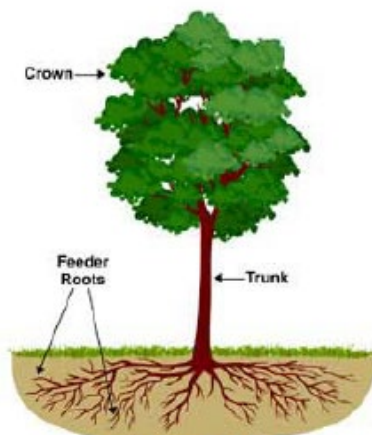


Figure 2 - Typical Tree Structure

