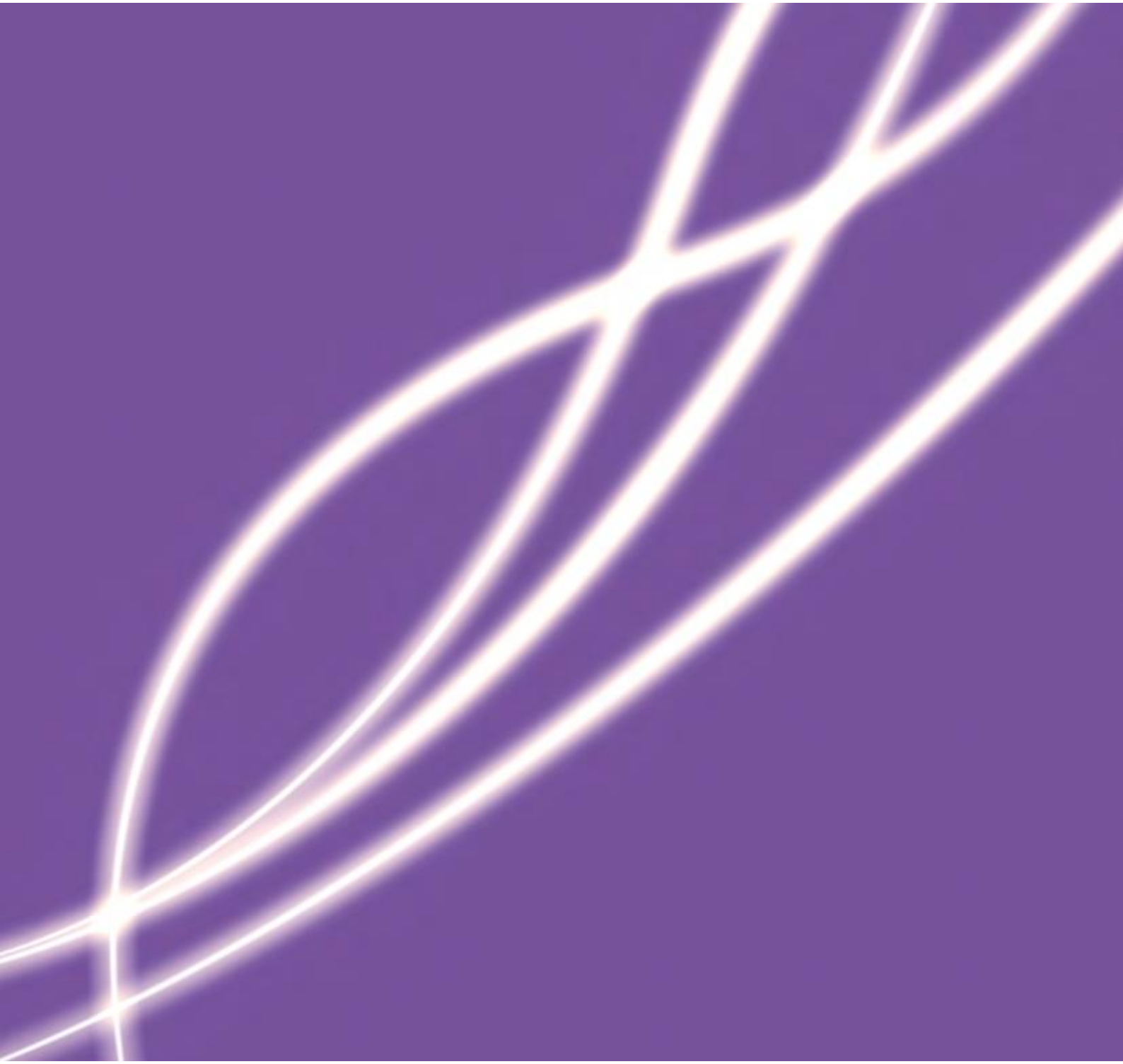
openreach

BDUK Phase 3 Segments

Physical and Electrical Requirements for Street Furniture Incorporating the BDUK Phase 3 Segments Service



Contents

1 Physical Street Furniture Requirements

Street furniture must have the following characteristics:

1. It must be robust and physically stable.
2. The Openreach engineer must be able to install the service in a safe environment or the service request will be declined.
3. It may have thermal stability.
4. There must be contact information available on the street furniture such that an Openreach engineer or their agents can report faults or other information back to the street furniture owner or Communication Provider (CP).
5. For the avoidance of doubt, suitable Street Furniture will not be an underground chamber or an overhead wall mounted box where the use of ladders to access the equipment is required.

2 Cable Entries

Openreach will connect up to a service duct on the basis of Excess Construction Charges (ECCs). This will require a breakout from the Openreach network into the duct entry owned by the CP or 3rd party Street Furniture owner as follows:

The CP shall provide suitable access in the base of the street furniture to permit the entry of underground communications cables. If blown fibre is used, then the access port or ports shall accommodate 2-tube Blown Fibre cable of dimensions 14mm x 9mm. If cable is used, then the access port or ports shall accommodate a cable of 13mm diameter.

The number of cable entries shall be sufficient for initial provision of service, plus the agreed expansion of services during the service life of the street furniture.

Under the duct 'poke out' concept the CP should be able to order the service from planned drawings by red-lining the proposed enclosure location on a map of the area, at the point where the patch panel is to be deployed (i.e. street cabinet location). This can be physically confirmed at survey stage.

The following is free-issued from Openreach in advance of the CP commencing work on the base of their street furniture:

1. A 90 degree bend made from Duct 56. Either a 350mm radius for soft verge/ pavement or a 622mm radius for road crossing.
2. A 1 metre straight length of Duct 56.

The CP will be required to build the base for the street furniture first, usually a concrete plinth. The 1m length of duct 56 leads from the 90 degree bend in the direction of the Openreach equipment.

Openreach will build up to the poke out and marry up the Openreach ducting as they would normally. See Appendix A for more information.

Such ECCs can be avoided if you are an accredited PIA CP and are able to extend the duct poke out from the cabinet to the relevant joint chamber and break through.

Additionally, there is an option for Openreach to build a duct poke extension within a meter of the joint chamber to minimise ECCs with the CP needing to provide the further duct connectivity to the Customer or 3rd party Street Furniture from there.

3 Cable Route within Street Furniture

The street furniture owner or CP shall provide a suitable route from the cable entry point to the fibre termination. This should include support or tieback as appropriate. Optical fibre cables will not be installed within the duct until the street furniture is built.

3.1 Blown Fibre Tubing

The minimum bend radius of the blown fibre tubing shall be 60mm at any point.

3.2 Cable

The minimum bend radius of the cable shall be 200mm at any point.

3.3 Fibre Termination

The street furniture shall accommodate:

- **4 way Optical Connector Assembly**

As per the Technical Specification document. E.g. fixed using screws into suitable timber mount.

- **Patch panel for Restricted Spaces E.g. Lampposts**

As per the Technical Specification document. Twin optical Corning IP68 rated male flying connectors. Not fixed to mount. Free.

4 Optical Connector Component Dimensions

Component	Height (mm)	Width (mm)	Depth (mm)
4 way connector Assembly	260	155	60
2 way IP68 Flying connector	40	20	20

5 Street Furniture: Electrical Safety

Street furniture must conform to the relevant Electrical Safety Standards for external equipment before Openreach engineers or their agents will be permitted to install the product(s) within it. The relevant standards are BS761:2008+A3:2015 and ENA Requirements for the Application of Multiple Earthing to Low Voltage Networks (G12 Issue 4 2013).

The Openreach engineer will only be permitted to work in external equipment where such equipment has sufficient secondary covers such that the engineer cannot come into contact with electrical potentials.

On arrival at the street furniture the Openreach engineer must undertake a Risk Assessment on its suitability to be worked on.

The Openreach engineer will check that the street furniture shell is not electrically live; by using a proven voltage indicator stick before touching the cabinet. If the cabinet shell proves to be live then the engineer will report it to their controls and cancel the planned action.

6 Street Furniture: Duct Sealing

Openreach provides Duct Sealing of incoming duct network, cables and fibre, where appropriate, as shown below but only with the agreement of the CP:

Vented unsealed street furniture.

- Duct work is usually expected to finish proud of the internal surface by at least 20mm to prevent blockage by detritus. No Openreach sealant applied. Openreach will not attempt to seal the ductwork or cables.

Mostly sealed street furniture but with some minor gaps.

- Openreach will normally seal ducts, cables and blown fibre tubes against gas ingress. By default, Openreach will seal blown fibre tubes and/or cable sheaths. Usually Openreach uses Compound 16 (non-curing Mastic) under these conditions.

Sealed street furniture such as Kiosks.

- Openreach will normally seal ducts, cables and blown fibre tubes against gas ingress. . Usually Openreach uses Resin which is a setting compound under these conditions.

7 Access to Street Furniture

It shall be the responsibility of the CP to provide timely and safe access to the Street Furniture for the Openreach engineer or agents in order that the service may be installed and, where necessary, maintained.

8 CP Street Furniture Documentation

The CP shall provide documentation for the Street Furniture that clearly describes the installation of the cable and the fibre connectivity components. The documentation shall be provided in a format which can be stored in an electronic document system.

The preferred electronic format shall be PDF, such that the file size is minimised for ease of download via the intranet or internet.

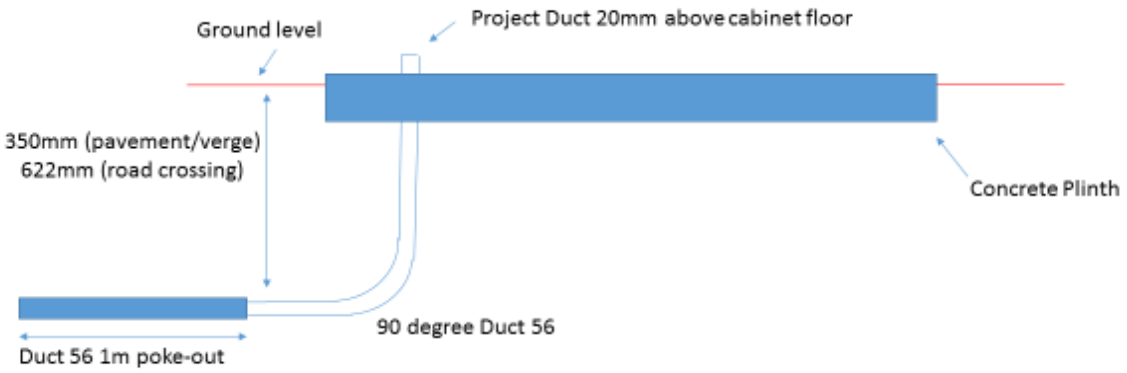
The documentation must specify how access is to be made available for the Openreach engineer, including keys, tools, timing, or special instructions for access as appropriate.

8.1 Obtaining Street Furniture Documentation from the CP

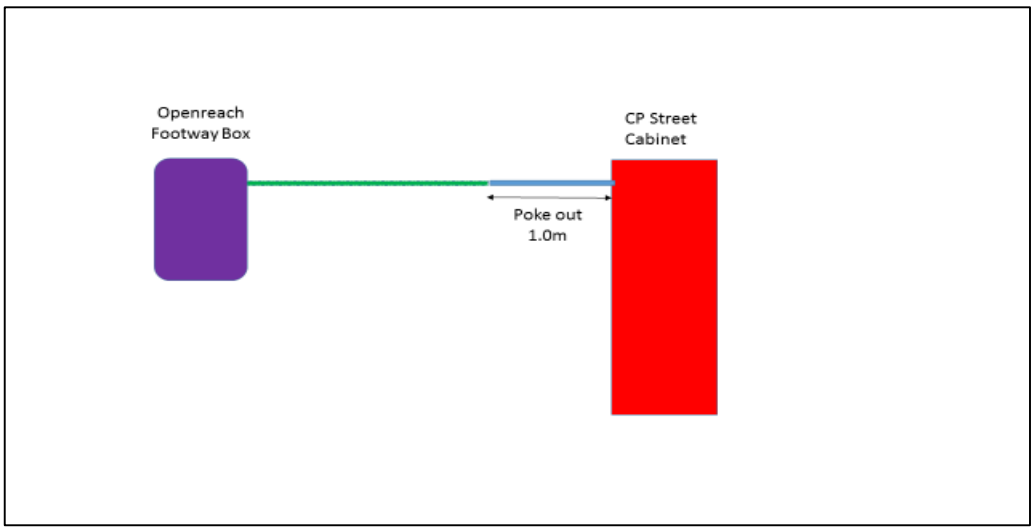
As part of planning policy, planners will contact the CP to obtain any street furniture documentation required.

9 Annex 1- An example Underground entry for Street Furniture.

A.1 Section view showing Duct 56 bend



10 Annex 2- Top view showing CP and Openreach duct marry-up



11 Document History

Status	Date	Details of Change
Final 1.0	March 2018	Final Publication

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