REQUIREMENTS FOR CUSTOMER INSTALLED FIBRE CABLE PATHWAYS

nbn® Fibre to the Premises (FTTP) connections

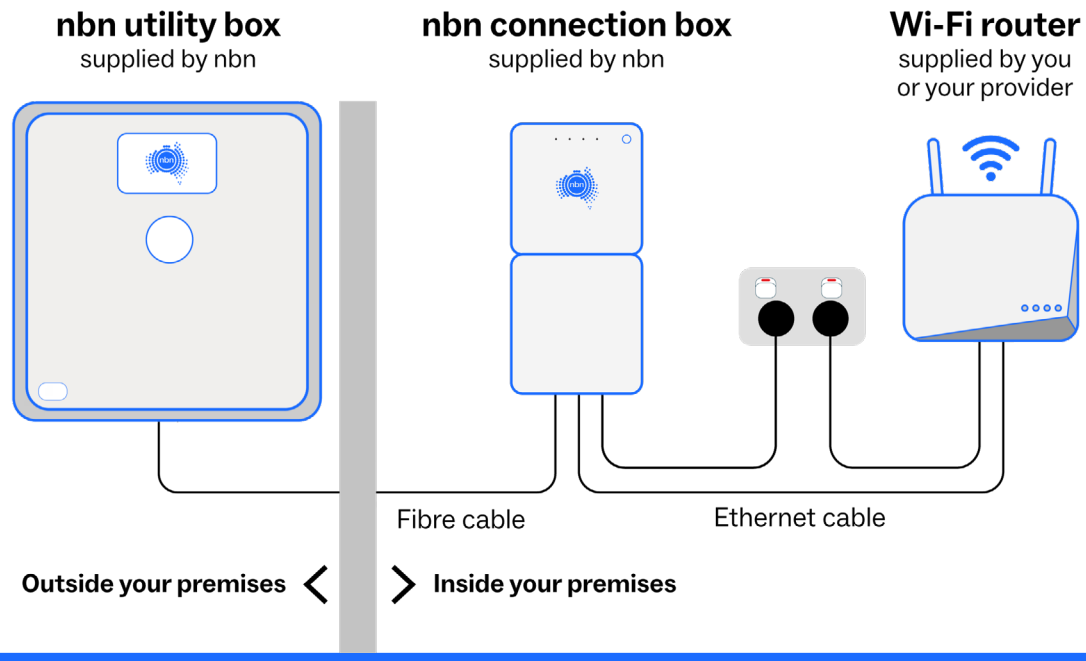
We've developed this guide to help people who wish to provide their own preferred pathway for nbn's cabling to be installed at their premises. It outlines the nbn requirements for **Customer Installed Fibre Cable Pathways** and provides guidance on meeting these requirements to allow installation of FTTP to be completed.

When an nbn full fibre installation is taking place, our technician will assess your premises and take your preference into consideration. They will offer at least one installation option consistent with nbn's fibre installation guidelines that doesn't require the customer to arrange a **Customer Installed Fibre Cable Pathway**.

If a customer wishes to proceed with an alternative to the installation option proposed by the **nbn** approved technician, the customer can then choose to provide fibre cable pathways at their premises (at their own expense) that better suits their preferences. These are referred to as **Customer Installed Fibre Cable Pathways**.*

For more information on what to expect during an nbn full fibre installation, visit the **nbn website**.

nbn equipment to be installed



There are two scenarios for delivering your cabling pathways:

1. By installing a Lead-In Conduit/Pathway from the property entry point (where the cable enters the property from the street) to the nbn utility box, also known as Premises Connection Device (PCD).

2. By installing an In-Premises Conduit/Pathway from the nbn utility box to the nbn connection box, also known as Network Termination Device (NTD).

Where will the nbn utility box and nbn connection box be installed?

- The nbn utility box will be installed outside of the premises, close to the existing telecommunications utility box if there is one, usually near the front of the premises, no lower than 400mm from the ground and clear from other utilities. Refer to chapter 6 in **Residential Preparation and Installation – Single-Dwelling Units and Multi-Dwelling Units standards** for more details on nbn utility box (PCD) and pathway installation requirements.
- The nbn connection box will be installed inside the premises and must be within 1.2 metres of a General Power Outlet (GPO) (or a safe extension lead provided by the Customer). Additionally, it shall be positioned no lower than 300mm from the ground. The provision of a double GPO is recommended to allow for the connection of both the nbn connection box and any customer equipment. Refer to chapter 7 in **Residential Preparation and Installation - Single-Dwelling Units and Multi-Dwelling Units standards** for more details on nbn connection box (NTD) installation requirements, e.g. in a cool, dry, ventilated area.

This document does not apply in the following scenarios:

- Where a fibre cable pathway is built as part of building a new or redeveloped property. Learn More.
- When altering or removing nbn equipment and network cabling as part of a demolition or renovation. Learn More.
- Installations relating to nbn Smart Places. Learn More.
- nbn Enterprise Ethernet ordered products. Learn More.
- Installations taking place in apartment buildings or a cluster of residential or business units which were built within the same property boundary or a single lot. Learn More.

Who can install a Customer Installed Fibre Cable Pathway?

nbn recommends customers engage a **registered cabler** to install fibre cable pathways. However, this work can be undertaken by others provided they follow all requirements detailed in this document.

What should a customer do after the Customer Installed Fibre Cable Pathway is installed?

After the pathway has been installed, the customer should notify their preferred phone and internet provider who will contact nbn to arrange completion of the FTTP installation.

What options does a customer have if they're unwilling to provide a Customer Installed Fibre Cable Pathway and unsatisfied with the installation option proposed by the nbn approved technician?

The nbn technician will always offer an installation option that doesn't need a Customer Installed Fibre Cable Pathway to be arranged. They will also accommodate reasonable customer requirements within the scope of nbn's installation guidelines.

Customers can choose not to proceed with their installation, but this means their order cannot be completed.

If a customer is concerned the location of the nbn connection box may not be ideal for Wi-Fi coverage, customers can consider:

- Using a mesh network to extend Wi-Fi coverage from the Wi-Fi router located near the nbn connection box; or
- Providing Ethernet cabling from the nbn connection box to their preferred location for their Wi-Fi router.

For more handy tips to help improve the speed and reliability of your nbn connection^ **visit the nbn website**.

What Customer Installed Fibre Cable Pathways can be provided before the first nbn appointment?

A customer may wish to build a fibre cable pathway meeting nbn standards before the first nbn installation appointment if they think their preferred installation option may be outside of the scope of nbn's guidelines and want to help the nbn approved technician complete the installation in one visit.

If customers know the location of their existing telecommunications utility box or where the telecommunications cable enters their premises, they can provide an in-premises pathway from near their existing telecommunications utility box or near where the telecommunications cable enters their premises to their desired nbn connection box location.

We strongly recommend customers do not build an underground pathway for a lead-in cable between the property boundary and the nbn utility box without first getting guidance from nbn via an appointment with our technician. In some circumstances, nbn may be unable to utilise underground lead-in cable pathways at the premises due to the configuration of the nbn network, even if the pathway is constructed to the requirements in this document.

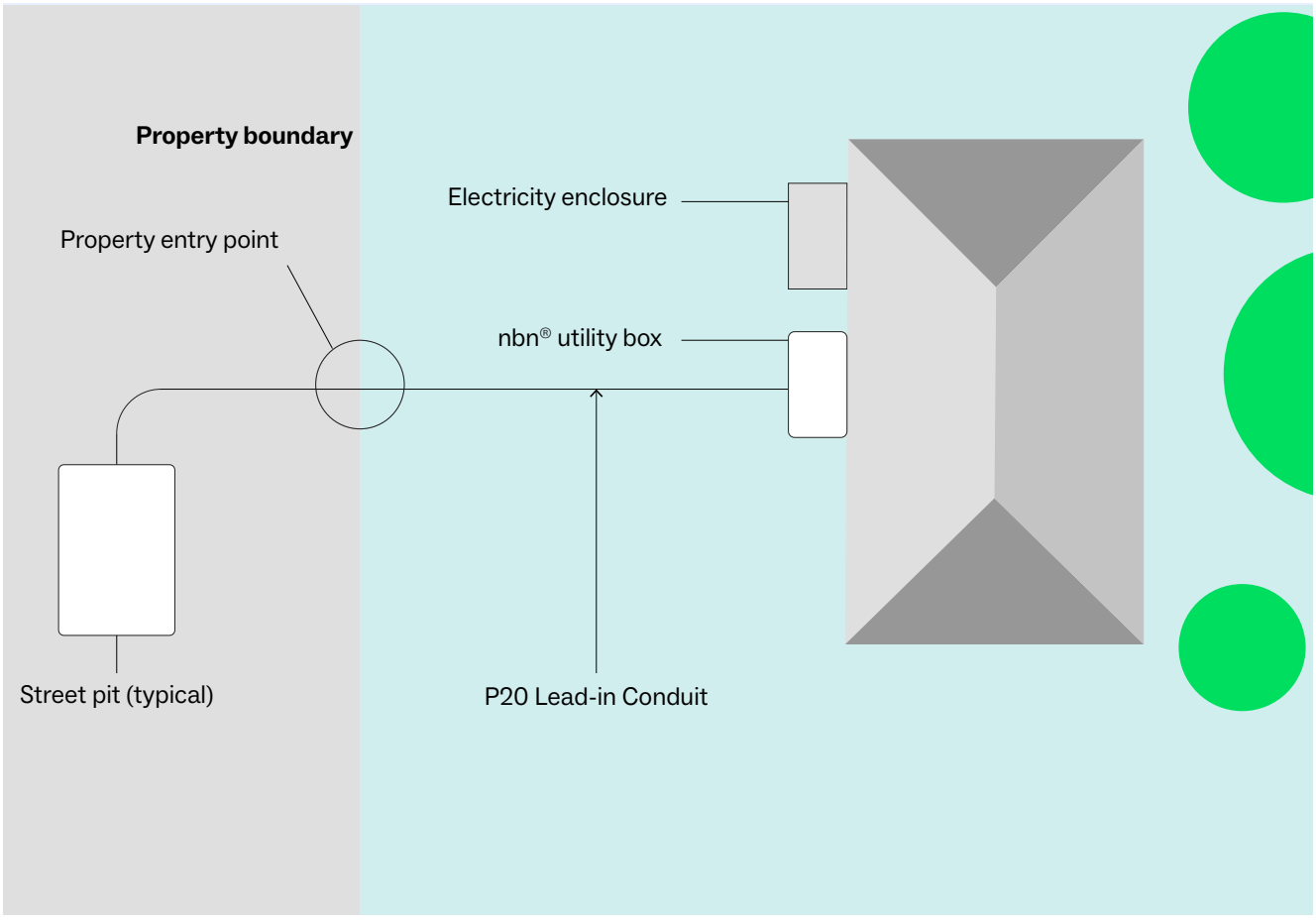
An nbn appointment can be arranged as part of ordering your FTTP services through your preferred phone and internet provider. The nbn technician can also help assess the layout of your premises and the configuration of nbn network in your neighbourhood and provide guidance on options you can consider for providing a Customer Installed Fibre Cable Pathway that suits your preference.

Scenario 1

INSTALL A LEAD-IN CONDUIT/PATHWAY FROM THE PROPERTY ENTRY POINT TO THE NBN UTILITY BOX

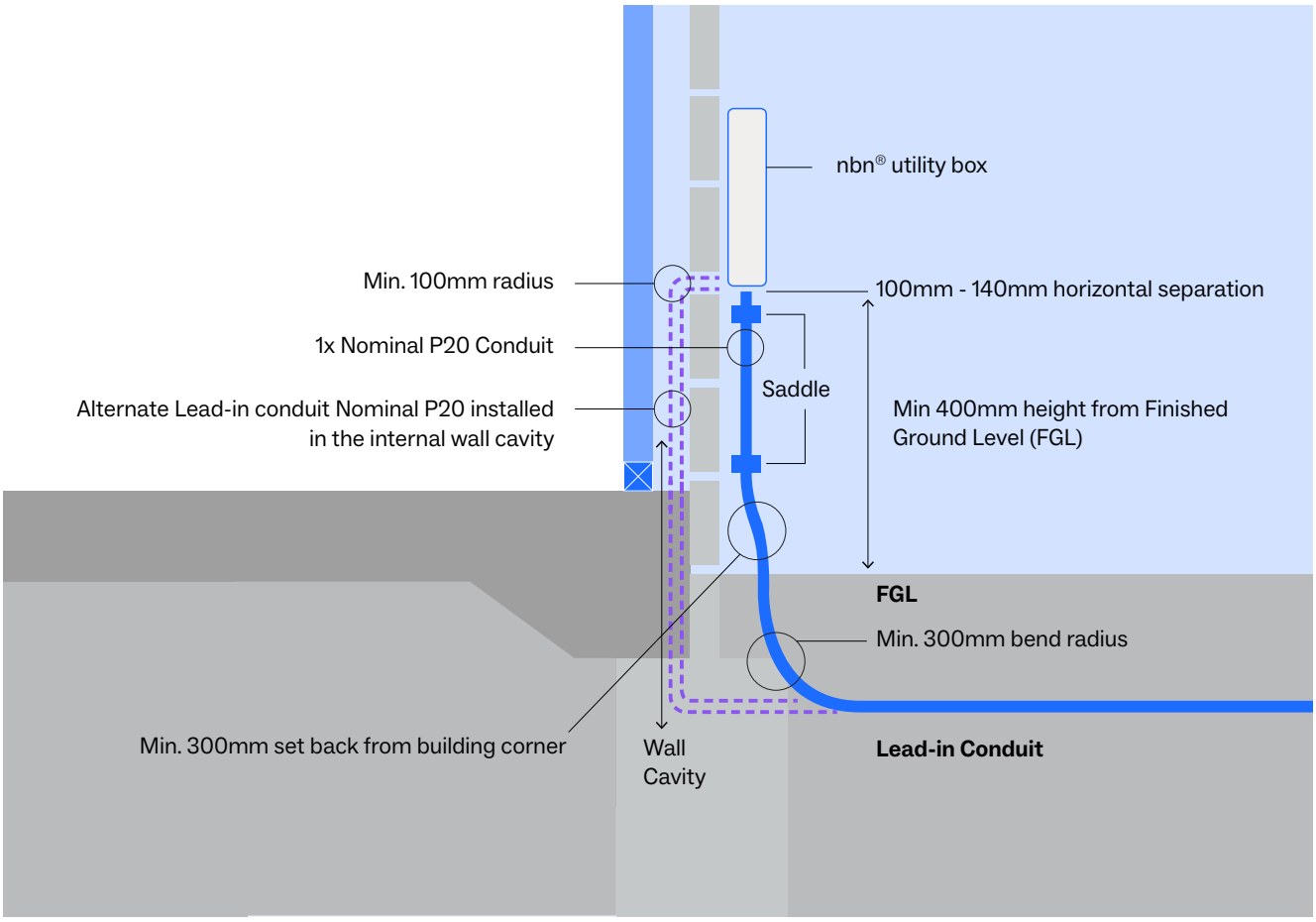
- Dig a trench from the proposed nbn utility box location towards the property boundary in the direction of the street pit. If there is an existing Lead-in Conduit that cannot be used, the new Lead-in Conduit must be installed next to the existing Lead-in Conduit at the property boundary. The trench and conduit must terminate close to the property boundary (typically one metre inside the property boundary).
- Install a continuous rigid white P20 telecommunications conduit (23mm internal diameter) in the trench.
- The Lead-in Conduit must maintain a 300mm distance from other services underground.
- From the top of the Lead-in Conduit to the finished surface (normal ground level), maintain a minimum depth of 300mm. If the Lead-in Conduit will be installed under a driveway, maintain a minimum depth of 450mm. The maximum Lead-in Conduit depth is 500mm.

Lead-In Conduit/Pathway (top view)



- Ensure the Lead-in Conduit runs as straight as possible.
  - The maximum conduit bend angle is 90º.
  - Use no more than two 90º (max) bends in the Lead-in Conduit (between property entry point and the desired nbn utility box location).
  - The minimum bend radius is 300mm, sweeping bends are preferred.
- Glue all joints using PVC solvent cement.
- The end of the Lead-in Conduit must terminate a minimum 400mm above ground level at the premises and be accessible for the nbn approved technician to install a fibre cable.
- The Lead-in Conduit must maintain a minimum distance of 500mm from heating/cooling units and gas meters and 150mm from power sources, water pipes, taps or meters. For clearances on gas cylinders and bodies of water etc, refer to chapter 8 in Residential Preparation and Installation – **Single-Dwelling Units and Multi-Dwelling Units standards**.
- Install a rope (nylon drawstring) within the Lead-in Conduit and secure at both ends with tape and seal to prevent debris entering the conduit.
- Leave the end of the Lead-in Conduit near the property boundary exposed so that nbn can connect it to the street conduit. The trench must be backfilled with suitable fill, compacted and reinstated to match the surrounding area.
- The end of the Lead-in Conduit near the nbn utility box location can be either on the outside of the wall as shown with the solid dark blue line or can be installed in a wall cavity as shown with the purple dotted line in the figure below:

Lead-In Conduit/Pathway (side view)

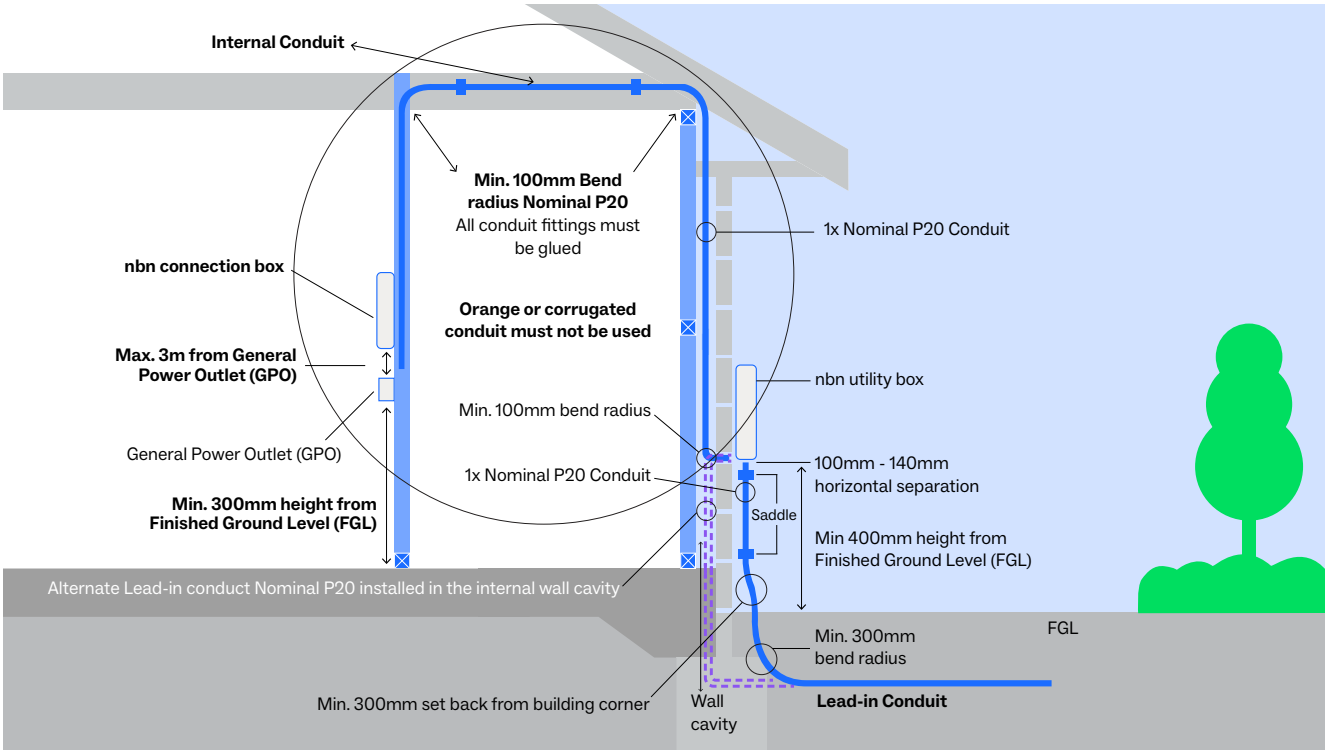


Scenario 2

INSTALL AN IN-PREMISES CONDUIT/PATHWAY FROM THE NBN CONNECTION BOX

- Install a continuous rigid white P20 telecommunications conduit from the suitable nbn utility box location to the desired nbn connection box location.
- The P20 telecommunications conduit can be concealed within the property's wall cavities as shown in the figure below, or it can be surface mounted internally or externally on the premises walls.
- Ensure the In-Premises Conduit runs as straight as possible and fix it securely using two conduit saddles.
  - The maximum conduit bend angle is 90º.
  - Use no more than three 90º (max) bends between the desired nbn utility box location and desired nbn connection box location.
  - The minimum bend radius is 100mm, 300mm is preferred.
- Glue all joints using PVC solvent cement.
- The open ends of the P20 telecommunications In-Premises Conduit must be accessible so the nbn technician can install the fibre cable.

In-Premises Conduit/Pathway (example only)



*For Retail Service Providers, refer to clause 4.5.2.2 of the **WBA Operations Manual** for more information about Customer Installed Fibre Cable Pathways

^Your experience, including the speeds actually achieved over the nbn network, depends on the nbn network technology and configuration over which services are delivered to your premises, whether you are using the internet during the busy period, and some factors outside our control (like your equipment quality, software, broadband plans, signal reception and how your service provider designs its network).

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