Service and Installation Rules

Version Number: 8.5 Effective from **1 July**

v8.5

TasNetworks | Powering a Bright Future

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Purpose

Tasmanian Networks Pty Ltd (*TasNetworks*) owns and operates the electricity *distribution network* on mainland Tasmania.

These Service and Installation Rules (*SIR* or *rules*) define the minimum requirements for connecting to the *TasNetworks'* low voltage (LV) *distribution network*. The document shows where rules are mandatory, where items or behaviours are prohibited, where items are preferred and recommended, and where flexibility and negotiation are possible.

This document is intended for *TasNetworks'* employees, *Electrical Contractors*, Designers, *Electrical Consultants*, manufacturers and *customers* involved in the design, installation, testing and servicing of connections to the LV *distribution network*.

Scope

The *SIR* explains the connection process and defines the rules that apply to *points of supply (POS*) and *Consumer Mains* arrangements. These *rules* apply to:

a) Connecting to the *TasNetworks*' LV *distribution network*. I.e. connections with a voltage greater than 50 volts AC and not exceeding 1,000 volts AC

b) Making alteration to, or upgrading, a *customer's* connection to the *TasNetworks'* LV *distribution network*

c) Connecting embedded generation or battery to the *TasNetworks'* LV *distribution network*

d) Servicing arrangements

e) Legacy *TasNetworks' Electricity Meters* which were installed prior to 1 December 2017

The following are beyond the scope of these rules:

a) Customer installations beyond the *TasNetworks' point of supply (POS)*

b) Electrical licensing and requirements

c) High voltage (HV) supply connections. I.e., a voltage greater than 1,000 volts AC

d) Metering standards when an advanced *Electricity Meter* is installed

It is recognised that the *rules* cannot cover all connection and service provision situations. Wherever there is uncertainty in the interpretation and application of the *rules*, or where there is a need to negotiate terms related to any of these *rules*, *TasNetworks* should be contacted via the Technical Advice Case via the Connections Portal or by phoning 1300 137 008, for clarification, advice, and negotiation including engineering and design approvals. To avoid delays and potential premature expenditure, do this as early as possible.

Administration

TasNetworks administers the development, revision and publication of these *rules*.

TasNetworks will maintain the *rules* to apply improvements, align with relevant regulations, and through review of users' feedback. The current version of these *rules* is published on the *TasNetworks* website - Contractors Portal.

TasNetworks will notify user-groups when a new version is published, however, it is the user's responsibility to ensure that they utilise the current edition of the *rules*.

Disclaimer

TasNetworks has compiled this document having regard to the relevant electricity industry legislation, codes of practice and standards. This document is provided in good faith and is not in any way intended to provide legal advice as to how *Electrical Contractors* can meet their obligations and comply with such requirements. This document includes information and assumptions that may be subject to change at any time and without further verification. Whilst *TasNetworks* has exercised due care in the preparation of this document, *TasNetworks* does not guarantee the accuracy of the information contained or the suitability of such information for any particular purpose and to the extent permitted, *TasNetworks* will not be responsible for any loss, damage, cost or expense incurred that arises out of or in connection with this document.

TasNetworks' Information

Information related to these *rules* is available from the "Connections" drop-down menu on the home page of the *TasNetworks* website. This includes links to information on:

a) Connection types and finding the right connection

b) Basic and negotiated connections

c) Fees for connections and alterations

d) Contracts and policies

e) Solar and embedded generation / batteries

f) Access to the Connections Portal where applications and *electrical works requests* (*EWR*s) can be lodged and managed

g) A link to the Developer's toolkit for subdivision design and construction.

Also on the home page of the *TasNetworks* website, there is a drop-down menu for "Safety" which provides information on working near or around powerlines and vegetation maintenance.

Enquiries

Reason	Service and Contact Details
For emergencies and Faults	Fault Call Centre, Phone: 132 004
For connection information (excluding faults): a) Connection enquiries b) Public and private lighting c) Negotiated connections, where infrastructure or design work is required, incl. service poles d) Clarification as to whether a pole is private or not	*TasNetworks* General Enquiries, Phone: 1300 137 008 Email: networkcustomersupply@*TasNetworks*.com.au
For connection information (excluding faults) but not listed above, e.g. Tiger Tails, Easements	Via the *TasNetworks* website - Contact Us *TasNetworks* General Enquiries, Phone: 1300 137 008
For e*lectrical works requests* (*EWR)* enquiries, the *EWR* "hotline"	Phone: 1300 137 008, menu option 3
For any uncertainty in the interpretation and application of these *rules*	On-line Contact Form *TasNetworks* General Enquiries, Phone: 1300 137 008
For technical support in relation to these *rules*	*TasNetworks* Technical Advice Service, Phone: 1300 300 545
To *tee-up* with *TasNetworks* at a site for *customer* connections	See 3.8 Electrical Works Request
For information on becoming *authorised* to complete certain works	*TasNetworks* Training Centre, Phone: 1300 137 008
For reconnection after Long-Term Disconnection (>6 months)	Contact *Electricity Retailer,* as listed on the Office of the Tasmanian Economic Regulator And submit a *EWR* as in 3.8 Electrical Works Request
For disconnection, reconnection or connection to an existing *TasNetworks'* OH or UG *service*	Contact *Electricity Retailer,* as listed on the Office of the Tasmanian Economic Regulator
To provide feedback on these *rules.* Use the on-line contact form on the *TasNetworks'* website	On-line Contact Form

Relevant Standards / Acts

These *rules* are in accordance with the following legislation and industry standards. This list may not be exhaustive.

Information / Standard	Link
1. National laws, regulations and codes	
National Electricity Rules (NER)	National Electricity Rules (NER)
Electricity Supply Industry Act (ESI Act) 1995	Electricity Supply Industry Act (ESI Act)
Electricity Industry Safety and Administration Act 1997	Electricity Industry Safety and Administration Act 1997
Electricity Industry Safety and Administration Regulation 1999	Electricity Industry Safety and Administration Regulation 1999
Tasmanian Electricity Code (TEC)	Tasmanian Electricity Code (TEC)
National Energy Retail Law	National Energy Retail Law (Tasmania)
National Energy Customer Framework (NECF)	National Energy Customer Framework
2. Australian standards	
AS/NZS 3000 - Electrical installations – buildings, structures and premises (also known as the "*Wiring Rules*")	Standards Australia Wiring Rules
AS/NZS 7000 - Overhead line design – detailed procedures	Standards Australia Overhead line design
AS/NZS 3017 - Electrical installations – testing guidelines	www.standards.org.au
AS/NZS 60269 - Low voltage fuses – fuses with enclosed fuse links (parts 1 & 3)	www.standards.org.au
AS/NZS 61000.3 - Electromagnetic compatibility (EMC): Part 3 Limits	www.standards.org.au
AS/NZS 4576 - Guidelines for scaffolding	www.standards.org.au
AS/NZS 3818.11, Timber – heavy structural products – visually graded utility poles	www.standards.org.au
AS/NZS 1604.1- Preservative-treated wood-based products - products and treatment	www.standards.org.au
ENA Doc 033 – Guideline for Power Quality: Harmonics	www.standards.org.au

Information / Standard	Link
3. Tasmanian regulations, standards and codes	
Consumer Building and Occupational Standards (CBOS) – Tasmanian Government	Standards of Electrical Work Electric Standards and Safety
Occupational Licensing (Electricity Consumption Metering) Code of Practice 2022 - Tasmania Government	Occupational Licensing Electricity Consumption Metering Code of Practice 2022
Occupational Licensing (Electrical Work) Regulations 20i8 – Tasmania Regulations	Occupational Licensing (Electrical Work) Regulations 2018
Occupational Licensing Act 2005 – Tasmanian Legislation	Occupational Licensing Act 2005
Worksafe Tasmania Acts, Regulations and Codes of Practice	www.worksafe.tas.gov.au/
Strata Titles Act 1998	www.legislation.tas.gov.au/
Electricity Wayleaves and Easements Act 2000	www.legislation.tas.gov.au/

1 Safety Requirements

For *TasNetworks*, safety is paramount. This includes the safety of *TasNetworks*' employees, customers, contractors and all stakeholders with whom it interacts. *TasNetworks* is committed to "zero harm" and its employees are required to comply with *TasNetworks'* policy and procedures to assess risks for themselves and any other participants prior to undertaking any work.

For the purposes of these *rules*, safety includes compliance with all related Worksafe Tasmania Acts, Regulations and Codes of Practice and conforming to the Relevant Standards / Acts that were, or are in effect, at the time of connection, and if relevant reconnection, of the *electrical installation*.

1.1 Working On or Near Electricity Assets

When working on or near *TasNetworks*' electricity assets, you must operate in line with relevant Government and *TasNetworks*' safety requirements. This includes, but is not limited to:

a) maintaining safe working clearances for overhead (OH) infrastructure, including live OH conductors and associated equipment

b) maintaining safe excavation limits for underground (UG) infrastructure, including pole foundations, electrical cables, earthing systems, gas mains and telecommunication cables

c) not working on any *TasNetworks*' single wire earth return (SWER) installations. Given the additional hazards associated with this work, it is not permitted.

Information for safety and working near powerlines and UG infrastructure is available in the Safety drop down menu on the *TasNetworks* website - home page, as well as the Before You Dig Australia website and Worksafe Tasmania - Powerlines.

1.2 Licenced Electrical Practitioner and Electrical Contractor

Electrical Work, ***Electrical Practitioner*** *and* ***Electrical Contractor*** are defined within the Occupational Licensing (Electrical Work) Regulations 2018 and Occupational Licensing Act 2005.

Tasmanian legislation requires that all *Electrical Work* be carried out by a licensed *Electrical Practitioner*, and prohibits all other persons from undertaking such work. It also requires that only licenced *Electrical Contractors* are permitted to sell electrical services to the public, businesses or government. Therefore, where the *customer* is responsible for *Electrical Work* required under these *rules,* a licensed *Electrical Contractor* must act as the agent of the customer. A licensed *Electrical Practitioner* may carry out the installation of wiring in a premise of which this person is the owner or bona fide occupier.

Electrical Contractors and any other person excavating or operating equipment in the vicinity of *TasNetworks'* assets must be aware of all safety requirements as per 1.1 Working On or Near Electricity Assets.

1.3 Authorisation and Accreditation

All persons working on or near OH or UG power lines, including vegetation works and accessing a *TasNetworks*' pole at heights greater than 3m above ground level, must be ***accredited*** and ***authorised*** by *TasNetworks*. Further details on this can be found on *TasNetworks* website - Contractors Portal.

Specifically relevant to these *rules*, Level 1 *accreditation* allows access to *TasNetworks'* assets, and level 2 *accreditation* allows operation of *TasNetworks*' assets, authority to open turrets and to install and remove a *service protection device (SPD).*

To enquire about becoming *authorised* and *accredited*, contact the *TasNetworks'* Training Centre as listed within Enquiries.

1.4 Unauthorised Work

A person who is not suitably *accredited* and *authorised* by *TasNetworks*, must not undertake any of the following on *TasNetworks'* assets:

a) insert or remove a fuse link or a service protective device

b) open any turret or cabinet

c) make or break any connection

d) open any seals or locks

e) dismantle any component of *TasNetworks*' equipment or detach it from its fixing point

f) access *TasNetworks*' UG assets

g) access a *TasNetworks*' pole at heights greater than 3m above ground level. This includes positioning of ladders and any tools or equipment.

1.5 Prohibited Activities with Non-compliant Private Service Poles

Customer's *private service poles* that:

a) have not been tested for over 5 years, will not be climbed with a ladder by *TasNetworks*

b) have not been tested for over 10 years, will not be reconnected by *TasNetworks*

c) are steel railway line, will not be climbed with a ladder or reconnected by *TasNetworks.*

If unable to determine when the *customer's private service pole* was last tested, contact *TasNetworks* General Enquiries as listed within Enquiries.

2 Responsibilities and Important Definitions

This chapter defines the responsibilities for each of the participant parties involved in connecting to the *TasNetworks' distribution network* and defines the lines of demarcation between those responsibilities.

The chapter also identifies and defines the key components of connection infrastructure, as well as key terms to help ensure a common understanding.

2.1 Convention for Standard Terms

Throughout these rules, terms defined by legislation or regulation and titles of published documents are capitalised italic (e.g., *Electrical Work*).

Terms that are defined in these *rules* are shown in italic (e.g., *customer*).

If the term is not in italic, then use of the term is generic.

2.2 Customer's Point of Supply (POS) and Point of Attachment (POA)

Point of supply (*POS*) and the *point of attachment* (*POA*) are important definitions as they the delineate responsibility. I.e. The supply side up to the *POS* being *TasNetworks'* responsibility, and the load side beyond the *POS* being the *customer's* responsibility.

2.2.1 Point of Supply (POS)

The ***point of supply*** **(*POS*)** is the point at which *TasNetworks' distribution network* connects to privately owned assets or equipment that serve the *premises* of one or more *customers*. Typically, this is the point where the *TasNetworks' service protection device (SPD)* is located.

TasNetworks does not carry out any work beyond the *POS*. This is the *customer's* area of responsibility. However, *TasNetworks* will contact the *customer* if repairs are required on the *customer's electrical installation* and a Notice of Non-compliance (NNC) will be issued.

TasNetworks' asset ownership and responsibility end at the *POS.* The *customer* is responsible for all assets on the load side of the *POS,* except for

a) Transformers and associated switchgear

b) Transformer supports (including poles)

c) *TasNetworks'* owned *Electricity Meters*

d) *Service protection device (SPD).*

2.2.2 Service Protection Device (SPD)

Each *electrical installation* will have a ***service protection device (SPD)*** installed by *TasNetworks* to provide short circuit fault protection to the *distribution network.*

2.2.3 Usual Location of the POS for an Overhead (OH) Connection

a) For a single *customer* with an OH connection, the *POS* is the junction between the *Consumer Mains* and *TasNetworks'* single span of *service wire* from the *distribution network*. This can be to either a building or structure on the *customer's* property

   i. Where a mains box exists, the *POS* is into the *customer* owned mains box, as shown in diagram 4.1.11 Installation Responsibilities: If Mains Box Exists

   ii. Where a mains box is not used, the *POS* is the junction between the TasNetworks owned asset (service wire or SPD) and *Consumer Mains*, as shown in diagram 4.1.12 Installation Responsibilities: If Mains Box Does Not Exist.

b) In the case of a supply to one or more *customers*, the *POS* is the physical point of connection of a single *service wire* to the first pole on private property, or a building or structure on the property.

2.2.4 Point of Attachment

The ***point of attachment*** (***POA***) is the point at which a *TasNetworks' service wire* is physically anchored on a *customer's* building, pole or structure. The *POA* may be the same as the *POS*, but not necessarily.

2.2.5 Usual Location of the POS for an Underground (UG) Connection

The usual location of the *POS* for UG connections is the load-side *Consumer Mains* terminals of the *SPD* on the *distribution network*. The *SPD* is connected to a *customer's* UG *Consumer Mains* cable, and is usually within a turret or cabinet.

2.2.6 Installation Protection Device (IPD) and Main Switch

The ***Installation Protection Device (IPD),*** *or* ***Main Switch*** in the instance of *multiple tenancy electrical installations*, is the point to which *TasNetworks* connects supply, energises to, and performs connection point energisation tests. This *IPD* or *Main Switch* must comply with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

2.2.7 Usual Location of the POS for a TasNetworks Substation

For connections directly to a *TasNetworks'* substation, not via a pole, turret or cabinet, the *POS* is the load-side *Consumer Mains* terminals of the substation providing the *customer's* LV supply.

2.2.8 Point of Supply (POS) and Point of Attachment (POA) Examples

The diagrams referenced below within 4.1 Supply Connection Arrangements outline supply arrangements, which highlight examples of *POA* and *POS*.

Table 1 - POA and POS Sample Connection Arrangements

4.1.1	UG Consumer Service Attachment on Private Building or Structure
4.1.2	UG Consumer Mains to TasNetworks Turret
4.1.3	UG Consumer Mains to TasNetworks Cabinet
4.1.4	UG Consumer Mains to a Customer's Private Service Pole
4.1.5	UG Consumer Mains to a TasNetworks' Service Pole
4.1.6	UG Consumer Mains to a TasNetworks' Pole
4.1.7	OH Consumer Service Attachment on Private Building or Structure
4.1.8	OH Consumer Service Wire to a Customer's Private Service Pole
4.1.9	OH Consumer Service Attachment on Private Building or Structure, with TasNetworks' Service Pole
4.1.10	Shared Services – One Service Protection Device (SPD) to More than One NMI

2.3 Customer and Fault Initiated Supply Changes

2.3.1 Customer Initiated

If for any reason the *customer* requires *TasNetworks* to disconnect the supply, or change the *POS* characteristics, the connection must meet the current version of these *rules* and associated standards prior to reconnecting supply. In other words, if *TasNetworks* is required to undertake any *Electrical Work* in relation to the connection, the *customer* must address all non-compliances to these *rules*, commonly including any low clearances. Examples of when this may occur include:

a) Increasing the load beyond current supply

b) Relocating the *POA*, or replacing the fascia even if the *POA* is not moved

c) Upgrading from a single-phase to a multi-phase connection

d) Changing from an OH to an UG connection

The following scenario is exempt from this clause:

a) Isolation (e.g. *SPD* operation) for the *Metering Provider,* or isolation for other works that do not require *TasNetworks* to undertake any *Electrical Work*.

TasNetworks reserves the right to issue a Notice of Non-Compliance (NNC) and not reconnect under any scenario if it deems the *electrical installation* as unsafe.

If uncertain about whether a scenario not listed above is included or exempt from this clause, contact *TasNetworks* General Enquiries as listed within Enquiries.

2.3.2 Fault initiated

If for any reason an emergency or fault scenario occurs and requires *TasNetworks* to disconnect the supply or change the *POS* characteristics, the *electrical installation* must be deemed safe to reconnect by *TasNetworks* prior to reconnecting supply. If the *electrical installation* is not deemed safe, the supply will remain disconnected until rectified as per 3.7.4 Disconnection for Safety and Reconnection After Fault.

2.4 TasNetworks' Electricity Meters

TasNetworks' ***Electricity Meter*** means any *Electricity Meter* owned by *TasNetworks* (usually identifiable by a label stating "HEC", "Property of Hydro", "Aurora" or "*TasNetworks*").

a) *Electricity Meters* and existing *Electricity Metering* assets installed prior to 1 December 2017, including *Electricity Meter* panels, ancillary equipment including modems, and assets on the load side of the *POS*, are the property of *TasNetworks* (until there is a formal transfer of ownership). See 8 *TasNetworks'* Electricity Metering

b) *Electricity Meters* installed from 1 December 2017 onwards are not owned nor maintained by *TasNetworks.* For information relating to the installation of new *Electricity Metering* or the alteration of existing *Electricity Metering* including locations, refer to Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

2.5 Relevant Parties

2.5.1 Customer

A ***customer*** is a person who engages in the activity of purchasing electricity supplied through a distribution system to a *POS*.

A *customer* may also be the *installation owner*. The ***installation owner*** is the person who owns the *property* in which an electrical connection is made. For the purposes of these *rules*, the term *customer* is inclusive of the *customer* and the *installation owner*.

The *customer* is responsible for nominating and negotiating with:

a) An *Electricity Retailer* to organise connection or permanent disconnection of supply to the *premises*

b) An *Electrical Contractor* to install required connection assets on the *customer's* side of the *POS*

c) *TasNetworks*, in order to arrange a connection to the *distribution network*. (This can be done on behalf of the *customer* by the *customer's Electrical Contractor*).

The *customer* is responsible for ensuring it has all the appropriate rights, approvals and any necessary agreements in relation to the *customer's* infrastructure. This includes:

a) Providing evidence of approval for Consumer Mains crossing public land (ie council land).
b) Providing appropriate drawings for entering of Consumer Mains in Before You Dig Australia (BYDA).

The customer is responsible and accountable for ensuring all approvals are given before work commences. Any work undertaken by or on behalf of the customer is the customers responsibility. TasNetworks takes no responsibility, accountability or liability for works performed by the customer. Failure to gain approvals before work is commenced leaves the customer exposed to the risk of paying for work to be completed that will be redundant. Costs associated with above mentioned redundant work are costs borne by the customer.

A *customer* is responsible for ensuring any assets and equipment owned or used by that *customer* (e.g. *private service poles*) are regularly inspected, maintained, continue to be safe, clear of vegetation and conform to these *rules* and applicable laws, regulations and standards. Ownership and responsibilities for installation and maintenance are set out below in Table 2 - Connection Responsibilities.

Installation and maintenance responsibilities do not preclude *TasNetworks* from recovering costs from a *customer* in accordance with the energy laws.

Under the energy laws (including the Deemed Supply Contract), *customer*s must allow *TasNetworks' authorised representatives* and their equipment safe and unhindered access to the *customer*'s supply address to:

a) read *TasNetworks' Electricity Meters*

b) connect or disconnect supply

c) inspect, make safe, operate, change, maintain, remove, repair or replace any of *TasNetworks'* infrastructure or works at the premises

d) Inspect or test an *electrical installation* at the premises. (*TasNetworks* does not carry out any work beyond the *POS*. This is the *customer's* area of responsibility. However, *TasNetworks* will contact the *customer* if repairs are required on the customer's electrical installation and a Notice of Non-Compliance (NNC) will be issued as per section 3.12 Non-compliant Installation)

e) Clear vegetation from the *distribution network*.

2.5.2 Electricity Retailer

An ***Electricity Retailer*** is a person or entity who sells electricity.

The *Electricity Retailer* is responsible for:

a) Negotiating with the *customer* a Retail Supply Contract, which is a contract between the *customer* and the *Electricity Retailer* for the sale of electricity

b) Requesting *TasNetworks* to connect the premises to the *distribution network*

c) Ensuring the *Electricity Meter* is installed in accordance with the NER.

2.5.3 Customer's Electrical Contractor

Definition as outlined in 1.2 Licenced Electrical Practitioner and Electrical Contractor. The *customer's Electrical Contractor* is responsible for:

a) Ensuring all *Electrical Work* is in accordance with Tasmanian Law, AS/NZS 3000, other relevant standards and preparing a connection in accordance with these *rules*

b) Where exceptional circumstances occur, ensuring that permission is obtained by submitting a request to *TasNetworks* for a variation via the *TasNetworks* website - Connection Portal

c) Installing *Consumer Mains* from the *POS* to the *IPD* or the *Main Switch* for *multiple tenancy* sites, and installing any sub-mains after the *Main Switch* for *multiple tenancy* sites, ready for connection

d) Ensuring *TasNetworks* is advised when there is an increase in the electrical load at an *electrical installation*, and advising the *customer* when increases in load require changes to the *electrical installation*

e) Not working on or removing *TasNetworks*' *Electricity Metering* equipment without *authorisation*

f) Following the completion of *Electrical Work* that involves a change to a connection or to its *Electricity Metering*, submit an *EWR* as per 3.8 Electrical Works Request (EWR)

g) Issuing a *CEC* as defined in 3.11 Certificate of Electrical Compliance (CEC)

h) Requesting a tee–up with *TasNetworks* as defined in 3.10 Tee–up with *TasNetworks*

i) Submitting appropriate forms in a timely manner and ensuring that the information is accurate and complete

j) Rectifying any non-compliances that *TasNetworks* had identified

k) Bringing the *electrical installation* up to these *rules* and associated standards if any works are undertaken that require *TasNetworks* to disconnect supply or change the *POS* characteristics, as outlined in 2.3 Customer and Fault Initiated Supply Changes.

2.5.4 Metering Provider

The ***Metering Provider*** is a person or business engaged to install *Electricity Meters* on an *electrical installation* as directed by an *Electricity Retailer*. The *Metering Provider* must be accredited by the Australian Energy Market Operator (AEMO) and is responsible for:

a) When appointed by the *Electricity Retailer* or *customer,* undertaking all works, testing after the *IPD* and for *multiple tenancy* sites testing after the *Main Switch.* This includes supplying, installing and maintaining the *Electricity Metering* equipment on a *customer's premises*

b) Ensuring the *electrical installation* is compliant with relevant standards/ acts and informing *TasNetworks* if any defective *TasNetworks'* equipment is found

c) Ensuring all *customer* electricity usage is metered (with the exception of unmetered supplies) and notifying *TasNetworks* of any unmetered circuits identified

d) Notifying *TasNetworks'* Fault Centre as listed within Enquiries immediately and ceasing any work if evidence of tampering of *TasNetworks' Electricity Meters* or control equipment is detected

e) Installing their own load control equipment including on *multiple tenancy electrical installations* where the *customer* requires controlled tariffs

f) Complying with *TasNetworks'* requirements for installation, sealing and testing of *TasNetworks* owned *Electricity Metering* equipment

g) Sealing all unmetered supplies after *Electricity Metering* is installed

h) Adhering to market notification for work undertaken

i) Where *customer* outages are required, utilising the *TasNetworks'* outage notification process

j) Ensuring the *Electricity Metering* enclosure details the *Electricity Meter* number, National Metering Identifier (NMI) and the *Metering Provider* name and contact details

k) Ensuring that all safety and security requirements are maintained for *Electricity Metering* installations

l) Ensuring safe work practices for the handling of asbestos are used when affixing any equipment to an *Electricity Meter* panel containing asbestos or replacing an *Electricity Meter* panel containing asbestos.

2.5.5 Customer's Electrical Consultant

A *customer* may need to engage an ***Electrical Consultant,*** who is responsible for:

a) Designing the *electrical installation* in accordance with Tasmanian Legislation, AS/NZS 3000, other relevant standards, and these *rules*

b) Where the design is outside the *rules*, ensuring that permission is obtained before work commences, by submitting a request to *TasNetworks* for a variation through the negotiated connection process as per 3.16 Negotiated Connection Process Flow or 3.17 Negotiated Connection Process Flow – Short Cycle

c) Large projects, liaising with *TasNetworks* to ensure adequate supply is available when required

d) Ensuring that *TasNetworks* is advised when there is an increase in the load at an *electrical installation*

e) Advising the *customer* when increases in load require changes to the *electrical installation* including *Electricity Meter* changes.

2.5.6 TasNetworks

TasNetworks means Tasmanian Networks Pty Ltd, ABN 24 167 357 299, 1–7 Maria Street, Lenah Valley Tasmania. *TasNetworks* is the *distribution network* service provider (DNSP) for Tasmania.

TasNetworks' ***authorised representatives,*** including ***authorised employees*** and ***authorised Electrical Contractors,*** are *authorised* in writing by *TasNetworks* to perform work on specified assets.

TasNetworks is responsible for:

a) Negotiating the provision of the electricity connection with the *customer* or *customer's Electrical Contractor*, and issuing the National Metering Identifier (NMI)

b) When requested by the *Electricity Retailer*, the connection from the *distribution network* to the customer *POS*

c) Transporting, delivering and maintaining the reliability and quality of the electricity to the *customer's* connection point, which is purchased by *Electricity Retailers* and sold to *customers*

d) Examining and testing for compliance the *Consumer Mains* to the *IPD*, or *Main Switch* for *multiple tenancy electrical installations*, before initially connecting to *TasNetworks' distribution network*. If compliant, energising supply to the distribution side of the *IPD* or *Main Switch* for *multiple tenancy electrical installations*, leaving the *IPD* or *Main Switch* in the off position

e) Fulfilling the responsibilities of the *Metering Provider* when *TasNetworks' Electricity Meters* are installed in a site

f) Maintaining existing external load control devices where a *TasNetworks' Electricity Meter* is installed. When an advanced *Electricity Meter* is installed on a single or a *multiple tenancy electrical installation,* the load control devices and the contactors become the *Metering Provider's* responsibility

g) Installing conduits into a *TasNetworks'* turret or cabinet

h) Rectifying damaged conduits installed earlier but not used.

TasNetworks is also responsible for the electricity assets outlined in Table 2 - Connection Responsibilities as installed, owned and/or maintained by *TasNetworks*. The installation or maintenance responsibilities do not preclude *TasNetworks* from recovering costs from a *customer* in accordance with the electricity laws.

2.6 Table of Connection Responsibilities

The following table provides an overview of connection responsibilities. Note that if any of the below assets are deemed unsafe, non-compliant or inaccessible by the Department of Justice or *TasNetworks*, the owner/ maintainer of the asset is responsible for the upgrade of that asset and/ or its surrounding environment to be compliant.

Table 2 - Connection Responsibilities

Asset	Install	Own	Maintain
On the *TasNetworks* side of the POS:			
One span of OH *service wire* from *TasNetworks'* distribution assets to the *customer's POS*	*TasNetworks*	*TasNetworks*	*TasNetworks*
Service poles on public property	*TasNetworks*	*TasNetworks*	*TasNetworks*
SPD and associated fittings	*TasNetworks*	*TasNetworks*	*TasNetworks*
Vegetation around *TasNetworks'* assets over public property (to ensure safe clearance from OH lines). This includes the portion of the *service wire* crossing council land	N/A	N/A	*TasNetworks*
On the *customer* side of the POS:			
POA	*Electrical Contractor*	*customer*	*customer**
Customer-owned HV/ LV power lines and poles on private property	*Electrical Contractor*	*customer*	*customer**
Conduit installed for new UG subdivisions from a *TasNetworks'* turret or cabinet to the property boundary	*TasNetworks*	*TasNetworks until Consumer Mains installed, then customer*	*customer**
Installing additional conduits requested by *customer*	*TasNetworks*	*customer*	*customer**
UG *Consumer Mains*	*Electrical Contractor*	*customer*	*customer**

Asset	Install	Own	Maintain
Consumer Mains after the *POS*	*Electrical Contractor*	*customer*	*customer**
Mains box	*Electrical Contractor*	*customer*	*customer**
Raiser Bracket	*Electrical Contractor*	*customer*	*customer**
Transformer and associated support pole and hardware installed on private or public property, on the supply side of the *Electricity Metering* point	*TasNetworks*	*TasNetworks*	*TasNetworks*
TasNetworks' Electricity Meter and associated equipment (including meter panels).	*Installed Pre Dec 2017*	*TasNetworks*	*TasNetworks*
New *Electricity Metering* installation and equipment on the meter panel. Note: a new panel is required when an existing meter position is moved, if the panel is not up to current standards	*Electrical Contractor - meter panel. Metering Provider - meter*	*customer*	*customer**
Vegetation near *service wire*, *Electricity Meters* and connection points	*N/A*	*N/A*	*customer**
Unmetered supply *cable*	*Electrical Contractor*	*customer*	*customer**
Unmetered public lighting	*TasNetworks*	*TasNetworks*	*TasNetworks*
Metered public lighting	*Electrical Contractor*	*customer*	*customer**
Unmetered private contract lighting	*TasNetworks or Customer*	*customer*	*TasNetworks or customer**

*Note: *customers* require a licenced *Electrical Contractor* to undertake any electrical work on their owned/ maintained assets as per 1.2 Licenced Electrical Practitioner and Electrical Contractor.

2.7 Common Property, Multiple Tenancy and Easements

Stratum, Strata and ***Common Property*** are defined within the Strata Titles Act 1998.

For the purpose of these *rules*, it is important to understand that ***Common Property*** consists of all areas of the land and buildings that are not owned by an individual. For *Strata Schemes*, this includes all areas that are not included in any individual lot defined by vertical and horizontal boundaries (e.g. driveway, foyer, garden, etc.), as well as the electricity infrastructure serving more than one lot.

In *a* ***Stata Scheme,*** *Common Property* is jointly owned by each lot owner and is managed by a legal entity such as body corporate or *Strata Company*. A ***Stratum Scheme***, which was superseded by the Strata Titles Act in 1967, provides lot owners with a share in the company set up to manage the *Common Property*.

Multiple tenancy is used in these *rules* to define two or more individual *electrical installations* that are supplied by a single *POS*, and is inclusive of all *Stratum* and *Strata Schemes*.

An *(Electricity Infrastructure)* ***Easement*** is an area of land reserved for electricity assets. *Easements* exist to ensure the infrastructure can be accessed for maintenance and other work. For further *Easement* details, see TasNetworks website - Building near powerlines.

2.8 Other Important Definitions

The definitions below apply to these *Rules* and might vary from definitions contained in other documents. Common terms that not defined in this section, such as sub-mains and switchboard, are defined as per AS/NZS 3000.

Asset ID The *asset ID* uniquely identifies each *TasNetworks'* asset, including poles, turrets and cabinets. *Asset IDs* are typically required when submitting a *EWR*.

Cable An electrical conductor (conductor as defined in AS/NZS 3000).

Conduit The protective casing that encloses an electrical conductor.

Connection Assets The physical assets used to connect to an *electrical installation*.

Consumer Mains As defined in AS/NZS 3000, the *customer's* mains wiring between the *POS* and the *customer's* main switchboard.

Distribution Network The apparatus, equipment, plant and buildings owned, operated or controlled by *TasNetworks* and used to convey and control the conveyance of electricity to *customers' premises*.

Electrical Installation The *customer's* set of wires, fittings and equipment that is connected to the *POS.*

Must Means a mandatory requirement. If for any reason you cannot abide to a mandatory requirement, you must contact TasNetworks to discuss and where applicable, negotiate.

Property *or* ***Premise*** An undivided parcel of freehold or leasehold land, or Crown Land held under lease or licence, that does not contain any public reserve, road reserve or land owned by or vested in a separate person or body.

Private Service Pole Any pole or structure that does not belong to *TasNetworks* and that has been approved by *TasNetworks* to support the *service wire* and *Consumer Mains*.

Service, Service Wire or ***Service Cable*** The first span of LV conductor from the *TasNetworks' distribution network* (including any *TasNetworks service poles*) to a *POS*. The *service* does not include the supporting pole or structure at the *POS*.

TasNetworks' Service Pole A pole installed to provide an intermediate support for the *service cable*, to improve ground clearances or ensure appropriate span distances.

3 How to Connect, Reconnect or Alter

This chapter describes the difference between basic and negotiated connections, and outlines the process for new connections, alterations, disconnections and reconnections. This includes for situations where defects are identified on private electricity assets during a fault.

This chapter includes guidance on Electricity Connection Contracts, Retail Supply Contracts, *electrical works requests* (*EWRs*), how to arrange *tee-ups,* and the use of the *Certificate of Electrical Compliance (CEC)*.

3.1 The Connection Portal

All connection and alteration requests must be submitted through the *TasNetworks* website - Connections Portal. To submit an application for connection or alteration, you must first register as a Connections Portal user.

All *EWRs* must also be submitted through the *TasNetworks* website - Connections Portal. To register as a user to submit *EWRs*, you must be a licenced *Electrical Contractor* and provide your licence details.

3.2 Electricity Connection Contract

A *customer* who requires to be connected to the *TasNetworks' distribution network* or requires an alteration to an existing connection, must enter into an Electricity Connection Contract with *TasNetworks*. For further details, see 3.5 New Connection and 3.6 Connection Alteration.

The Electricity Connection Contract is for the provision of connection services to that *customer*. This contract, as well as its terms and conditions, can be found on the *TasNetworks* website - Contracts and Policies.

Further agreements with *TasNetworks* may be required depending on the connection requirements.

The connection request can be submitted through the *TasNetworks* website - Connections Portal**.** The request can be made by the *customer* themselves, or by an *Electrical Consultant* or *Electrical Contractor* on behalf of the *customer*.

For more details on connection agreements, refer to the Connections section on the *TasNetworks* website - Home Page or contact TasNetworks as per Enquiries.

Connection fees are applicable. These can be reviewed on the *TasNetworks* website - Fees connections and alterations.

3.3 Retail Supply Contract

TasNetworks cannot connect a *customer* to the *distribution network* without the *customer* having a Retail Supply Contract with an *Electricity Retailer*. *Electricity Retailers* are listed on the Tasmanian Department of State Growth website - choosing an energy provider.

3.4 Basic or Negotiated Connection

A connection is basic unless, because of its complexity or non-standard circumstances, it necessitates *TasNetworks* and the *customer* to negotiate the terms of the connection.

A connection is negotiated if any of the following apply:

a) The *electrical installation* requires system augmentation or network extension

b) The *electrical installation* is for a sub-division

c) The *electrical installation* is for irrigation

d) The connection requires greater than 100 amps (A) per phase

e) It is an unmetered supply *electrical installation*

f) A private or *TasNetworks'* HV supply is required

g) Multiple points of supply are sought

h) If network changes or design are required

i) The *electrical installation* requires establishment of *Easement*

j) The *electrical installation* requires removal or relocation of *TasNetworks'* assets

k) If increasing load requires the supply transformer to be upgraded.

Applications for negotiated connections should be submitted as soon as practicable to minimise any delays for installation planning and design.

For basic connections, if the *electrical installation* maximum demand requirement is 100A or less, and an application has been submitted requesting 100A, the *IPD* or *Main Switch* for *multiple tenancy* sites must comply with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

If an adjustable device over 100A is to be used for the *IPD* or *Main Switch*, it will require a *negotiated connection* application stating the maximum limit of the *device.*

3.5 New Connection

A ***New Connection*** refers to a connection established or to be established, in accordance with these *rules* and applicable electricity laws, where there is no existing connection. Examples of new connections are, greenfield *electrical installations*, *multiple tenancy* connections, and reconnection of abolished sites.

3.6 Connection Alteration

Connection Alteration refers to a change to an existing connection such as:

a) an extension, expansion or augmentation

b) a *Consumer Mains* upgrade (such as changing a single-phase to multi-phase)

c) the addition of embedded generation, as per TasNetworks' website - Embedded Generation.

3.7 Reconnections

The application process for reconnecting *premises* to *TasNetworks distribution network* depends on the reason for the original disconnection and the period of disconnection, as outlined below.

3.7.1 Disconnected for Less than 6 Months

All connection requests for *premises* that have been disconnected from *TasNetworks* supply for less than 6 months must be made to the *customer*'s *Electricity Retailer*. The *Electricity Retailer* will arrange for the service reconnection.

3.7.2 Disconnected for 6 Months or Longer

Premises that have been disconnected from *TasNetworks* supply for a period of 6 months or longer, also require a connection request to the *customer*'s *Electricity Retailer*. A *EWR* is then to be submitted to *TasNetworks* as per 3.8 Electrical Works Request (EWR), including reference to the *CEC* that confirms that the *electrical installation* is safe for connection to the *distribution network* as per 3.11 Certificate of Electrical Compliance (CEC).

3.7.3 Disconnected Because of Defects

Where a defect on private electricity assets or equipment has been identified, a licenced *Electrical Contractor* must certify (via a *CEC* with the *EWR* as per 3.11 Certificate of Electrical Compliance (CEC)) that the *electrical installation* is safe prior to reconnection. The connection application process applies.

3.7.4 Disconnection for Safety and Reconnection After Fault

Where an *electrical installation* has been disconnected for safety purposes by *TasNetworks* when attending to an emergency or a fault,

a) If the repairs are completed within 10 business days and the POS characteristics have not changed, the *electrical installation* can be reconnected by contacting the *TasNetworks'* Fault

Centre as listed in Enquiries. A *CEC* is required to be sighted before reconnection can occur as per 3.11 Certificate of Electrical Compliance (CEC)

b) If the fault repairs are going to take longer than 10 business days, or if the *POS* characteristics change, the reconnection must follow the connection application and *EWR* process as per 3.8 Electrical Works Request (EWR) and fees will be applicable.

3.8 Electrical Works Request (EWR)

a) The ***Electrical Works Request (EWR)*** is a *TasNetworks*' document used by *Electrical Contractors* to notify *TasNetworks* when they require *TasNetworks* or a *Metering Provider* to attend site. For example:

   i. To request a connection for a new *customer*

   ii. To request an alteration to an existing connection

   iii. To request a change to *TasNetworks' Electricity Metering* at a *customer's electrical installation*

   iv. To request a change to an *Electricity Retailer's Electricity Metering* at a *customer's electrical installation*

b) The *EWR* instigates connection and/or *Electricity Metering* work to be carried out by *TasNetworks* and/or a *Metering Provider*

   c) The EWR should only be submitted when the work at the customer's installation electrical has been completed up to the POS or a tee-up is required to do so. To check you have completed works up to the POS, reference Section 4.1 supply arrangements and 4.3 prohibited arrangements.

d) An *EWR* can only be submitted by a licensed *Electrical Contractor* via the *TasNetworks* website - Connections Portal

e) It is important that the *EWR* is complete and accurate. This will facilitate quicker processing and avoid the necessity for the *EWR* to be returned for amendment and re-submission

f) Work will not be undertaken if the *property* is not clearly identifiable onsite, safe and unhindered access is available

g) In the event that a connection cannot be made due to failure to meet the conditions of connection defined by these *rules*, the *Electrical Contractor* will be notified. Once the defect(s) haves been rectified, the *Electrical Contractor* must resubmit an *EWR*

h) If the connection differs from the original submission or *TasNetworks* deems it's necessary, the *Electrical Contractor* will be required to resubmit a new *EWR*

i) If *TasNetworks* is not required to attend, the *EWR* will be referred to the relevant *Electricity Retailer* to assess and initiate the requested works

j) For any questions relating to a *EWR,* including the progress of your *EWR,* refer to the *EWR* portal or contact *TasNetworks EWR* hotline as listed in Enquiries.

3.9 Electrical Contractor Checklist Prior to Submitting an EWR

Table 3 - *Electrical Contractor EWR* Checklist

□ A connection application has been submitted, if applicable (e.g. new connection)
□ Determine the supply arrangement and provide *TasNetworks* the *asset ID* (if available) and street address of the Pole, Turret or Cabinet from which you want to connect to the *distribution network*
□ Provide the *Electricity Meter* number for existing connections
□ Provide a valid address for a new connection
□ *Property* boundaries have been checked prior to *electrical installation* work
□ Switchboard and *Electricity Meter* panel are ready for connection
□ Each *electrical installation* has an *Installation Protection Device (IPD) or Main Switch for multiple tenancy* sites, and *cables* are terminated as per AS/NZS 3000
□ Any scaffolding around the *POA* has been removed as per 6.3.1 Scaffolding Safety
□ Referenced the *CEC* as per 3.11 Certificate of Electrical Compliance (CEC)
□ Ensure any Private Underground Consumer Mains have been captured on the BYDA Drawing Template and submitted to TasNetworks with the EWR.

3.10 Tee–up with TasNetworks

A ***tee-up*** is where an *Electrical Contractor* requires *TasNetworks* to be on site on a specific date or time. A *tee-up* must be indicated on the *EWR* and is required for activities such as:

a) Alterations to fascia connections

b) Replacing *Consumer Mains* including changes to *POA*

c) *Consumer Mains* terminations into turrets or cabinets

d) Connection of *multiple tenancy electrical installations.*

Fees are applicable for a *tee-up* as per the fee-based services guide, available on the *TasNetworks* website - tee-up fees. The following work practices can be used to avoid a *tee-up* with *TasNetworks*:

a) Become *authorised* and Level 1 and Level 2 *accredited* by *TasNetworks* to access and operate *TasNetworks'* infrastructure, as per 1.3 Authorisation and Accreditation

b) Install a jumper from the old switchboard to energise the new switchboard temporarily. This must be clearly labelled and added to the *EWR*

c) If you require a *tee-up* with the *Metering Provider*, you must indicate this in the *EWR*.

3.11 Certificate of Electrical Compliance (CEC)

a) A *Certificate of Electrical Compliance* (*CEC*) must be completed by the installing *Electrical Contractor* or *Electrical Practitioner* to certify that all works undertaken have been performed in accordance with the requirements of AS/NZS 3000 and the Occupational Licensing (Electrical Work) Regulations 2018

b) *TasNetworks* inspects the connection arrangements to the main switchboard up to the *IPD* or *Main Switch* for *multiple tenancy* sites. This ensures safe connection to the *distribution network*

c) *TasNetworks* does not inspect or test any of the *electrical installation* beyond the *IPD* or *Main Switch for multiple tenancy* sites. This is the responsibility of the *customer's Electrical Contractor*

d) All *electrical installation* work and the test results must be adequately described on the *CEC* as well as registration and contractor details and signature

e) The *CEC* number is to be noted on the *EWR* when requesting *TasNetworks* to complete a connection.

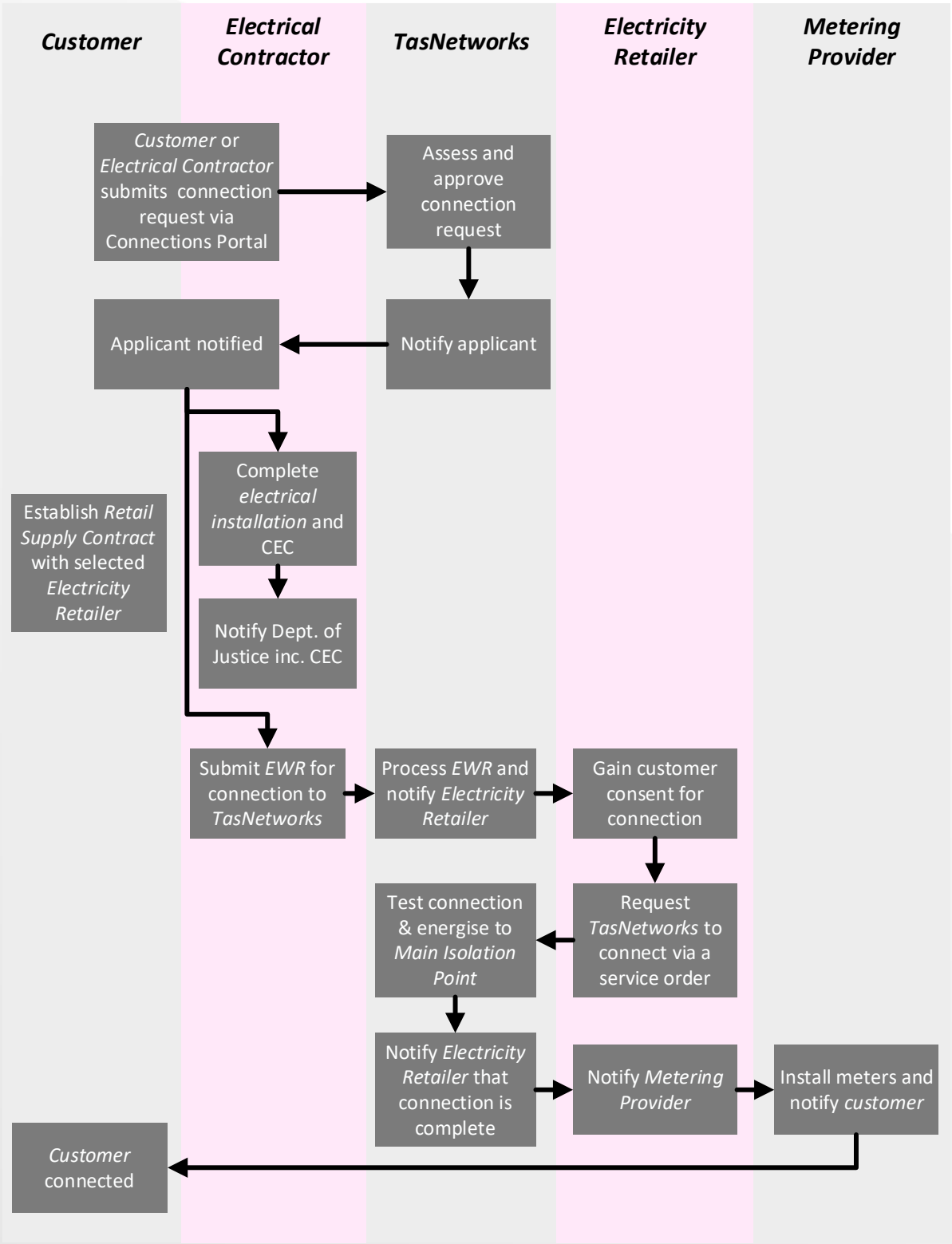
3.12 Non-compliant Installation

If an *electrical installation* is found to be unsafe or to not comply with these *rules* and relevant standards and acts, *TasNetworks* will not connect it to the *distribution network*, or in the case of an existing *electrical installation*, may disconnect it from the *distribution network* and issue a Notice of Non-Compliance (NNC).

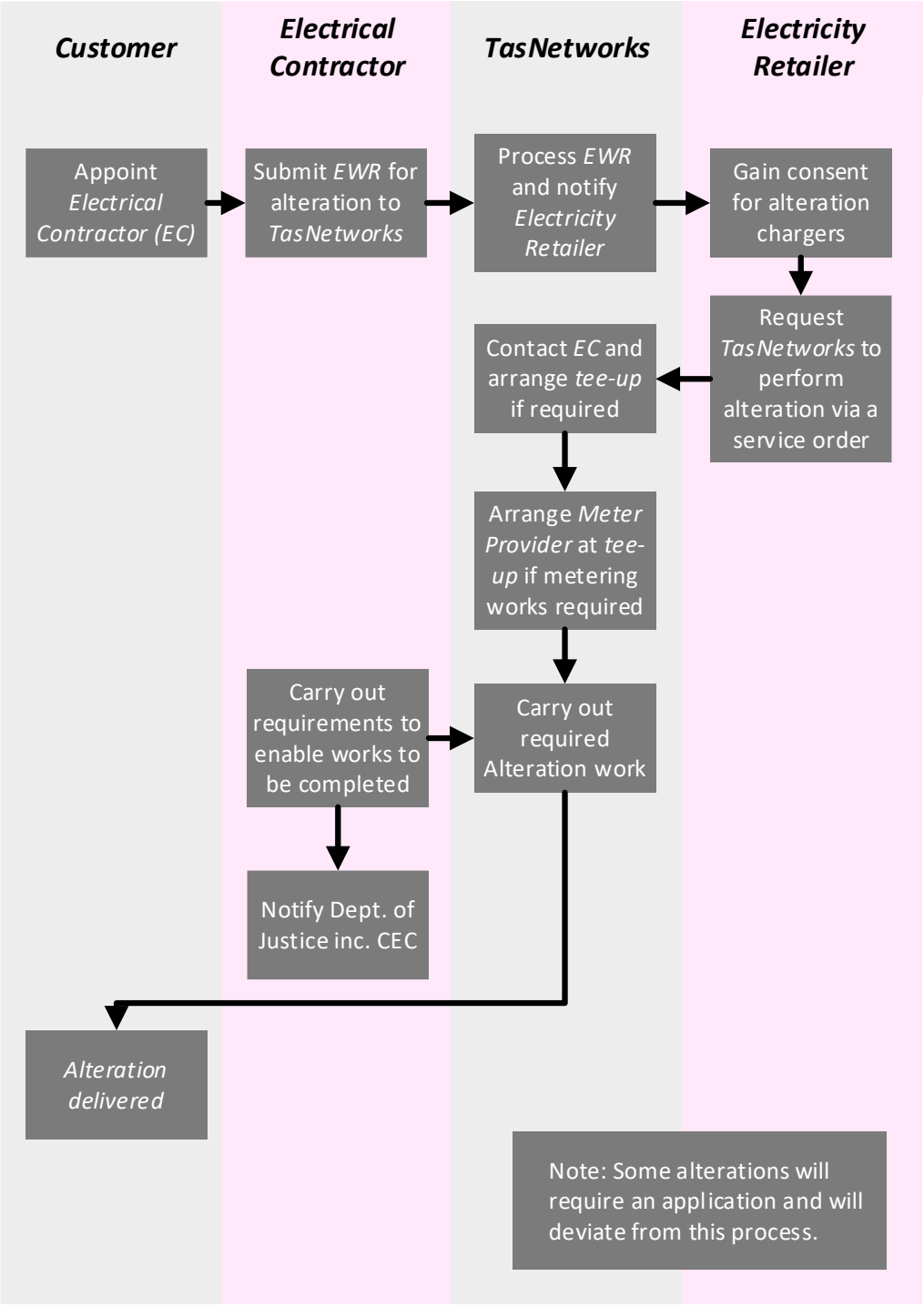
3.13 Obtaining Electricity by Fraud

Obtaining electricity by fraud is theft. If a person is found guilty of an offence, it may result in the imposition of substantial fines together with an order for damages to compensate affected parties for any loss and court costs, and it may result in that person to have a criminal record.

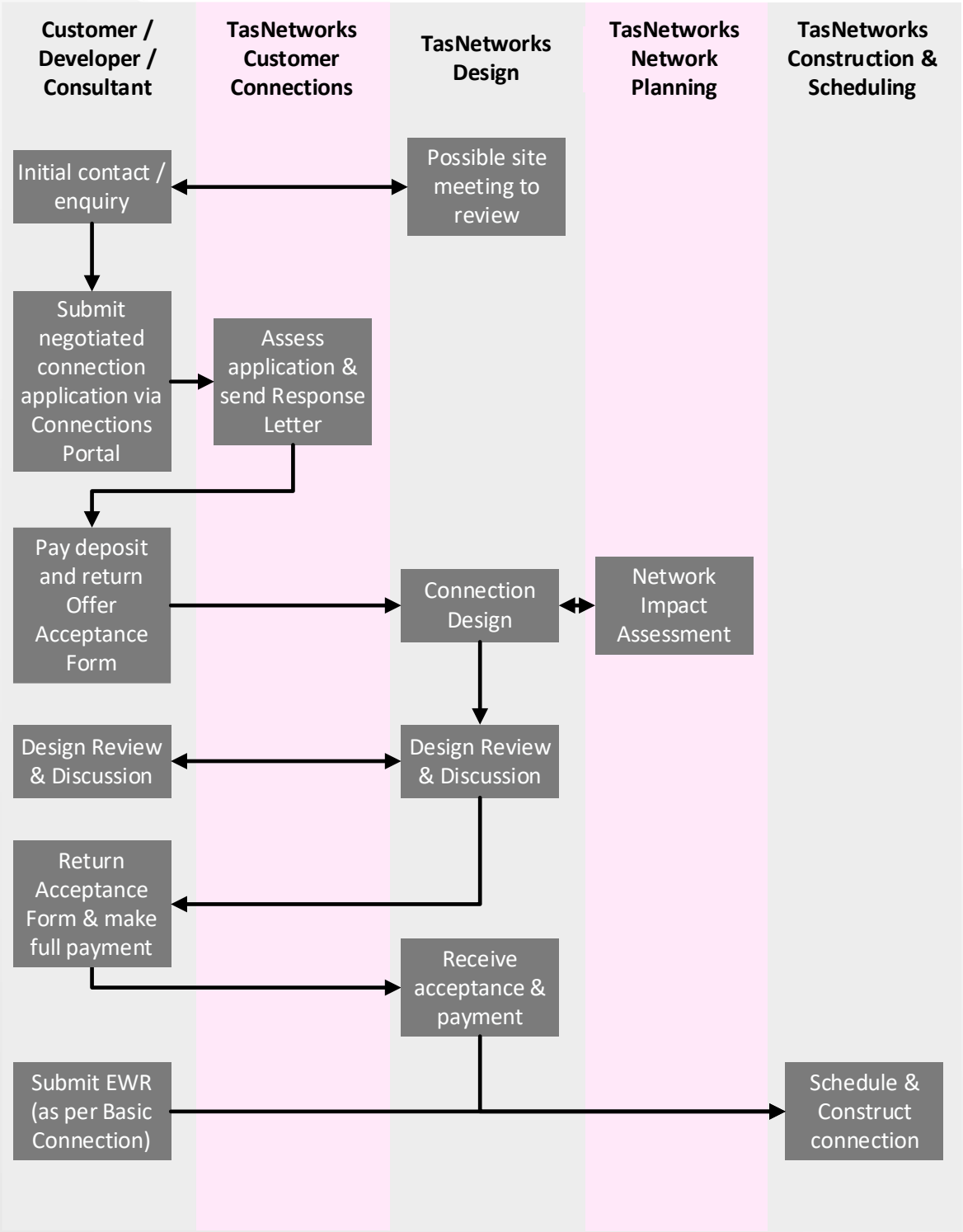
3.14 New Basic Connection Process Flow



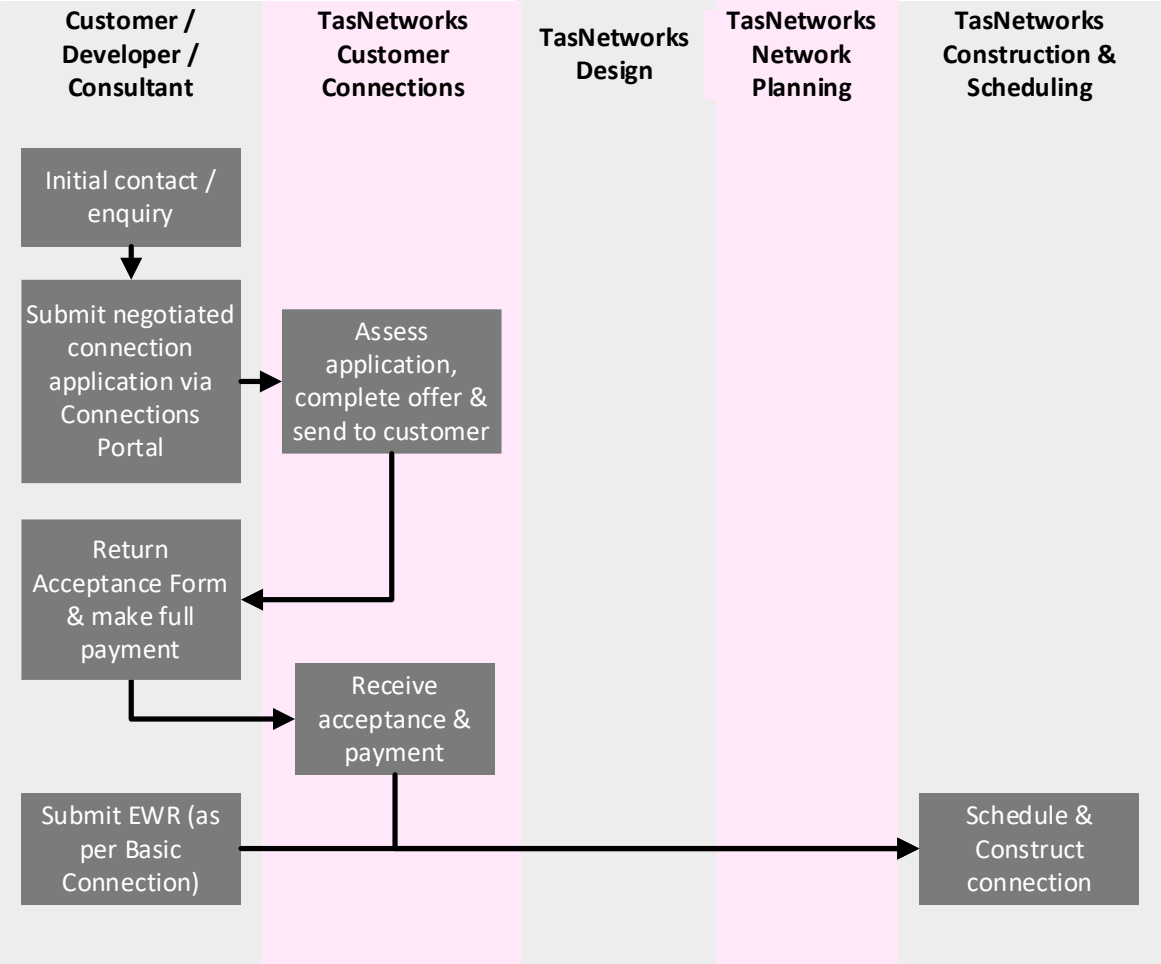
3.15 Alteration Connection Process Flow



3.16 Negotiated Connection Process Flow



3.17 Negotiated Connection Process Flow – Short Cycle

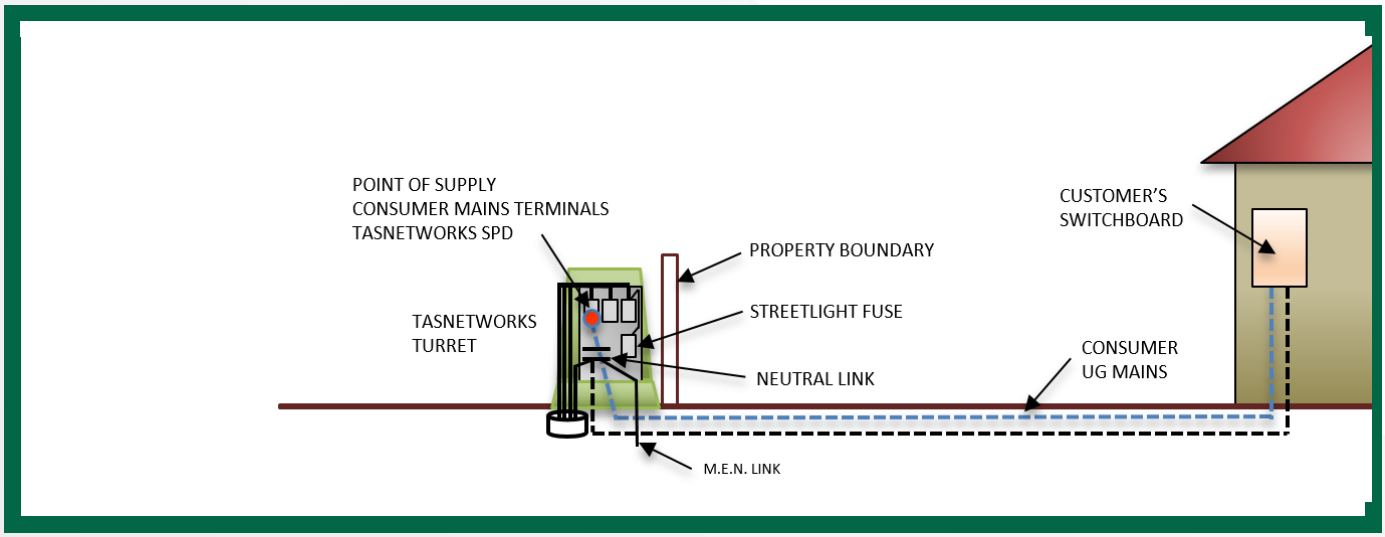


4 Supply Arrangement Considerations

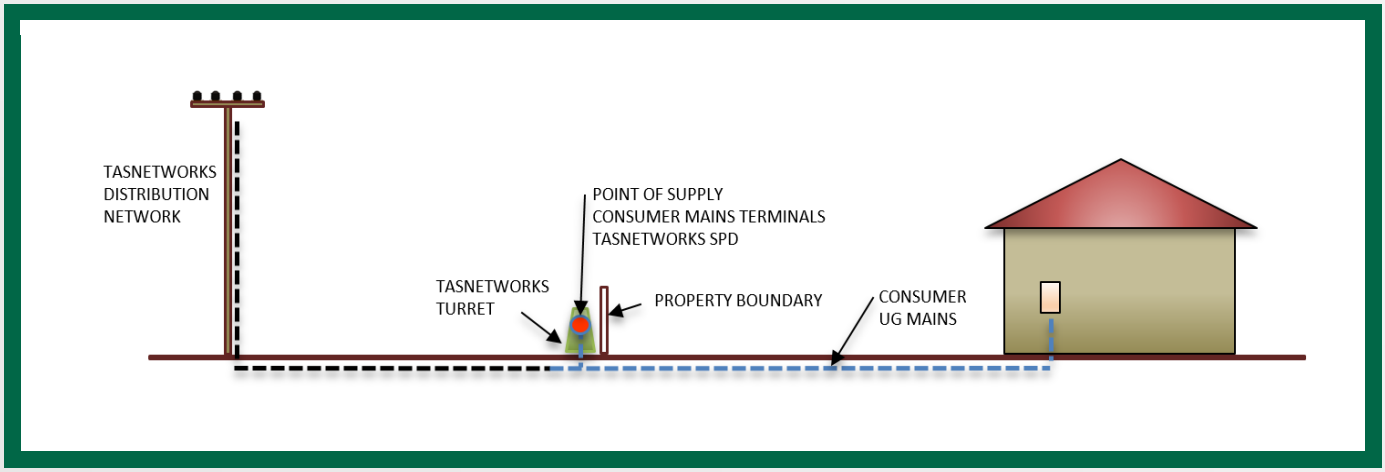
This chapter details permitted and prohibited supply arrangements, for both single and multiple *POSs*, from Tasmania's *distribution network* to the *customer's POA*. Reference Appendix G for alterations to existing supply arrangements

4.1 Supply Connection Arrangements

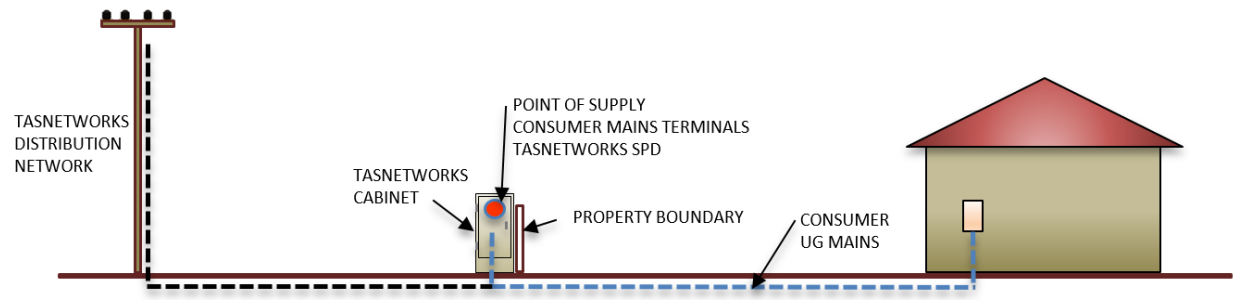
4.1.1 UG Consumer Service Attachment on Private Building or Structure



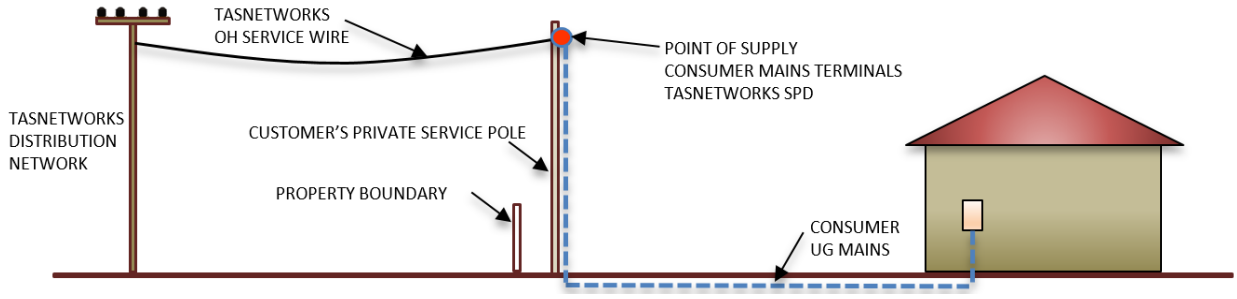
4.1.2 UG Consumer Mains to TasNetworks Turret



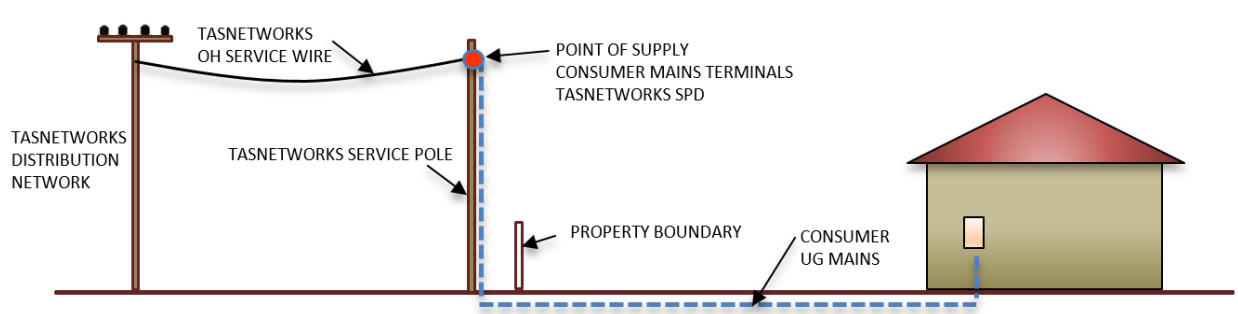
4.1.3 UG Consumer Mains to TasNetworks Cabinet



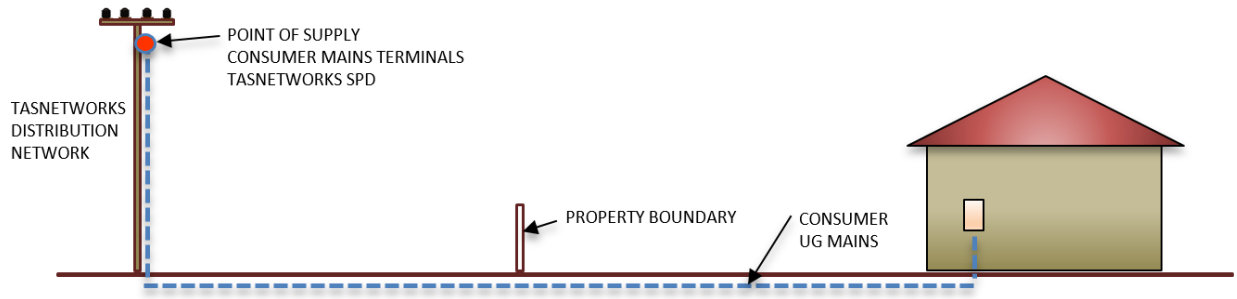
4.1.4 UG Consumer Mains to a Customer's Private Service Pole



4.1.5 UG Consumer Mains to a TasNetworks' Service Pole

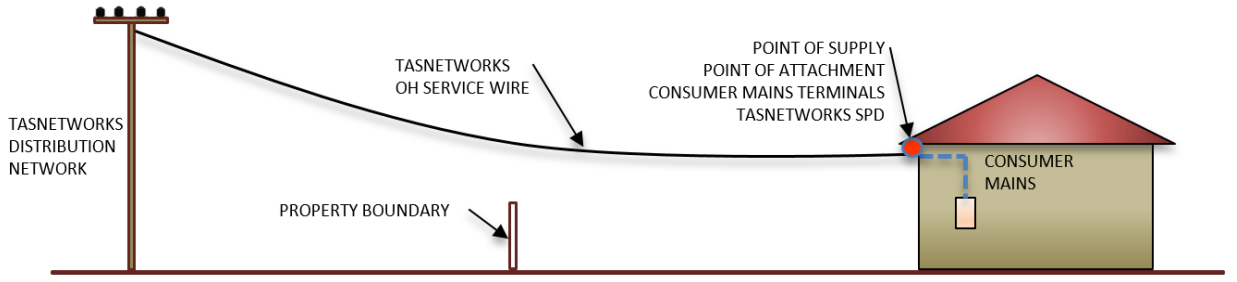


4.1.6 UG Consumer Mains to a TasNetworks' Pole

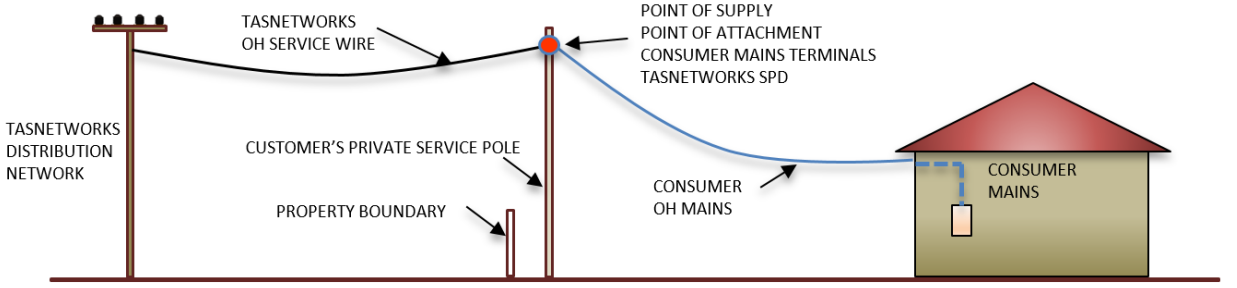


NOTE: Only applicable if TasNetworks' distribution network is on the same side of the road as the premises. *UG consumer mains* must not cross a road/ carriageway.

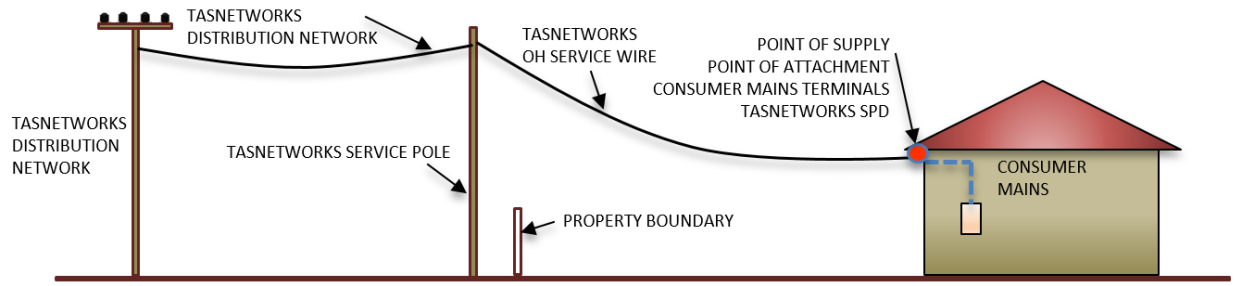
4.1.7 OH Consumer Service Attachment on Private Building or Structure



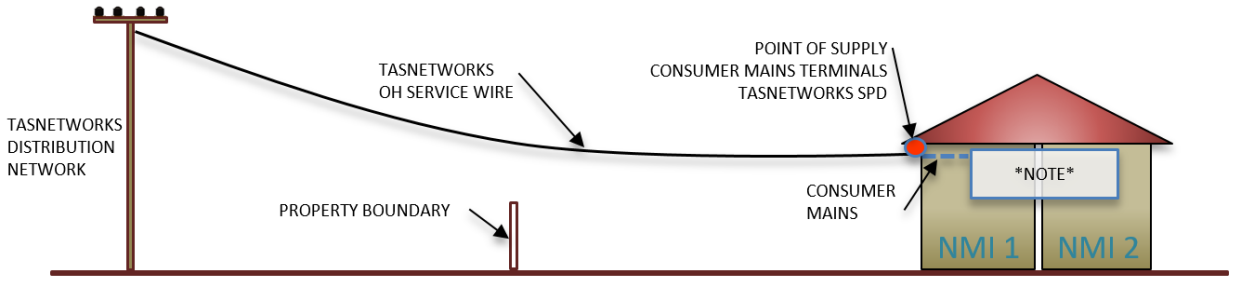
4.1.8 OH Consumer Service Wire to a Customer's Private Service Pole



4.1.9 OH Consumer Service Attachment on Private Building or Structure, with TasNetworks' Service Pole



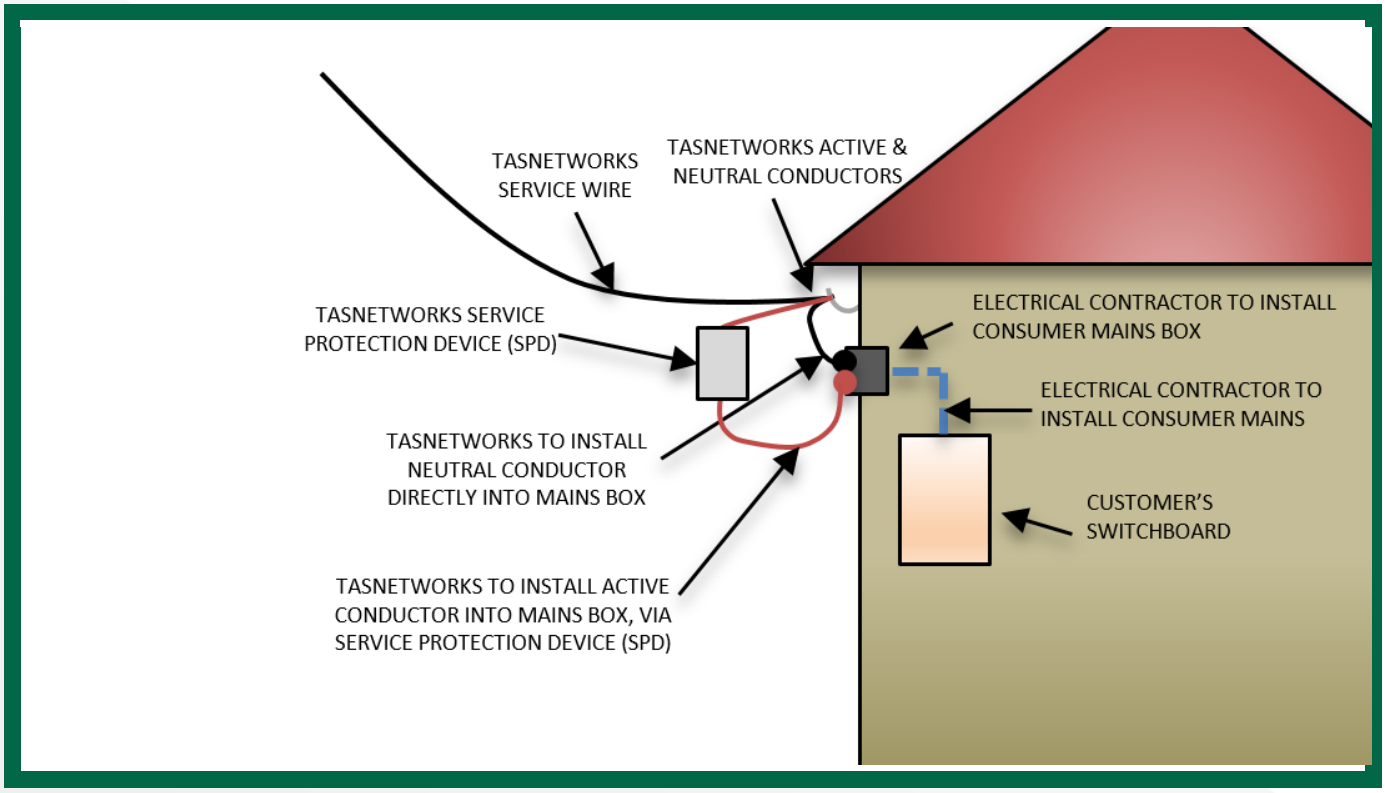
4.1.10 Shared Services – One Service Protection Device (SPD) to More than One NMI



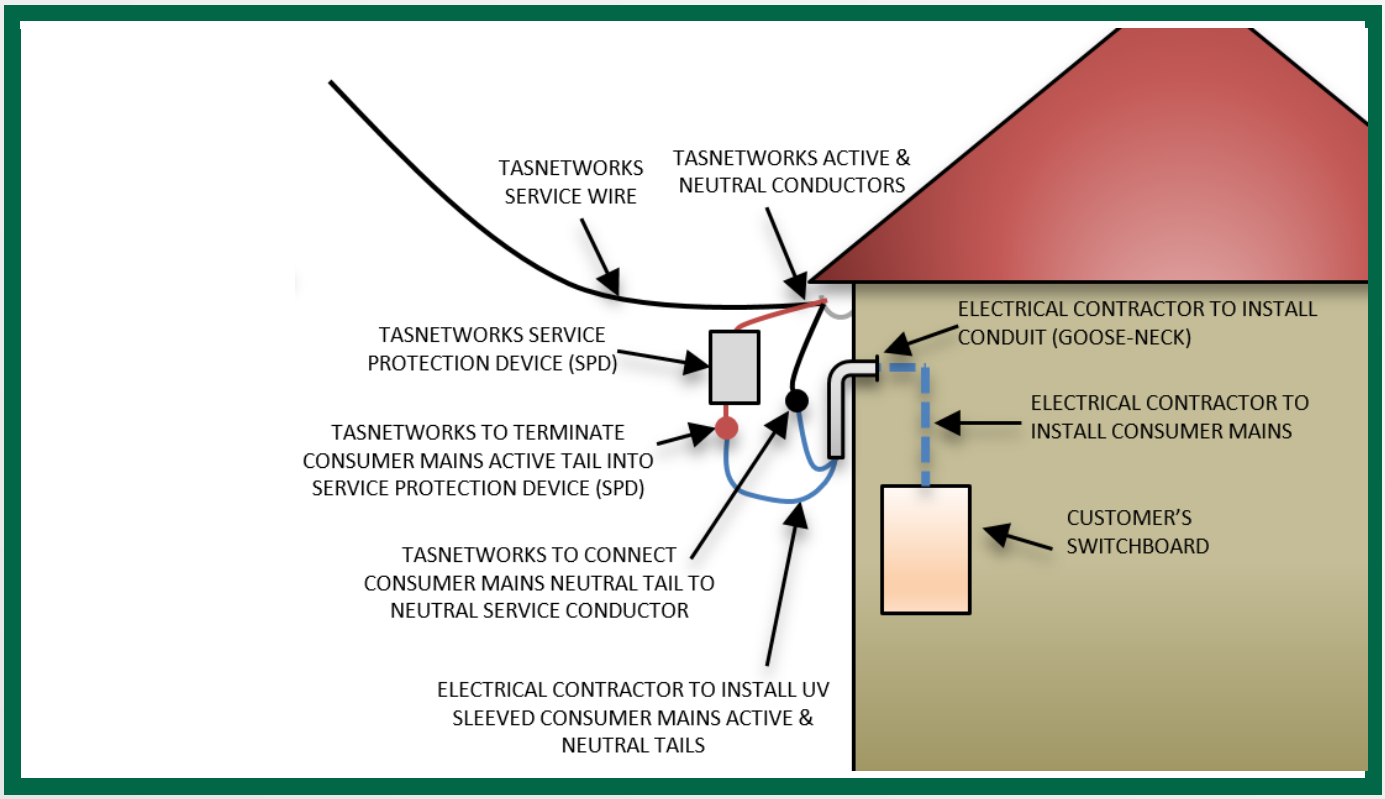
NOTE: Refer to the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

This arrangement, with one *service* supplying two or more NMIs, can only occur where all NMIs are on the same *property* title.

4.1.11 Installation Responsibilities: If Mains Box Exists



4.1.12 Installation Responsibilities: If Mains Box Does Not Exist



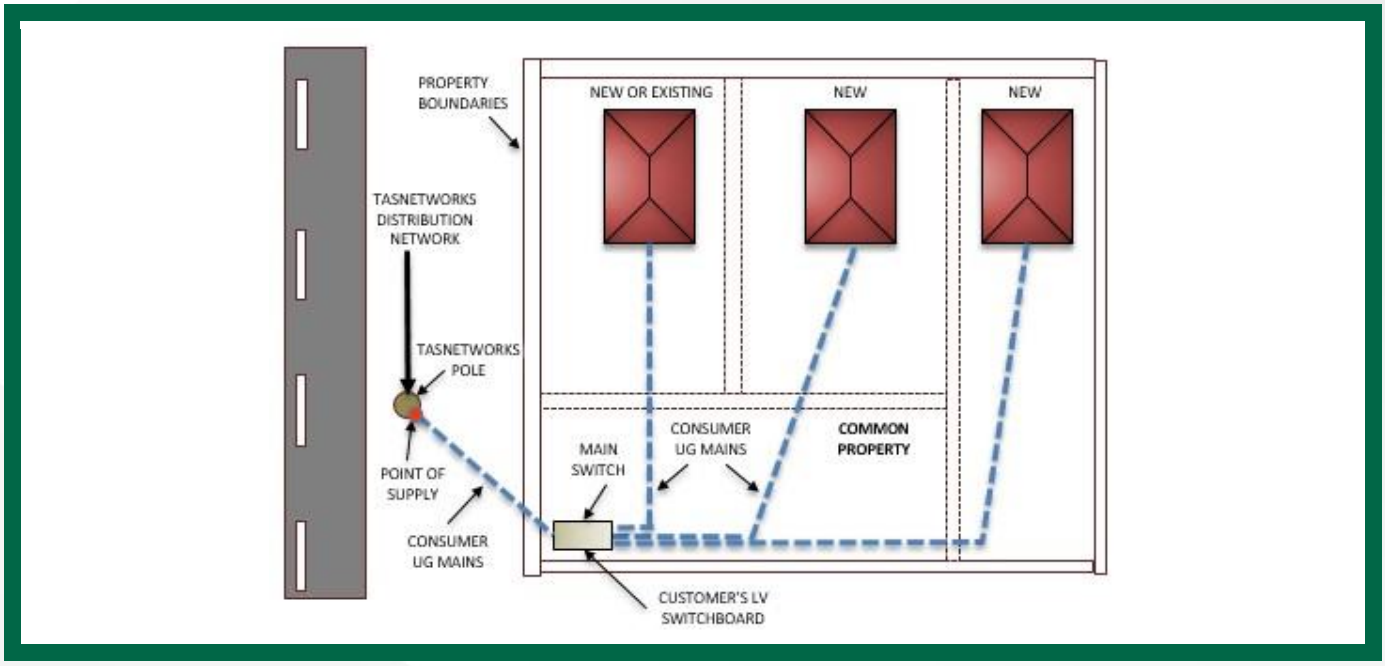
4.2 Multiple Tenancy (Strata/ Stratum) Arrangements

All *multiple tenancy* arrangements must have;

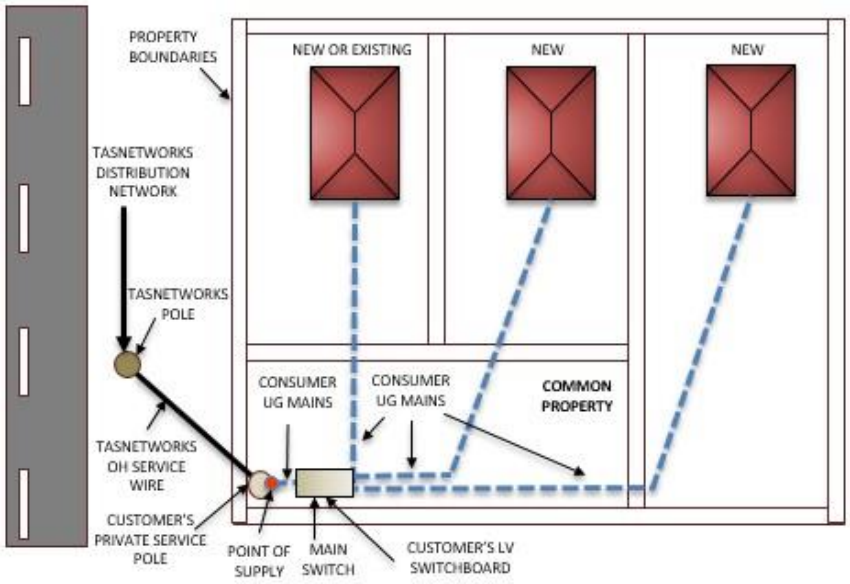
- One POS
- One Main Switchboard,
- The main earth connection (including MEN) must be accessible and not located behind sealable panel
- Must be located in *Common Property*, independent and free standing.
- The OH and UG sub-mains must be sourced from the *customer's* main switchboard directly.

To ensure each unit's supply is not impacted by failure of one of the others, the *POS* attachment must be in *Common Property* and independent from any single unit. Reference Appendix G for alterations to existing supply arrangements

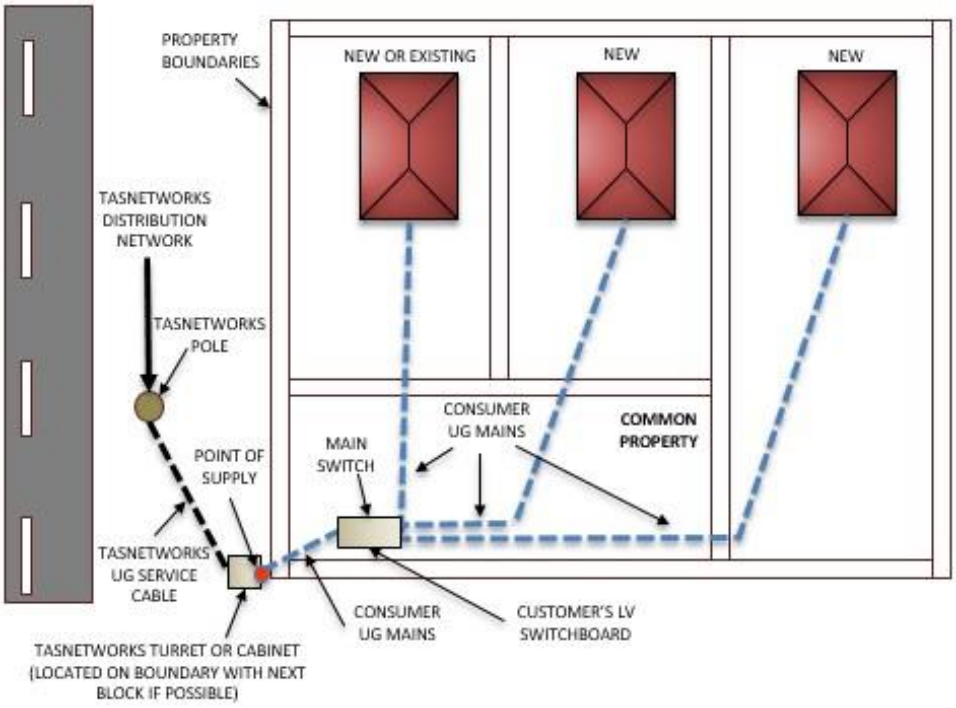
4.2.1 Multiple Tenancy, Supply from OH Mains via TasNetworks Pole



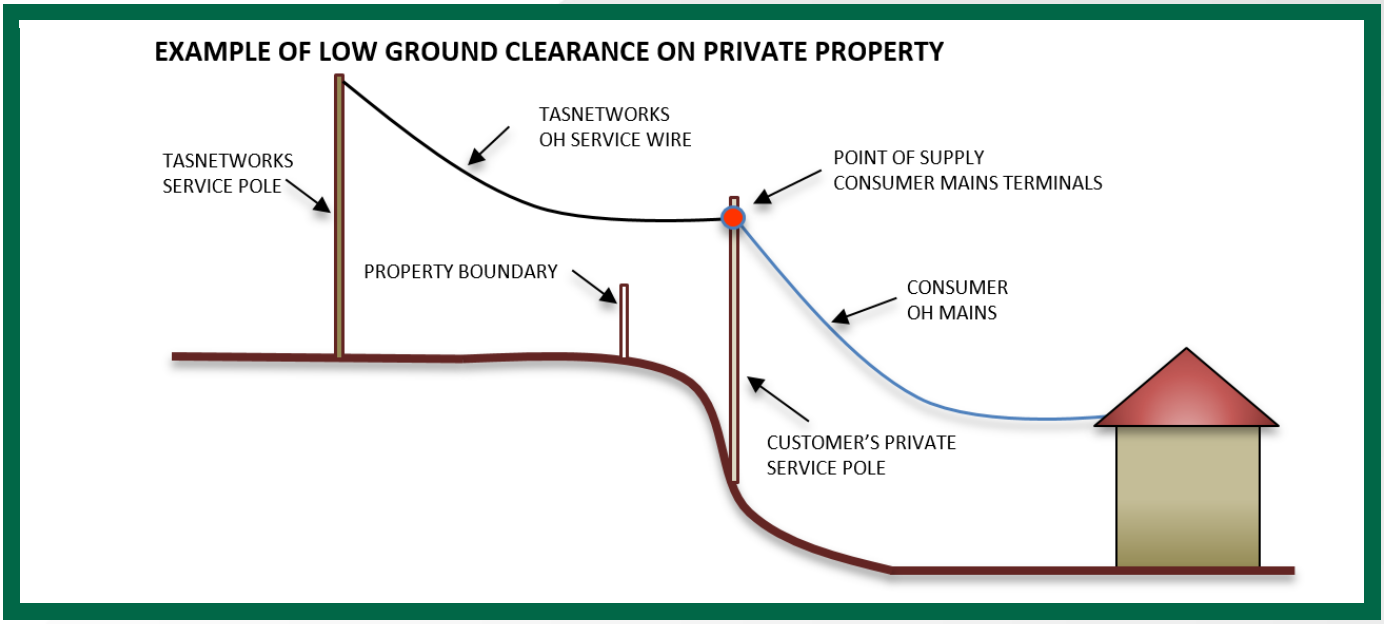
4.2.2 Multiple Tenancy, Supply from OH Mains via Private Service Pole



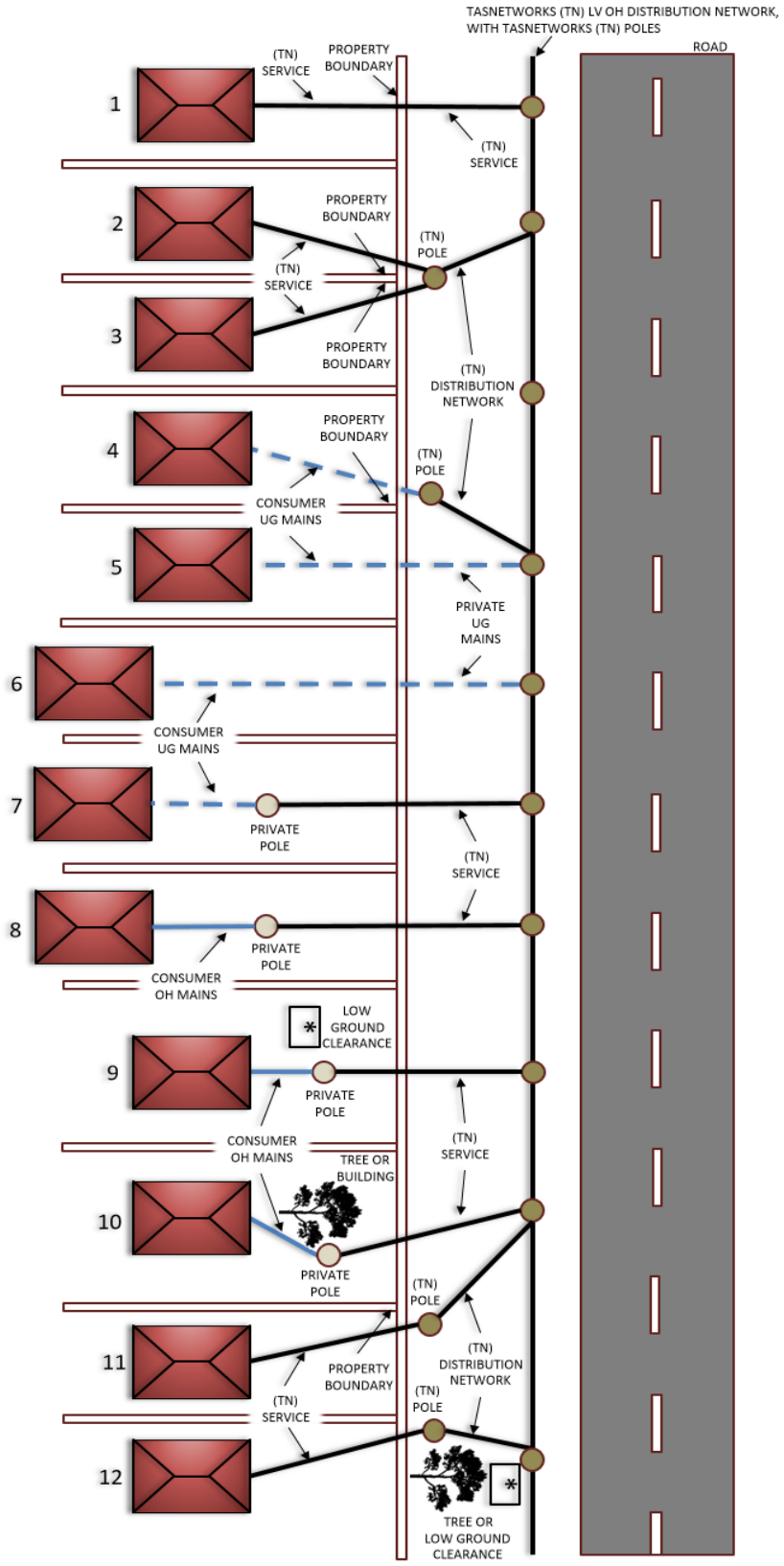
4.2.3 Multiple Tenancy, Supply from OH Mains via TasNetworks Turret or Cabinet



4.2.4 Service Pole Arrangements - *Enlarged Diagram Referenced in Figures 4.2.5 and 4.2.6

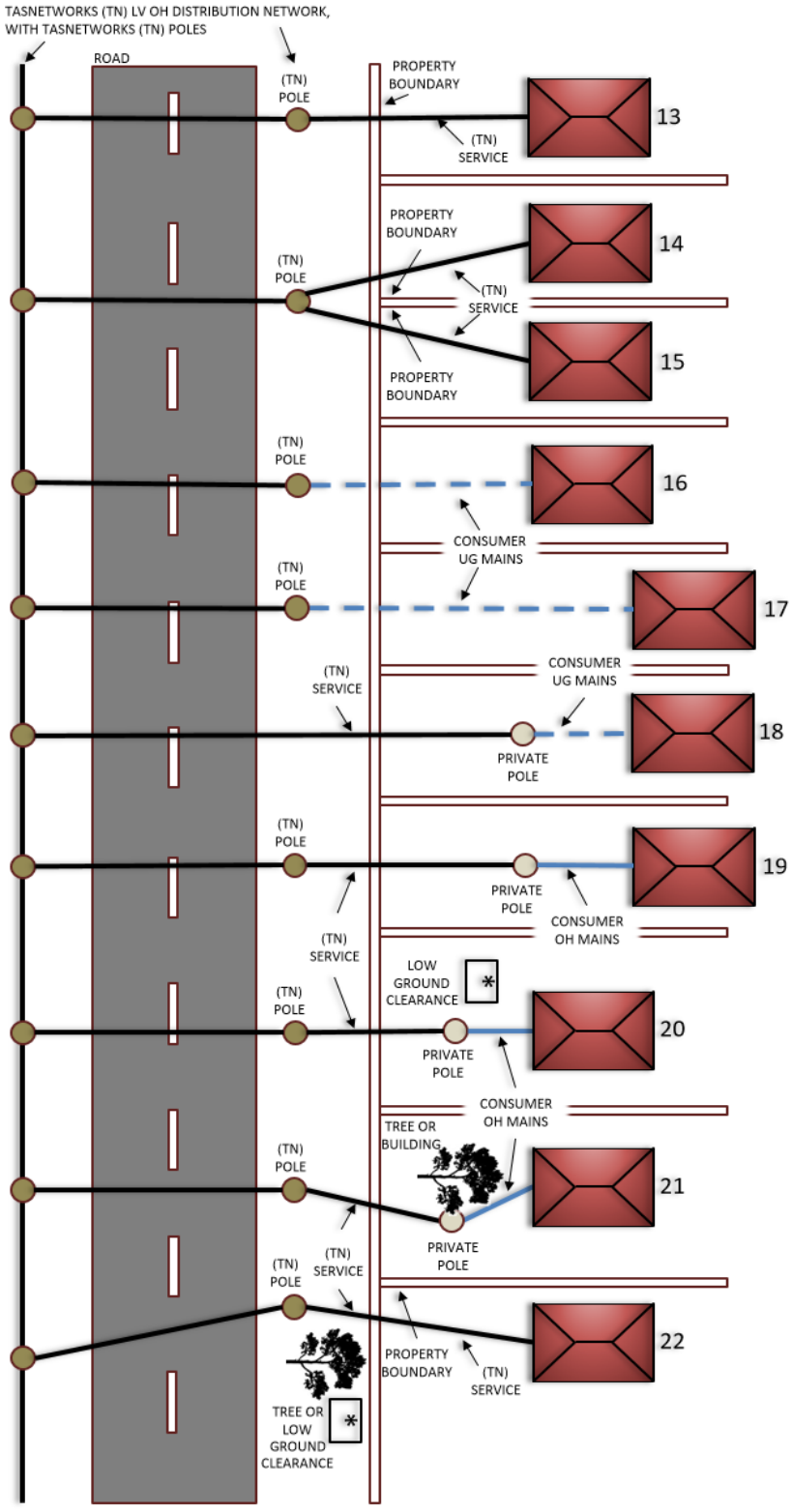


4.2.5 Service Pole Arrangements - TasNetworks Supply on Same Side of Road



NOTE: "Private Pole" in above diagram refers to *customer's private service pole*.

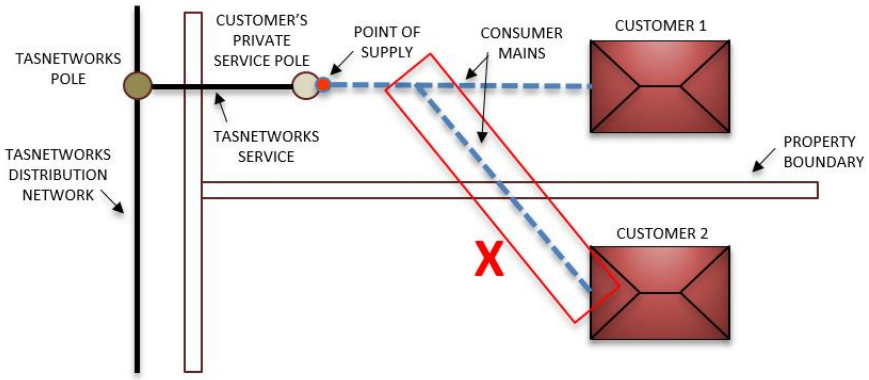
4.2.6 Service Pole Arrangements - TasNetworks Supply on Opposite Side of Road



NOTE: "Private Pole" in above diagram refers to *customer's private service pole*.

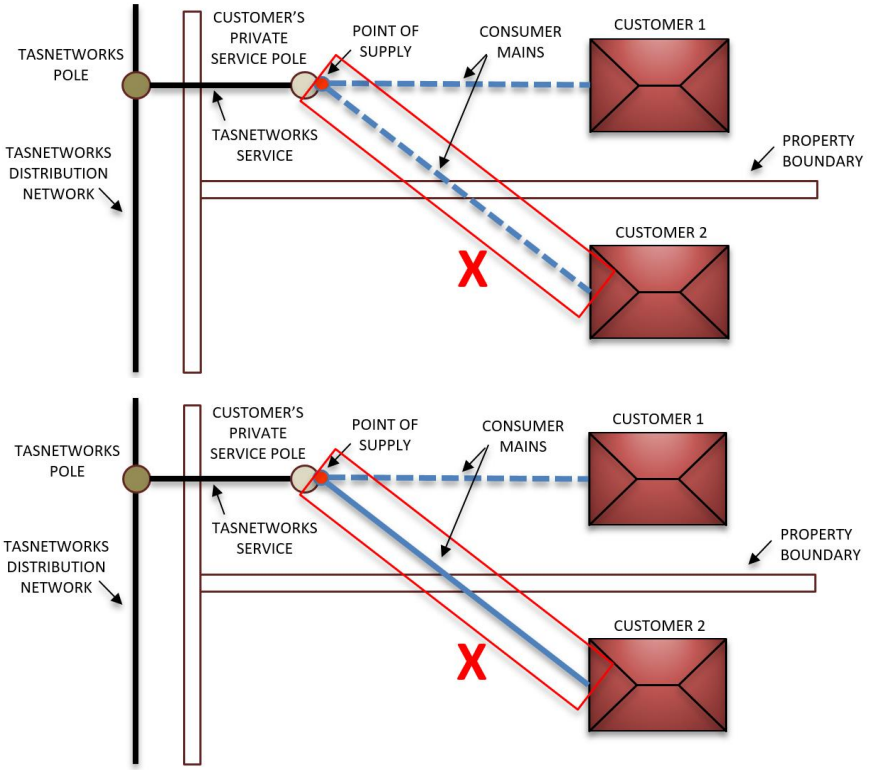
4.3 Prohibited Arrangements

4.3.1 Prohibited: Connecting to a Neighbour's Consumer Mains Reference Appendix G for alterations to existing supply arrangements



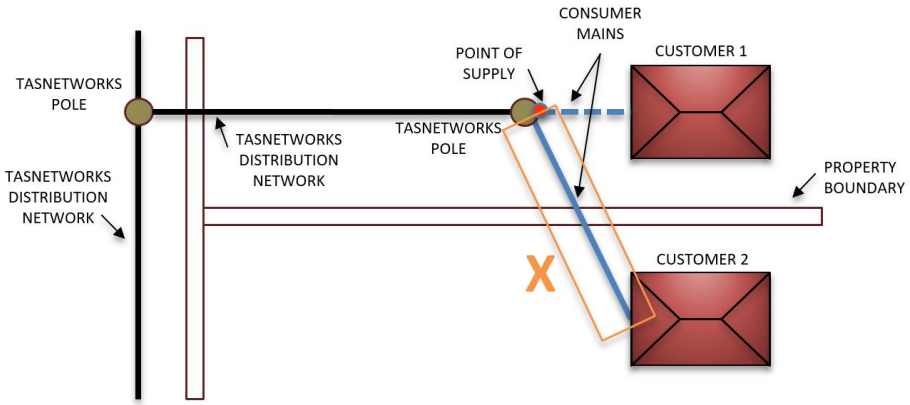
Connecting a *customer's Consumer Mains* to a neighbour's *Consumer Mains* (other than for ***multiple tenancy*** sites) in the same switchboard is prohibited under the Electricity Supply Industry Act (ESI Act).

4.3.2 Prohibited: Connecting to a Neighbour's Point of Supply



Connecting supply to a neighbour's *POS* is prohibited under the Electricity Supply Industry Act (ESI Act). This includes taking supply from a *private service pole* on a neighbour's *property*.

4.3.3 Application Only: Connecting Across a Property Boundary



TasNetworks will not install, or connect to, an OH or UG electricity *service wire* or *service cable* from a *TasNetworks' pole* across a property boundary to supply a neighbouring *customer* unless it is unavoidable, in which case conditions defined in 4.5.4 Easements for *TasNetworks'* Service Wire or Cable Crossing Boundaries must be met.

4.3.4 Prohibited Construction on or Near an Easement

The *electrical installation* construction must not be on or near an *Easement*, as shown in the "powerline clearance zones information" on *TasNetworks* website - Building near Powerlines.

4.3.5 Prohibited Cable Attachments on Certain TasNetworks' Pole Types

Consumer Mains are not permitted on, or inside, the following *TasNetworks'* poles:

a) Single Wire Earth Return (SWER) transformer poles (contact between the LV and HV systems on SWER transformers can be hazardous and may damage the SWER transformer)

b) Poles with HV equipment, this includes HV switch poles, HV link poles and HV fuse poles (without a transformer)

c) Spun concrete* and concrete + steel poles (e.g. Stobie poles) carrying HV assets

d) Steel poles carrying HV assets

e) Inside any pole (*Consumer Mains* are not permitted inside any *TasNetworks'* pole)

*fiberglass reinforced concrete poles (e.g. Titan poles) are permitted due to their non-conductive properties

4.3.6 Other Prohibited Attachments on TasNetworks' Poles

The following apply to *TasNetworks'* poles:

a) Cable guards are the only metallic object (excl. fixings/ saddles) that can be connected to *TasNetworks*' poles, with fixings at 1m intervals and only to height of 2.7m above ground level

b) Any other metallic objects that connect with the ground, a building or a remote location are not to be installed on steel, concrete or steel-concrete HV poles:

   i. Metal conduit connections from the pole to the *customer's electrical installation*

   ii. Metal cable trays

   iii. Self-tapping screws, unless galvanised

   iv. *Customer's Electricity Metered* wiring must not be attached

c) No holes greater than 4mm diameter on steel poles, no more than two holes in the same plane, and no holes left unsealed

d) No rigid or corrugated conduit. UV stabilised grey flexible conduit (grey Hose) may be used if required.

4.3.7 Prohibited Actions by Customer's Electrical Contractor

a) The *customer's Electrical Contractor* must not operate any *TasNetworks' SPDs* or access *TasNetworks'* infrastructure unless Level 2 *accredited*, and must not make any connections to the *TasNetworks' distribution network*

b) The *customer's Electrical Contractor* or *Meter Provider* must not change the size of *TasNetworks' SPDs*

c) *Consumer Mains* must not cross a *property* boundary, nor cross any road/ carriageway

d) If a *tee-up* has been requested and the *Electrical Contractor* has *authorisation* and is appropriately *accredited* to disconnect at the *SPD*, then the reconnection will only be undertaken if the *electrical installation* complies with the latest version of these *rules* and relevant standards/ acts.

4.3.8 Prohibited OH Service to NBN and Telecommunications Poles

Connecting an OH service to other infrastructure entity poles such as NBN and Telstra are not permitted.

4.4 Multiple Points of Supply

4.4.1 Requests for Additional Points of Supply

To ensure ease of identification of isolation points in emergencies, *TasNetworks* will provide one *POS* to a *customer*'s property. This includes a development on one or more adjacent titles or a *multiple tenancy* development, whether it is a staged development or not.

All multiple *POS electrical installations* require *TasNetworks* approval. *TasNetworks* will consider a written request for additional *POS* to a property in cases where provision of an additional *POS* is considered to be sound engineering practice. For example,

a) Where the magnitude of the *customer's* load is high and cannot be supplied by a single substation located within the *property*

b) Where the distance separating the relevant *electrical installations* and load from the existing *POS* make it is impracticable to supply the relevant load using a LV sub-mains from the primary *electrical installation*. An example of this is where an irrigation pump is located more than 200m from the existing *POS* at the dwelling

c) The environment limits the ability to have one *POS*

d) To supply separately owned individual pump sheds that supply irrigation to separate *properties* and the isolation point is clear

e) Where there are multiple street frontages to a *multiple tenancy* site, it is clear that access to different units require separate *POSs,* and each *POS* can be clearly identified as the supply point for isolation to emergency services.

4.4.2 Requirements for Additional Point of Supply

Applications for an additional *POS* must be approved by *TasNetworks* and are *negotiated connections*. The customer is required to pay the cost of providing an additional supply, including the cost of transformers and any system augmentation or extension works.

Once written approval from *TasNetworks* has been received that the proposed multiple *POSs* comply, the following requirements are to be established:

a) Appropriate labelling and signage must be installed at the multiple *POSs* and the main switchboards, to ensure clarity of isolation points and safe operation by operational and emergency crews

b) The *customer* must provide unhindered and clear access to connection points

c) The *customer* maintains the electrical separation between the multiple *POSs* and physical segregation between the two respective *electrical installations*

d) Multiple supplies from the same *TasNetworks' asset* to separate buildings must be via a main switchboard, with only one set of *Consumer Mains* from the *TasNetworks' service* pole. The other supplies must be sub-mains from this main switchboard

e) Multiple points of supply have additional compliance requirements under the AS/NZS 3000.

4.4.3 Properties with Existing Multiple Points of Supply

a) Owners of properties with existing multiple *POSs* are required to rationalise to a single *POS* for any scenario where the *customer* requires *TasNetworks* to disconnect the supply or change the *POS* characteristics as outlined in 2.3.1 Customer Initiated

   i. Exemption: upgrading to a single *POS* may not be required if the isolation point is clear, cannot be misinterpreted by emergency crews, and access to the existing *POA* is unhindered.

   ii. This also applies where properties with single *POSs* are combined into one property or development

b) If dispensation is required, a *negotiated* application and written permission is necessary

c) Multiple supplies from the same TasNetworks' asset to separate buildings or in opposite directions must be via a main switchboard, with only one set of *Consumer Mains* from the *TasNetworks'* asset. The other supplies must be sub-mains from this main switchboard.

4.5 Distribution Network Availability

4.5.1 Requirement to Supply via a Turret, Service Box or Cabinet

TasNetworks will supply via a turret, service box or cabinet on public land at the *customer's* cost where:

a) The size and number of existing and proposed additional *Consumer Mains* cables installed on a *TasNetworks' service pole*:

   i. makes it difficult to terminate on a *TasNetworks' service pole*, or

   ii. restricts work on a *TasNetworks' service pole*, or

   iii. restricts working on other *TasNetworks' poles*, or

   iv. restricts *TasNetworks'* attachments on poles, or

   v. requires multiple *POSs.*

b) *Multiple tenancy* developments of more than a single installation require a switchboard. See 4.2 Multiple Tenancy (Strata/ Stratum) Arrangements

c) It is required for system development reasons.

4.5.2 Requirement to Install a TasNetworks' Service Pole

a) *TasNetworks* will install a *TasNetworks' service pole* in the road reserve where it is required to satisfy any one of the following requirements:

   i. Maintain the required clearance over the public road or street including clearance over the roadside reserve to the *property* boundary

   ii. Install *services* to two or more *customers*

   iii. Avoid a new *service wire* crossing a neighbour's *property* or title boundary

iv. Not to disadvantage a *customer* whose property is to be connected on the other side of the street to a *TasNetworks'* distribution line.

b) If the requirements outlined in these *rules* for *TasNetworks' service poles* cannot be met, contact *TasNetworks*

c) If a raiser bracket at the *POA* can avoid the installation of a *TasNetworks'* pole, then the *customer* must provide and install a raiser bracket at the *customer's* cost.

4.5.3 Requirement to Install Private Service Poles

The *customer* must install a *private service pole* and, if necessary, a raiser bracket on the *customer*'s *property* to enable the *service* to be connected to the *customer*'s *POA* where it is required to satisfy one or more of the following requirements:

a) A single span of OH *service wire* would exceed the *service* span limit from the *TasNetworks'* distribution mains. If the distribution mains are on the opposite side of the street, then the maximum length is taken from the nominal position that distribution mains would occupy if constructed on the same side of the street as the *premises* requiring supply

b) A *private service pole* is necessary to maintain the required clearance over the *customer's property*

c) A *private service pole* is necessary to avoid any obstruction, such as a building or tree, on the *customer's property*

4.5.4 Easements for TasNetworks' Service Wire or Cable Crossing Boundaries

a) *Property* boundaries must have been checked by the *Electrical Contractor* or *customer* prior to any *electrical installation* work being undertaken

b) All *Easement* arrangements must be finalised before the *service* is connected

c) *Easements* for new *TasNetworks' service wires* or *cables* are not required if the *service wire* or *cable* is installed on the *property* of the *customer* taking supply, and the supply is for that *customer* only, and title boundaries are not crossed

d) An *Easement* is required if any *TasNetworks'* infrastructure crosses a *customer's property* to supply another *customer*, or crosses title boundaries even if the lots are owned by the same *customer*

e) If crossing a neighbour's *property* or a title boundary is unavoidable, then the *customer* is required to obtain their neighbour's agreement to grant *TasNetworks* an *Easement* on terms acceptable to *TasNetworks* and pay for any *Easement* and registration costs. This might also require the *customer* to obtain agreement to register an *Easement* on title for an existing *TasNetworks*' power line. Documentary proof of an *Easement* must be provided at the time of submitting a *EWR*

f) *TasNetworks* will generally hold an *Easement* in relation to existing infrastructure on private *property*. Electricity *Easements* will not necessarily be registered on title; for example, in some cases an *Easement* will be deemed to exist by virtue of the Electricity

Wayleaves and Easements Act 2000. *Customers* with *TasNetworks'* infrastructure on their *property* should contact *TasNetworks* if they have any questions about *Easements*

g) Where a new *Easement* is required, it is recommended for the *Electrical Contractor* or *customer* to engage *TasNetworks* to have the *Easements* created for the *TasNetworks' service* span (First span). This is to make sure the correct *Easement* type and size is created with the correct wording

h) *Services* crossing neighbouring properties installed prior to 1996 have a deemed *Easement* 1m either side of the conductor. Moving the *service wire* or *cable* outside this deemed *Easement* (where there is no other option) will require a registered *Easement* being created by *TasNetworks*, at the *customer's* cost

i) In the case where the *service wire* or *cable* is removed to allow for construction, repairs or other reasons with the intention of eventually being replaced, then the statutory *Easement* is not abandoned

j) If an *Easement* exists and is noted on title, and the electricity infrastructure has been either destroyed and is intended to be replaced, or has been removed for the purpose of repair, modification, addition to or replacement, then contact *TasNetworks* for more information as listed in Enquiries. Depending on the *Easement* type, there is a defined period of time after the destruction or removal, where the electricity infrastructure and associated maintenance responsibilities and rights are considered to continue to exist

k) See also 4.3.4 Prohibited Construction on or Near an Easement.

4.5.5 Consumer Mains Crossing Council or Public Land

a) Prior to connection, the *customer* is responsible for ensuring it has all the appropriate rights, approval and any necessary agreements in relation to the *customer's* infrastructure.

b) For *Consumer Mains* crossing council or public land, the *customer* must gain approval from the relevant council or authority and provide the evidence of approval to *TasNetworks* as part of its application.

c) BYDA drawings must be submitted with the EWR as per Section 3.9

5 Embedded Generation and Unmetered Supplies

This chapter describes, and outlines specific requirements for connecting embedded generators, batteries, unmetered supplies and public and private contract lighting to Tasmania's *distribution network.*

5.1 Embedded Generator / Batteries

Connecting an embedded generator solar battery system to the *TasNetworks' distribution network*, including to an existing connection, is a connection alteration and requires application to *TasNetworks* for approval before the embedded generator can be installed. Refer to the TasNetworks' website - Embedded Generation for connection guidelines for embedded generators (micro, small and large), as well as the technical requirements.

5.2 Unmetered Supplies (UMS) Excluding Public and Private Contract Lighting

a) All unmetered supply connections are *negotiated* connections, requiring load assessment and approval by *TasNetworks*

b) It is unlawful to change the base load of an unmetered supply or use an unmetered supply in an unapproved manner without the prior knowledge, assessment or approval of *TasNetworks*

c) With the exception of public and private contract lighting, unmetered supply is, in general, only suitable for installations with a *constant load* of less than 1000 watts. A ***constant load*** is a load that, under normal operating conditions, does not vary during any 24-hour period of any day of the year. Loads that regularly switch on and off, such as lighting or BBQ supplies, are not *constant loads*. Examples of unmetered supply installations include, electric fence supplies, traffic light supplies, communication equipment supplies, and TV amplifier supplies at unit developments

d) *Electrical Contractors* should discuss with their *customer* why an unmetered supply arrangement is being sought and obtain their in-principle approval before applying for the connection. In particular, the *customer* should be aware that no financial advantage is gained from an unmetered supply arrangement. The network tariffs for unmetered and metered loads are the same. The load assessment is designed to minimise the financial risk to the *Electricity Retailer* and *TasNetworks* if load differs from the assessed average daily load

e) *Electrical installations* must be designed and constructed such that only the assessed load equipment can be connected to the *electrical installation*. Exceptions to this rule will only be approved in extenuating circumstances; for example, where a traffic light is used only for emergency or maintenance purposes

f) The unmetered load must be assessed by a *TasNetworks'* metering technician at the time of connection of the unmetered supply. The daily load is assessed by measuring the peak load (spike) in watts (W) of the installation and applying the peak load over the 24-hour period. For example, for a base load of 900W with a 920W peak load, the assessed average daily load used for market data and retail billing is 920W x 24 hours = 22.08 kWh

g) Without approval by *TasNetworks*, the load profile at an unmetered supply *electrical installation* must not vary by more than 5% (spikes and dips) of the base load

h) The following information must be permanently kept at the site of the unmetered supply in the form of a schedule or label:

   i. The load size and description of the unmetered load

   ii. The date the unmetered supply was installed

   iii. The name of the electrical technician it was installed by

   iv. The name of the electrical contracting firm it was installed by

   v. Details of the load assessment provided by the *TasNetworks* technician (filled in by the *TasNetworks* technician at the time of assessment)

   vi. The name of the *TasNetworks* technician who assessed the installation (filled in by the *TasNetworks* technician at the time of assessment)

   vii. The date of assessment (filled in by the *TasNetworks* technician at the time of assessment)

i) The *customer* or their *Electrical Contractor* must notify *TasNetworks* before changes are made to the base load of an unmetered supply and request a reassessment of the load by submitting a *EWR*.

5.3 Public and Private Contract Lighting

For public lighting connections where a new installation is required from the *distribution network* to the *POS*, you must submit a Public Lighting application through the *TasNetworks* website - Connections Portal.

Refer to the latest Public Lighting Services Application and Pricing Guide in the *TasNetworks* website - Pricing for information on the Public and Private Contract lighting application.

Public and private contract lighting installations are beyond the scope of these *rules* and only general descriptions are provided below. For further information, refer to the *TasNetworks* Public Lighting Standard located within the *TasNetworks* website - Developer's toolkit.

5.3.1 Unmetered Public Lighting

Unmetered supply is the normal supply arrangement for lighting in most public roads and streets. Public lighting installations must comply with *TasNetworks'* public lighting standards and are owned and maintained by *TasNetworks*. Detailed designs must be submitted by the road lighting authority (usually a local council) to *TasNetworks* for approval prior to construction. *TasNetworks* recovers its maintenance costs through the public lighting tariff.

5.3.2 Private Contract Lighting

a) Where it is impractical for the *customer* to provide their own lighting, private contract lighting can be installed on *TasNetworks'* poles and connected to the *TasNetworks'* unmetered public lighting supply. For example, flood lighting for a building from a *TasNetworks'* pole. A private contract lighting installation is supplied and maintained by *TasNetworks,* and may be installed by *TasNetworks* or the *customer* at the *customer's* cost

b) All components in an unmetered private contract lighting installation (photoelectric cell, lighting fitting, globe, cable and arm) must be normal *TasNetworks'* stock items and are supplied by *TasNetworks* at the *customer's* cost. The lighting fitting, globe, cable and arm are maintained and replaced by *TasNetworks* at the *customer's* cost. The costs of maintaining and replacing the photoelectric cell and globe are recovered by *TasNetworks* from the private contract lighting tariff

c) Unmetered private contract lighting connections are *negotiated* connections and must be approved by *TasNetworks* prior to construction. Unmetered private contract lighting will not be approved where an *Electricity Metered electrical installation* already exists on the site

d) A customer owned private pole, suitable for its intended use, is required for any dedicated private or public light.

5.3.3 Metered Public Lighting

Electricity Metered public lighting is generally associated with character streetscape lighting that does not conform to the *TasNetworks*' public lighting system. An *Electricity Metered* public lighting installation is owned and maintained by the lighting authority. It has a defined *POS*, metering point, and *SPD*. *Electricity Metered* public lighting connections are *negotiated* connections and must be approved by *TasNetworks* prior to construction.

6 Underground (UG), Overhead (OH) or Multiple Tenancy Connection Types

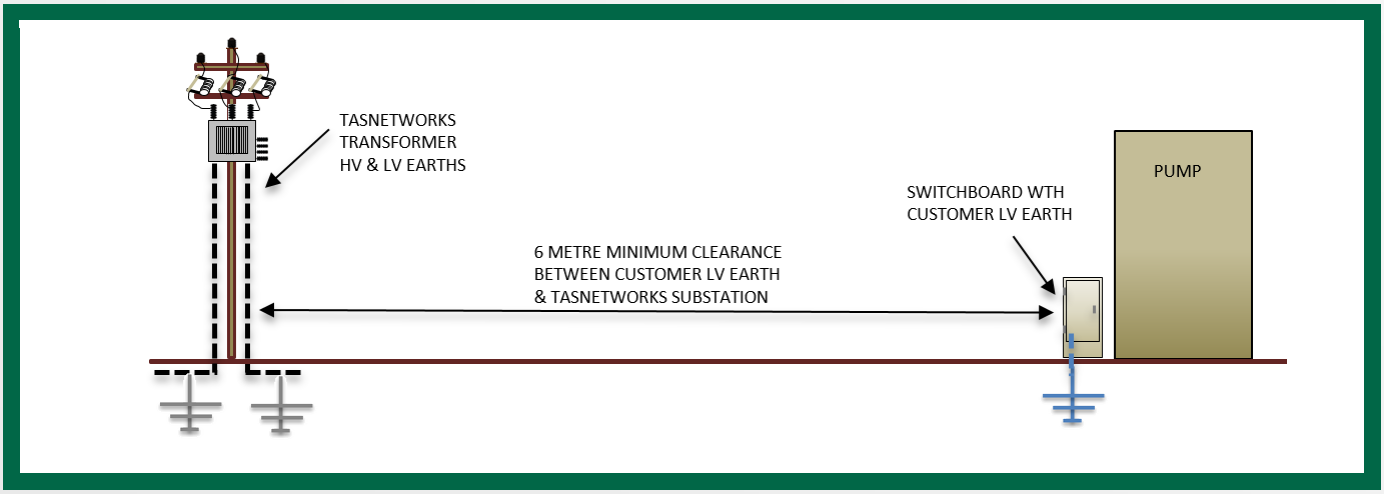
This chapter describes how an *electrical installation* is to be constructed ready for connection to the *TasNetworks' distribution network*. There are sections on UG connections, OH connections and connections to *multiple tenancy* sites. There is also information on clearances, span lengths and vegetation management, as well as links to further details on each of these.

6.1 General Information

6.1.1 Switchboard Requirements

Each Installation must have an *IPD* or *Main Switch* for *multiple tenancy* sites that comply with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website. *TasNetworks* recommends that the *IPD* and MEN be in the same switchboard, to enable efficient connection and/ or reconnection.

6.1.2 Diagram of Earthing Separation



6.1.3 Earthing

All installations required to be earthed must conform to the requirements for the MEN system of earthing as detailed in AS/NZS 3000.

a) The *Electrical Contractor* is responsible for ensuring the location/ position of *TasNetworks'* transformers and substations, both existing and proposed new, is known

b) A *customer's* LV earthing system, including the switchboard enclosure, must be kept 6m away from a *TasNetworks'* pole-mounted substation pole or a ground-mounted substation enclosure, as shown in 6.1.2 Diagram of Earthing Separation

c) Conductive mediums, e.g. metallic pipes, concrete reinforcing mesh or metal fencing, including the Switchboard Enclosure can extend an earthing system's reach and are to be included in clearance distances, if applicable

d) *Customer's private service poles*, LV earths or other metallic structures must be located at least 10m away from any SWER HV earthing system.

6.1.4 Testing

The *Electrical Contractor* who carried-out the *electrical installation* work must perform all necessary tests and ensure that the work complies with the requirements of the Occupational Licensing Act 2005. Refer to AS/NZS 3000 and AS/NZS 3017 for details.

6.2 Underground (UG) Connection

6.2.1 Installing Consumer Mains in a TasNetworks' UG Asset

The *customer's* UG *Consumer Mains* must be installed through to the turret or cabinet, and be left terminated as per a live connector in AS/NZS 3000, and not actually connected to *TasNetworks'* infrastructure. You can only access the turret if you have level 2 *accreditation* from *TasNetworks*.

a) All *Consumer Mains* cables must be tested and positively identified in accordance with these *rules*, Occupational Licensing Act 2005, AS/NZS 3000 and AS/NZS 3017

b) *Consumer Mains* terminations must be reduced to 35mm2 to enable connection within a *TasNetworks'* turret or cabinet using the standard *service* connections and conduits

c) *Consumer Mains* cables must have sufficient length above ground (1m) after being pulled through the conduit at the base of the turret or cabinet to allow for connection as per b).

See 4.1 Supply Connection Arrangements for descriptions of UG supply arrangements.

6.2.2 UG Labelling

All labelling must be in accordance with AS/NZS 3000.

a) The *customer's* switchboard legend must clearly indicate the *asset ID* where the *POS* is located, and the location of the earthing electrode to enable *TasNetworks* to connect to the customer's MEN earth point for testing

b) The *Consumer Mains* must be labelled clearly to identify active phases and neutral. If the *Consumer Mains* are not colour-coded, use heat shrink sleeving to identify; active as red,

white or blue and the neutral as black. Ensure that these colours are UV stabilised for all new installations

c) The *Consumer Mains* must be permanently labelled at the *POS* end to identify the address of the *customer's property* that the *cable* supplies. Labels must be indelible, legible with letters/ numbers no less than 6mm in height, suitable for the environment (i.e. UV stabilised and moisture resistant), located on the cable approximately 250mm from the above ground end of the conduit, and not impact the electrical integrity of the *Consumer Mains*. Examples include, but are not limited to, engraved laminate tags or sleeved tags with appropriate inserts and fixtures

d) All *cables* not connected must be correctly terminated as per AS/NZS 3000.

6.2.3 UG Paralleled Consumer Mains

a) Paralleled cables are to be reduced to one cable before reaching the *TasNetworks'* asset (turret, cabinet, switchboard) which holds the *SPD*

b) *Consumer Mains* terminations must be reduced to 35mm2 to enable connection within a *TasNetworks'* turret or cabinet using the standard *service* connections and conduits

c) *Consumer Mains* must be crimped together and sealed with a Raychem heat shrink sleeve, to enable *TasNetworks* to connect the tails into the *SPD.*

6.2.4 Consumer Mains Conduit

a) In a new UG *service* to subdivisions, a 50mm2 conduit is normally installed from the turret, service box or cabinet to a point 1.5m inside the *customer's* property boundary. This conduit is owned by the *customer* once the *Consumer Mains* are installed, and is procured and installed by *TasNetworks* on their behalf

b) If no conduit has been installed from the *TasNetworks'* UG asset to the *property*, the *Electrical Contractor* is responsible for submitting a *Connection Application* to have *TasNetworks* install a registered conduit from the *TasNetworks'* turret, service box or cabinet

c) If the *Electrical Contractor* is Level 1 or Level 2 *accredited* as per 1.3 Authorisation and Accreditation, they should ensure that the turret, service box or cabinet has the capacity for additional conduit and note this on the application.

6.2.5 Access to TasNetworks Keyed Cabinets or Service Boxes

Access to *TasNetworks'* distribution assets is restricted to *TasNetworks' authorised representatives.*

a) Cabinets are secured by a keyed lock

b) Service boxes are usually wall-mounted or installed on the *customer's* building, and secured either by sealing bolt or keyed lock

c) Turrets are secured by a lock with a dedicated access tool.

If access is required, an *EWR* is to be submitted to arrange a *tee-up* so that *TasNetworks' authorised representatives* can meet on site to provide access.

6.3 Overhead (OH) Connection

6.3.1 Scaffolding Safety

As per AS/NZS 4576, there must be a minimum clearance of 4m between any metallic or conductive scaffolding and any LV *conductor* or LV *service cable*, and a minimum of 1.5m clearance between any non-conductive scaffolding and any LV *conductor* or LV *service cable*. Refer to the Safe work Australia - Scaffolding near Overhead Electric Lines Information Sheet and *TasNetworks* website - Working near OH powerlines for more information.

Scaffolding must be removed before *TasNetworks* attends site to connect. Important points to note:

a) The required clearances from OH power lines which includes the assembly and dismantling

b) Be aware that *authorised* and *unauthorised* persons have different approach distances

c) Ensure clear access to *Electricity Meter* position, main switchboard and *POA*

d) Ensure clear communication/ coordination with all parties involved on the worksite.

6.3.2 Position of Customer's Connection Assets

a) If the position of a *customer's* OH or UG connection assets adds unnecessary costs to the *TasNetworks' distribution system*, the *customer* will be required to pay for any additional *TasNetworks'* assets and installation costs.

b) When connecting to an OH supply, a *customer's* OH connection assets must be positioned such that:

   i. The pole, conductor and service attachment requirements in 4.1 Supply Connection Arrangements are met

   ii. The *service wire* does not cross any third-party *property*, a title boundary or a hazardous area as defined in AS/NZS 3000

   iii. Tree clearing is avoided wherever possible

   iv. Impacts on visual amenity are minimised.

c) For examples of acceptable *service pole* locations refer to 4.1 Supply Connection Arrangements

d) The maximum distance the *customer's mains box* can be from the *SPD* is 150mm

e) Any requirement to install a *TasNetworks' service pole,* a *private service pole,* or both, will be determined in accordance with 4.1 Supply Connection Arrangements.

6.3.3 Maximum Number of UG Cables on TasNetworks' Service Poles

The maximum number of existing plus proposed UG cables on a *TasNetworks' service pole* must not exceed any of the following limits

a) Where a *TasNetworks' service pole* is on public land:
   i. One set of 150mm2 to 240mm2, single-phase or multi-phase or
   ii. Two sets of up to and including 120mm2, single-phase or multi-phase
   iii. One cable per phase

b) Where a *TasNetworks' service pole* is on private land:
   i. One set of *consumers mains* up to and including 240mm2 single-phase or multi-phase

c) Requirements for running *Consumer Mains* up a *TasNetworks' service pole* are detailed in 6.5.2 UG Consumer Mains up TasNetworks Service Pole.

6.3.4 Consumer Mains Cable Point of Supply

This includes pole connections.

a) All *Consumer Mains* cables must be positively identified and permanently labelled as outlined within 6.2.2 UG Labelling

b) All cables not connected must be terminated in accordance with AS/NZS 3000.

6.3.5 Point of Supply Requirements

6.3.5.1 100 amps (A) or Less Per Phase

For an OH supply of 100A or less per phase the following requirements apply:

a) The *POA* must be positioned such that the *service wire* complies with the clearance requirements in 6.3.6 Clearances

b) The *private service pole* must be positioned in accordance with 4.2.5 Service Pole Arrangements - TasNetworks Supply on Same Side of Road and 4.2.6 Service Pole Arrangements - TasNetworks Supply on Opposite Side of Road

c) The *POA* must be positioned such that the *service wire* complies with the maximum conductor span lengths in Appendix E Stringing of Service Conductors - Maximum Spans

d) The *service attachment* must comply with the requirements in 6.3.9 Mounting a Service Hook, Raiser Bracket or Strut to an Installation

e) If terminating to a permanent *POA* on a building, the *POA* must be positioned to comply with the Structures and Buildings row within Table 4 - OH Service Clearance Requirements

f) *Private service poles* must comply with the strength, labelling, erection, footing, and attachment height requirements in 6.3.8 Customer Private Service Poles

g) *The POA must be positioned so that the SPD can be safely operated from the ground or by a ladder firmly footed on the ground, from the outside of the building without entering the* premises.

This is a requirement for all POA's, including when over roofed areas as per B.2 Clearances over Roofed Areas.

6.3.5.2 Greater than 100 amps (A) Per Phase

For an OH supply of more than 100A per phase, contact *TasNetworks* Network Customer Supply as listed in Enquiries. A *negotiated* connection will be required.

6.3.6 Clearances

TasNetworks' OH *service wires* must comply with the following clearance requirements:

a) As below in Table 4 - OH Service Clearance Requirements

b) Minimum clearance to ground and structures specified in drawings in Appendix B Minimum Clearances

c) Minimum clearance to other lines specified in drawing B.3 Clearances Between Consumer Mains and Service Poles

d) Minimum clearance to vegetation as specified in 6.4 Vegetation Management.

6.3.6.1 Clearance to Ground and Structures

Minimum clearances for *service* spans of 'covered' or 'insulated' conductors or aerial *Consumer Mains* of insulated conductor.

Table 4 - OH Service Clearance Requirements

Clearance Type		Location Description	Direction	Insulated Service Clearance
Ground	Roads	At centre of carriageway	Vertically	5.8m*
		At kerb line (bottom of kerb)	Vertically	4.7m*
		At road verge (footpath, nature strip) that is not accessible by vehicles	Vertically	3.0m
		At fence alignment	Vertically	3.0m
		At fence alignment (from top of fence)	Vertically	2.0m
	Other	Private driveways and land traversable by vehicles more than 3m in height (except service stations, farms, caravan parks and other high-risk locations)	Vertically	4.7m*

	Areas not normally accessible to vehicles	Vertically	3.0m
Structures / Buildings	Unroofed terraces, balconies, sun decks, paved areas etc. that are subject to pedestrian traffic only	Vertically	3.0m
		Horizontally	1.0m
	Roofs or similar structure not normally accessible to persons but on which a person may stand (See D-OHD-A044-SD-001 regarding restrictions over roofed areas)	Vertically	2.0m
		Horizontally	1.0m
	Covered places normally accessible to persons, including for example windows capable of being opened, roofed open verandas and covered balconies	In any direction	1.0m
	Blank walls / windows which cannot be opened	In any direction	0.1m
	Other structures not normally accessible to persons	Vertically	2.0m
		Horizontally	1.0m
Other High-Risk Situations	Gas Storage Cylinders	Horizontally	1.5m
	Swimming pools and spas	Vertically	Not Permitted
	Rotary clothes line, Radio/TV antennae and trampolines	Vertically	Not Permitted
		Horizontally	0.1m
	Areas where trailerable sailing craft, farm machinery and irrigation pipes may be used	Vertically	5.8m*
	Caravan parks	Vertically	5.8m*
	Service station and farm driveways	Vertically	5.8m*
Telecommunications	Telephone or Broadband Communications Cables	Vertically	0.6m
		Horizontally	0.6m

*Including allowance for sag. Clearance has been increased by an amount equivalent to the sag produced if the conductor operating temperature were to rise to the maximum allowable of 75^{o}C (see Appendix E, E.1 D-OHC-A040-SD-001, E.2 D-OHC-A040-SD-002 and E.3 D-OHC-A041-SD-001).

6.3.7 Conductor Maximum Span Lengths

a) The conductor spans must comply with the following maximum span requirements:

   i. For a termination pole, refer to Appendix E, E.4 Maximum Spans for Un-stayed Service Pole

   ii. For a fascia/raiser bracket, refer to Appendix E, E.5 Maximum Spans for Un-stayed Fascia/Raiser Bracket Termination

   iii. For an intermediate pole, refer to Appendix E, E.6 Maximum Spans for Un-stayed Intermediate Service Pole 125x125x5mm.

b) Maximum span requirements may also be calculated using the Span Charts in Appendix E, E.1 D-OHC-A040-SD-001, E.2 D-OHC-A040-SD-002 and E.3 D-OHC-A041-SD-001

c) Where attachment heights on *TasNetworks'* assets are required to determine maximum allowable conductor span length refer to Appendix D, Low Voltage Attachment Heights for *TasNetworks'* Poles.

6.3.8 Customer Private Service Poles

a) *Customer private service poles* must comply with the more onerous of AS/NZS 3000 or AS/NZS 7000, and these *rules.* Further details are included in Appendix C

b) Drawings C.2 D-OHC-A019-SD-001 and C.3 D-OHC-A019-SD-00 show examples of *service poles* and footings. The preferred *customer private service pole* is a galvanised steel square section set in a concrete foundation, outlined in Appendix C.

c) *Poles* must be rated at 2kN working stress (or 4kN ultimate limit state equivalent) or greater. Any variance to this must have a design completed and approved by *TasNetworks*. Steel poles must be hot-dipped galvanised

d) *Customer's private service poles* must have treatment at and below ground line to inhibit the corrosion, soft rot or heart rot, whichever is applicable

e) Timber poles sourced in Tasmania have durability class 3 or 4 and require full-length preservative treatment for direct contact with soil in accordance with the requirements of AS/NZS 3818.11 and AS/NZS 1604.1

f) Welded steel *service poles, railway line poles and bolted poles* are prohibited and must not be used.

6.3.8.1 Labelling Customer Private Service Poles

a) The *Customer's private service pole* must be marked permanently at 3,450mm from the butt with the following information:

   i. Strength rating at tip in kN

   ii. Required buried depth in mm

   iii. Species of timber (if a natural wood pole)

iv. Date of both pole manufacture and installation

v. Height.

6.3.9 Mounting a Service Hook, Raiser Bracket or Strut to an Installation

Customer installed *service* attachments must comply with the more onerous of AS/NZS 3000 and AS/NZS 7000, and these *rules*. Further details are in Appendix F.

The Raiser brackets shown in Appendix F, F.1 OH Services & Consumer Mains - Standard Service Raiser Brackets (1) and F.2 OH Services & Consumer Mains - Standard Service Raiser Brackets (2) are designed and certified as compliant to AS/NZS 3000 and are permitted to be used. Other raiser brackets or attachments may only be used if an engineering certificate is provided with the *EWR* to certify AS/NZS 3000 compliance, and they are suitable for *TasNetworks' service* fittings. The raiser bracket or attachment must be installed so that it is adequate in strength to withstand the tension of the *service wire*.

The service attachment on a building fascia must comply with the following requirements and clearances:

a) Service attachments must be rated at 1 kN or greater

b) A raiser bracket must be self-supporting (no stay)

c) Engineered raiser brackets or struts must be RHS steel Dura-gal or hot-dipped galvanised. Angle iron or timber struts must not be used

d) The angle between the *service wire* or *cable* and the fascia should not be less than 30 degrees for a service connected to the fascia and 60 degrees for a service connected to a raiser bracket, as shown in 6.3.9.1 Maximum Angle of Service Attachment Diagram

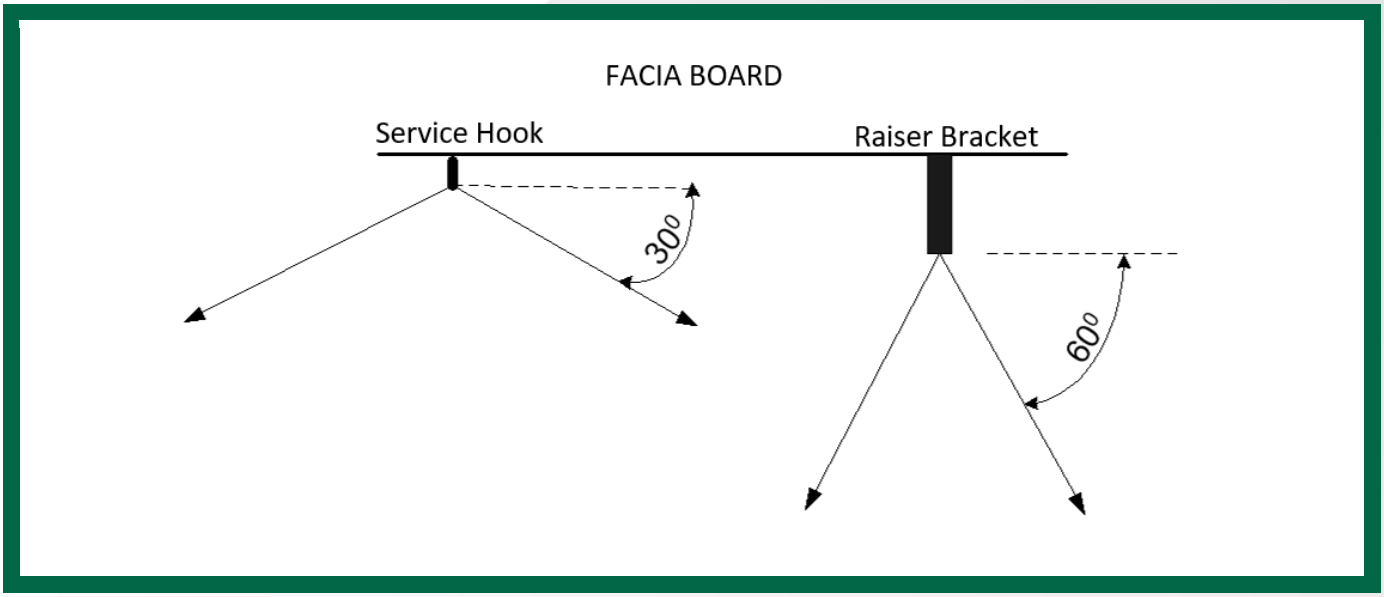
e) The clearances from ground, buildings, structures, vegetation and other lines specified in 6.3.6 Clearances and Appendix B, Minimum Clearances

f) The maximum span length specified in Appendix E, Stringing of Service Conductors - Maximum Spans

g) If a *TasNetworks' service pole* can be avoided by the installation of a raiser bracket at the *POA*, then the customer must supply and fit a raiser bracket.

For *service* replacements where these requirements cannot be met, *TasNetworks* may approve angles outside the standard installation where the span length and stringing tension have been reduced such that *TasNetworks* deems the total force as acceptable based on its calculations. Requests can be submitted through the *TasNetworks* website - Connection Portal. For further information, contact *TasNetworks* General Enquiries as listed in Enquiries.

6.3.9.1 Maximum Angle of Service Attachment Diagram



6.4 Vegetation Management

a) For a full set of requirements and diagrams, refer to TasNetworks website - Maintaining trees near powerlines for full vegetation management requirements

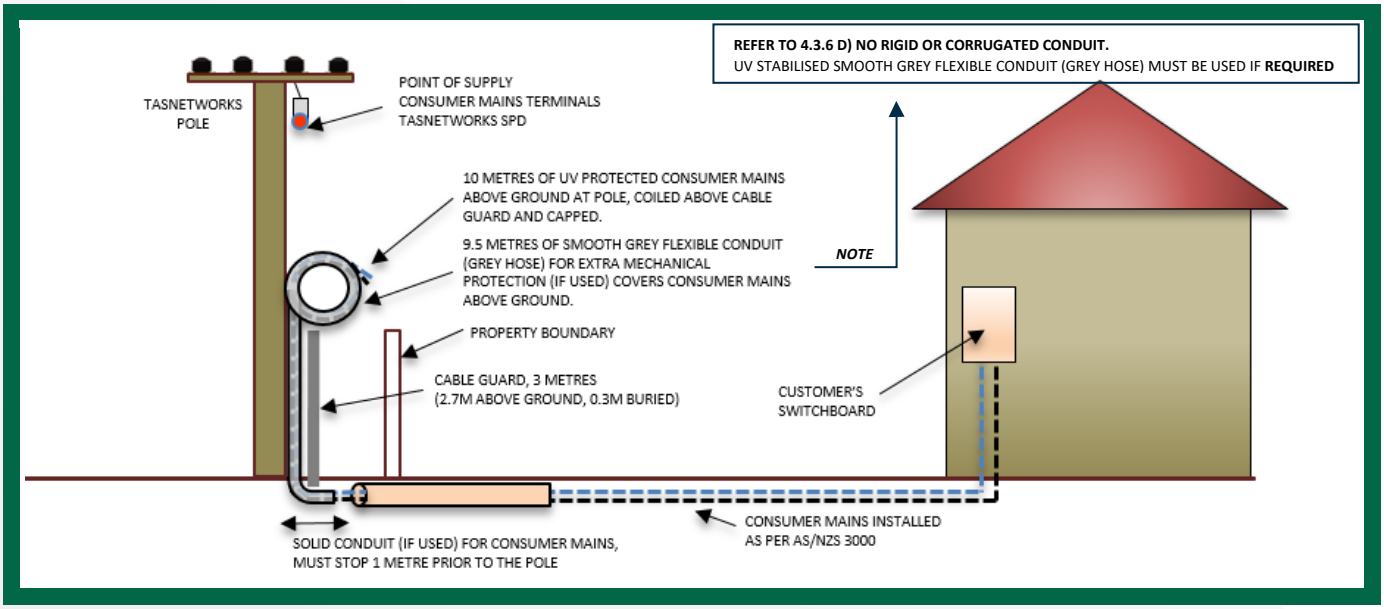
b) Adequate clearance between vegetation and OH *service wires* is essential to minimise the risk of fire and to maintain a safe and continuous supply of electricity for *customers*

c) Each *customer* must, at its own cost, maintain safe clearances between vegetation on the *customer's property* and electrical infrastructure providing supply to the *customer's electrical installation*

d) Where a new OH *service wire* is to be installed by *TasNetworks* to connect a *customer* to the *distribution network*, the *customer* requesting the connection must arrange and pay for the clearing of vegetation from the proposed route. This includes the portion of the *service wire* on council land in the road reserve and the portion on the *customer's property*.

6.5 Installing UG Consumer Mains on a TasNetworks Service Pole

6.5.1 Diagram of UG Consumer Mains up TasNetworks Service Pole



6.5.2 UG Consumer Mains up TasNetworks Service Pole

6.5.2.1 Customers must:

a) Obtain approval in writing from their local council or authority to cross council or public land to attach *Consumer Mains* to a *TasNetworks' service pole*. The *Electrical Contractor* must provide evidence of this approval.

b) Cover the full cost of removal, replacement, relocating or modifying the attachment of their *Consumer Mains* in the event of *TasNetworks* working-on, maintaining or replacing *TasNetworks' service pole*.

6.5.2.2 Customers' Electrical Contractors must:

a) Provide evidence to *TasNetworks* of approval from the local Council to cross council land to attach *Consumer Mains* to a *TasNetworks' service pole*

b) Contact *TasNetworks* before connecting any *Consumer Mains* up poles with a red cross or circle, as these poles are marked for replacement

c) Ensure the pole type is suitable for UG *Consumer Mains*. UG *Consumer Mains* up a *TasNetworks' service pole* are permitted on wooden, steel (hot-dip galvanised) and fiberglass reinforced concrete poles (e.g. Titan poles) that are not prohibited under 4.3.5 Prohibited Cable Attachments on Certain *TasNetworks'* Pole Types

d) Observe all safety procedures associated with excavating and operating equipment in the vicinity of *TasNetworks*' assets, as described in 1.1 Working On or Near Electricity Assets

e) Leave sufficient *Consumer Mains* cable (10m) above ground at the base of the pole to run up to the LV conductors

f) Leave *Consumer Mains* terminated as per a live connector in AS/NZS 3000, but not connected to any *TasNetworks'* infrastructure. Any fittings required for *TasNetworks* to terminate the *Consumer Mains* into *service* fitting must be fitted

g) If **solid conduit** is used for the UG Consumer Mains, it stops approximately 1m before the TasNetworks' pole and UV stabilised smooth grey flexible conduit (grey hose) must be used to reach the pole with extra mechanical protection provided as per AS/NZS 3000.

h) If **smooth grey flexible conduit (grey hose)** is used,

   i. It must be at least 9.5m from ground level in length or

   ii. Only run partway up pole behind mechanical protection, and must be appropriately sealed to avoid the ingress of moisture.

   iii. As per section 4.3.6 D) No rigid or corrugated conduit. Uv stabilised smooth grey flexible conduit (grey hose) may be used if required

i) Fix the cable to the pole at 1m intervals up to a position of 3m above ground level

   i. Fixing via galvanised self-tapping screws or similar for wood, steel or fibreglass reinforced concrete poles, using full (not half) saddles that fit the smooth grey flexible conduit (grey hose).

   ii. Fixing via galvanised bands for spun concrete and concrete + steel poles.

j) Ensure all *Consumer Mains* have UV rated heat shrink to provide protection and to ensure that the cables are colour-coded appropriately as per AS/NZS 3000

k) Ensure that if cables equal to or smaller than 50mm2 (except XLPE) are used, they must be enclosed in UV stabilised smooth grey flexible conduit (grey hose)

l) Ensure that if XLPE cables are used, they must be installed as per AS/NZS 3000

m) Install a cable guard over the *Consumer Mains* 300mm below the ground and 2.7m up the pole (3x900mm not sufficient). Install mechanical protection at both ends as per AS/NZS 3000

n) Flexible cable and *Consumer Mains* that are too large (as per point o below) must be reduced to stranded copper or aluminium. This is to be done as per AS/NZS 3000, and *TasNetworks* recommends using a reducing crimp and several layers of heavy-duty heat shrink that is UV stabilized and contains heat activated glue, if cables used for load and connected to LV links then they can be lugged and bolted directly to the LV links on the pole.

o) Ensure that the maximum size of *Consumer Mains* installed into a *SPD* does not exceed:

   i. 95mm2 up a pole or OH to a standard *SPD*

   ii. 150mm2 up a pole to an ABC box

   iii. Above 150mm2 Link fuses will be required.

p) Submit BYDA Drawings with the EWR as per section 3.9.

6.5.2.3 *TasNetworks* must:

a) Not connect any *Consumer Mains* up poles to the *distribution network* if the requirements in 6.5.2.1 and 6.5.2.2 above are not met;

b) Connect as per the *TasNetworks* Overhead Construction Standard, including installing a gooseneck in the cable and smooth grey flexible conduit (grey hose) at the pole-top to ensure no water ingress;

c) Only allow *Consumer Mains* up poles that are supplied from a *TasNetworks service* on the same side of the road, as per 4.2.5 Service Pole Arrangements - *TasNetworks* Supply on Same Side of Road, and

d) Install danger sign in alignment with the TasNetworks Overhead Construction Standard.

The above requirements are illustrated in the diagram in 6.5.1 Diagram of UG Consumer Mains up TasNetworks Service Pole.

6.5.3 Prohibited Arrangements for UG Consumer Mains on a TasNetworks Service Pole

a) Prohibited arrangements, including *TasNetworks*' pole types and pole attachments not permitted for *Consumer Mains*, are outlined in 4.3.5 Prohibited Cable Attachments on Certain TasNetworks' Pole Types and 4.3.6 Other Prohibited Attachments on TasNetworks' Poles

b) The maximum number of conductors must not exceed the limits in specified in 6.3.3 Maximum Number of UG Cables on *TasNetworks'* Service Poles.

6.5.4 Parallel Consumer Mains up a TasNetworks' Pole

a) Paralleled cables are to be reduced to one cable before reaching the *TasNetworks'* pole which holds the *SPD*

b) *Consumer Mains* terminations must be reduced to 95mm2 for connection on *TasNetworks'* poles using the standard service connections up the pole

6.5.5 Installing UG Consumer Mains on a Private Service Pole

The *customer's private service pole* and *Consumer Mains* are private assets and part of the *customer's electrical installation*. *TasNetworks* terminates the *service wire* at the top of the first *private service pole, which is the POA*. The *Electrical Contractor* is responsible for the installation of the *Consumer Mains* to the top of the *customer's private pole* ready for *TasNetworks* to terminate into the *SPD*.

6.6 Multiple Tenancy (Strata/ Stratum) Developments

Includes all OH and UG requirements for single tenancy, with the following adjustments and inclusions:

a) Connect the *Consumer Mains* to the *Main Switch*

b) For *multiple tenancy* or multiple NMI sites, the *Main Switch* will be at the main switchboard for the connection point, as per the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

See diagrams in 4.2 Multiple Tenancy (Strata/ Stratum) Arrangements.

6.6.1 Multiple Tenancy Requirements

a) *TasNetworks* treats all *multiple tenancy* developments as one *electrical installation*

b) *TasNetworks* will provide one *service* to a *multiple tenancy* development taking in to account loading & design requirements

c) The *TasNetworks POS* must be on *Common Property* via either an OH *service wire* or UG *service cable*, subject to site restrictions

d) All *multiple tenancy electrical installations* must have a main switchboard. This cannot be a turret. A switchboard is more robust, and must be commercially manufactured and designed for purpose

e) The main switchboard for the development must be installed on *Common Property*. This switchboard will contain the installation *Main Switch* installed before the *Electricity Metering* installation

f) The *TasNetworks' POS* options are:

   i. A turret or cabinet, preferably located at the boundary with the adjacent block, subject to site restrictions

   ii. UG *Consumer Mains* up a *TasNetworks'* pole to a *customer* main switchboard in *Common Property* (subject to load and cable size)

   iii. OH *service* from a *TasNetworks'* pole to a *private service pole* in *Common Property* with the appropriate kN rating.

g) All *multiple tenancy electrical installations* must have one *Main Switch* and individual *IPDs* that meet the requirements of the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

h) *Consumer Mains* cables must not be laid within the roof space, wall cavity or under the floor of the existing dwelling as this is not *Common Property*

i) If the installation maximum demand requirement is 100A or less, or the connection application has been submitted requesting 100A, the *Main Switch* must be a fixed 100A

device not an adjustable one. If it is adjustable device is used it will require a *negotiated* application stating the maximum limit of the device

j) If the installation draws more than the *TasNetworks' SPD* allows and operates the *TasNetworks' SPD* due to increased load, the installation will be left disconnected until the issues are rectified.

6.7 Energisation Requirements

TasNetworks will connect to the *IPD* or *Main Switch* for *multiple tenancy* sites. If the *Electrical Contractor* is not on site to take responsibility for the installation, *TasNetworks* will disconnect the load ends from the *IPD* or *Main Switch* for *multiple tenancy* sites.

6.8 Connection to a Substation

6.8.1 TasNetworks' Substation within the Property

LV connections to a *TasNetworks'* substation must comply with the following requirements:

a) The UG *Consumer Mains* must be attached to the *TasNetworks*' connection asset in accordance with 6.2 Underground (UG) Connection

b) For an OH *service wire* to a building, as per 6.3 Overhead (OH) Connection

c) The main earth conductor connection (including MEN connection) at the main switchboard must not be located behind any panel, door etc. where access requires the removal of *TasNetworks* security seals.

7 Electricity Supply Requirements

Connecting to *TasNetworks' distribution network* may affect the electrical supply of other *customers*. This chapter outlines requirements for both *TasNetworks* and the connecting *customer* to ensure the electrical stability of *TasNetworks' distribution network*, and the connection to all *customers*, is maintained.

Supply availability and quality:

a) The electricity supplied to a *customer's premises* is subject to interruptions in availability and fluctuations and other disturbances that affect supply quality

b) *Customers* should be aware that some electrical equipment might have inadequate tolerance to variations in the electricity supply. *Customers* should ensure that equipment is protected from extreme voltage fluctuations such as those caused by storms and lighting. The purchase of special protective equipment might be necessary.

7.1 Supply Voltages

7.1.1 Supply at 230/400 Volt (Low Voltage)

a) The TEC requires *TasNetworks* to provide supply at a nominal voltage of 230 volts (V) (phase to neutral) with a steady state average over a 10-minute period of within plus 10% (253V) and minus 6% (216V)

b) The nominal 50 hertz voltage waveform is sinusoidal but can be modulated by other frequencies for electricity distribution control and communication purposes

c) In outlying areas, the supply can be from a split single-phase 230/460V three-wire distribution system. The single-phase voltage range is the same as from a 230/400V 4-wire system. Splitting a phase provides two single-phase supplies with a vector of 180 degrees instead of the normal 120 degrees.

7.1.2 Supply at High Voltage

Electricity supply can be provided at higher voltages if required. Contact *TasNetworks* General Enquiries as listed in Enquiries for advice on supply arrangements.

7.2 Power Factor

The power factor for the *Customer's electrical installation* must not be less than the relevant value defined in TEC - Chapter 8 as replicated in Table 5 below for connection voltages less than 6.6kV. If

the *electrical installation* power factor does not comply with the Table 5, the *customer* must install power factor correction equipment at the *customer's* cost.

Table 5 - Power Factor Range

Maximum demand	Up to 100 kVA		Over 100 kVA up to 2 MVA		Over 2 MVA	
Power factor type	**Min lagging**	**Min leading**	**Min lagging**	**Min leading**	**Min lagging**	**Min leading**
Power factor range	0.75	0.8	0.8	0.8	0.85	0.85

7.2.1 Rating of Consumer Mains

The *TasNetworks' connection agreement* and the NER require that a *customer*'s *electrical installation*, including the *Consumer Mains*, is adequately designed and effectively coordinates with *TasNetworks'* electricity supply.

7.2.2 Conductor Size

a) The *Consumer Mains* conductor size should be selected so that it does not exceed its design limits for the load and that the protection coordinates with the *TasNetworks' SPD*

b) The *Electrical Contractor* is responsible for installing any fittings required to enable *TasNetworks* to connect the *Consumer Mains*. The maximum size of *Consumer Mains* that can be installed into a *SPD* is as follows:

i. 35mm2 at a switchboard

ii. 35mm2 at the turret

iii. 95mm2 up a pole or OH to a standard SPD

iv. 150mm2 up a pole to an ABC box

v. Above 150mm2, link fuses will be required.

If *Consumer Mains* are larger than the specified sizes, they will not fit into the standard *SPD* and must be reduced to stranded copper or aluminium. This is to be done as per AS/NZS 3000, and *TasNetworks* recommends using a reducing crimp and several layers of heavy-duty heat shrink that is UV stabilized and contains heat activated glue.

7.3 Prospective Fault Current

a) Prospective fault currents vary depending on the location of a *customer*'s POS in the distribution system and the type of assets supplying the *customer*. I.e. the size of transformer, the size and length of *service wire*, and type of *service* protection

b) The prospective fault current at the connection point is deemed to be 6kA for *service* connections up to 100A single-phase or multi-phase (unless otherwise informed by *TasNetworks*), where a *customer's electrical installation* is supplied from the *distribution network* along a public road or in a rural environment. For *service* connections greater than 100A single-phase or multi-phase, contact *TasNetworks*.

7.3.1 Types of Service Protection Devices (SPDs)

a) Protection devices provided by *TasNetworks* are usually of the type listed in Table 6 below. If *TasNetworks* needs to vary the *SPD* or rating from those listed below, the *customer* may be required to contribute to the cost of alternative protection devices.

Table 6 - Service Protection Device (SPD) Rating

Service capacity required	Protection device type
up to 100A per phase	100A HRC fuse
Above 100A per phase	Refer to *TasNetworks*

b) The purpose of the *SPD* is to provide short circuit fault protection and prevent detrimental effects to the *distribution network*. The *SPD* is therefore intended to protect the supply side of the *POS*, and is not intended to provide protection for the *customer's* load side of the *POS*.

7.4 Electricity Interference

Motor starting, variable speed motors, electric furnaces, welding machines, and other electrical equipment can cause voltage fluctuations or harmonic disturbance to *electrical installations* in the general vicinity.

a) A *customer's* LV *electrical installation* must not cause interference to the electrical supply of other *customers*, specifically:

i. The *customer's electrical installation* must not cause harmonic voltage distortion exceeding the planning limits specified in ENA Doc 033 – Guideline for Power Quality: Harmonics (as published by Standards Australia) or the site-specific planning allocation if specified by *TasNetworks* in the *customer's* Electricity Connection Contract

ii. The *customer's* equipment must limit the harmonic current distortion by complying with:

- AS/NZS 61000.3.2 (equipment input current < 16A per phase)
- AS/NZS 61000.3.12 (equipment input current > 16A and < 75A per phase)

- AS/NZS 61000.3.4 (equipment input current > 75A per phase).

iii. The customer's equipment must limit changes, fluctuations or flicker by complying with:

- AS/NZS 61000.3.3 (equipment rated current < 16A per phase)
- AS/NZS 61000.3.11 (equipment rated current >16A and < 75A per phase)
- AS/NZS 61000.3.5 (equipment rated current > 75A per phase).

b) The loading of a multiphase *electrical installation* must be arranged so that the maximum demand in an active *service conductor* is not more than 25A above the current in any other active *service conductor*, unless explicitly approved by *TasNetworks*

c) The *customer* must arrange to modify or remove the equipment to eliminate the disturbance in the event that the above requirements are not met. *TasNetworks* will disconnect the electricity supply in the event of the *customer* failing to do so

d) *TasNetworks* connecting an *electrical installation* or accepting equipment for connection to the electricity supply does not exempt the *customer* from these requirements

e) LV equipment that has a manufacturer's compliance certification to AS/NZS 61000.3 provides the best guidance for acceptable connection. However, use of equipment with this certification does not guarantee that an overall *electrical installation* will comply with the voltage distortion limits outlined above.

8 TasNetworks' Electricity Metering

This chapter describes the responsibilities of *TasNetworks* and the *customer* in regards to *Electricity Meters*, and outlines alteration, addition and access requirements. All *Electricity Meters* installed post 1 December 2017 are not the responsibility of *TasNetworks* and must align with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website.

8.1 General Information

a) *Customers* are responsible for ensuring that *Electricity Metering* equipment installed on their property is not damaged or interfered with

b) Brand new *Electricity Meter* panels (rather than replacements of equipment installed prior to 1 December 2017) will be the property of the *customer* and will not be owned or maintained by *TasNetworks*

c) Existing *Electricity Metering* equipment, including panels, installed prior to 1 December 2017 will remain the property of *TasNetworks* until a third party attaches a new *Electricity Meter* and there is a formal transfer of ownership to the *customer*.

8.1.1 Separation from Distribution Infrastructure

Electricity Metering equipment must not be mounted on *TasNetworks* infrastructure unless approved by *TasNetworks*. For specifics of earthing and clearances, see 6.1.3 Earthing.

8.1.2 Existing Electricity Metering Installation Alterations and Additions

a) AEMO accredited *Metering Providers* are permitted to install *Electricity Metering* equipment as defined in the NER - Chapter 7 and associated metrology procedures and standards on *Electricity Meter* panels owned by *TasNetworks*

b) *Metering Providers* are permitted to make the required alterations to *TasNetworks'* owned *Electricity Meter* panels in order to complete their work

c) Installation of *customer* owned equipment on *TasNetworks* owned *Electricity Meter* panels will initiate a transfer of ownership of the *Electricity Meter* panel to the *customer*

d) Existing current transformers must be relocated to the *customer* side of the *Main Circuit breaker,* as per the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the CBOS website, upon replacement or upgrade of the switchboard

e) Wooden *Electricity Meter* panels must either be replaced or made fire proof when *Electricity Metering* equipment is installed

f) *TasNetworks* will not move or make any alterations to a Current Transformer *Electricity Metering* site, including *Electricity Meters*, cables, test block or potential fuse. If any works

are required on a Current Transformer *Electricity Metering* site, this must be undertaken through the *customer's Electricity Retailer*.

8.1.3 Maintenance

TasNetworks will maintain *Electricity Metering* equipment owned by *TasNetworks*. Maintenance of *TasNetworks' Electricity Meters* is only to be done by *TasNetworks* or an *authorised Electrical Contractor* working on behalf of *TasNetworks*.

8.1.4 Load Control Equipment Ownership and Maintenance

When an advanced *Electricity Meter* is installed on a single or a *multiple tenancy electrical installation*, the load control devices and the contactors become the *Metering Provider's* responsibility.

8.1.5 Location of Customer's Equipment

Customer's equipment, including load limiting devices, cannot be installed on *TasNetworks* owned *Electricity Meter* panels. *TasNetworks* will not maintain or repair *Electricity Meter* panels with *customer's* equipment installed on the *Electricity Meter* panel.

8.1.6 Unacceptable Access Conditions for TasNetworks' Electricity Meters

a) *TasNetworks* will not permit *TasNetworks' Electricity Metering* equipment to be located where access cannot be guaranteed. If *Electricity Metering* equipment is enclosed without *authorisation*, then the *customer* must remove the enclosure or lock, or contact the electricity retailer and have an advanced meter installed

b) Where *customers* have private locks on enclosures, gates or doors giving direct access to *TasNetworks' Electricity Metering* position, existing arrangements where *TasNetworks* has previously accepted a key must remain until the lock is changed. Then, only a *TasNetworks'* standard master keyed lock must be used if security is required

c) *TasNetworks* requires uninhibited access to *Electricity Metering* equipment for emergency scenarios, to ensure the safety of all *customers* and the *distribution network*.

8.1.7 Current Transformer Equipment Supply

Current transformer equipment (fuses, cable, links etc.) will not be supplied by *TasNetworks* and is the responsibility of the *Metering Provider*.

8.1.8 High Voltage Electricity Metering

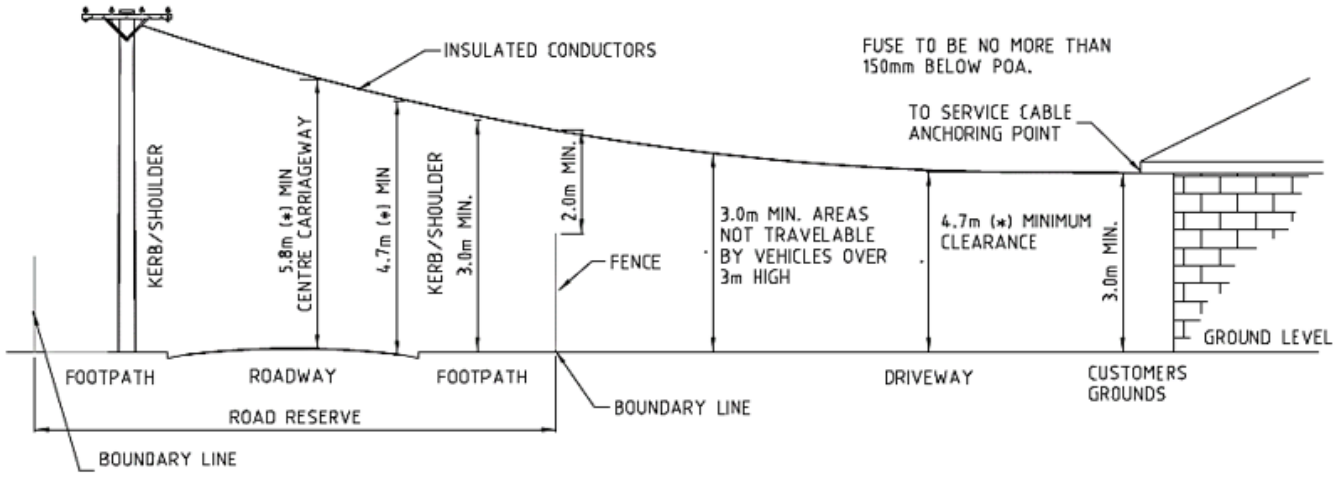
HV *Electricity Metering* is the responsibility of the *Electricity Retailer's Metering Provider*.

Appendix A Abbreviations

Abbreviation	Term
A	Ampere (amp)
ABC	Aerial Bundled Conductor
AEMC	Australian Energy Market Commission
CBL	Conductor designated Breaking Load
CEC	Certificate of Electrical Compliance
ºC	Degrees Celsius
EC	Electrical Contractor
ENA	Energy Networks Association
EWR	Electrical Works Request
HV	High voltage
IPD	Installation protection device
kN	Kilo-Newton
LV	Low voltage
MEN	Multiple earthed neutral
MP	Metering Provider
NNC	Notice of Non-compliance
NECF	National Energy Customer Framework
NER	National Electricity Rules
NMI	National Metering Identifier
OH	Overhead
POA	Point of Attachment
POS	Point of Supply
RHS	Rectangular Hollow Section (steel)
SHS	Square Hollow Section (steel)
SIR	Service and Installation Rules
SPD	Service Protection Device
SWER	Single Wire Earth Return
TEC	Tasmanian Electricity Code
UG	Underground
V / kV	Volt / Kilovolt

Appendix B Minimum Clearances

B.1 Services Clearances from Ground and Structures

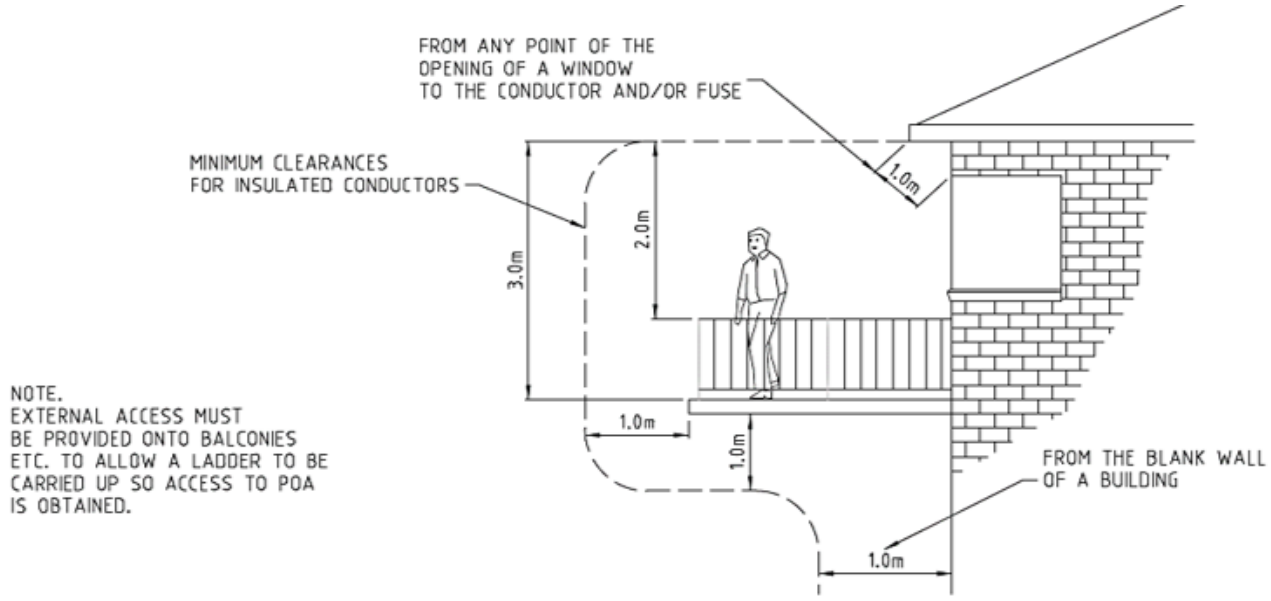


TYPICAL SINGLE SPAN SERVICE

Notes:

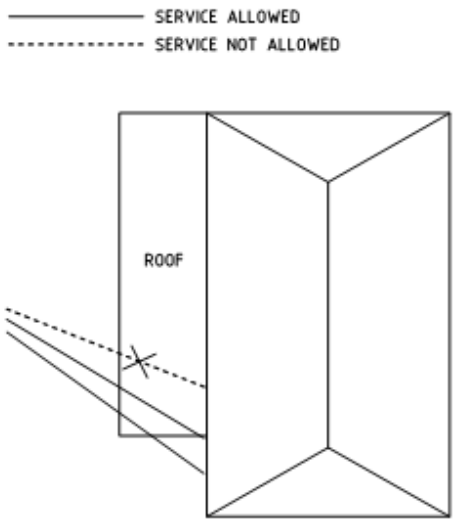
1. All dimensions shown are minimum clearances in metres. To which a conductor may swing or sag.
2. Wherever possible services should be located to avoid driveways on customer's property due to higher clearance requirements.
3. A conductor "Drip Loop" of not more than 150mm is required below the point of attachment.
4. Normal terminating span to be twisted insulated conductor no greater than 46m for 2C 25mm^2 LVABC and 33m for 4C 25mm^2 LVABC.

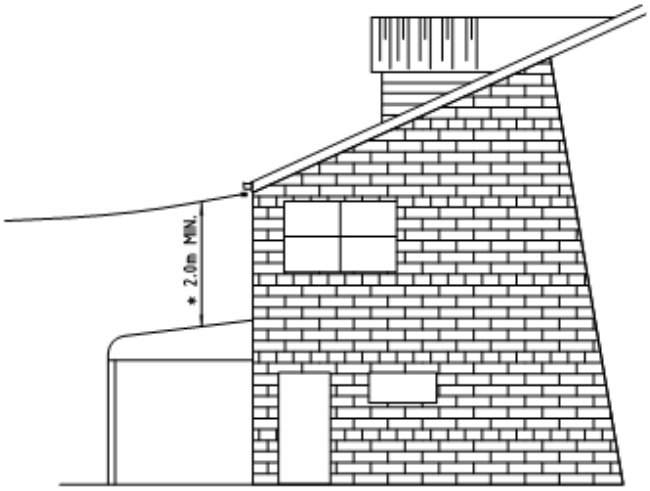
***Included allowance for sag**



TYPICAL SERVICE CLEARANCES FROM A BUILDING

B.2 Clearances over Roofed Areas





Required access for all Point of Attachments:

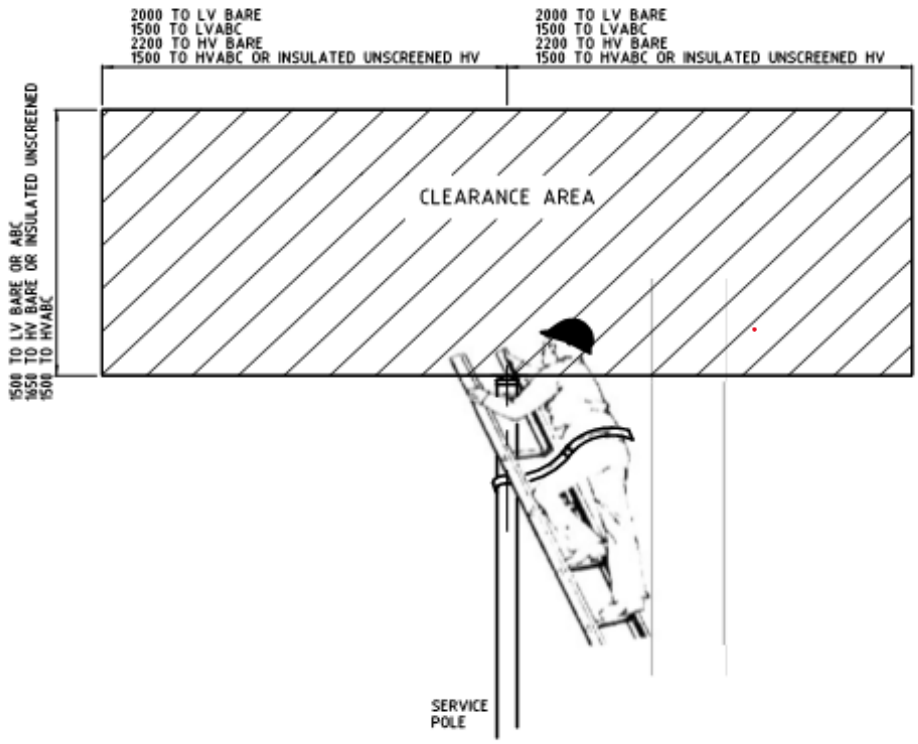
The point of attachment must be positioned so that the SPD can be safely operated from the ground (using an operating stick) and by a ladder firmly footed on the ground from outside of the building – without entering the premises.

Services over roofed areas are only permitted when unavoidable and must still comply with the required access for all POA, as specified above.

*The minimum clearance between the roof and the service line is 2.0M after sag and cable swing is taken into consideration e.g. vertical clearance over a roof situated under the centre of a 46M span of 25mm² 2core AL XLPE will normally mean a vertical clearance of 2.3M at a stringing temperature of 15°.

The wiring connecting TasNetworks aerial service conductors to the customers installation is required to be at least arm's length (nominally 2.5M vertically 1.25M horizontally) from ground or elevated area, refer to AS/NZ 3000 wiring rules fig 1.1.

B.3 Clearances Between Consumer Mains and Service Poles



SERVICE POLES IN THE VICINITY OF BARE OVERHEAD CONDUCTORS ARE TO ACHIEVE THE CLEARANCES SHOWN SHADED.

NOTES
1. ALL DIMENSIONS SHOWN ARE MINIMUM CLEARANCES IN MILLIMETRES, TO WHICH A CONDUCTOR MAY SWING OR SAG.

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

Appendix C Customer Private Service Pole Requirements

a) *Private service poles* must comply with the more onerous of AS/NZS 3000 or AS/NZS 7000

b) Drawings C.2 D-OHC-A019-SD-001 - OH Services & Customer Private Poles for OH Consumer Mains (1) and C.3 D-OHC-A019-SD-002 - OH Services & Customer Private Poles for OH Consumer Mains (2) below show examples of *service poles* and footings. The preferred *private service pole* is a galvanised steel square section set in a concrete foundation

c) The nature of the pole foundation is dependent on the soil type into which the pole is being erected and these drawings are provided as a guide rather than a design to fit all situations

d) As an example, the technical details of preferred *private service pole* are:

i. Galvanized Steel 125x125x5.0 SHS Grade 350

LENGTH (m)	TIP STRENGTH (kN)			Sinking Depth (m)	Tip Height (m)	Nom. Windage Resolved to Tip (kN)
	Nominal Working Stress	ULS	Max. Wind Limit State			
8.0	2.0	4.0	3.60	1.4	6.6	0.62

ii. The limit state tip strength shown is inclusive of all loads including, conductor forces and windage on the pole itself and all attachments.

e) Welded steel service poles, railway line poles and bolted poled are prohibited and must not be used.

C.1 Design Criteria for Customer Private Service Poles

Private service poles must be designed in accordance with the following criteria: (refer AS/NZS 7000)

a) *Customer private service poles* must be rated at 2kN or greater. Any variance to this must have a design completed and approved *by TasNetworks*

b) Proprietary service connections or raiser brackets must be rated at 1kN or greater

c) Ground clearance must be based on an initial conductor stringing at 5.6% of the conductor's designated breaking load (CBL) at 5°C and a conductor operating temperature of 75°C

d) Pole-top force must be based on:

iii. 500Pa wind force at 15°C on conductor

iv. 1200Pa wind force on square pole

v. The effect of pole wind loading on the resultant conductor loading must be equivalent to the resultant conductor force for an intermediate pole and perpendicular to conductor force on an un-stayed termination pole

vi. Clamping force on the conductor's insulation must not exceed 28% of the CBL.

C.2 D-OHC-A019-SD-001 - OH Services & Customer Private Poles for OH Consumer Mains (1)

ACCEPTABLE POLE TYPES AND STRENGTHS						
POLE LENGTH (m)	POLE TYPE	MINIMUM GIRTH (mm)		DEPTH IN GROUND 'D' (m)	HEIGHT OF POLE ABOVE GROUND (m)	MAX. ALLOWABLE HORIZONTAL FORCE AT POLE TOP (kN)
		AT TOP	2m FROM BUTT (OVER SAPWOOD)			
8.0	GALVANISED STEEL 125x125x5.0 SHS GRADE 350	-	-	1.4	6.6	2.0
8.0	P.I. HARDWOOD (4kN) *	635	810	1.5	6.5	4.0
8.0	P.I. HARDWOOD (6kN) *	635	900	1.5	6.5	6.0
9.0	P.I. HARDWOOD (4kN) *	635	860	1.5	7.5	4.0
9.0	P.I. HARDWOOD (6kN) *	750	975	1.65	7.35	6.0
10.5	P.I. HARDWOOD (4kN) *	655	920	1.65	8.85	4.0
10.5	P.I. HARDWOOD (6kN) *	775	1040	1.8	8.7	6.0
12.0	P.I. HARDWOOD (4kN) *	675	975	1.8	10.2	4.0
12.0	P.I. HARDWOOD (6kN) *	800	1100	1.8	10.2	6.0

* MAX WORKING STRENGTH, NOT TO BE CONFUSED WITH NOMINAL BREAKING LOAD OR LIMIT STATE STRENGTH.

NOTE

THE CUSTOMER MAY SINK THE HOLE AND ERECT THE POLE, BUT AN INSPECTION OF THE POLE AND THE HOLE WHEN DUG TO FULL DEPTH WILL BE MADE BY THE ELECTRICAL CONTRACTOR BEFORE THE POLE IS ERECTED, TO ENSURE THAT THE POLE AND THE HOLE COMPLY WITH THIS STANDARD. THE DATE OF ERECTION SHALL BE MARKED ON THE POLE.

A PRIVATE POLE THAT IS NOT INCLUDED IN THE ABOVE LIST IS NOT PERMITTED UNLESS IT HAS BEEN CERTIFIED BY A RECOGNISED STRUCTURAL ENGINEER SPECIALISING IN WOOD POLE STRENGTHS. THE ENGINEER SHALL SPECIFY THE FOLLOWING:

1. THE MINIMUM DIAMETER AT GROUND LEVEL AND AT THE POLE TOP.
2. THE STRENGTH RATING OF THE POLE (NOMINATED IN KN AT THE TIP, MARKED PERMANENTLY ON THE POLE AT 3450mm FROM THE BUTT.) THE RATING SHOULD BE IDENTIFIED AS EITHER THE MAX. WORKING STRENGTH, BREAKING LOAD OR LIMIT STATE STRENGTH.
3. THE WALL THICKNESS FOR STEEL POLES (STEEL TO BE GALVANISED)
4. THE REQUIRED BURIED DEPTH. (A MARK IS TO PERMANENTLY LABELLED AT 3450MM FROM THE BUTT)
5. THE SPECIES OF TIMBER IF A NATURAL WOOD POLE IS USED (PERMANENTLY MARKED ON THE POLE)
6. THE MINIMUM RIM THICKNESS OF WOOD FOR A SAFETY FACTOR OF 2.5, 1.5 AND 1.0
7. THE TREATMENT AT AND BELOW GROUND LINE TO INHIBIT THE PROMOTION OF CORROSION, SOFT ROT AND HEART ROT (WHICHEVER IS APPLICABLE)

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

ALTERATIONS: ORIGINAL ISSUE

TasNetworks

DRAWN	CS PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	-
DATE APPROVED	07/MAY/19

SERVICES CUSTOMER POLES

SCALE: NTS

A4

D - OHC - A019 - SD - 001

REVISION: A

C.3 D-OHC-A019-SD-002 - OH Services & Customer Private Poles for OH Consumer Mains (2)

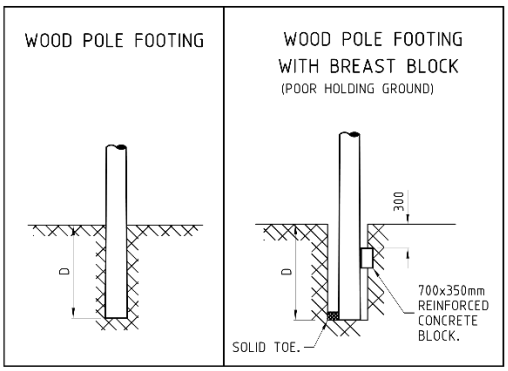
NOTES

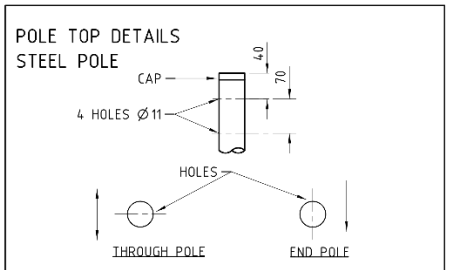
THE STEEL SECTIONS LISTED IN THE TABLE ARE TO BE CONTINUOUS LENGTHS WITHOUT JOINS AND ARE TO BE DIRECT BURIED TO SPECIFIED DEPTH SET IN CONCRETE AS SHOWN BELOW.

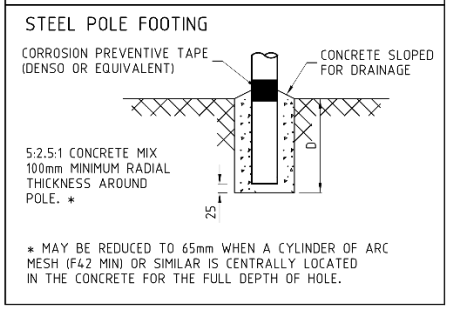
ALTERNATIVE STEEL SECTIONS HAVING EQUIVALENT STRENGTH IN ALL DIRECTIONS TO THE LISTED POLES, MAY BE USED SUBJECT TO APPROVAL AND RECEIPT OF A CERTIFICATE FROM A REGISTERED STRUCTURAL ENGINEER.
THE FOLLOWING ARE NOT PERMITTED-:
- FABRICATED STEEL POLES
- BASE PLATE MOUNTED STEEL POLES
- ALL STEEL PLATES ARE TO BE GALVANISED IN ACCORDANCE WITH AS4680.

TO CONFORM TO AS4677 STEEL UTILITY POLES, THE POLE SHALL HAVE THE FOLLOWING DETAILS PERMANENTLY ETCHED/FIXED TO THE POLE IN A MINIMUM OF 5mm HIGH LETTERING
(1) MANUFACTURERS IDENTIFICATION
(2) YEAR OF MANUFACTURE
(3) POLE LENGTH/MASS m/kg
(4) MAXIMUM TOP LOAD kN
(5) A DEPTH MARKER 3m FROM THE BUTT END

WOOD POLES
A) PRESSURE IMPREGNATED WOOD POLES-:
ALL P.I. WOOD POLES SHALL COMPLY WITH TASNETWORKS SPECIFICATIONS.
B) THE USE OF GROWING, DEAD OR 'RINGED' TREES AS POLES IS PROHIBITED.
C) POLE DIMENSIONS-:
THE DIMENSIONS OF THE POLE SHALL BE IN ACCORDANCE WITH THE TABLE ON D - OHC - A019 - SD - 001
D) SECOND HAND POLES-:
RECOVERED POLES GREATER THAN 15 YEARS OF AGE SHALL NOT BE USED
E) DATE OF ERECTION TO BE STAMPED ON LETTER 'P' FIXED TO POLE.







DIMENSIONS ARE IN MILLIMETRES
UNLESS OTHERWISE STATED

ALTERATIONS: ORIGINAL ISSUE

TasNetworks

DRAWN	CS PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	-
DATE APPROVED	10/APR/19

TITLE: CUSTOMER POLES

SCALE: NTS

A4

D - OHC - A019 - SD - 002

REVISION: A

Appendix D Low Voltage Attachment Heights for TasNetworks' Poles

D.1 Extract from the TasNetworks Overhead Design and Construction Standard.

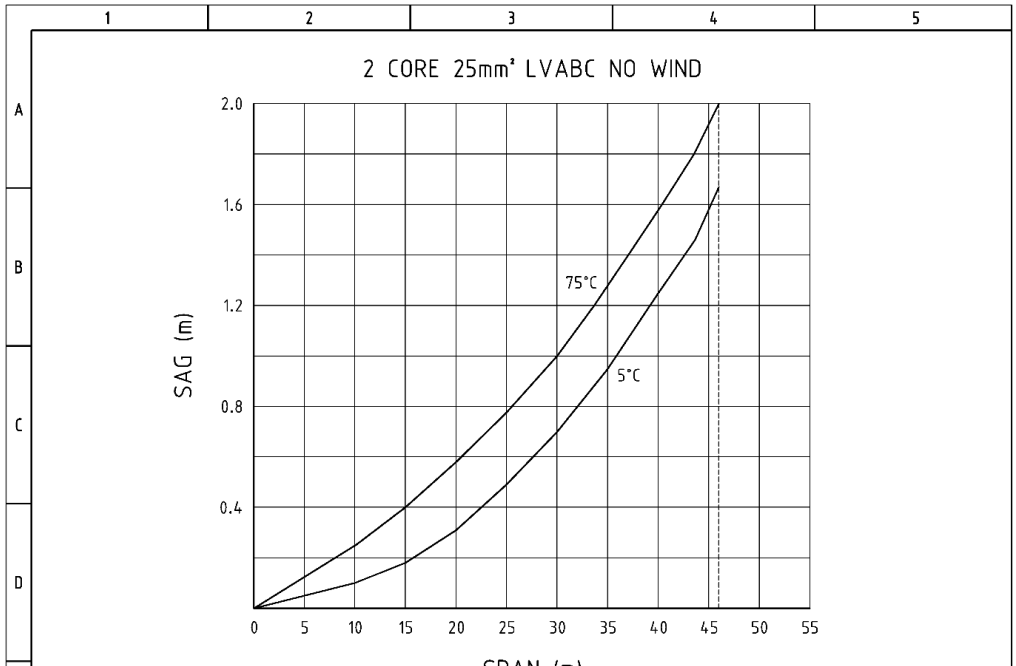
TasNetworks Pole	Pole Assets	Approx. Height from Pole Top	Pole Depth in Ground	Low Voltage Attachment Height Above Ground
(m)		(m)	(m)	(m)
8.0 SHS	LV ABC	0.15	1.4	6.5
9.0	Bare LV	0	1.5	7.5
9.0	LV ABC	0.15	1.5	7.3
10.5	Bare LV	0	1.7	8.8
10.5	LV ABC	0.15	1.7	8.7
10.5	HV + Bare LV	1.4	1.7	7.4
10.5	HV + LV ABC	1.4	1.7	7.4
12.0	HV + Bare LV	1.4	1.8	8.8
12.0	HV + LV ABC	1.4	1.8	8.8
12.0	HV + 10-50 kVA Transformer + Bare LV	3.1	1.8	7.1
12.0	HV + 10-50 kVA Transformer + LV ABC	3.3	1.8	6.9
12.0	HV + 300 kVA Transformer + Bare LV	4.1	1.8	6.1
12.0	HV + 300 kVA Transformer + LV ABC	4.1	1.8	6.1

These heights shown are approximate and do not apply for all *TasNetworks* poles as local conditions may require differing heights for *TasNetworks* assets.

Appendix E Stringing of Service Conductors - Maximum Spans

Extract from the *TasNetworks'* Overhead Design and Construction Standard.

E.1 D-OHC-A040-SD-001 - 2C 25mm2 LVABC Service Stringing to Building



TO USE THE CHART
SELECT THE SPAN LENGTH ON THE BOTTOM AXIS. TRACE UP THE SPAN LENGTH LINE UNTIL IT HITS THE 5° C CURVE. READ ACROSS TO THE SAG AXIS. THIS IS THE SAG AT WHICH THE LINE IS BUILT. TO DETERMINE THE MAXIMUM SAG READ OFF 75° C CURVE. THIS FIGURE IS USED TO DETERMINE THE GROUND CLEARANCE MIDSPAN UNDER MAXIMUM LOAD CONDITIONS.

EXAMPLE: 5° C SAG FOR 45M SPAN IS 1.6M
& MAXIMUM 75° C SAG IS 1.95M
MAXIMUM TERMINATING SPAN 46M

TENSION TABLE

	TENSION (kN)				
	10m SPAN	20m SPAN	30m SPAN	40m SPAN	46m SPAN
MAX. TENSION UNDER 350Pa WIND	0.61	0.84	0.94	0.98	1
EVERY DAY TENSION @ 5 °C	0.31	0.31	0.31	0.31	0.31

SWING TABLE

CABLE SWING (m) 350 Pa WIND				
10m SPAN	20m SPAN	30m SPAN	40m SPAN	46m SPAN
0.13	0.39	0.72	1.32	1.71

ALTERATIONS: ORIGINAL ISSUE

TasNetworks

DRAWN	CS PRO-SOLUTIONS
DESIGNED BY	ELECTRA
CHECKED BY	H.WESTBURY
APPROVED BY	A KETLEY
DATE APPROVED	16/APR/19

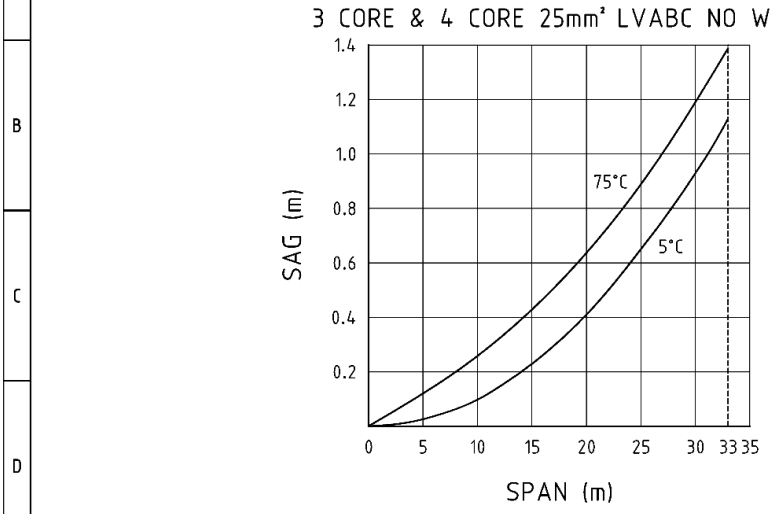
TITLE: SERVICE CABLE - 2C 25mm SQ. Al XLPE (LVABC)
TERMINATING SPAN
ONTO RAISER BRACKETS, FASCIAS & BUILDINGS

SCALE: NTS
A4

D - OHC - A040 - SD - 001

REVISION: A

E.2 D-OHC-A040-SD-002 - 3C & 4C 25mm2 LVABC Service Stringing to Building



TO USE THE CHART
SELECT THE SPAN LENGTH ON THE BOTTOM AXIS. TRACE UP THE SPAN LENGTH LINE UNTIL IT HITS THE 5° C CURVE. READ ACROSS TO THE SAG AXIS. THIS IS THE SAG AT WHICH THE LINE IS BUILT. TO DETERMINE THE MAXIMUM SAG READ OFF 75° C CURVE. THIS FIGURE IS USED TO DETERMINE THE GROUND CLEARANCE MIDSPAN UNDER MAXIMUM LOAD CONDITIONS.

EXAMPLE: 5° C SAG FOR 25M SPAN IS 0.65M
& MAXIMUM 75° C SAG IS 0.9M
MAXIMUM TERMINATING SPAN 33M

TENSION (kN)

SPAN LENGTH (m)		10	20	30	33
3-CORE	350 Pa WIND 15 °C	0.61	0.76	0.81	0.82
	NO WIND 5 °C	0.35	0.35	0.35	0.35
4-CORE	350 Pa WIND 15 °C	0.75	0.94	0.99	1.00
	NO WIND 5 °C	0.48	0.48	0.48	0.48

SWING TABLE

CABLE SWING (m) 350 Pa WIND			
10m SPAN	20m SPAN	30m SPAN	33m SPAN
0.13	0.41	0.88	1.05

ALTERATIONS: ORIGINAL ISSUE

TasNetworks

DRAWN	ES PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	-
DATE APPROVED	16/APR/19

TITLE: SERVICE CABLE - 3C & 4C 25mm2 LVABC TERMINATING ON FACIAS, BUILDINGS OR RISER BRACKETS

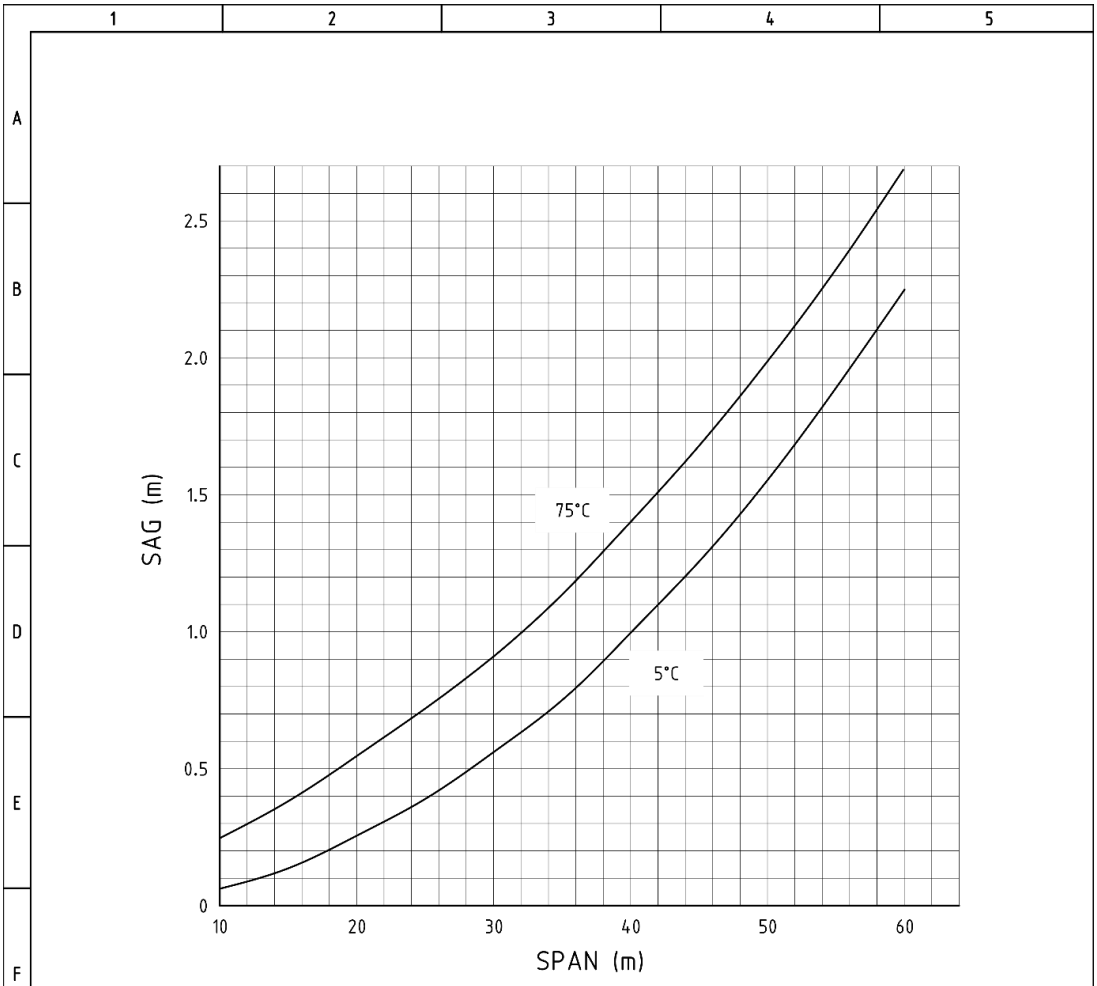
SCALE: NTS

A4

D - OHC - A040 - SD - 002

REVISION: A

E.3 D-OHC-A041-SD-001 - 2, 3 & 4 Core 25mm2 LVABC Stringing Pole to Pole



SAG CHART FOR BOTH 2, 3 & 4 CORE 25mm² ALUMINIUM XLPE SERVICE CABLE.
THE 5°C GRAPH IS USED FOR CONSTRUCTION STRINGING.
THE 75°C GRAPH IS USED TO DETERMINE THE MAXIMUM SAG FOR GROUND CLEARANCE.

5°C IS THE TEMPERATURE AT WHICH THE CABLE WILL BE FOR MOST OF IT'S LIFE.
75°C IS THE MAXIMUM TEMPERATURE THAT THE CABLE WILL ACHIEVE UNDER MAXIMUM LOAD AND AMBIENT TEMPERATURE.

ALTERATIONS: ORIGINAL ISSUE

TasNetworks

DRAWN	CS PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	-
DATE APPROVED	07/MAY/19

TITLE: SAG CHART FOR POLE TO POLE STRINGING 2, 3 & 4 CORE 25MM SQ. ALUMINIUM SERVICE CABLE

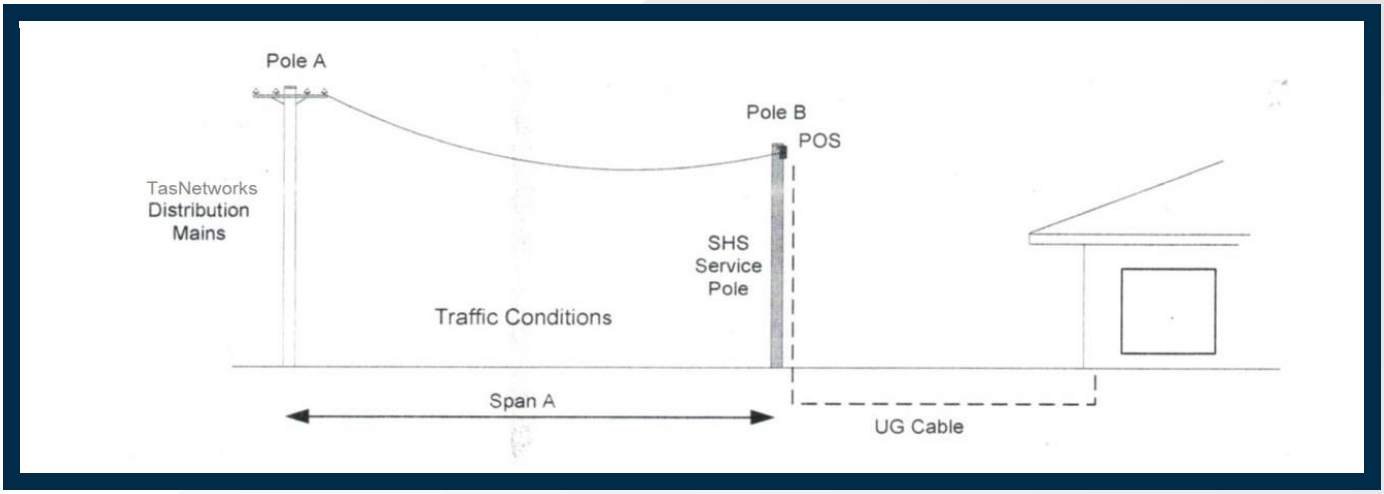
SCALE: NTS

A4

D - OHC - A041 - SD - 001

REVISION: A

E.4 Maximum Spans for Un-stayed Service Pole



The *service pole* location will be dependent primarily on:

a) Achieving acceptable conductor ground clearance for the traffic conditions under Span A

b) Ensuring that the loading at the top of the pole is not greater than 2kN

c) Ensuring that the clamping force on the conductor's insulation does not exceed 28% of the Conductor's designated Breaking Load (CBL)

Notes:

a) Ground clearance is based on an initial conductor stringing of 5.6% CBL at 5°C, and a conductor operating temperature of 75°C

b) The Pole-Top Force is based on 500Pa 15°C wind force on Conductor and 1200Pa force due to wind on square pole.

c) The effect of pole wind loading on the resultant conductor loading has been approximated to being perpendicular to the resultant conductor force.

E.4.1 2 Core and 4 Core 25 mm^2 LVABC

a) Traffic Conditions used in the following table are

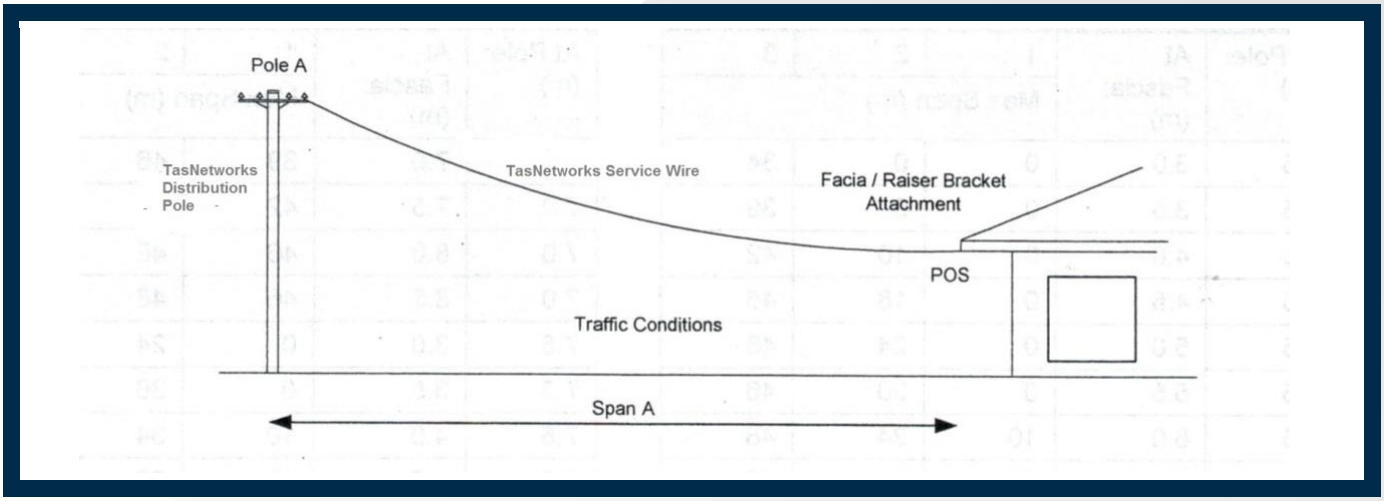
1. Over roads, or in caravan parks or where farm machinery could operate
2. Over footpaths or over driveways
3. Over ground that has no vehicle traffic or has no footpaths or driveways

b) Traffic conditions assumed to be under lowest point of conductor sag

c) Assumed 8m 2kN 125mm x 125mm SHS *service pole* (Pole B), 6.5m attachment height.

Attachment Height at *TasNetworks* Pole	2 Core 25 mm2 LVABC (Span A)			4 Core 25 mm2 LVABC (Span A)		
	Traffic Conditions					
(Pole A)	1	2	3	1	2	3
(m)	(m)	(m)	(m)	(m)	(m)	(m)
5.5	20	42	60	20	30	30
5.8	23	45	60	23	30	30
6.0	26	46	60	26	30	30
6.3	30	49	60	30	30	30
6.5	32	50	60	30	30	30
6.8	35	52	60	30	30	30
7.0	37	54	60	30	30	30
7.3	40	56	60	30	30	30
7.5	42	57	60	30	30	30
7.8	45	59	60	30	30	30
8.0	46	60	60	30	30	30
8.3	49	60	60	30	30	30
8.5	50	60	60	30	30	30

E.5 Maximum Spans for Un-stayed Fascia/Raiser Bracket Termination



The facia attachment location will be dependent primarily on:

a) Achieving acceptable conductor ground clearance for the traffic conditions under Span A

b) Ensuring that the loading at the fascia attachment or raiser bracket is not greater than 1kN

Notes:

a) Ground clearance is based on an initial conductor stringing of 4.5% Conductor's designated Breaking Load (CBL) at 5°C, and a conductor operating temperature of 75°C for 2 Core 25mm^2 LVABC.

b) Ground clearance is based on an initial conductor stringing of and 3.35% CBL at 5°C, and a conductor operating temperature of 75°C for 4 Core 25mm^2 LVABC.

c) The force at the fascia is based on a 350 Pa 15°C wind force on the conductor.

d) Traffic Conditions: (as used in the following tables, E.6.1 2 Core 25mm2 LVABC Over Road (A) and Driveway or Footpath (B) and E.6.2 2 Core 25mm2 LVABC Over Road (A) and Un-trafficked Land (B))

   1. Over roads, or in caravan parks or where farm machinery could operate
   2. Over footpaths or over driveways
   3. Over ground that has no vehicle traffic or has no footpaths or driveways

e) Traffic conditions assumed to be under lowest point of conductor sag

f) Clearances and spans are for flat ground only

g) Ground clearance is based on an initial conductor stringing reference of 4.5% CBL at 5°C and a conductor operating temperature of 75°C.

E.5.1 2 Core 25mm2 LVABC

Attachment Height		Traffic Conditions		
		1	2	3
At Pole: (m)	At Fascia: (m)	Max Span (m)		
5.5	3.0	0	0	34
5.5	3.5	0	0	39
5.5	4.0	0	10	42
5.5	4.5	0	18	46
5.5	5.0	0	24	46
5.5	5.5	0	30	46
5.5	6.0	10	34	46
5.5	6.5	18	39	46
5.5	7.0	24	42	46
5.5	7.5	30	46	46
5.5	8.0	34	46	46
5.5	8.5	39	46	46
6.0	3.0	0	0	39
6.0	3.5	0	10	42
6.0	4.0	0	18	46
6.0	4.5	0	24	46
6.0	5.0	0	30	46
6.0	5.5	10	34	46
6.0	6.0	18	39	46
6.0	6.5	24	42	46
6.0	7.0	30	46	46
6.0	7.5	34	46	46
6.0	8.0	39	46	46
6.0	8.5	42	46	46
6.5	3.0	0	10	42
6.5	3.5	0	18	46
6.5	4.0	0	24	46
6.5	4.5	0	30	46
6.5	5.0	10	34	46
6.5	5.5	18	39	46

Attachment Height		Traffic Conditions		
		1	2	3
At Pole: (m)	At Fascia: (m)	Max Span (m)		
6.5	6.0	24	42	46
6.5	6.5	30	46	46
6.5	7.0	34	46	46
6.5	7.5	39	46	46
6.5	8.0	42	46	46
6.5	8.5	46	46	46
7.0	3.0	0	18	46
7.0	3.5	0	24	46
7.0	4.0	0	30	46
7.0	4.5	10	34	46
7.0	5.0	18	39	46
7.0	5.5	24	42	46
7.0	6.0	30	46	46
7.0	6.5	34	46	46
7.0	7.0	39	46	46
7.0	7.5	42	46	46
7.0	8.0	46	46	46
7.0	8.5	46	46	46
7.5	3.0	0	24	46
7.5	3.5	0	30	46
7.5	4.0	10	34	46
7.5	4.5	18	39	46
7.5	5.0	24	42	46
7.5	5.5	30	46	46
7.5	6.0	34	46	46
7.5	6.5	39	46	46
7.5	7.0	42	46	46
7.5	7.5	46	46	46
7.5	8.0	46	46	46
7.5	8.5	46	46	46

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
8.0	3.0	0	30	46
8.0	3.5	10	34	46
8.0	4.0	18	39	46
8.0	4.5	24	42	46
8.0	5.0	30	46	46
8.0	5.5	34	46	46
8.0	6.0	39	46	46
8.0	6.5	42	46	46
8.0	7.0	46	46	46
8.0	7.5	46	46	46
8.0	8.0	46	46	46
8.0	8.5	46	46	46
8.5	3.0	10	34	46
8.5	3.5	18	39	46
8.5	4.0	24	42	46
8.5	4.5	30	46	46
8.5	5.0	34	46	46
8.5	5.5	39	46	46
8.5	6.0	42	46	46
8.5	6.5	46	46	46
8.5	7.0	46	46	46
8.5	7.5	46	46	46
8.5	8.0	46	46	46
8.5	8.5	46	46	46

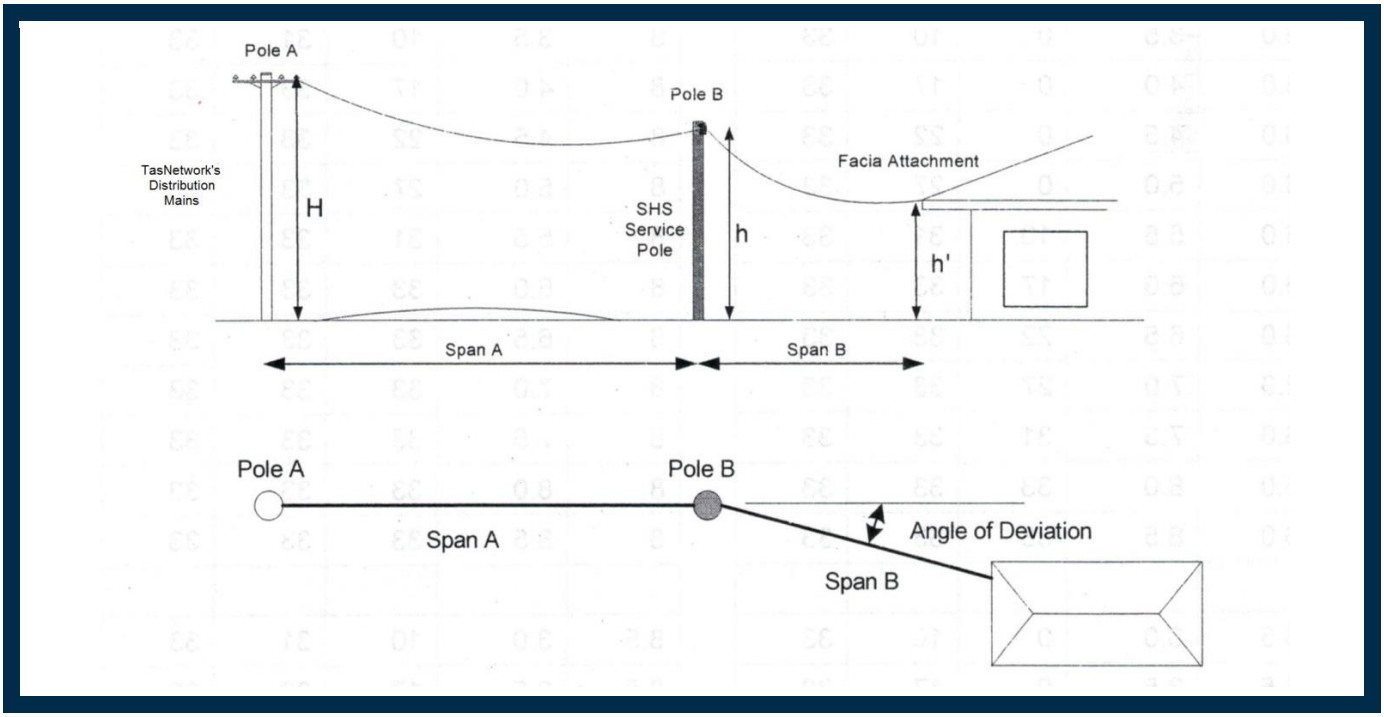
E.5.2 4 Core 25mm^2 LVABC

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
5.5	3.0	0	0	31
5.5	3.5	0	0	33
5.5	4.0	0	10	33
5.5	4.5	0	17	33
5.5	5.0	0	22	33
5.5	5.5	0	27	33
5.5	6.0	10	31	33
5.5	6.5	17	33	33
5.5	7.0	22	33	33
5.5	7.5	27	33	33
5.5	8.0	31	33	33
5.5	8.5	33	33	33
6.0	3.0	0	0	33
6.0	3.5	0	10	33
6.0	4.0	0	17	33
6.0	4.5	0	22	33
6.0	5.0	0	27	33
6.0	5.5	10	31	33
6.0	6.0	17	33	33
6.0	6.5	22	33	33
6.0	7.0	27	33	33
6.0	7.5	31	33	33
6.0	8.0	33	33	33
6.0	8.5	33	33	33
6.5	3.0	0	10	33
6.5	3.5	0	17	33
6.5	4.0	0	22	33
6.5	4.5	0	27	33
6.5	5.0	10	31	33
6.5	5.5	17	33	33

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
6.5	6.0	22	33	33
6.5	6.5	27	33	33
6.5	7.0	31	33	33
6.5	7.5	33	33	33
6.5	8.0	33	33	33
6.5	8.5	33	33	33
7.0	3.0	0	17	33
7.0	3.5	0	22	33
7.0	4.0	0	27	33
7.0	4.5	10	31	33
7.0	5.0	17	33	33
7.0	5.5	22	33	33
7.0	6.0	27	33	33
7.0	6.5	31	33	33
7.0	7.0	33	33	33
7.0	8.5	33	33	33
7.5	3.0	0	22	33
7.5	3.5	0	27	33
7.5	4.0	10	31	33
7.5	4.5	17	33	33
7.5	5.0	22	33	33
7.5	5.5	27	33	33
7.5	6.0	31	33	33
7.5	6.5	33	33	33
7.5	7.0	33	33	33
7.5	7.5	33	33	33
7.5	8.0	33	33	33
7.5	8.5	33	33	33

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
8.0	3.0	0	27	33
8.0	3.5	10	31	33
8.0	4.0	17	33	33
8.0	4.5	22	33	33
8.0	5.0	27	33	33
8.0	5.5	31	33	33
8.0	6.0	33	33	33
8.0	6.5	33	33	33
8.0	7.0	33	33	33
8.0	7.5	33	33	33
8.0	8.0	33	33	33
8.0	8.5	33	33	33
8.5	3.0	10	31	33
8.5	3.5	17	33	33
8.5	4.0	22	33	33
8.5	4.5	27	33	33
8.5	5.0	31	33	33
8.5	5.5	33	33	33
8.5	6.0	33	33	33
8.5	6.5	33	33	33
8.5	7.0	33	33	33
8.5	7.5	33	33	33
8.5	8.0	33	33	33
8.5	8.5	33	33	33

E.6 Maximum Spans for Un-stayed Intermediate Service Pole 125x125x5mm



The *TasNetworks' service pole* location will be dependent primarily on:

a) Achieving acceptable conductor ground clearance for the traffic conditions of the spans either side of the pole.

b) Ensuring that the loading at the top of the *service pole* is not greater than 2kN

c) Ensuring that the loading on any building support is not greater than 1kN

d) Ensuring that the clamping force on the conductor's insulation does not exceed 28% of the Conductor's Designated Breaking Load (CBL)

e) Ensuring that the pole has adequate footing strength to remain vertical for its full life.

E.6.1 2 Core 25mm2 LVABC Over Road (A) and Driveway or Footpath (B)

For the following table,

a) Span A is over the road

b) Span B is over a driveway or footpath

c) Fascia attachment height (h): 4.5m and greater

d) *service pole* attachment height (h): 6.5m

Notes:

a) Max Span B length to achieve required ground clearance is 15m.

b) For angles of deviation greater than 60 degrees, consult *TasNetworks*

c) Flat ground has been assumed.

H (m)	Ang of Dev Up to (Deg)	Span A Up to (m)	Span B Up to (m)
5.5	30	20	15
5.5	40	20	15
5.5	50	18	10
5.5	50	13	15
5.5	60	12	10
5.5	60	7	15
6.0	30	28	15
6.0	40	28	10
6.0	40	23	15
6.0	50	18	10
6.0	50	13	15
6.0	60	12	10
6.0	60	7	15
6.5	30	33	15
6.5	40	28	10
6.5	40	23	15
6.5	50	18	10
6.5	50	13	15
6.5	60	12	10
6.5	60	7	15
7.0	30	39	15
7.0	40	28	10
7.0	40	23	15
7.0	50	18	10
7.0	50	13	15
7.0	60	12	10
7.0	60	7	15
7.5	30	43	10
7.5	30	41	15
7.5	40	28	10
7.5	40	23	15
7.5	50	18	10

H (m)	Ang of Dev Up to (Deg)	Span A Up to (m)	Span B Up to (m)
7.5	50	13	15
7.5	60	12	10
7.5	60	7	15
8.0	20	48	15
8.0	30	46	10
8.0	30	41	15
8.0	40	28	10
8.0	40	23	15
8.0	50	18	10
8.0	50	13	15
8.0	60	12	10
8.0	60	7	15
8.5	20	51	15
8.5	30	46	10
8.5	30	41	15
8.5	40	28	10
8.5	40	23	15
8.5	50	18	10
8.5	50	13	15
8.5	60	12	10
8.5	60	7	15

E.6.2 2 Core 25mm2 LVABC Over Road (A) and Un-trafficked Land (B)

For the following tables:

a) Span A is over the road

b) Span B is over un-trafficked land

c) Fascia attachment height (h): 3m and greater

d) *service pole* attachment height (h): 6.5m

Notes:

a) Max Span B length to achieve required ground clearance is 43m

b) For Angles of Deviation greater than 60 degrees, consult *TasNetworks*

c) Flat ground has been assumed.

H (m)	Angle of Dev. Up to (Deg)	Span A Up to (m)	Span B Up to (m)
5.5	20	20	43
5.5	30	20	35
5.5	30	16	40
5.5	30	13	43
5.5	40	20	15
5.5	40	18	20
5.5	40	13	25
5.5	40	8	30
5.5	50	18	10
5.5	50	13	15
5.5	50	8	20
5.5	60	12	10
5.5	60	7	15
6.0	20	28	43
6.0	30	28	25
6.0	30	26	30
6.0	30	21	35
6.0	30	16	40
6.0	30	13	43
6.0	40	28	10
6.0	40	23	15
6.0	40	18	20
6.0	40	13	25
6.0	40	8	30
6.0	50	18	10
6.0	50	13	15
6.0	50	8	20
6.0	60	12	10
6.0	60	7	15
6.5	20	33	43
6.5	30	33	20
6.5	30	31	25
6.5	30	26	30
6.5	30	21	35

H (m)	Angle of Dev. Up to (Deg)	Span A Up to (m)	Span B Up to (m)
6.5	30	16	40
6.5	30	13	43
6.5	40	28	10
6.5	40	23	15
6.5	40	18	20
6.5	40	13	25
6.5	40	8	30
6.5	50	18	10
6.5	50	13	15
6.5	50	8	20
6.5	60	12	10
6.5	60	7	15
7.0	20	39	43
7.0	30	39	15
7.0	30	36	20
7.0	30	31	25
7.0	30	26	30
7.0	30	21	35
7.0	30	16	40
7.0	30	13	43
7.0	40	28	10
7.0	40	23	15
7.0	40	18	20
7.0	40	13	25
7.0	40	8	30
7.0	50	18	10
7.0	50	13	15
7.0	50	8	20
7.0	60	12	10
7.0	60	7	15
7.5	20	43	43
7.5	30	43	10
7.5	30	41	15
7.5	30	36	20

H (m)	Angle of Dev. Up to (Deg)	Span A Up to (m)	Span B Up to (m)
7.5	30	31	25
7.5	30	26	30
7.5	30	21	35
7.5	30	16	40
7.5	30	13	43
7.5	40	28	10
7.5	40	23	15
7.5	40	18	20
7.5	40	13	25
7.5	40	8	30
7.5	50	18	10
7.5	50	13	15
7.5	50	8	20
7.5	60	12	10
7.5	60	7	15
8.0	20	48	43
8.0	30	46	10
8.0	30	41	15
8.0	30	36	20
8.0	30	31	25
8.0	30	26	30
8.0	30	21	35
8.0	30	16	40
8.0	30	13	43
8.0	40	28	10
8.0	40	23	15
8.0	40	18	20
8.0	40	13	25
8.0	40	8	30
8.0	50	18	10
8.0	50	13	15
8.0	50	8	20
8.0	60	12	10
8.0	60	7	15

H (m)	Angle of Dev. Up to (Deg)	Span A Up to (m)	Span B Up to (m)
8.5	20	51	43
8.5	30	46	10
8.5	30	41	15
8.5	30	36	20
8.5	30	31	25
8.5	30	26	30
8.5	30	21	35
8.5	30	16	40
8.5	30	13	43
8.5	40	28	10
8.5	40	23	15
8.5	40	18	20
8.5	40	13	25
8.5	40	8	30
8.5	50	18	10
8.5	50	13	15
8.5	50	8	20
8.5	60	12	10
8.5	60	7	15

E.6.3 4 Core 25mm2 LVABC Over Road (A) and Driveway or Footpath (B)

In the following table,

a) Span A is over Road

b) Span B is over Footpath or Driveway

c) Fascia attachment height (h) is: 4.5m and greater

d) *service pole* attachment height (h) is: 6.5m.

Notes:

a) Max Span A length to allow separate construction or disconnection of Span B is 30m

b) Max Span B length before exceeding clearance over footpath or driveway is 14m

c) For Angles of Deviation greater than 60 degrees, consult *TasNetworks*

d) Flat ground has been assumed.

H (m)	Angle of Dev. Up to (Deg)	Span A up to (m)	Span B up to (m)
5.5	20	20	14
5.5	30	20	14
5.5	40	14	10
5.5	40	10	14
5.5	50	8	10
6.0	20	28	14
6.0	30	24	10
6.0	30	20	14
6.0	40	14	10
6.0	40	10	14
6.0	50	8	10
6.5	20	30	14
6.5	30	24	10
6.5	30	20	14
6.5	40	14	10
6.5	40	10	14
6.5	50	8	10
7.0	20	30	14
7.0	30	24	10
7.0	30	20	14
7.0	40	14	10
7.0	40	10	14
7.0	50	8	10
7.5	20	30	14
7.5	30	24	10
7.5	30	20	14
7.5	40	14	10
7.5	40	10	14
7.5	50	8	10
8.0	20	30	14
8.0	30	24	10

H (m)	Angle of Dev. Up to (Deg)	Span A up to (m)	Span B up to (m)
8.0	30	20	14
8.0	40	14	10
8.0	40	10	14
8.0	50	8	10
8.5	20	30	14
8.5	30	24	10
8.5	30	20	14
8.5	40	14	10
8.5	40	10	14
8.5	50	8	10

E.6.4 4 Core 25mm2 LVABC Over Road (A) and Un-trafficked Land (B)

In the following table,

a) Span A is over Road

b) Span B is over Un-trafficked Land

c) Fascia attachment height (h) is: 3m and greater

d) *service pole* attachment height (h) is: 6.5m

Notes:

a) Max Span A length to allow separate construction or disconnection of Span B is 30m

b) Max Span B length before exceeding 1kN facia attachment limit is 33m

c) Max Span B length before exceeding clearance over untrafficked areas is 33m

d) For Angles of Deviation greater than 60 degrees, consult *TasNetworks*

e) Flat ground has been assumed.

H (m)	Angle of Deviation up to (Deg)	Span A up to (m)	Span B up to (m)
5.5	10	20	33
5.5	20	20	33
5.5	50	8	10
6.0	10	28	33
6.0	20	28	30

H (m)	Angle of Deviation up to (Deg)	Span A up to (m)	Span B up to (m)
6.0	20	25	33
6.0	50	8	10
6.5	10	30	33
6.5	20	28	30
6.5	20	27	33
6.5	50	8	10
7.0	10	30	33
7.0	20	28	30
7.0	20	27	33
7.0	50	8	10
7.5	10	30	33
7.5	20	28	30
7.5	20	27	33
7.5	50	8	10
8.0	10	30	33
8.0	20	28	30
8.0	20	27	33
8.0	50	8	10
8.5	10	30	33
8.5	20	28	30
8.5	20	27	33
8.5	50	8	10

Appendix F Overhead Service Attachments

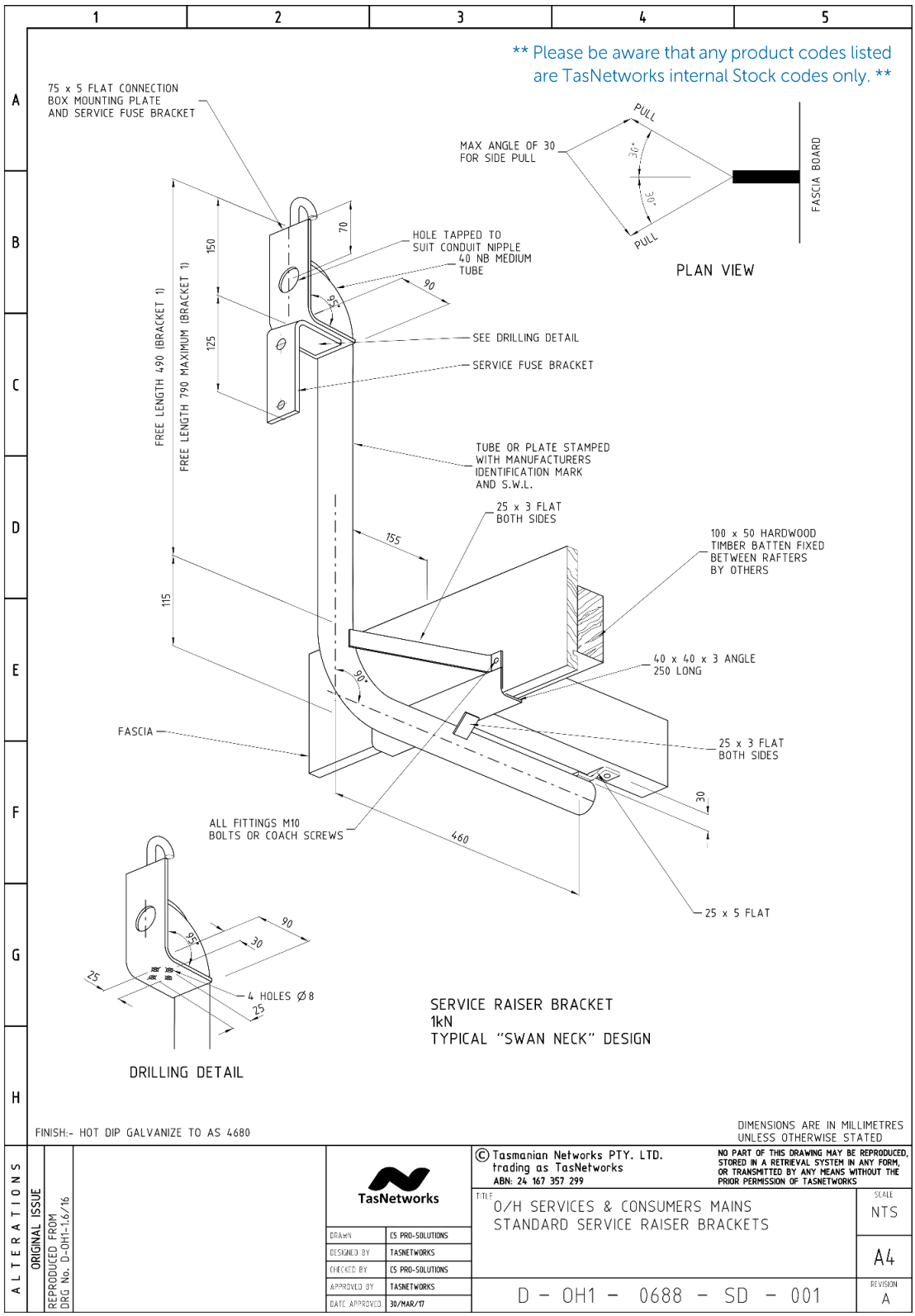
a) *Customer* installed service attachments must comply with the more onerous of AS/NZS 3000 and AS/NZS 7000

b) Drawings F.1 OH Services & Consumer Mains - Standard Service Raiser Brackets (1) and F.2 OH Services & Consumer Mains - Standard Service Raiser Brackets (2) below show examples of raiser brackets in use. These were designed to AS/NZS 3000 and are included here to show types of brackets which are acceptable to *TasNetworks*

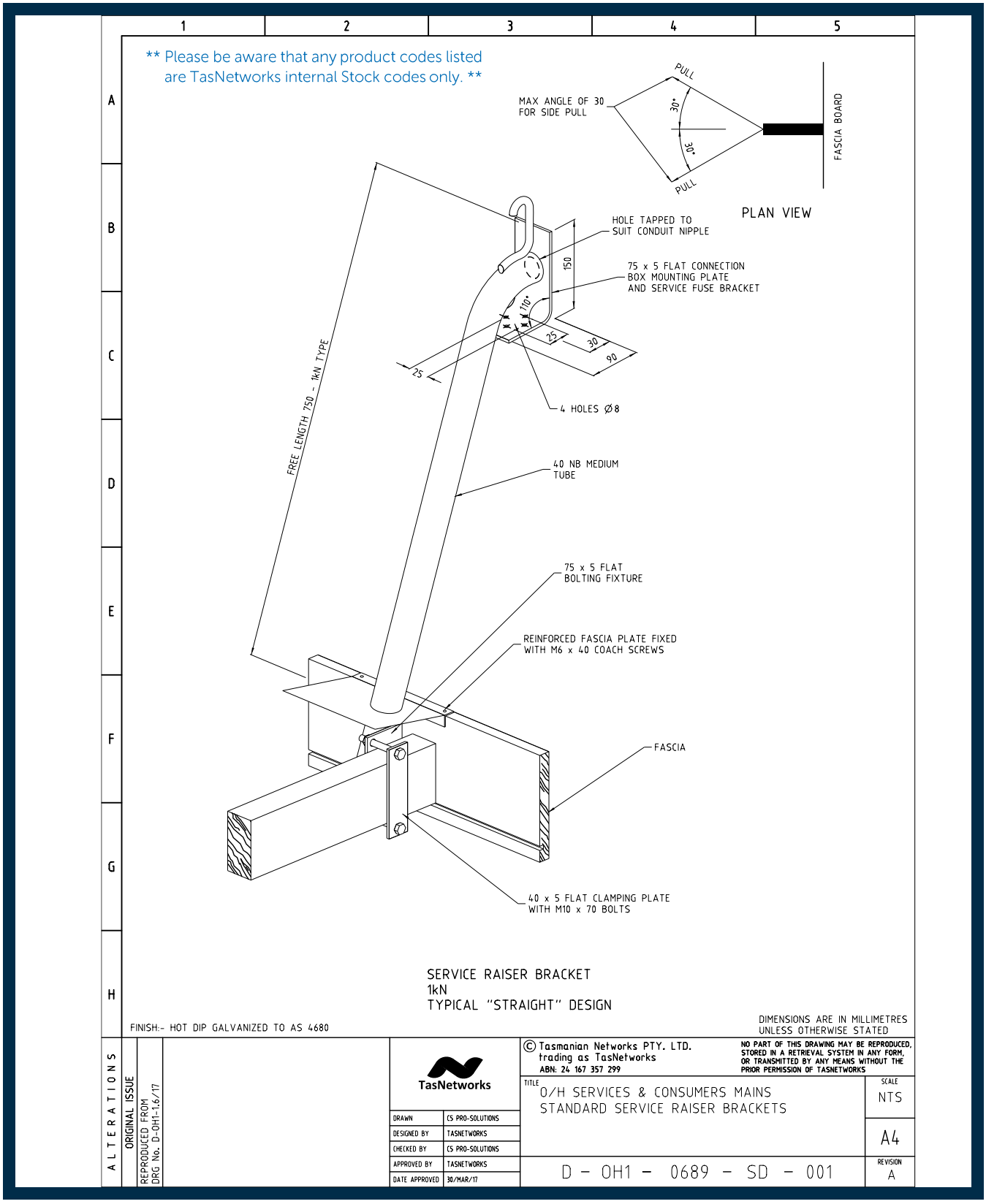
c) Drawing F.3 OH Services & Consumer Mains Service Fittings shows service hook in use which were designed to AS/NZS 3000.

d) Drawings F.4 Mounting of Service Fittings to Fascia and F.5 Mounting of Service Fittings– LVABC Service with mains box the mounting of service fittings to house.

F.1 OH Services & Consumer Mains - Standard Service Raiser Brackets (1)

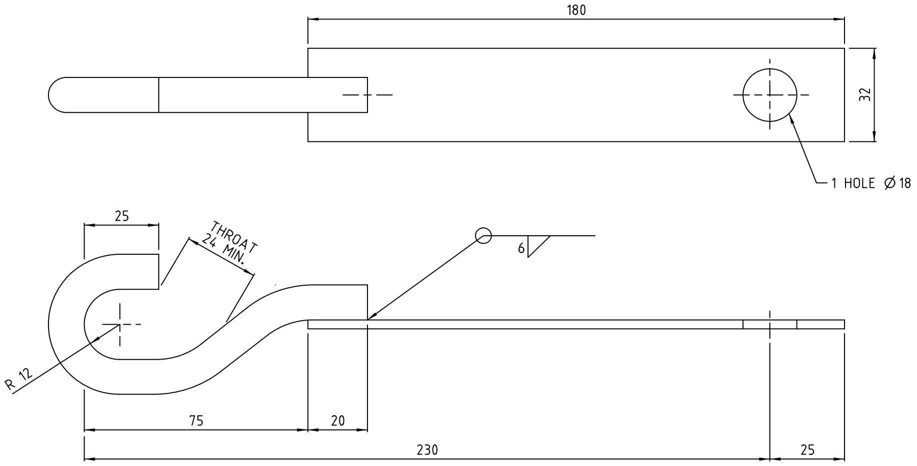


F.2 OH Services & Consumer Mains - Standard Service Raiser Brackets (2)



F.3 OH Services & Consumer Mains Service Fittings – Service Hook

** Please be aware that any product codes listed are TasNetworks internal Stock codes only. **



ITEM 29D

SERVICE EXTENSION HOOK

SI No 32.33.24

MATERIAL: 32 x 3 FLAT BAR 180 LONG AND 12 ROUND BAR TO AS/NZS 3679.1-300

S.I. No. 32.33.24

SERVICE EXTENSION HOOK

USED WHEN THERE IS INSUFFICIENT CLEARANCE BETWEEN BUILDING GUTTERS ETC

NOTE

1. HOT DIP GALVANIZE TO AS/NZS 4680

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

ALTERATIONS

ORIGINAL ISSUE		
IMAGE ADDED.	B	DESIGNED BY ELECTRO / DRAWN BY D. J. KING / DATE 01/10/2021 / DRAFTING CHECK RANMAL LIYANAGE / ENG.APPROV. ANGUS KETLEY / DATE 01/10/2021

TasNetworks

DRAWN	CS PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	A KETLEY
DATE APPROVED	12/APR/19

TITLE SERVICE HOOKS & FUSEHOLDER BRACKETS

SCALE 1:2

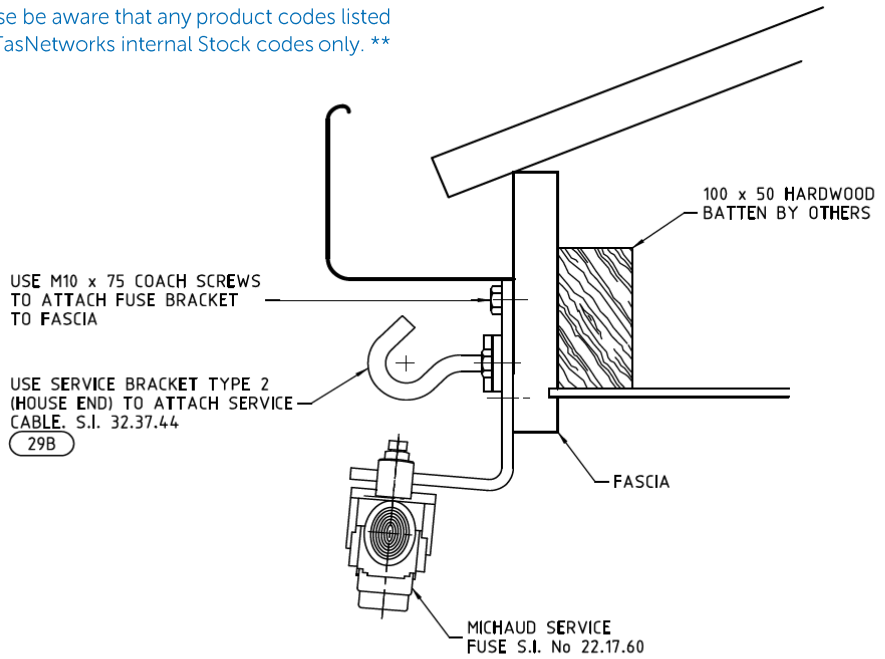
A4

D – OHC – A030 – SD – 005

REVISION B

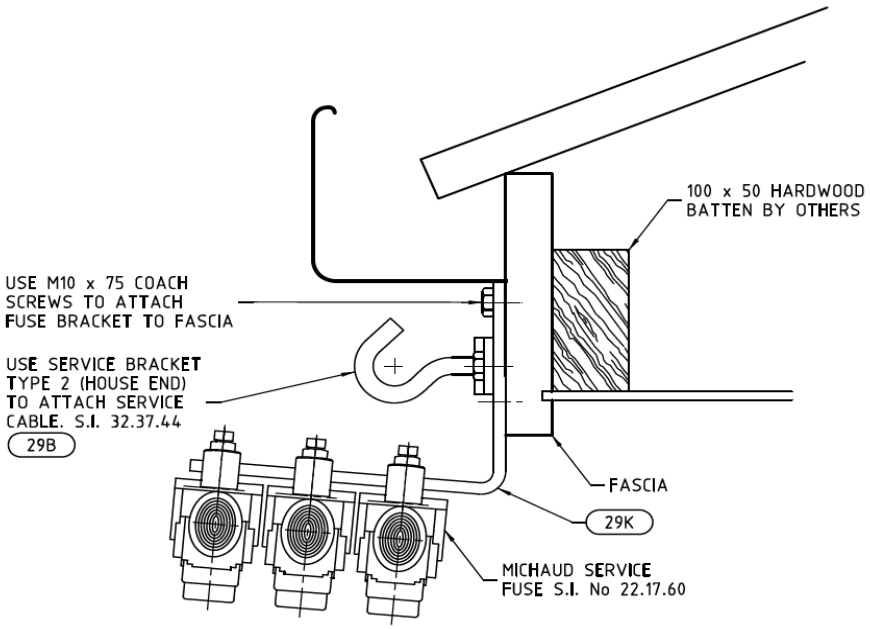
F.4 Mounting of Service Fittings to Fascia

** Please be aware that any product codes listed are TasNetworks internal Stock codes only. **



RETRO FIT TO AN EXISTING SERVICE CONNECTION

USE EXISTING SEVICE FUSE BRACKET TYPE 2 AND
ONE MICHAUD SINGLE PHASE SERVICE FUSE BRACKET.

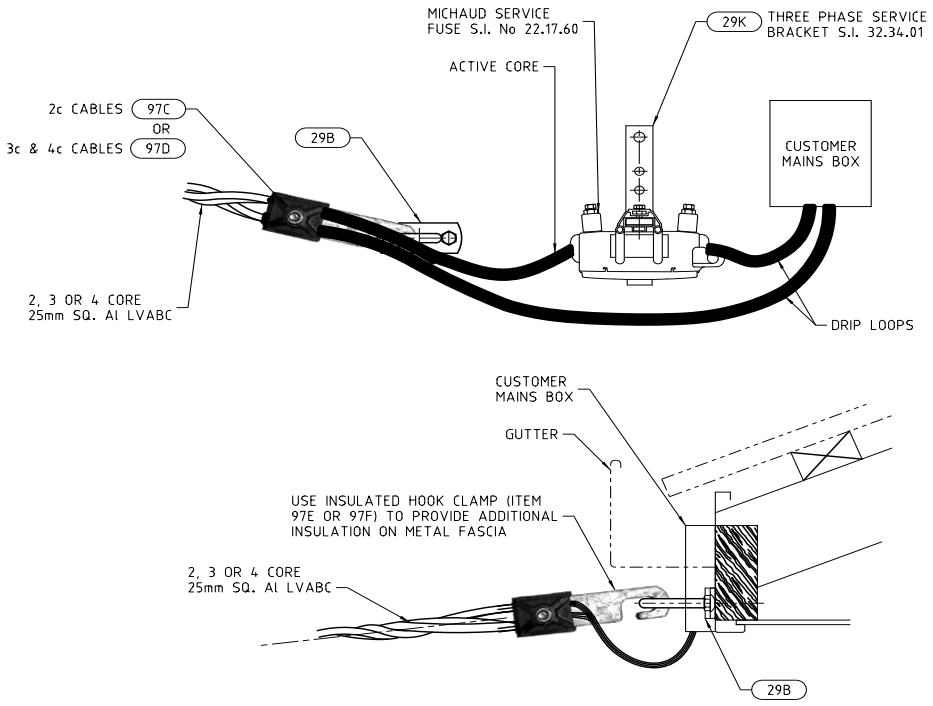


RETRO FIT TO AN EXISTING
MULTI PHASE SERVICE CONNECTION

USE EXISTING TYPE 2 AND MICHAUD
THREE PHASE SERVICE FUSE BRACKET

F.5 Mounting of Service Fittings– LVABC Service with mains box

** Please be aware that any product codes listed are TasNetworks internal Stock codes only. **



NOTES

1. NORMAL FIXING FOR HOUSE END SERVICE BRACKET.

   TIMBER FASCIA: M10 COACH SCREWS OR M10 BOLTS TO TIMBER BEHIND FASCIA.

   DOUBLE BRICK: M10 TO M12 BOLTS INTO LOXINS OR OTHER SUITABLE MASONARY ANCHORS.

   BRICK VENEER: BOLTS SHOULD PASS THROUGH THE BRICK WORK TO SUITABLE TIMBER FIXING.

2. WHEN ITEM 29B HOUSE BRACKET IS IN CONTACT WITH METAL CLADDING OR METAL FASCIA SPOUTING PROVIDE ADDITIONAL INSULATION AT THE HOUSE END BY USING THE INSULATED HOOK CLAMP ITEM 97E OR 97F.

3. TO PROVIDE 25mm CLEARANCE FROM UP-LIFTING SERVICE TERMINATION TO ANY METAL OR PLASTIC SPOUTING USE ITEM 29D SERVICE EXTENSION HOOK (AND BEND IF NECESSARY) BETWEEN SERVICE TERMINATION AND HOUSE BRACKET.

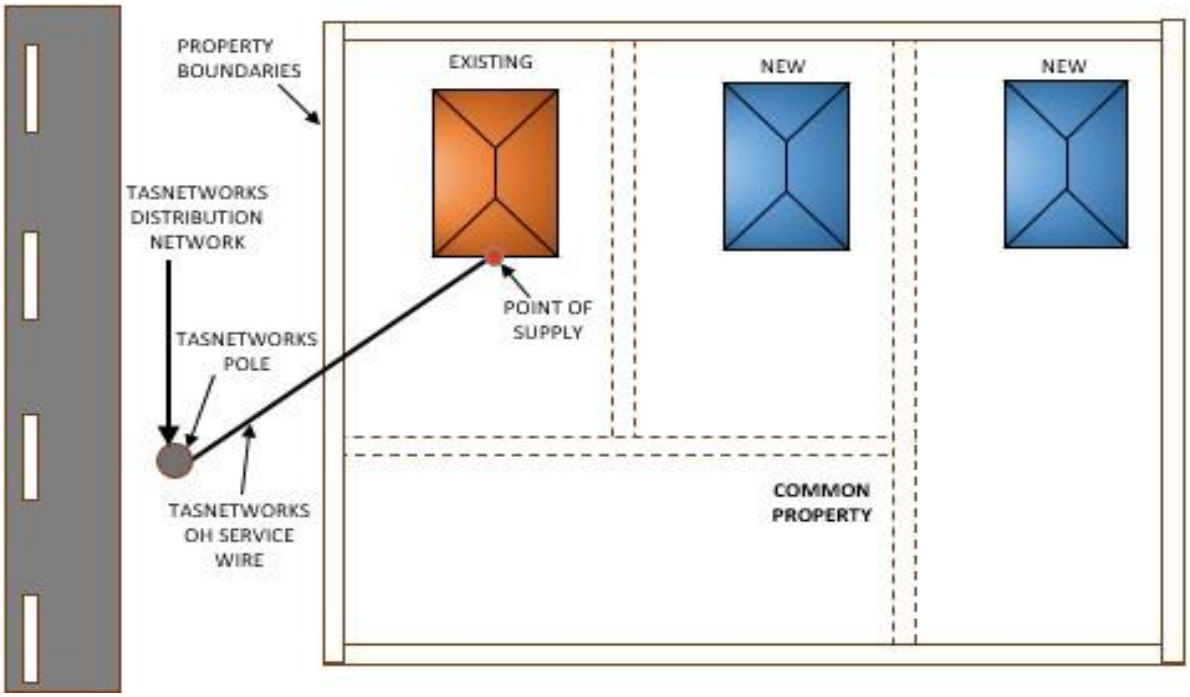
4. THE SERVICE HOOK ITEM 29B CAN BE MOUNTED HORIZONTALLY OR VERTICALLY. THE MODIFIED BOLT CAN BE ROTATED THROUGH 360 DEGREES IN 90 DEGREE INCREMENTS ENSURE THAT THE STRAIN IS TAKEN ON CROOK OF MODIFIED BOLT.

SINGLE AND MULTI PHASE SERVICE CONNECTION
MAINS CONNECTION BOX TO SUIT ABC SERVICES

Appendix G Permitted and Prohibited Supply Arrangements

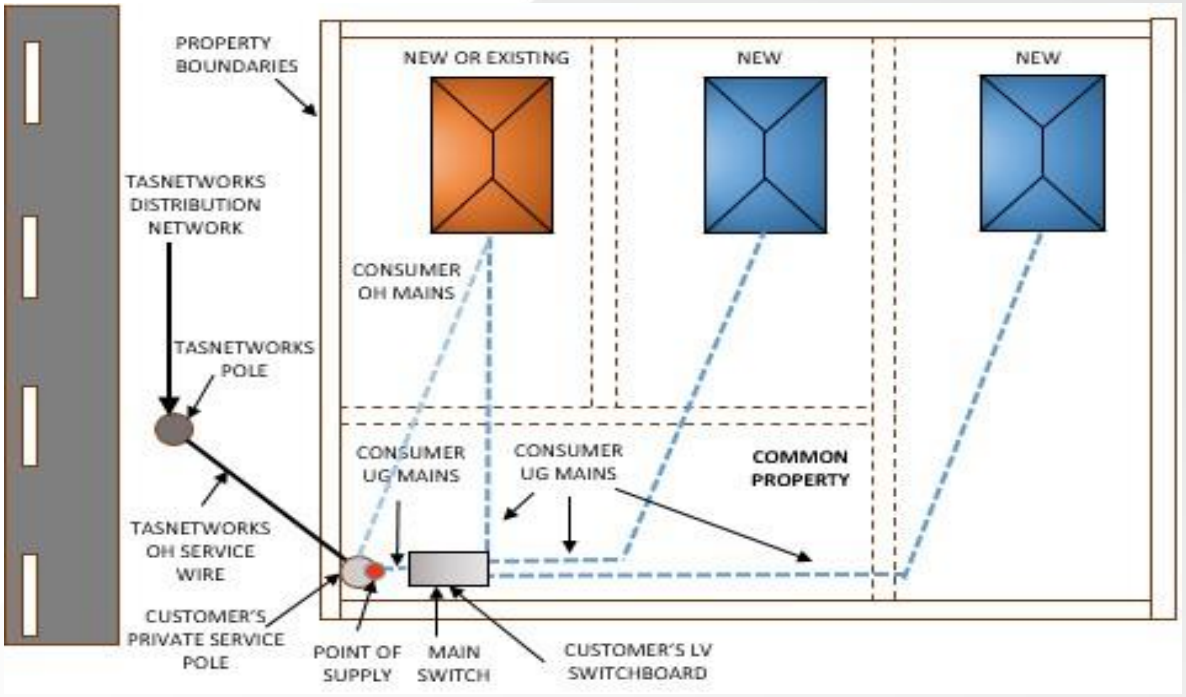
G.1 Scenario A Upgrade from Single Residence to Multi-Tenancy.

Existing residence has OH supply via a TasNetworks service wire to the POS located on the residence. The existing connection directly to the pre-existing premise must be disconnected / removed.



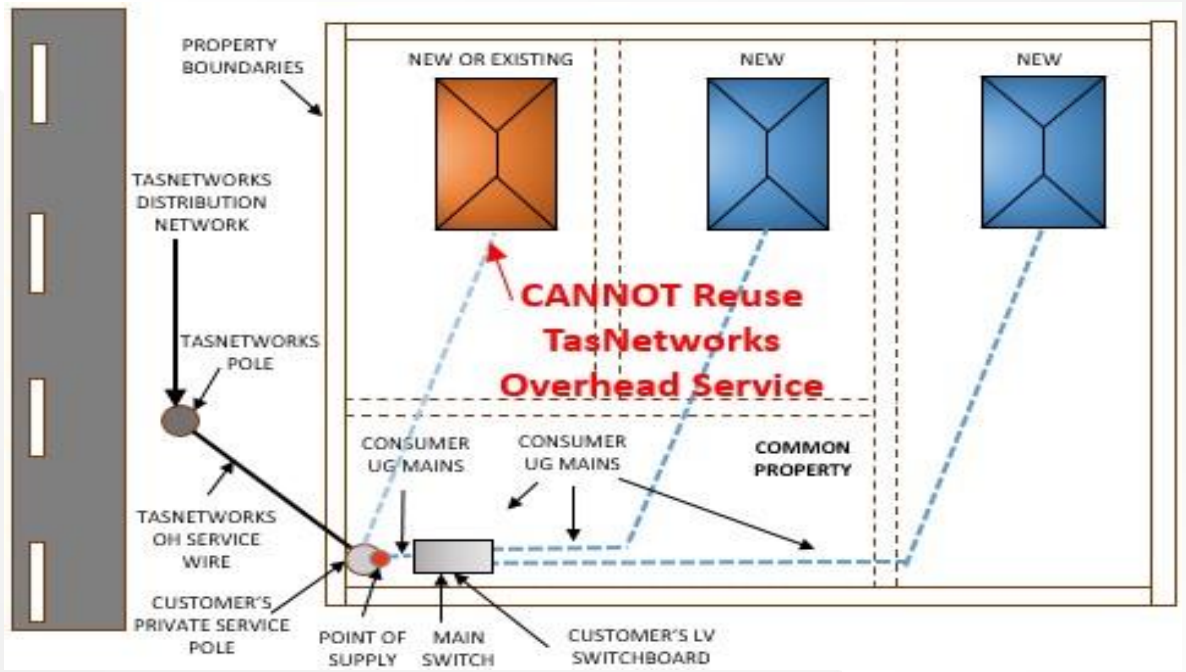
G.1 Scenario A Permitted Connection Upgrade from Single Residence to Multi-Tenancy

For any new connection or customer-initiated alteration, all multi-tenancy connections must have one point of supply (POS), and a main switchboard in common property to connect all sub-mains either U/G or O/H (see SIR V8.3, 4.2.1, 4.2.2, and 4.2.3).
O/H consumers mains must be pre installed by E/C Powerline contractor before TasNetworks visit site. The TasNetworks O/H service wire and service protection device cannot be reused



G.1 Scenario A Prohibited Connection Upgrade from Single Residence to Multi-Tenancy

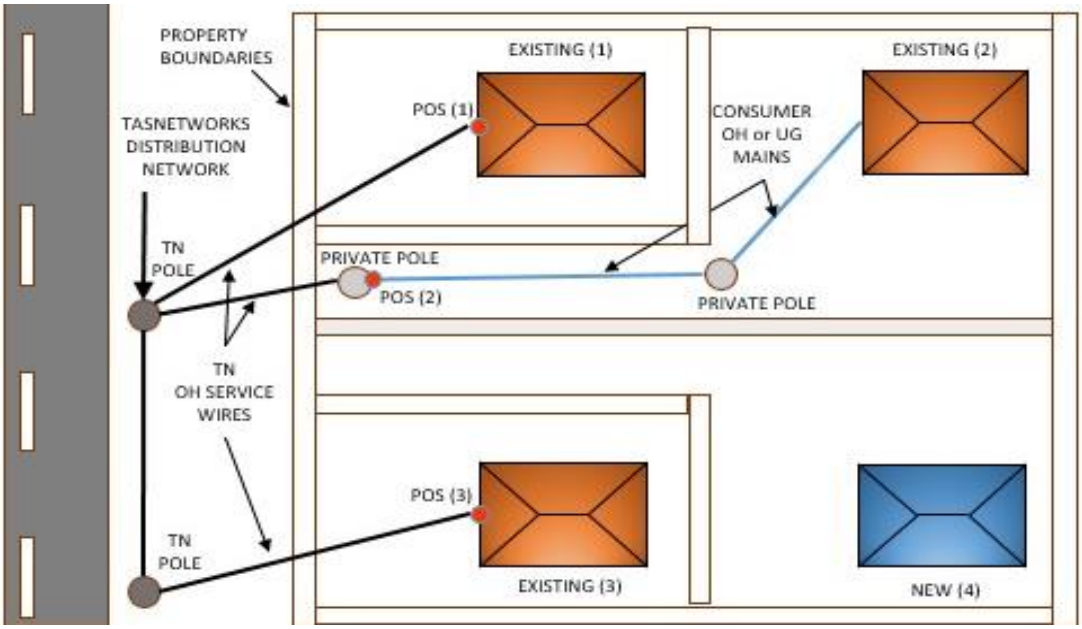
The TasNetworks service CANNOT be reused and swung across to the customers private service pole
The existing connection directly to the pre-existing premise must be disconnected/ removed



Prohibited Connection Arrangements 4.3

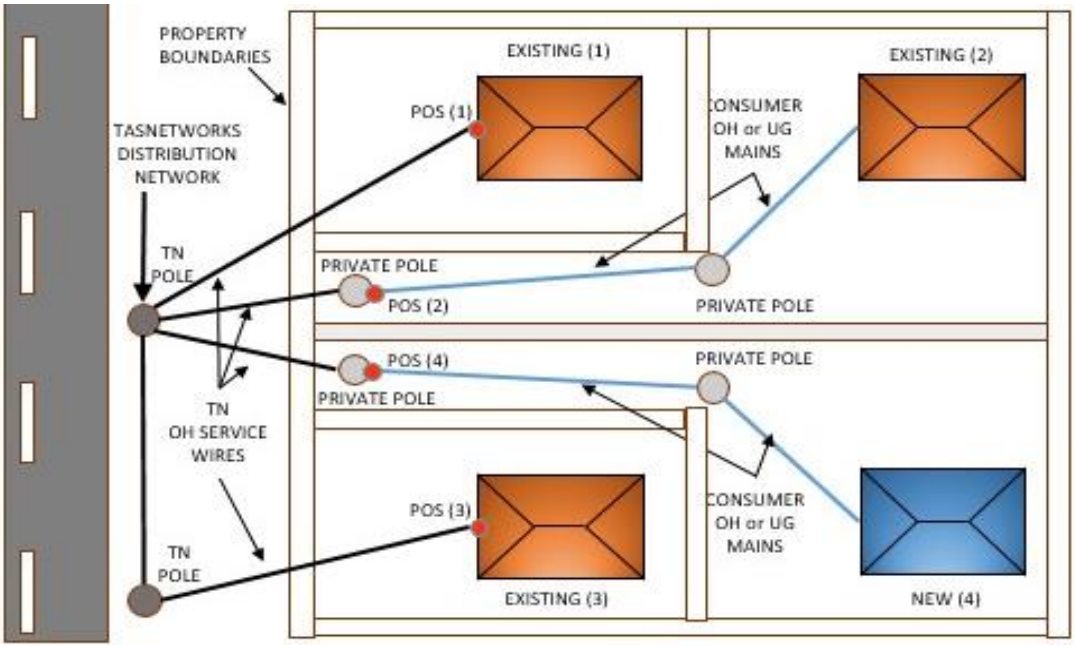
G.2 Scenario B New internal block needs supply, with driveway.

Supply from the distribution network requires new private poles and mains. The existing neighbours supply via their private pole is closer and would avoid any new poles.

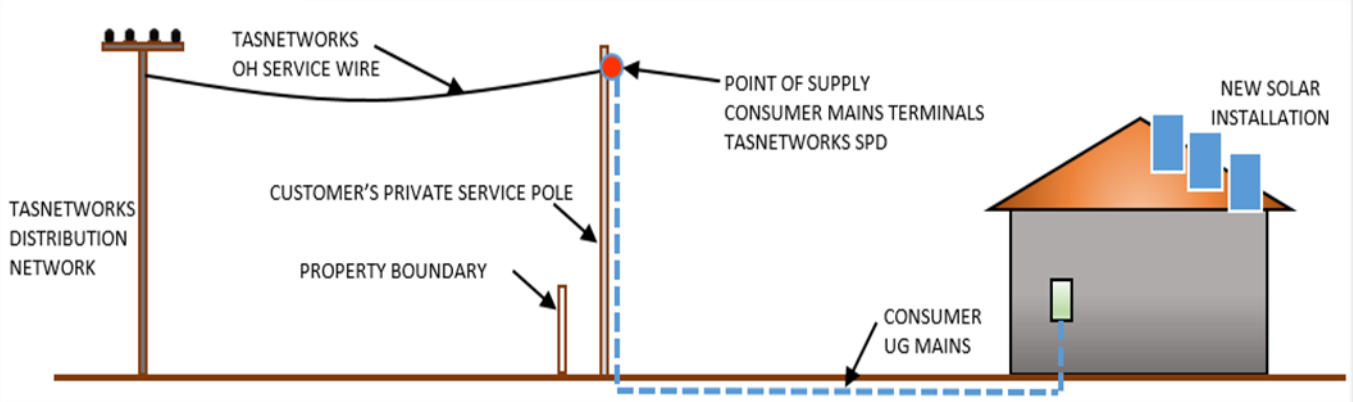


G.2 Scenario B Permitted Connection New internal block needs supply, with driveway.

For any new connection or customer-initiated alteration, supply must be directly via the distribution network with new private poles and mains. The neighbouring supply cannot be utilised. Consumers mains must be pre installed by E/C Powerline contractor before TasNetworks visit site



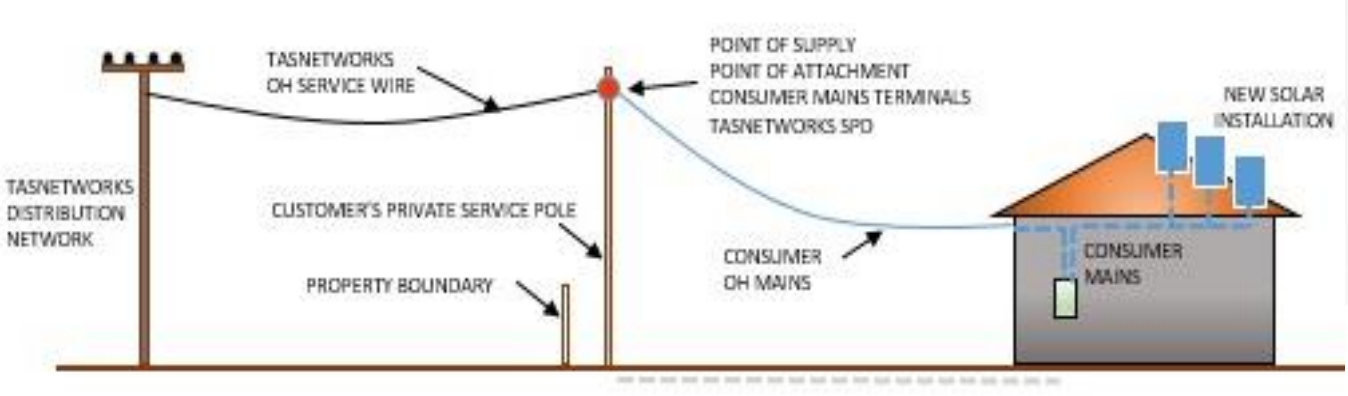
G.3 Scenario C Customer request to upgrade supply, including change from UG second span to larger OH second span.



G.3 Scenario C Permitted Connection Customer request to upgrade supply, including change from UG second span to larger OH second span

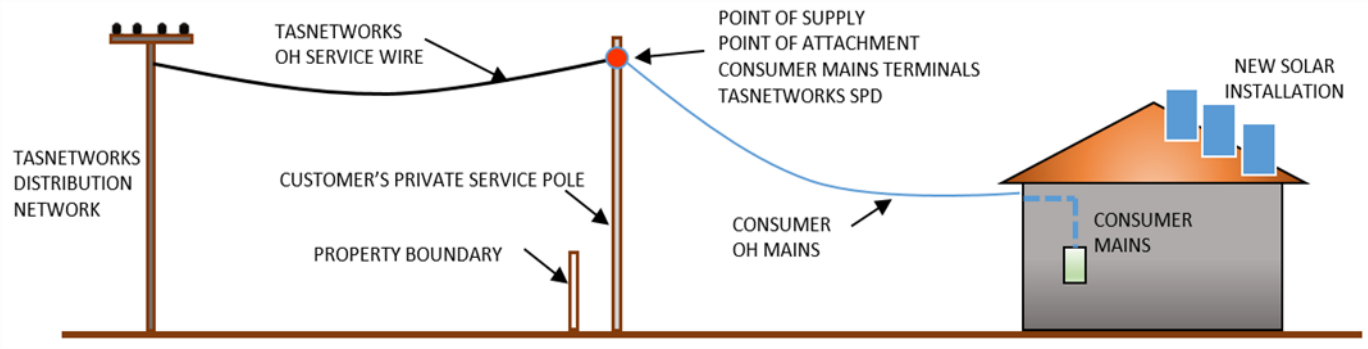
For any new connection or customer-initiated alteration, TasNetworks is responsible for upgrading the first span and POS – including terminating the consumer mains into the SPD. The customer's EC is responsible for everything on the load side of the POS, including the second span, noting the following:

For customer-initiated alterations where there is an existing 'live' TasNetworks Over Head service wire to the private pole (and supply is isolated at the POS), the customer's EC must have appropriate powerline competencies to operate within close proximity to 'live' powerlines and install the second span.



Prohibited Connection Arrangements 4.3

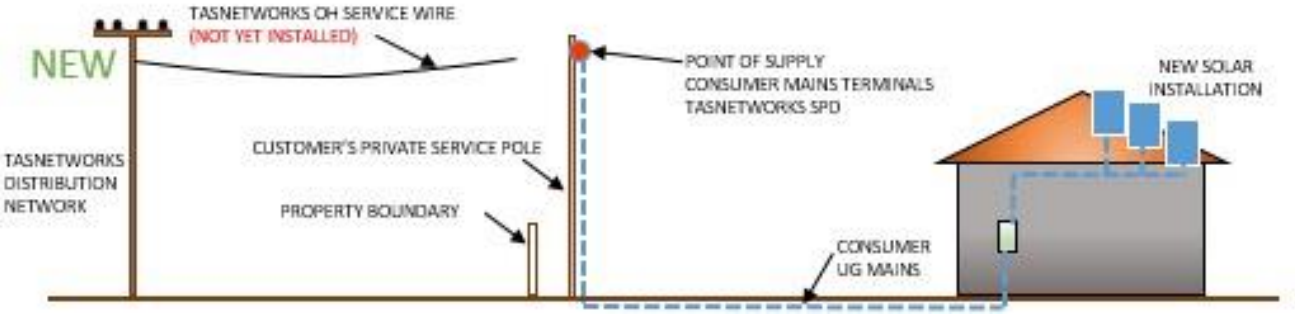
G.4 Scenario D Customer request to upgrade supply, including change from OH second span to larger UG second span



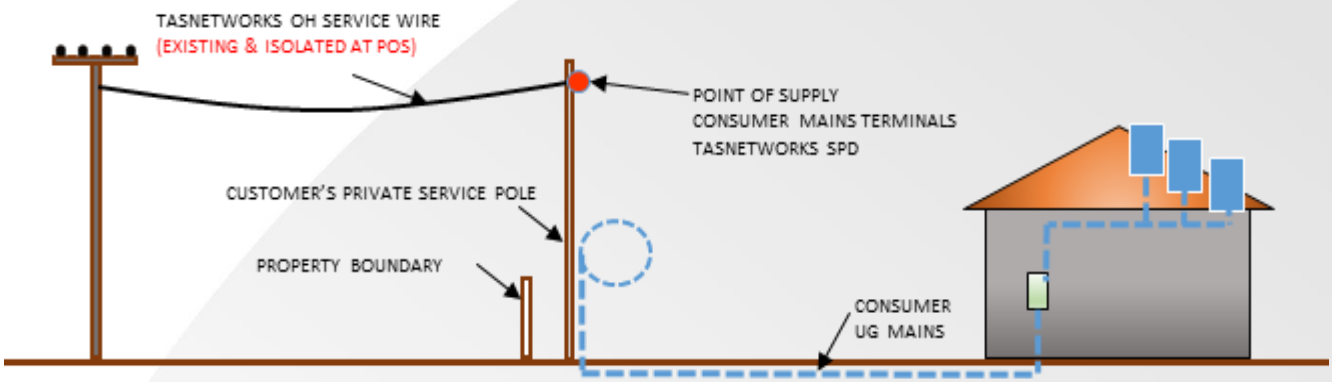
G.4 Scenario D Permitted Customer request to upgrade supply, including change from OH second span to larger UG second span

For any new connection or customer-initiated alteration, TasNetworks is responsible for the first span and POS – including termination into the SPD. The customer's EC is responsible for everything on the load side of the POS, noting the following:

For new connections where there is no existing 'live' TasNetworks OH service wire to the private pole, the customer's EC is responsible for running/securing the consumer mains up to the top of the private pole, for TasNetworks to then install and terminate into the SPD (SIR V8.3, 4.1.4).

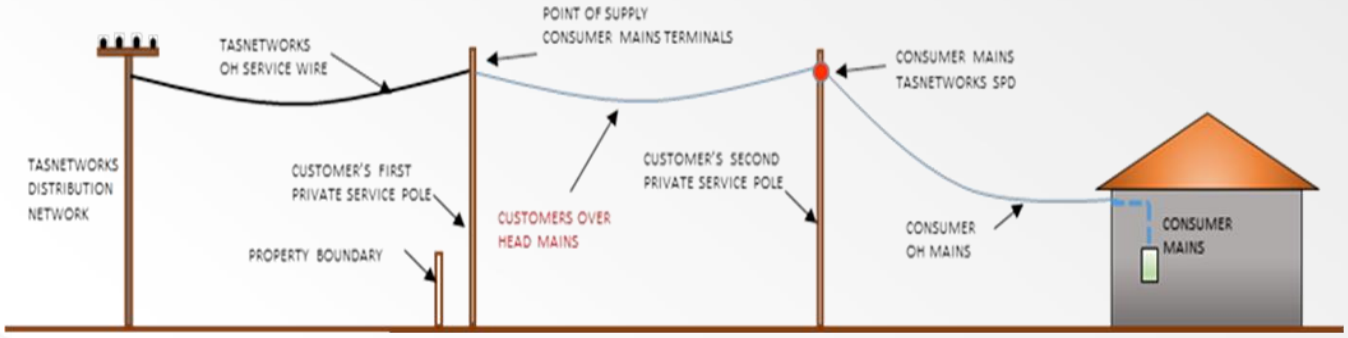


For alterations where there is an existing 'live' TasNetworks OH service wire to the private pole (and supply is isolated at the POS), the customer's EC is responsible for running the consumer mains up the private pole to a height of 3m. The EC must coil sufficient cable, and provide saddles, for TasNetworks to run the consumer mains up the remainder of the pole and terminate into the SPD, as per "installing UG consumer mains on a TasNetworks service pole" (SIR V8.3, 6.5.1).



Prohibited Connection Arrangements 4.3

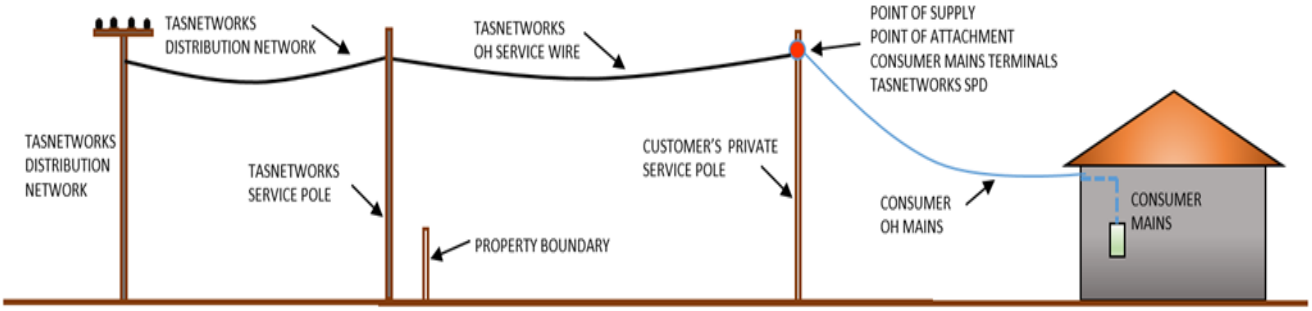
G.5 Scenario E Customer requests alteration work on legacy connection, where TasNetworks SPD is currently installed on the second private pole.



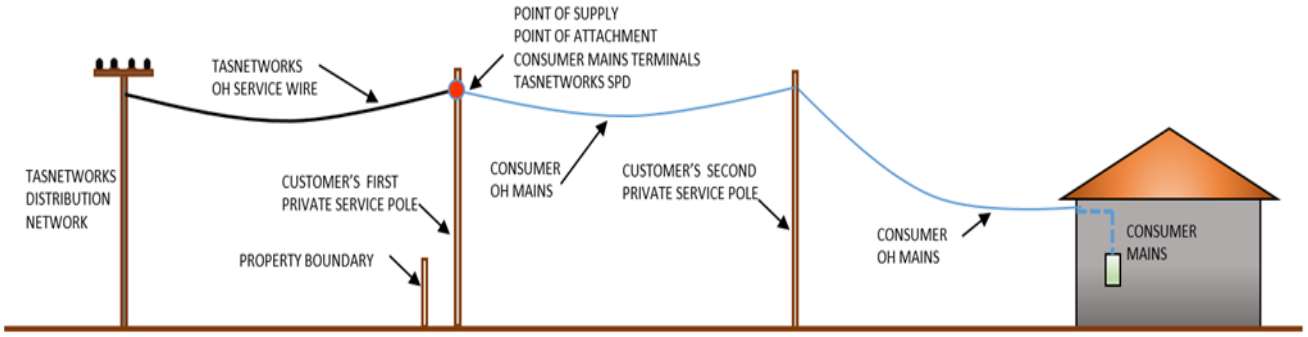
G.5 Scenario E Permitted Connection Customer requests alteration work on legacy connection, where TasNetworks SPD is currently installed on the second private pole

For any new connection or customer-initiated alteration, this is to be a negotiated connection. TasNetworks may relocate its SPD to current standards where practical. As to how this is to be done – whether a new TasNetworks pole is installed to negate the need for the first private service pole, or the SPD is relocated to the customer's first private service pole, etc., this will be determined within the design/ negotiation phase.

G.5.1 Example 1 of permitted connection:

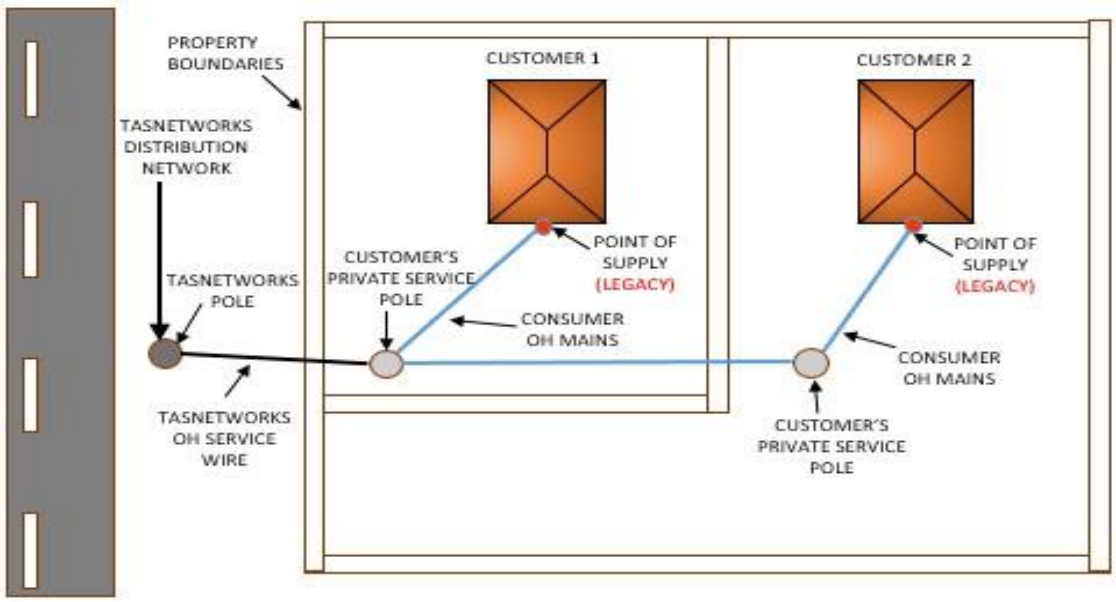


G.5.2 Example 2 of permitted connection



Prohibited Connection Arrangements 4.3

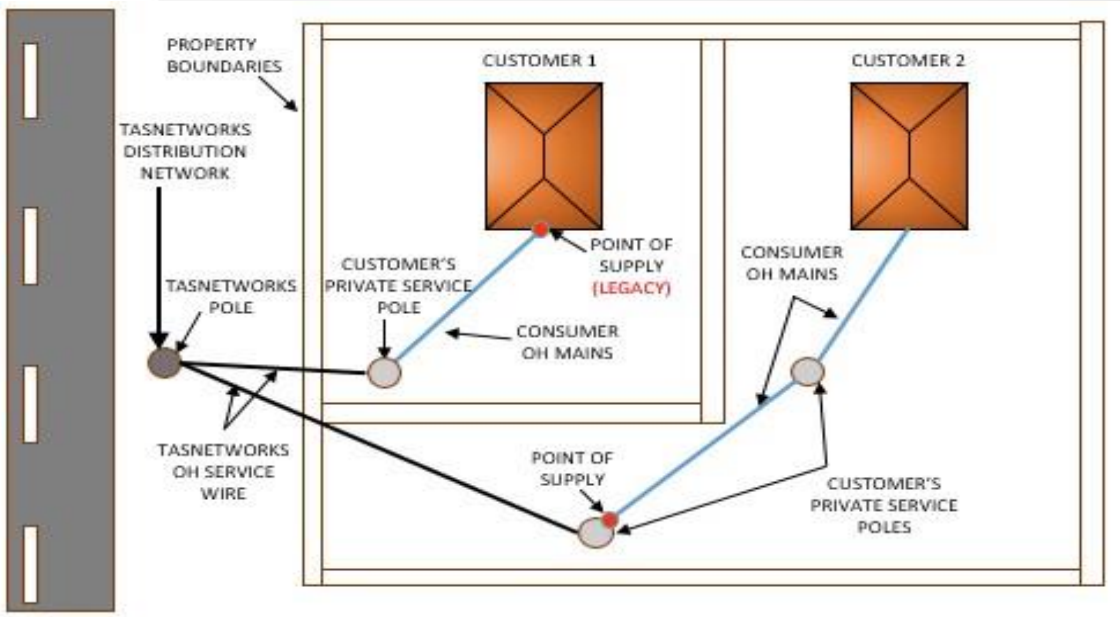
G.6 Scenario F Legacy connection, where the properties have now been sub-divided. Customer 2 wants to upgrade supply.



G.6 Scenario F Permitted Connection Legacy connection, where the properties have now been sub-divided. Customer 2 wants to upgrade supply

For any new connection or customer-initiated alteration to Customer 2, firstly Customer 2 must engage with Customer 1 (as works will be undertaken on Customer 1's property/ assets).

Supply to Customer 2 must be directly via the distribution network with new private poles & mains that do not cross Customer 1's property. POS must be moved.



Prohibited Connection Arrangements 4.3

Revisions

Table 7 - Major Revisions History

Rev No.	Date	Revision Description	Approval
4.0	Oct 2014	Revise and Update	Metering Asset Strategy Team Leader
5.0	Nov 2017	Power of Choice Review	Asset Strategy Team Leader
6.0	Sept 2018	Published and Approved	Secondary Asset Strategy Team Leader
7.0	July 2019	Published and Approved	Network Asset Strategy Team Leader
8.0	Oct 2021	Revise and Redesign	Network Asset Strategy Team Leader
8.1	Jan 2022	Published and Approved	Network Asset Strategy Team Leader
8.2	July 2022	Published and Approved	Network Asset Strategy Team Leader
8.3	May 2023	Published and Approved	Network Asset Strategy Team Leader
8.4	Sept 2023	Published and Approved	Leader Asset Management Systems & Standards
8.5	June 2025	Published and Approved	Leader Asset Management Systems & Standards