

# Network Asset Technical Document

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## Distribution Pole to Pillar Standard

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# Document Control

## Endorsement Approvals

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## Record of Revisions

Revision number	Date	DM version	Revised by	Description
1	June 2006	3081409v1	G Pearce	Original Issue
2	Sept 2007	3081409v2	K Brown	Reformatted with company branding
3	Nov 2007	3081409v6	R Hale	Section 5 – Conditions clarified and updated
4	Aug 2011	3081409v8	R Hale	Various amendments including format numbering revised diagrams, amended pegging requirements, generic P2P subsidised rate information, revised eligibility criteria for lot sizes > 2500m <sup>2</sup> and 3&4 lot developments, updated web links and changed to a Standard
5	March 2014	3081409 v9	R Hale	Amendments include a document format upgrade, alignment with the revised WAER 2014 revised terminology and amended pillar conditions pertaining to location and network capacity
6	June 2017	3081409 v10	R Hale	Alignment with revised pricing policy, network requirements, WAER 2015, UDS 2015, and the WADCM 2016

## Documents Referenced In This Document

Doc #	Title of Document
3384127	Underground Distribution Schemes Manual
7159802	Western Australian Distribution Connections Manual
	Wiring Rules As/NZS3000

### Other Documents That Reference This Document

Doc #	Title of Document
10487701	Contributory and Supply Extension Scheme Guideline
1050305	Design Information Manual
8741561	Pole to Pillar Guideline
3384127	Underground Distribution Schemes Manual
7159802	Western Australian Distribution Connections Manual

### Stakeholders (people to be consulted when document is updated)

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Customer Connections Services Manager
Customer Funded Operations Manager
Customer Relations Area Manager
Customer Service Centre Area Manager
Electrical Systems Inspections Manager
Metering Services Manager
Power Training Services Manager
Primary Response Coordinator
Quality Control Manager
Work Practices Development Manager

### Notification List (people to be notified when document is updated)

Position / Branch / Section
Identified Stakeholders.
Consult Australia (Formerly known as Association of Consulting Engineers Australia).
Housing Industry Association
Master Builders Association
Master Electricians Australia
National Electrical Communications Association
Western Australian Local Government Association
Urban Development Institute of Australia

This document must not be made available to personnel outside Western Power without the prior written approval of Western Power.

# Contents

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<b>1</b>	<b>Purpose</b>	<b>5</b>
<b>2</b>	<b>Application</b>	<b>5</b>
2.1	References	5
<b>3</b>	<b>Definitions</b>	<b>5</b>
<b>4</b>	<b>Standard</b>	<b>6</b>
4.1	P2P fixed price	6
4.2	Lots larger than 2500 square metres.	6
4.3	Existing overhead service connections	7
4.4	Three and four lot developments	7
4.5	Supply and connection arrangements	7
4.6	Application Process	7
<b>5</b>	<b>Service easement requirements</b>	<b>8</b>
<b>6</b>	<b>Conditions</b>	<b>9</b>
<b>7</b>	<b>Charges</b>	<b>10</b>
7.1	General requirements	10
7.2	Fixed price charging policy	10
7.3	Examples	11
7.3.1	Single freehold lot connection	11
7.3.2	Two strata lots created in a survey strata scheme	12
7.3.3	Three strata lots created in a survey strata scheme	13
7.3.4	Two freehold title lots created	14
<b>8</b>	<b>Existing overhead service</b>	<b>15</b>
	<b>Appendix 1: Western Australian Electrical Requirement (WAER) examples</b>	<b>15</b>
	<b>Appendix 2 - Examples of Western Power standard pillar locations</b>	<b>17</b>
	<b>Appendix 3 –Where common property or 136c easement is not required</b>	<b>18</b>

# 1 Purpose

This document specifies the conditions under which Western Power will provide a domestic Pole to Pillar underground connection within an overhead electricity distribution network.

# 2 Application

This Standard applies to the electricity distribution network within Western Power's South West Interconnected System (SWIS). The application of this Standard and subsequent amendments is not retrospective unless an existing electrical installation or part thereof constitutes a safety issue as determined by an authorised inspector designated under the Energy Coordination Act 1994.

## 2.1 References

This Standard is to be read in conjunction with the following reference documents:

- [Australian Standard AS/NZS 3000 Wiring Rules](#)
- [Underground Distribution Schemes Manual \(UDS\)](#)
- [Utility Providers Code of Practice](#)
- [Western Australian Distribution Connections Manual \(WADCM\)](#)
- [Western Australian Electrical Requirements \(WAER\)](#)

# 3 Definitions

Term	Definition
<b>Consumer mains</b>	Those conductors between the point of supply and the main switchboard. Refer to Clause 1.4.33 of AS/NZS 3000 (2007).
<b>MSB</b>	Main Switchboard
<b>Overhead area</b>	A location where low voltage (415v three-phase or 240v single-phase) overhead mains exist.
<b>Overhead mains</b>	Network wires strung overhead between Western Power's poles to distribute electricity to customers, but excluding overhead services.
<b>Overhead service</b>	Western Power's service cable strung overhead between a distribution pole and the customer's point of attachment.
<b>Standard dwelling</b>	<p>A dwelling used for domestic residential non-commercial purposes where the electrical load does not exceed standard supply of:</p> <ul style="list-style-type: none"><li>• 63 amps single-phase or 32 amps three-phase for dwellings located within the metropolitan area, a major regional centre or town as defined by Section 12.2 of the WADCM, or</li><li>• 32 amps single-phase or 32 amps three-phase for dwellings located outside the metropolitan area, a major regional centre or town as defined by Section 12.2 of the WADCM, and</li></ul> <p>the connection does not require the electrical contractor to notify the Network Operator of the new load details thereby initiating an investigation of the network's capacity</p>

Term	Definition
<b>Standard supply</b>	Standard supply defined at 240 volt single phase (+/- 6%) or 415 volt three phase (+/- 6%) as: <ul style="list-style-type: none"> <li>•63 amps single-phase (Perth metropolitan and SWIS major regional centres);or</li> <li>•32 amps single-phase (rural areas);or</li> <li>•32 amps per phase for multi-phase (SWIS); and</li> </ul> Maximum size of consumer mains cable shall not exceed 35mm <sup>2</sup> .
<b>Strata or survey strata scheme</b>	Strata scheme (commonly known as built strata) or survey strata scheme as defined by the Strata Titles Act. Generally "built strata" will be considered as survey strata for the purposes of this standard. However, for built strata, pillar locations away from side boundaries will be charged full cost.
<b>Underground connection</b>	A ground mounted pillar or similar apparatus forming part of Western Power's electricity distribution system, to which the consumer mains of a dwelling are connected, in order to obtain an electricity supply.

## 4 Standard

Western Power offers, subject to the Application Terms and Conditions and the customer fulfilling the conditions as specified in [clause 6](#), a connection via a distribution pillar to a domestic/residential dwelling within an existing overhead distribution network at a predetermined Pole to Pillar (P2P) fixed price.

Connections must be made in accordance with the applicable Australian Standards including AS/NZS 3000, Western Australian Electrical Requirements ([WAER](#)), Underground Distribution Schemes Manual ([UDS](#)) and the Western Australian Distribution Connections Manual ([WADCM](#)). Examples of acceptable and unacceptable supply arrangements are given in [Appendix 1](#).

### 4.1 P2P fixed price

The P2P fixed price will be applied in accordance with the requirements of [clause 7](#) and based on the principle that the installed pillar is a shared connection resource supplying multiple domestic dwellings or lots.

Western Power reserves the right to withhold application of the P2P fixed price and charge the full cost of the pillar installation at its discretion. This may occur in (but is not limited to) instances where a suitable existing supply arrangement exists but the customer requests an arrangement that requires additional network assets to be installed, network reinforcement or a second point of supply in the case of a multiple lot development.

### 4.2 Lots larger than 2500 square metres.

Where a lot is larger than 2500m<sup>2</sup> and provided that all of the conditions as specified in [clause 6](#) excluding 6(ix), are met and the pillar is positioned within Western Power's standard location then the P2P fixed price may be applied. In all other circumstances the installation of the pillar will be charged at the full cost of the installation.

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### **4.3 Existing overhead service connections**

Any existing overhead service connection must be converted to underground. Redundant overhead customer's equipment, infrastructure and poles shall be removed on completion of the conversion at the customer's cost.

### **4.4 Three and four lot developments**

Under this Standard three and four lot strata schemes or freehold developments, are not eligible for the P2P fixed price.

Where three or four strata lots are created as a part of a strata or survey strata scheme the customer shall:

- i. supply and install, a site main switchboard connected to the Western Power nominated point of supply via the customer's consumer mains cable to a pillar within the scheme or lot, or to a pillar on an adjacent scheme or lot; or
- ii. where deemed appropriate by Western Power, request the installation of a pillar in a non-standard location to service the strata development.

For a complete description of the network requirements for these types of developments, refer to the UDS Manual for supply arrangements and the WADCM for connection requirements.

### **4.5 Supply and connection arrangements**

When selecting a supply and connection arrangement due consideration shall be given to:

- i. The development and lot minimum requirements, (UDS section 2);
- ii. Common property and easements are created to facilitate multiple customer connections of:
  - a. consumer mains cable to the pillar; or
  - b. sub-main cables to the site main switchboard, (WAER section 5);
- iii. The location of the pillar or switchboard in a position that ensures:
  - a. all lots within the subdivision have access to the point of supply; (UDS and WADCM)
  - b. that multiple points of supply are not created (WAER section 3);
  - c. the connection arrangement complies with the (WADCM sections 11 & 12);
- iv. The maximum permissible consumers mains cable route length from the point of supply to the meter position, (WADCM section 11);
- v. Ensuring 24/7 access to the point of supply, metering and protection equipment is available (WADCM sections 11, 12 and WAER section 6);
- vi. Metering and service equipment is located in accordance with (WADCM section 11);
- vii. Internal subdivision electricity infrastructure is:
  - a. installed and complete (UDS section 2);
  - b. contained within the related property, (WAER section 9).

### **4.6 Application Process**

Application for a P2P connection shall be made via an online Customer Work Request available from Western Power's public website.

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## 5 Service easement requirements

Where a strata lot(s) is created, access to the pillar must be available either through the use of common property or a 136C service easement to facilitate the installation of the associated customer's consumer mains cable. Service easements or common property must be a minimum of one metre wide.

If the establishment of common property prevents the subdivision from proceeding then, at Western Power's sole discretion, an easement may be created in lieu. The customer is responsible for establishing and all costs associated with the creation of the easement.

Under Section 136C of the *Transfer of Land Act 1893*, an easement may be created for survey strata lots, to provide for customer owned services such as electrical and plumbing connections to the requisite utility network. The easement shall contain the following notation:

*"This easement is to allow connection of power to adjoining survey strata lots that forms part of the survey strata scheme. Other services are permitted in this easement provided they do not interfere with the provision of electricity."*

If a consumer mains cable exists at the time of subdivision then there will be an implied easement over them. For further information on implied easements for existing services please refer to the Strata Titles Act or Landgate.

In infrequent cases, the location of the existing pillar and the existence of consumer mains may mean that access is not an issue and hence no common property or easement need be established. [Appendix 3](#) gives examples of this.

Note that Western Power recommends common property or an easement is still created in these situations in order to minimise the risk of future customer access disputes.

Refer to Landgate's [Strata Titles Practice Manual](#) for further information.



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## 6 Conditions

The following conditions must be met in order to qualify for the Pole to Pillar (P2P) fixed price.

- i. No more than two dwellings require connection as a result of the subdivision including existing connections;
- ii. No more than two lots are being created as a result of the subdivision;
- iii. The electricity supply to each dwelling does not exceed standard supply;
- iv. The lot(s) or subdivision are located in an existing overhead area;
- v. The proposed pillar position is within Western Power's standard location. (Locations will be selected to optimise the existing and future use of pillars to ensure the most economical overall outcome in relation to existing Western Power infrastructure.) The pillar is to be located on the applicant's property at the junction of the front property and common property boundaries unless a pillar already exists on an adjacent property;
- vi. There must be no requirement as prescribed by Underground Distribution Schemes Manual to remove or relocate an existing distribution or transmission overhead line as a result of the subdivision;
- vii. A suitable low voltage overhead distribution network with adequate electricity capacity exists within 60 metres of the lot boundary and the standard pillar location;
- viii. The route from the existing low voltage overhead mains to the standard pillar location must be suitable for the installation of low voltage underground cable or low voltage aerial bundled conductor as required;
- ix. The lots must be residential and less than 2500m<sup>2</sup>; except as specified by [clause 4.2](#);
- x. The same developer/owner must not have submitted a Pole to Pillar application for an adjacent or the same lot within the previous 3 (three) years;
- xi. A company, organisation, person or group of persons must not progressively seek Pole to Pillar connections for an area that should be developed as a standard underground residential subdivision;
- xii. Supply Extension Scheme (SES) charging is not applicable;
- xiii. Where applicable, common property or a 136C easement is created to allow consumer mains cable to be connected to the pillar or sub-mains to be connected to the site main switchboard. At Western Power's sole discretion, a service easement may be substituted for common property ([Refer clause 5](#));
- xiv. The site must be level, free of vegetation, clear of obstructions and ready for the installation of the pillar;
- xv. The customer is required to establish and confirm their property boundaries in accordance with the requirements of the Western Australian Distribution Connections Manual;
- xvi. In addition to these requirements, the installation and connection arrangement shall comply with the regulatory and network requirements as prescribed by the documents listed at clause 2.1. For examples of these requirements refer to the [Appendices](#)

## 7 Charges

### 7.1 General requirements

Provided the conditions of this Standard are met, the P2P fixed price will be applied as prescribed by [clause 7.2](#). Additional charges may apply for connections and the extension or upgrade of Western Power's network.

If the Standard conditions cannot be met, Western Power will issue a quote for the full cost of supplying a connection in accordance with the applicable policies and procedures including any costs associated with the connection, extension or upgrade of the network.

Where a pillar has been installed in an overhead area, customers who subsequently seek access to the shared pillar will be required to pay the applicable connection fees and charges for each subsequent connection.

### 7.2 Fixed price charging policy

The P2P fixed price charging policy as described in this clause, is based on a single dwelling per lot unless otherwise stated. Three and four lot strata schemes are not eligible for the P2P fixed price. Refer to [clause 4.4](#) for further information.

Western Power's public website provides full financial details of the P2P fixed price.

P2P Price policy		
Lot description	WP standard position	
	Yes	No
Existing dwelling converted from overhead to underground	Fixed price	Full Cost
2 lot strata scheme	Fixed price	Full Cost
3 & 4 lot strata scheme connected via a pillar	Full Cost	
3 & 4 lot strata scheme connected via a site MSB & pillar (Subject to load constraints)	Full Cost	
A single freehold title lot	Fixed price	Full Cost
2 freehold title lots	Fixed price	Full Cost
3 & 4 freehold title lot development	Full Cost	
Separate freehold title lots connected via a site main switchboard	Not Permitted	

## 7.3 Examples

The following limited examples have been provided to illustrate the application of the P2P fixed price schedule.

### 7.3.1 Single freehold lot connection

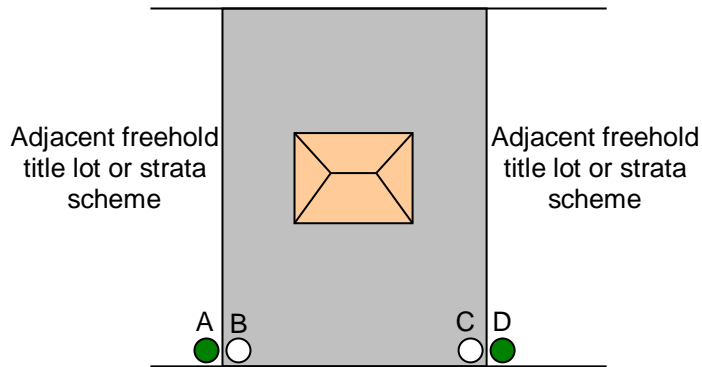


Figure 1

#### Case 1 - There is an existing pillar at A or D

- Connections - one<sup>1</sup>
- Charge - Connection costs<sup>2</sup>
- Common property or service easement - not required

#### Case 2 - There is no pillar at A or D, and a new pillar is required at B or C

- Connections - one<sup>1</sup>
- Charge - P2P fixed price plus connection costs<sup>2</sup>
- Common property or service easement - not required

#### Case 3 - A new pillar is requested at B or C and a suitable pillar exists at A or D

- Connections - one<sup>1</sup>
- Charge - Full cost
- Common property or service easement - not required

**Note** <sup>1</sup>: “Connections - one” means only one connection to the existing dwelling. Adjacent properties may connect to the pillar subject to payment of the applicable fees.

**Note** <sup>2</sup>: “Network connection costs” means that where the final connection to the pillar is completed by Western Power additions costs may apply.

### 7.3.2 Two strata lots created in a survey strata scheme

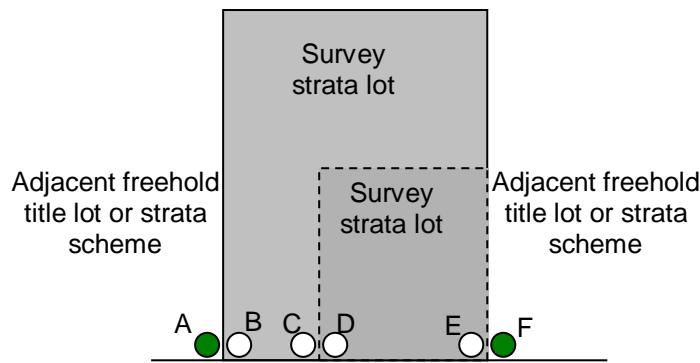


Figure 2

#### Case 1 - There is an existing pillar at A or F

- Connections - two, one for each survey strata lot
- Charge - Connection costs<sup>2</sup>
- Common property or service easement - is required

#### Case 2 - A new pillar is required at A, B, C, D, E or F (no existing pillar)

- Connections - two, one for each survey strata lot
- Charge - P2P fixed price plus connection costs<sup>2</sup>
- Common property or service easement - is required (except for C or D)

#### Case 3 - A new pillar is requested at C or D and a suitable pillar exists at A or F

- Connections - two, one for each survey strata lot
- Charge - Full cost
- Common property or service easement - not required

#### Case 4 - New pillar is requested at B or E with a suitable existing pillar at A or F

- Connections - two, one for each survey strata lot
- Charge - Full cost
- Common property or service easement - is required

#### Case 5 - A second point of supply (Pillar) is requested in accordance with WAER clause 3.6

- Connections - two, one for each survey strata lot
- Charge - Full cost
- Common property or service easement - may be required

**Note**<sup>2</sup>: "Network connection costs" means that where the final connection to the pillar is completed by Western Power additions costs may apply.

**Note:** WAER permits, subject to specific conditions and the network operator's approval the installation of a second point of supply. Consultation with Western Power and all affected parties is required together with the application and placement of applicable notices and labels in accordance with the WAER and WADCM requirements.

### 7.3.3 Three strata lots created in a survey strata scheme

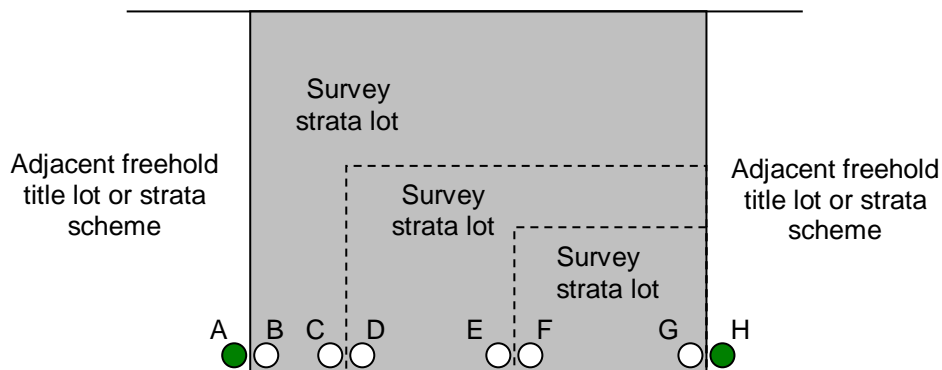


Figure 3

#### Case 1 - There is a suitable existing pillar at A or H

- Connections - one, MSB required with sub-mains to each survey strata lot. (Subject to load constraints)
- Charge - Connection costs<sup>2</sup>
- Common property or service easement - is required

#### Case 2 - A new pillar is required at B or G and no pillar exists at A or H

- Connections - one, MSB required with sub-mains to each survey strata lot
- Charge - Full cost
- Common property or service easement - is required

#### Case 3 - A new pillar is requested at B, C, D, E, F or G and a suitable pillar exists at A or H.

- Connections
  - - one, MSB required with sub-mains to each survey strata lot; or
  - - multiple (where permitted) connected direct to the pillar on the lot
- Charge - Full cost
- Common property or service easement - is required

#### Case 4 - A new pillar requested at C, D, E or F and pillar exists at B or G

- Subject to WAER multiple points of supply and WADCM connection requirements.

**Note** <sup>2</sup>: “Network connection costs” means that where the final connection to the pillar is completed by Western Power additions costs may apply.

### 7.3.4 Two freehold title lots created

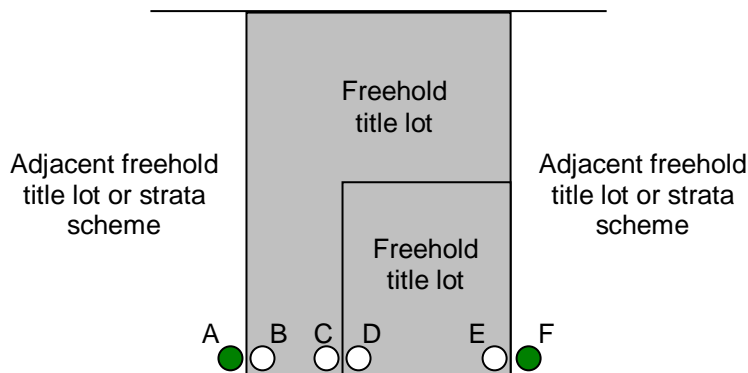


Figure 4

**Case 1 - There is an existing pillar at A and F and no new pillar is required.**

- Connections - two, one for each lot
- Charge - Connection costs<sup>2</sup>
- Common property or service easement - not required

**Case 2 - A new pillar is required at A, B, C, D, E and F (no pillar exists at A, B, C, D, E or F).**

- Connections - two, one for each lot
- Charge - P2P fixed price plus connection costs<sup>2</sup>
- Common property or service easement - not required

**Case 3 - There is an existing pillar at A and F and new pillar is required at B or E.**

- Connections - two, one for each lot
- Charge - Full cost,
- Common property or service easement - not required

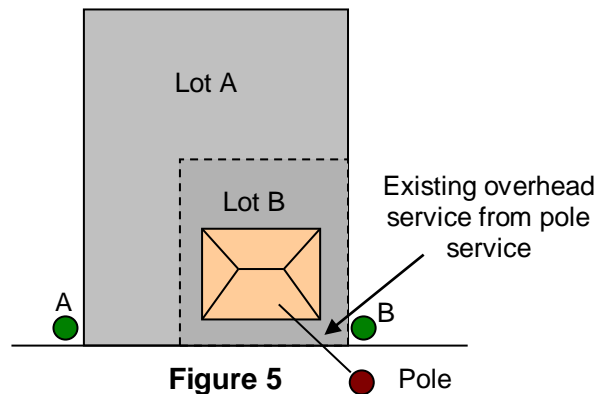
**Case 4 - There is an existing pillar at A but not at F and new pillar is required at C, D or E.**

- Connections - two, one for each lot
- Charge - P2P fixed price plus connection costs<sup>2</sup>
- Common property or service easement - not required

**Note** <sup>2</sup>: “Network connection costs” means that where the final connection to the pillar is completed by Western Power additions costs may apply.

## 8 Existing overhead service

An existing freehold title lot is subdivided into a strata or survey strata scheme with two strata lots. There is one dwelling with existing overhead supply.



The connection of strata Lot A to pillar A or pillar B requires the existing overhead service to Lot B to be removed and the dwelling on Lot B to be connected to same pillar as Lot A.

## Appendix 1: Western Australian Electrical Requirement (WAER) examples

### Case 1

An existing freehold title lot is subdivided into a strata or survey strata scheme with two strata lots. There is one dwelling with an existing underground supply. These examples show situations where an additional pillar **cannot** be installed on the new strata lots unless approval has been granted in accordance with the [WAER](#) to install a second point of supply.

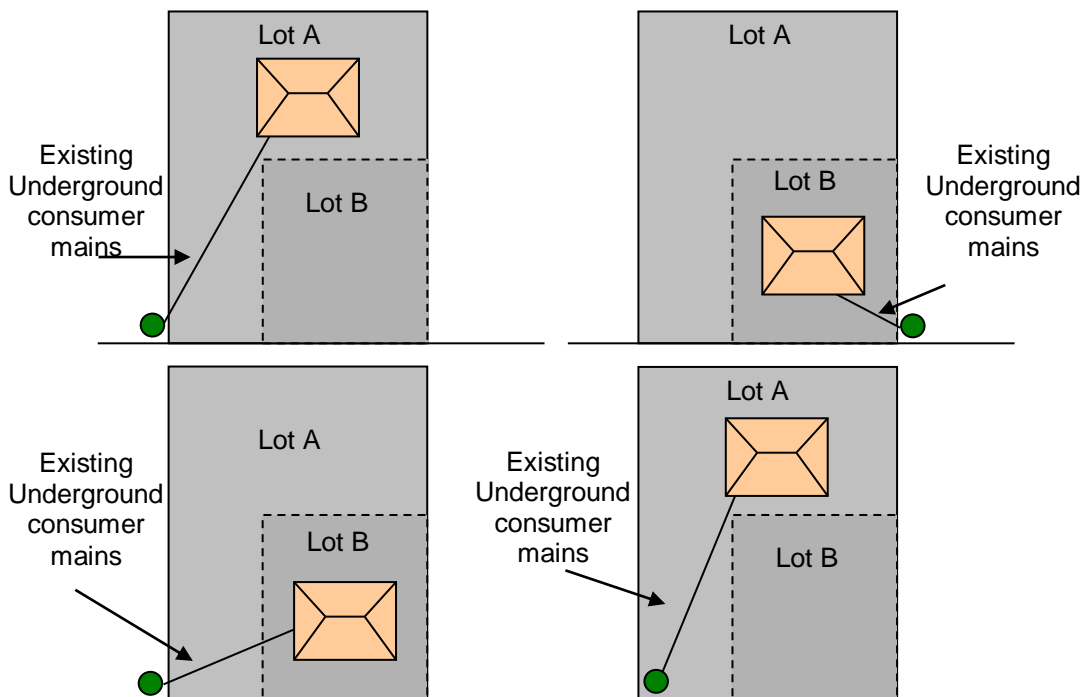
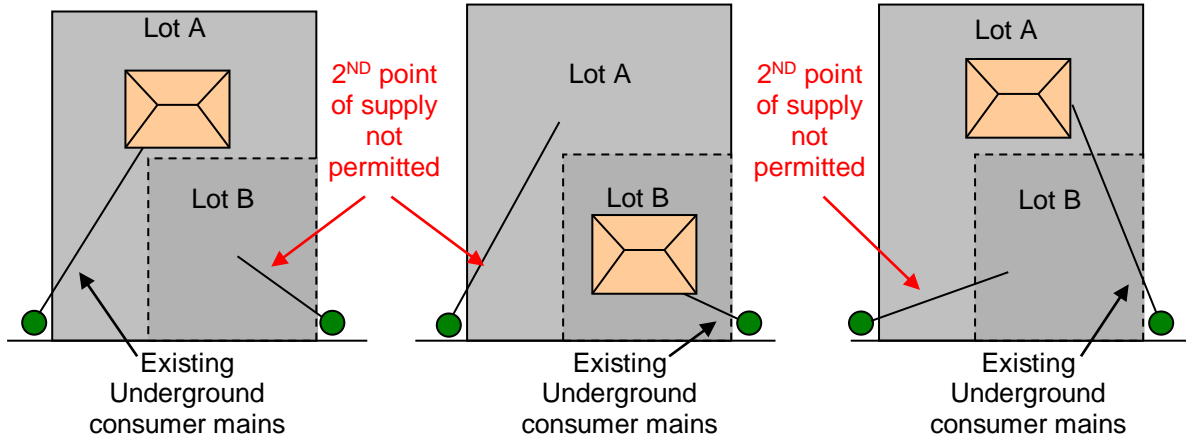


Figure 6

**Case 2**

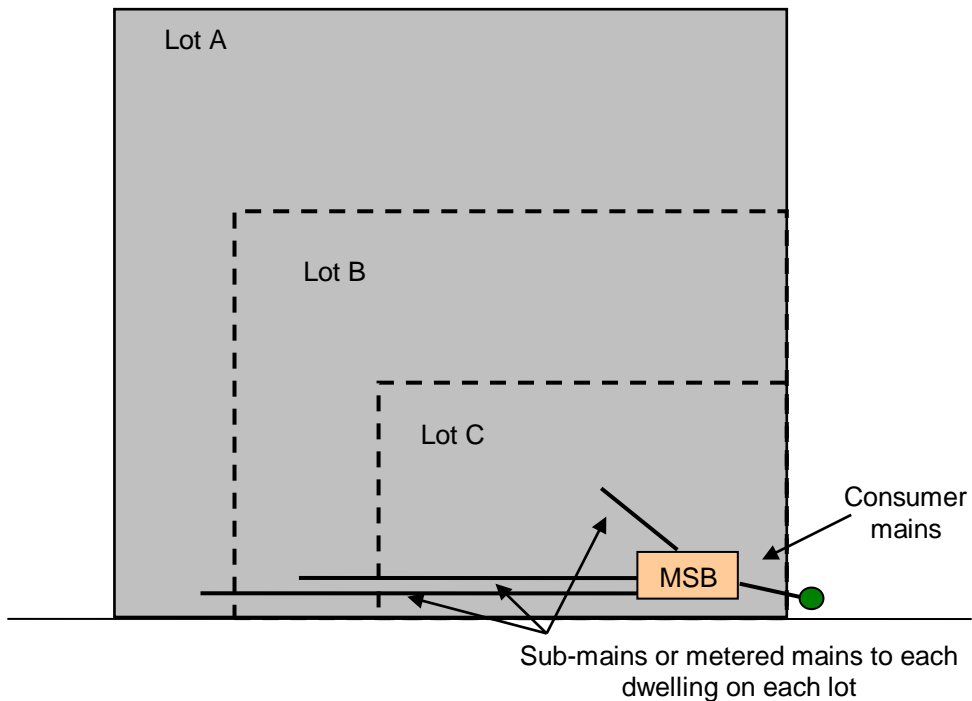
An existing freehold title lot is subdivided into a strata or survey strata scheme with two strata lots. There is one dwelling with an existing underground supply. These examples show where new connections **cannot** be made to an adjacent freehold title lot or adjacent strata scheme.



**Figure 7**

**Case 3**

An existing freehold title lot is subdivided into strata or survey strata scheme with three or more strata lots. A main switchboard (MSB) is required in order to prevent more than two consumer mains being connected to the pillar from any one strata or any one freehold title lot.



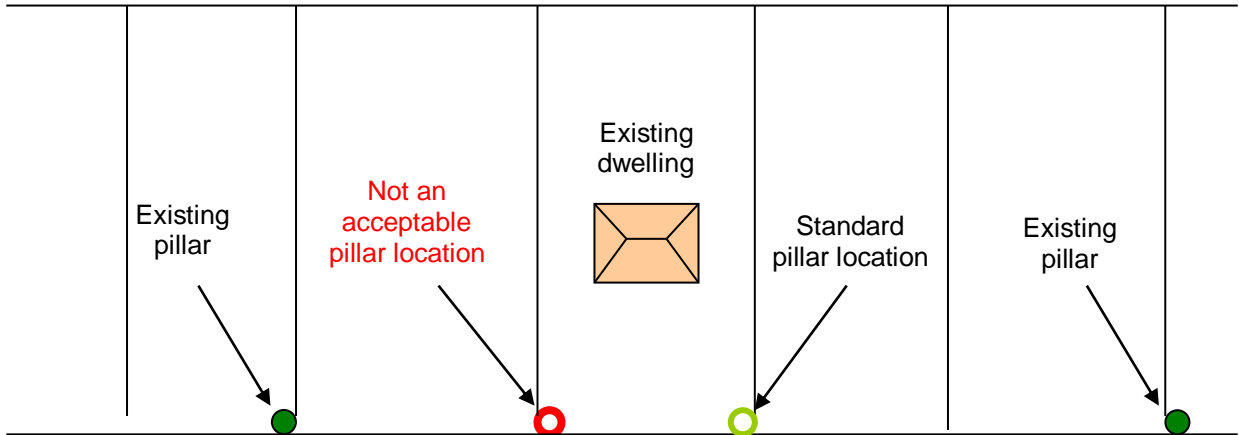
**Figure 8**



## Appendix 2 - Examples of Western Power standard pillar locations

### Case 1

A single existing dwelling is converting to underground

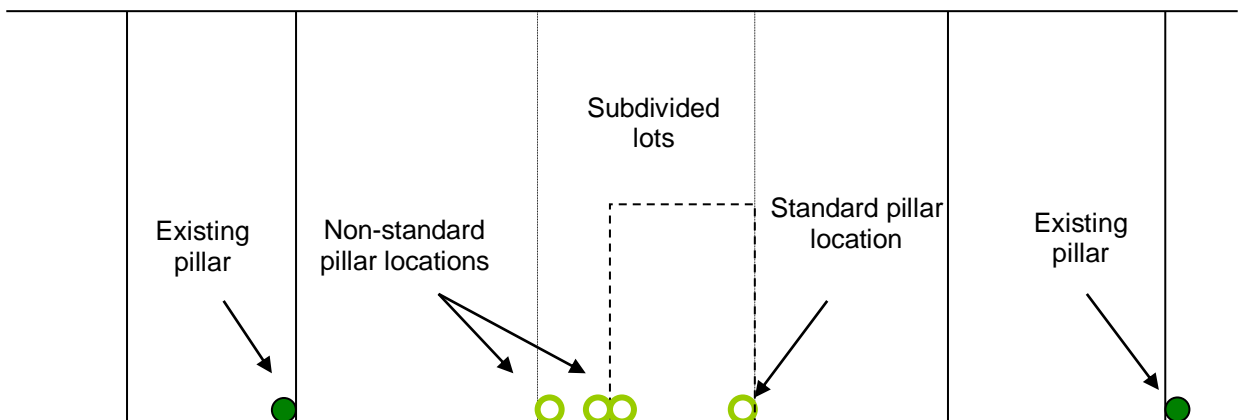


Pillars are located at every second lot boundary in order to minimise network costs by having at least two connections per pillar.

Figure 9

### Case 2

Two new strata lots are created on an existing freehold title lot.



The standard pillar location maximises the level of unit utilisation while minimising installation costs therefore ensuring the P2P fixed price is maintained as low as possible. Non-standard locations limit the level of pillar utilisation.

Figure 10

### Appendix 3 –Where common property or 136c easement is not required

As stated in [clause 5](#) “Service easement requirements”, common property or an easement must be established across survey strata lots to ensure all lots have access to the pillar with their consumer mains. In some instances the location of the existing pillar and the existence of consumer mains may mean that access is not required for the new lot and hence no common property need be established. The Strata Title Act provides implied easements for the existing consumer mains in these situations. The following drawings provide examples of such instances.

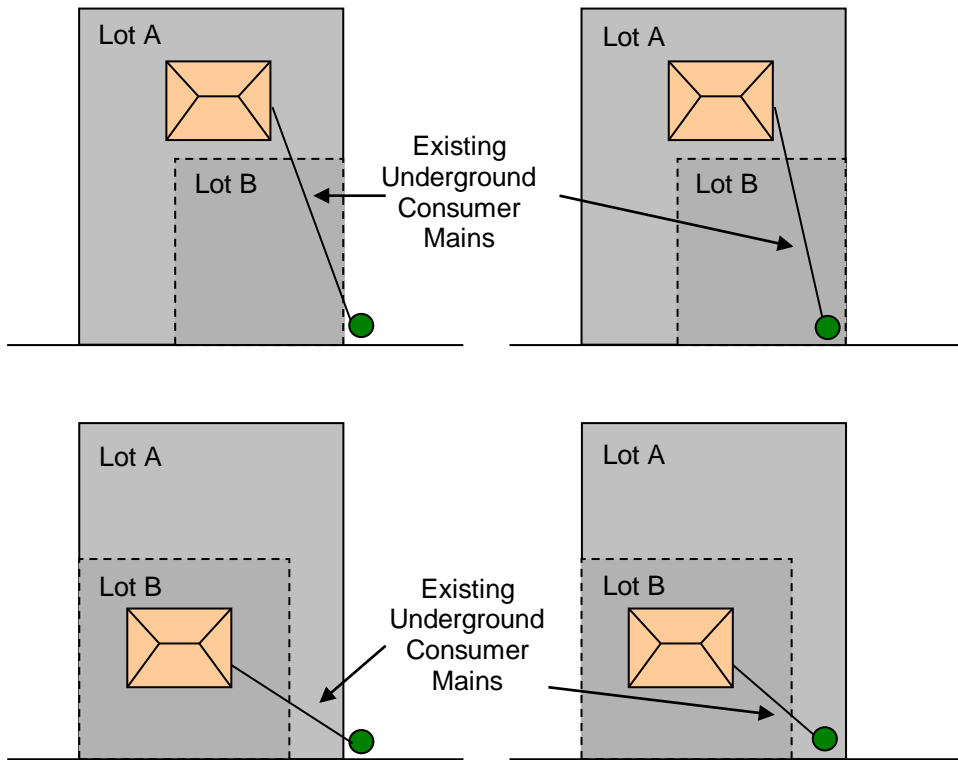


Figure 11

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