

CERTIFICATES OF ELECTRICAL SAFETY

Multiple Electrical Installation Certificate Requirements

18 December 2019

Energy Safe Victoria (ESV) is the electrical technical regulator in Victoria, and part of its role is to educate, administer and enforce compliance with the *Electricity Safety Act 1998* (the Act) and pursuant regulations.

One of ESV's roles involves is the determination of the minimum safety requirements for electrical equipment, electrical installations and electrical installation work.

The purpose of this determination is to explain how compliance with sections 44, 45 and 45A of the Act and regulations 249, 250, 251, 252, 261, 262, 263 and 264 of the *Electricity Safety (General) Regulations 2019 (ES(G)R)* is achieved and where Certificates of Electrical Safety (COES) are to be completed when carrying out electrical installation work on multiple occupancy buildings or sub-divided developments.

The Act and the *Electricity Safety (General) Regulations* require the licensed electrical worker (LEW):

- to ensure that the electrical installation work is installed and tested in accordance with the Electricity Safety (General) Regulations and Australian/New Zealand Wiring Rules;
- sign the certificate of compliance stating that the electrical installation work complies with the Act and pursuant regulations;
- ensure all details of the electrical installation work performed are listed on the certificate of compliance; and
- return the completed certificate of compliance to the responsible person.

The responsible person is required to:

- purchase and provide the appropriate COES to the LEW;
- ensure that a COES is completed in respect of that work;
- within the required timeframe:
 - give a completed COES in respect of that work to the person for whom the work was carried out; and
 - supply a copy of that certificate to ESV, and
- provide electronic notification of completion of the COES to ESV within two business days after completing it.

When prescribed electrical installation work is performed, the responsible person shall also:

- ensure that the prescribed electrical installation work is inspected by a Licensed Electrical Inspector (LEI) before the electrical installation is connected to supply; and
- provide the LEI a copy of the prescribed COES.

ESV has produced the **Certificates of Electrical Safety - Multiple electrical installation certificate requirements** document that clearly explains the obligations regarding Prescribed and Non Prescribed COES for multiple electrical installations.

Yours sincerely



ACTING DIRECTOR OF ENERGY SAFETY

CERTIFICATES OF ELECTRICAL SAFETY

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Introduction

The purpose of this document is to provide Licensed Electrical Workers (LEW), Registered Electrical Contractors (REC) and Licensed Electrical Inspectors (LEI) guidance in relation to inspection and Certificate of Electrical Safety (COES) requirements in multiple electrical installations.

The focus of this document is to ensure that:

- all prescribed electrical installation work is inspected;
- prescribed Certificates of Electrical Safety (COES) are completed for each individual occupier's portion of a multiple electrical installation; and
- the minimum number of prescribed COES are completed where prescribed electrical installation work is completed
- the minimum number of non prescribed COES are completed where only non prescribed electrical installation work is completed

Application

Section 45A of the *Electricity Safety Act 1998* requires a COES to be completed for all electrical installation work.

When the licensed electrical installation worker (LEW) is completing a Certificate of Compliance on a COES, regulation 262 of the *Electricity Safety (General) Regulations 2019* (ES(G)R) requires the LEW to ensure all details on the COES are complete, accurate and legible on each copy of the COES.

This includes:

- the description of the electrical installation work undertaken; and
- the type (type 1-10) of prescribed electrical installation work.

Type 1 prescribed electrical installation work

For the purpose of an electrical installation with multiple occupiers' portions, type 1 prescribed electrical installation work relates to the main supply distribution within a multiple installation and may include, but is not limited to the following:

- consumer's mains from the point of supply to the main switchboard
- main switchboard
- earthing arrangements
- any consumer's mains from a main switchboard to a distribution board supplying occupiers portions
- any distribution board between the main switchboard and the individual occupier's portion (tenancy) switchboard
- public lighting switchboard and associated submains (if applicable).

Note: A prescribed COES indicating type 1 prescribed may also contain details of any completed non-prescribed electrical installation work associated with the public lighting and building services.

Type 2 prescribed electrical installation work

For the purpose of an electrical installation with multiple occupiers' portions, type 2 prescribed electrical installation work relates to work on the supply to **individual** occupier's portions and may include, but is not be limited to the following:

- consumer's mains cables commencing at the main switchboard or distribution board and terminating at each occupier's switchboard
- individual occupier's (tenancy) switchboard
- earthing arrangements for the individual occupier's (tenancy) switchboard

Note: A prescribed COES may also contain details of any non-prescribed electrical installation work completed within the occupancy.

Non Prescribed Electrical installation work

The Electricity Safety Act requires a Certificate of Electrical Safety for electrical installation work performed at each address where each unit/tenancy is a separate occupancy i.e., separate address.

Where non prescribed electrical installation work is performed at an **individual** occupier's portion of a multiple occupancy installation, a non prescribed certificate is required to be completed for that **individual** occupier's portion i.e., unit or tenancy.

Where non prescribed electrical installation work is performed at multiple **individual** occupier's portions of a multiple occupancy installation, a non prescribed certificate is required to be completed for each **individual** occupier's portion i.e., each unit or tenancy.

If the electrical installation is a hotel or motel accommodation where the rooms were numbered and all rooms of the installation are under the one land title, then only one certificate is required.

Installation of conduits

The installation of underground wiring enclosures (conduits) may be performed by an unlicensed worker under the effective supervision of a licensed electrician. The supervising licensed electrician must certify and describe the installation of conduits on a COES, either as part of a prescribed COES or on a non-prescribed COES.

Completed electrical installation work

Completed electrical installation work means the electrical installation work carried out has been verified (including visual inspection and mandatory testing).

IMPORTANT: All portions of the electrical installation not certified **must** be securely isolated or disconnected to prevent inadvertent energisation. Disconnected or unterminated conductors in association with other live (or potentially live) conductors shall be terminated and protected at both ends in the same manner as is required for live conductors.

Electricity suppliers

An **electricity supplier** is defined in the *Electricity Safety Act 1998* and means a person who supplies electricity to another person;

Information on requirements for *electricity suppliers* can be found on the ESV website:

www.esv.vic.gov.au/Electricity-Professionals/Electrical-technical-information

Major Electricity Company (MEC) metering

While a MEC is an *electricity supplier*, the installation or replacement of metering equipment owned by a MEC installed on behalf of a MEC (ie. Victorian Distribution Companies) does not require a COES to be completed as a MEC is exempt from these legislative requirements.

Embedded network metering

An embedded network is typically a multiple electrical installation with a MEC gate meter (known as a distribution company parent meter) installed at a location determined by the MEC that records the total electricity usage/consumption for the site. The electricity is then on-sold to each individual occupier with an individual meter (known as a child meter) installed for each of the individual occupiers portion of the multiple electrical installation. The installation of the meters not owned by a MEC must be certified on a non prescribed COES.

Contestable metering

Contestable metering is electricity metering equipment installed by an accredited Meter Provider Business (MPB) under a customer agreement that is compliant with the National Electrical Rules (NER) and additional state requirements.

A multiple electrical installation may have contestable metering installed for one or more individual occupiers portions of the electrical installation. The installation of meters not owned by a MEC must be certified on a non prescribed COES.

Information on requirements for contestable metering can be found at: www.aemo.com.au

Further information on metering arrangements can be found in the Victorian Electricity Distributors – Service & Installations Rules.

Multiple electrical installation examples

Example 1

- The site contains 8 individual occupiers' portions (tenancies).
- Occupancy metering may be located in the main switchboard (GM1) and / or at the individual occupiers (tenancy) switchboards (OS1-8).
- Refer to figure 1 for further information

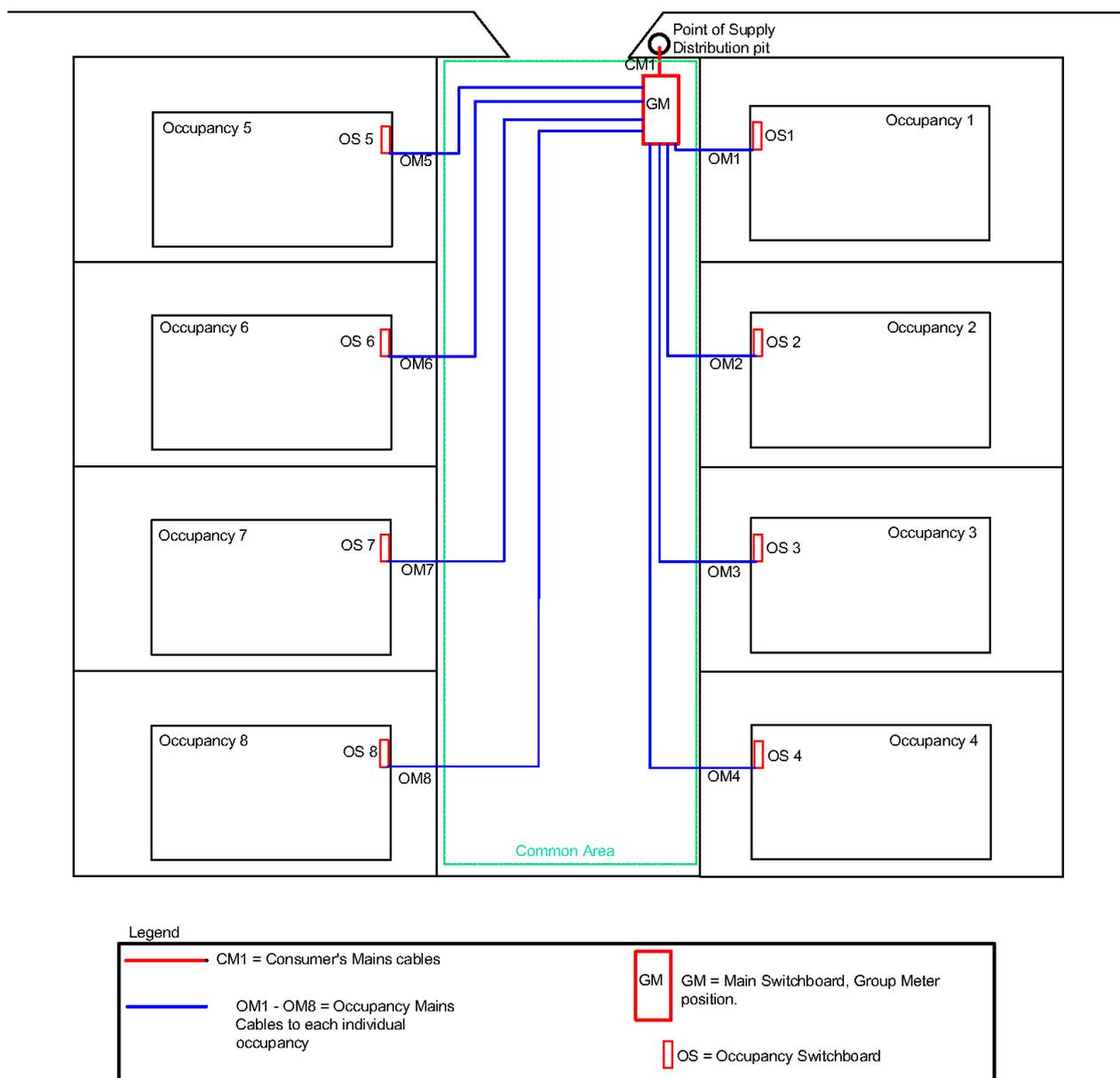


Figure 1 Typical multiple occupancy installation including consumer mains, Main Switchboard, consumer mains to each occupancy (occupancy mains) and occupancy switchboards

Example 1 - Prescribed work in this example

Reference	Portion of electrical installation	Type of prescribed work
CM 1	Consumer's mains from the point of supply to the main switchboard (GM 1).	Type 1
GM 1	<p>Main switchboard arrangements may include:</p> <ul style="list-style-type: none"> • Supply Protection Device (SPD) • Supply Capacity Control Device (SCCD) • Occupancy Disconnection Device (ODD) • meter panel isolators • meter panel • all wiring up to the main switches for individual occupiers portions • the main switches controlling individual occupiers portions • control and protection of the public light and power. 	Type 1
OM 1-8	Occupancy mains from GM1 to each of the individual occupiers (tenancy) switchboards (OS 1-8).	Type 2
OS 1-8	Individual occupier's (tenancy) switchboards OS 1-8.	Type 2

Example 1 - Minimum number of prescribed COES required

Below are the minimum numbers of prescribed COES required to be completed:

- 1 x COES including details of consumer's mains, main switchboard (group meter position) and components as listed above, and main earthing system; and
- 1 x COES for each of the 8 individual occupancies including details of sub-mains, individual occupancy (tenancy) switchboards and earthing system.

Total: 9 x prescribed COES

NOTE: The number of prescribed certificates may exceed the above total number if:

- work is completed progressively; and / or
- sections of the work are completed by multiple RECs.

Example 2

- The site contains 8 individual occupiers' portions (tenancies).
- Occupancy metering may be located in the main switchboard (GM 1), and / or at the distribution board (GM 2) or at the individual occupiers (tenancy) switchboards (OS 1-8).
- A private pit (connection facility) is located between GM 1 or GM 2 and each of the individual occupiers (tenancy) switchboards (OS 1-8).
- Refer to figure 2 for further information

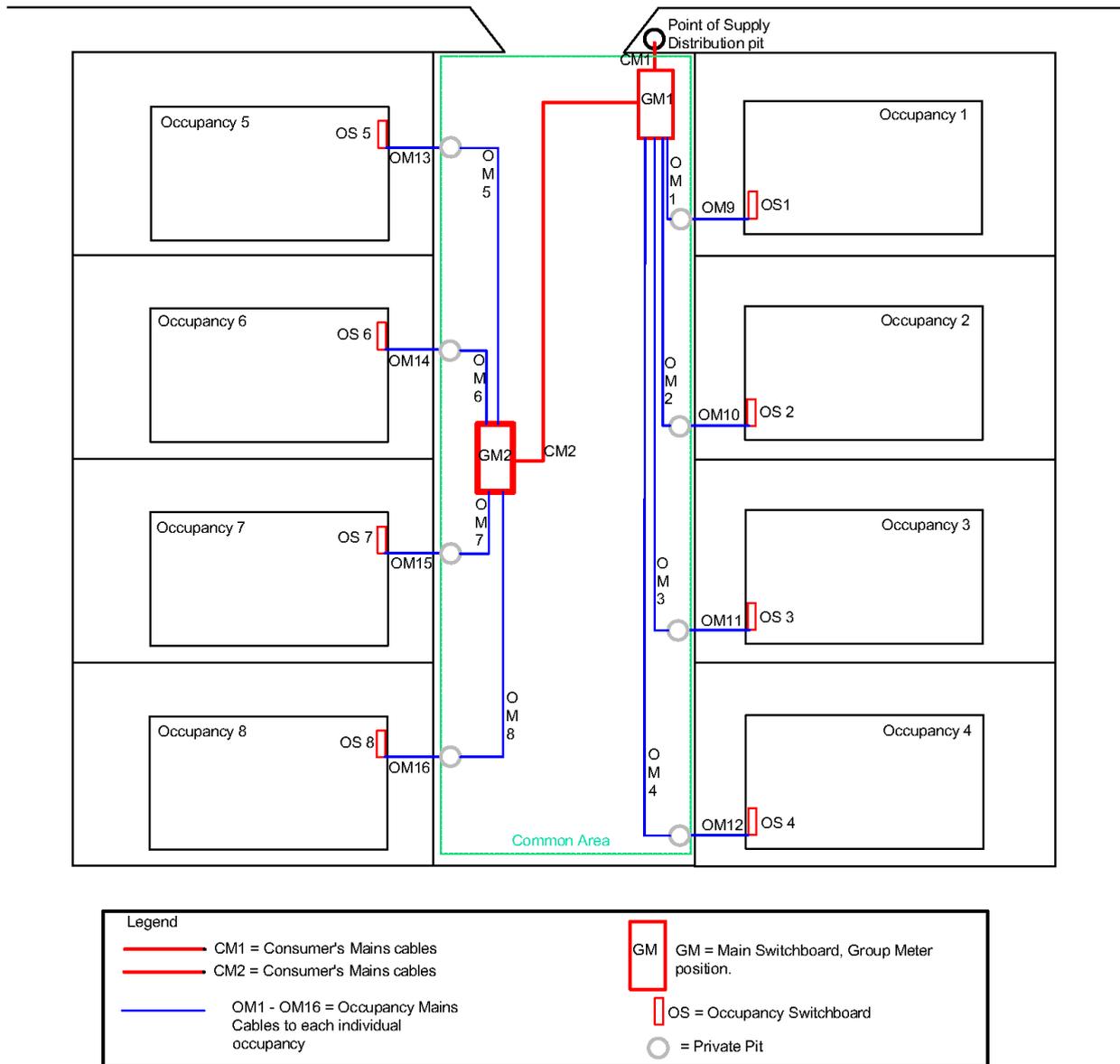


Figure 2 Typical multiple occupancy installation including consumer mains, Main Switchboard, consumer mains to each occupancy (occupancy mains) including private pits and occupancy switchboards

Example 2 - Prescribed work in this example

Reference	Portion of electrical installation	Type of prescribed work
CM 1	Consumer's mains from the point of supply to the main switchboard.	Type 1
GM 1	<p>Main switchboard arrangements may include;</p> <ul style="list-style-type: none"> • Supply Protection Device (SPD) • Supply Capacity Control Device (SCCD) • Occupancy Disconnection Device (ODD) • meter panel isolators • meter panel • all wiring up to the main switches for individual occupiers portions and GM 2 • the main switches controlling individual occupiers portion • control and protection of the public light and power. 	Type 1
CM 2	Consumer's mains from GM 1 to the GM 2 distribution board.	Type 1
GM 2	<p>Distribution board arrangements may include;</p> <ul style="list-style-type: none"> • meter panel • all wiring related to any control and /or protection devices for submains supplying the individual occupiers portions • control and / or protection devices for individual occupiers submains • control and protection of the public light and power. 	Type 1
OM 1-8	Occupancy mains from GM1 or GM 2 to the private pits.	Type 2
OM 9-16	Occupancy mains from a private pit to an individual occupiers (tenancy) switchboard (OS 1-8).	Type 2
OS 1-8	Individual occupiers (tenancy) switchboards OS 1-8.	Type 2

Example 2 - Minimum number of prescribed COES required

Below are three scenarios and the minimum number of prescribed COES required to be completed in each.

Scenario 1

If CM1, GM1, CM2 and GM2, OM1-8 and each of the individual occupier's submains and individual occupiers (tenancy) switchboards OM9-16 and OS1-8 are completed at same time, you must complete:

- 1 x COES including details of CM1, GM1, CM2 and GM2; and
- 1 x COES for each of the 8 individual occupancies including details of occupancy mains to private pits OM1-8, occupancy mains from private pit to occupancy OM9-16, occupiers (tenancy) switchboards OS 1-8 and earthing system.

Total: 9 x prescribed COES

Scenario 2

Alternatively, if CM1, GM1, CM2 and GM2 and occupancy mains (OM1-8) are installed, terminated and protected in the private pit at the same time and progressive completion of the individual occupier's mains from the private pit to occupancy, individual occupiers (tenancy) switchboards and earthing system occurs, you must complete:

- 1 x COES including details of CM1, GM1, CM2 and GM2 at completion; and
- 1 x COES for each of the 8 individual occupancy mains to private pit OM1-8 at completion; and
- 1 x COES for each of the 8 individual occupancies including details of occupancy mains OM9-16, individual occupancy (tenancy) switchboards OS 1- 8 and earthing system at completion.

Total: 17 x prescribed COES

Scenario 3

Alternatively, if CM1, GM1, CM2 and GM2 are completed progressively with individual occupiers mains installed, terminated and protected in the private pits and the individual occupiers mains and individual occupier's (tenancy) switchboards completed later, you must complete:

- 1 x COES including details of CM1 and GM1 at completion; and
- 1 x COES including details of CM2 and GM2 at completion; and
- 1 x COES each for OM1-8 at completion; and
- 1 x COES for each of the 8 individual occupancies including details of occupancy mains OM9-16, individual occupancy (tenancy) switchboards OS 1-8 and earthing system at completion.

Total: 18 x prescribed COES

NOTE: *The number of prescribed certificates may exceed the above total number if:*

- *work is completed progressively; and / or*
- *sections of the work are completed by multiple RECs.*

Example 3

- The site is a 10 storey building containing 43 individual occupier's portions (tenancies).
- An MEC meter is located at the main switchboard.
- Embedded network metering is located at the main switchboard (GM1) and at distribution boards (GM2-12).
- Refer to figure 3 for further information

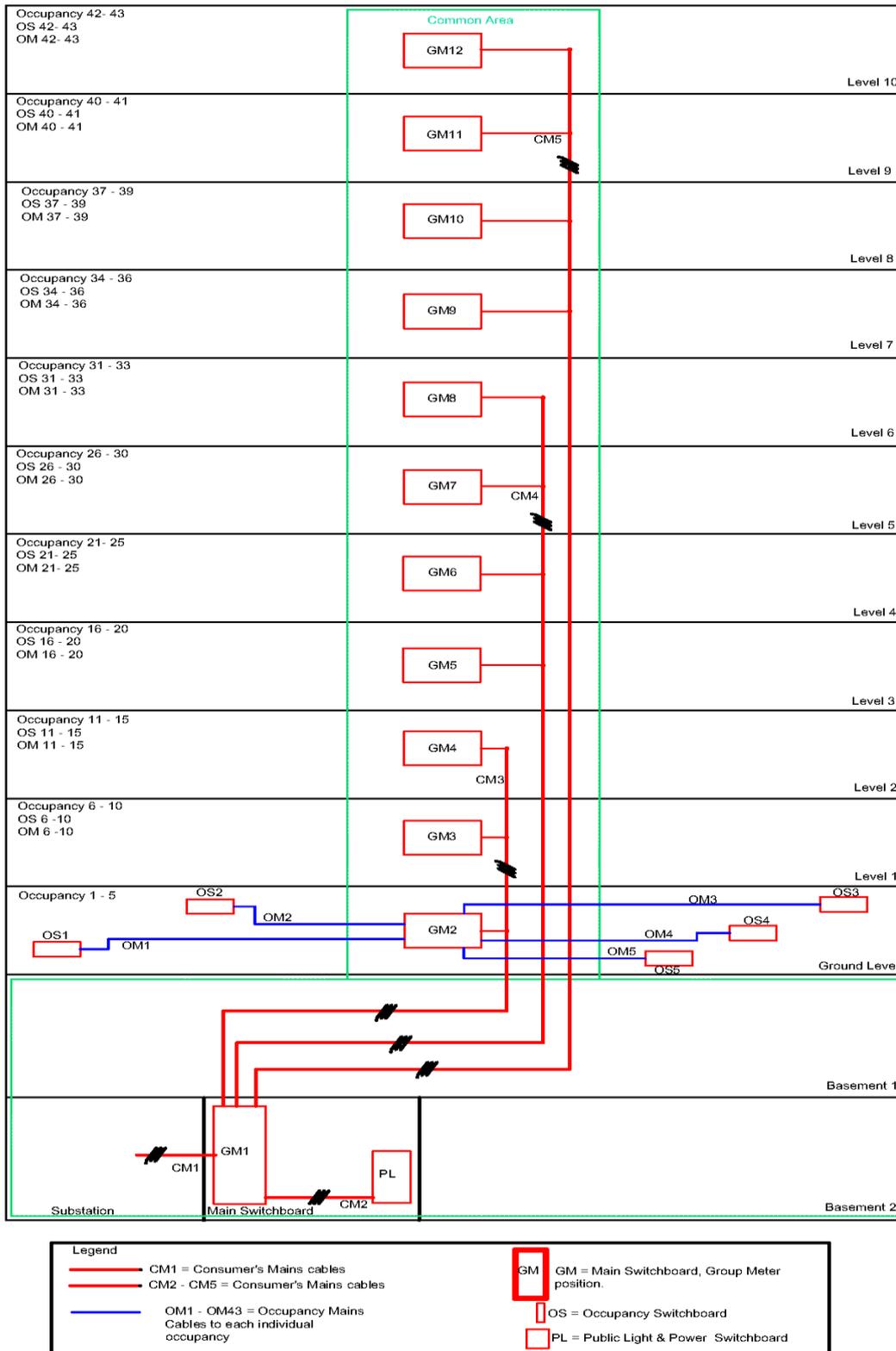


Figure 3

Typical multiple occupancy installation including consumer mains, Main Switchboard, consumer mains to each occupancy (occupancy mains) including riser mains and occupancy switchboards

Example 3 - Prescribed work in this example

Reference	Portion of electrical installation	Type of prescribed work
CM1	Consumer's mains from the point of supply to the main switchboard.	Type 1
GM 1	<p>Main switchboard arrangements may include:</p> <ul style="list-style-type: none"> • Supply Protection Device (SPD) • Supply Capacity Control Device (SCCD) • Occupancy Disconnection Device (ODD) • meter panel isolators • meter panel • all wiring up to the main switches for CM 3,4 & 5 • the main switches controlling CM 3,4 & 5 • control and protection of the public light and power. 	Type 1
CM 2	Consumer's mains from GM1 to public light distribution board (may also supply building services distribution board).	Type 1
CM 3, 4 & 5	Consumer's mains (metered by MEC) supplying distribution boards GM 2-12.	Type 1
GM 2-12	<p>Distribution board arrangements may include:</p> <ul style="list-style-type: none"> • Occupancy Disconnection Device (ODD) • meter panel isolators • meter panel • embedded network metering for occupancies • all wiring related to any control and /or protection devices for submains supplying the individual occupiers (tenancy) switchboards. 	Type 1
OM 1-43	Occupancy mains from GM 1-12 to individual occupiers (tenancy) switchboards.	Type 2
OS 1-43	Individual occupiers (tenancy) switchboards OS 1-43.	Type 2

Example 3 - Minimum number of prescribed COES required

Below are two scenarios and the minimum number of prescribed COES required to be completed in each.

Scenario 1

If CM1, GM1, CM2, PL, CM3, CM4, CM5, GM2–12, OM1-43 and OS 1-43 are completed at the same time, you must complete:

- 1 x COES including details of CM1, GM1, CM2, PL, CM3, CM4, CM5 and GM2–12; and
- 1 x COES for each of the 43 individual occupancy's including details of individual occupancy mains OM1-43, individual occupier's (tenancy) switchboards OS 1- 43 and earthing system at completion.

Total: 44 x prescribed COES

Scenario 2 -

Alternatively, If CM1, GM1, CM2, PL, and CM3, CM4, CM5 and GM2–12 are completed progressively, you must complete:

- 1 x COES including details of CM1,GM1 at completion; and
- 1 x COES including details of CM2 and PL at completion; and
- 1 x COES including details of CM3, CM4, CM5 and GM2–12 at completion; and
- 1 x COES for each of the 43 individual occupancy's including details of individual occupancy mains, individual occupier's (tenancy) switchboards OS 1- 43 and earthing system at completion.

Total: 46 x prescribed COES

NOTE: *The quantity of prescribed certificates may exceed the above numbers if*

- *work is completed progressively; and / or*
- *sections of the work are completed by multiple RECs.*