

2357 Level 3 NVQ Diploma in Electrotechnical Technology



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City & Guilds

1 Giltspur Street

London EC1A 9DD

T +44 (0)844 543 0000

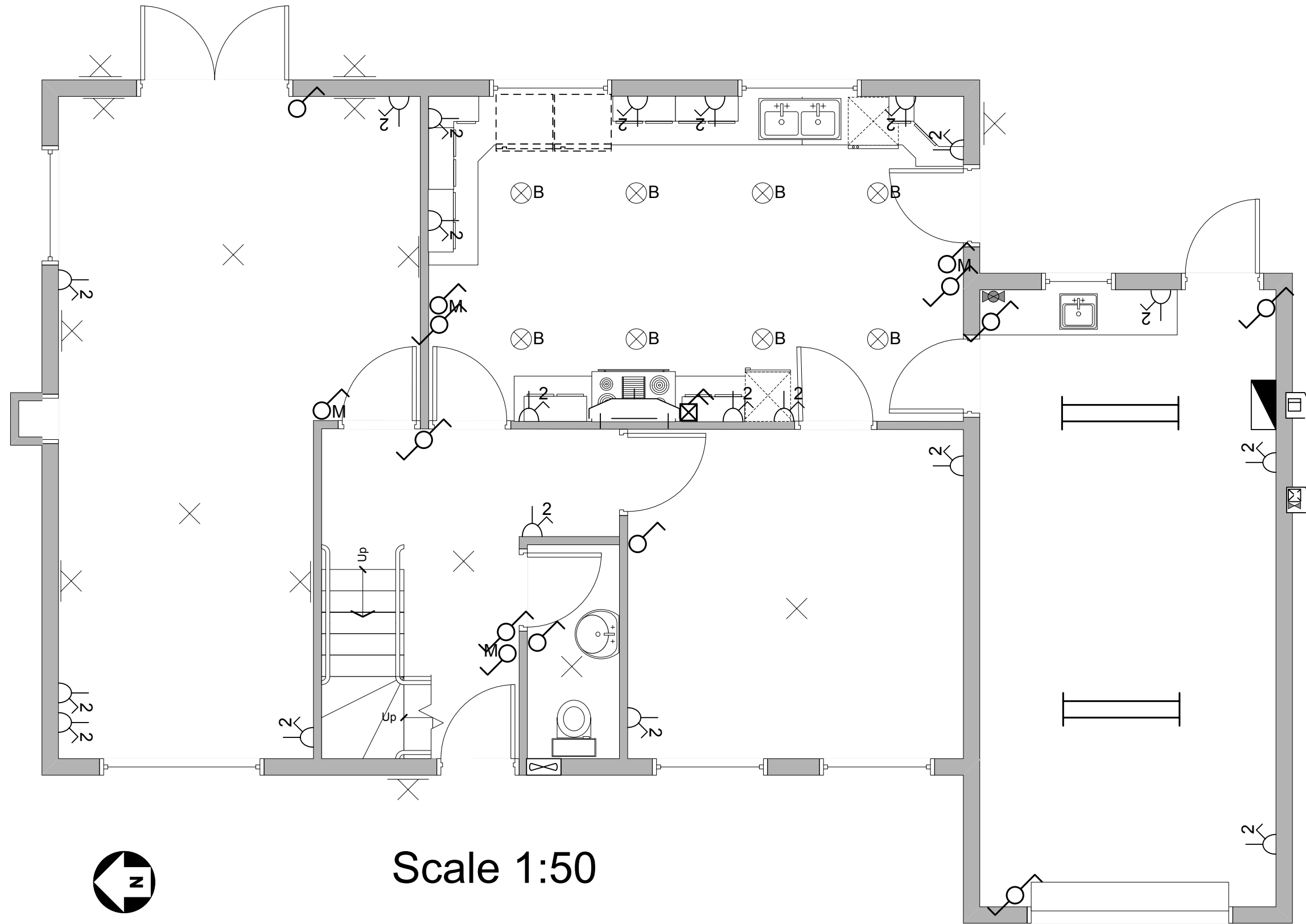
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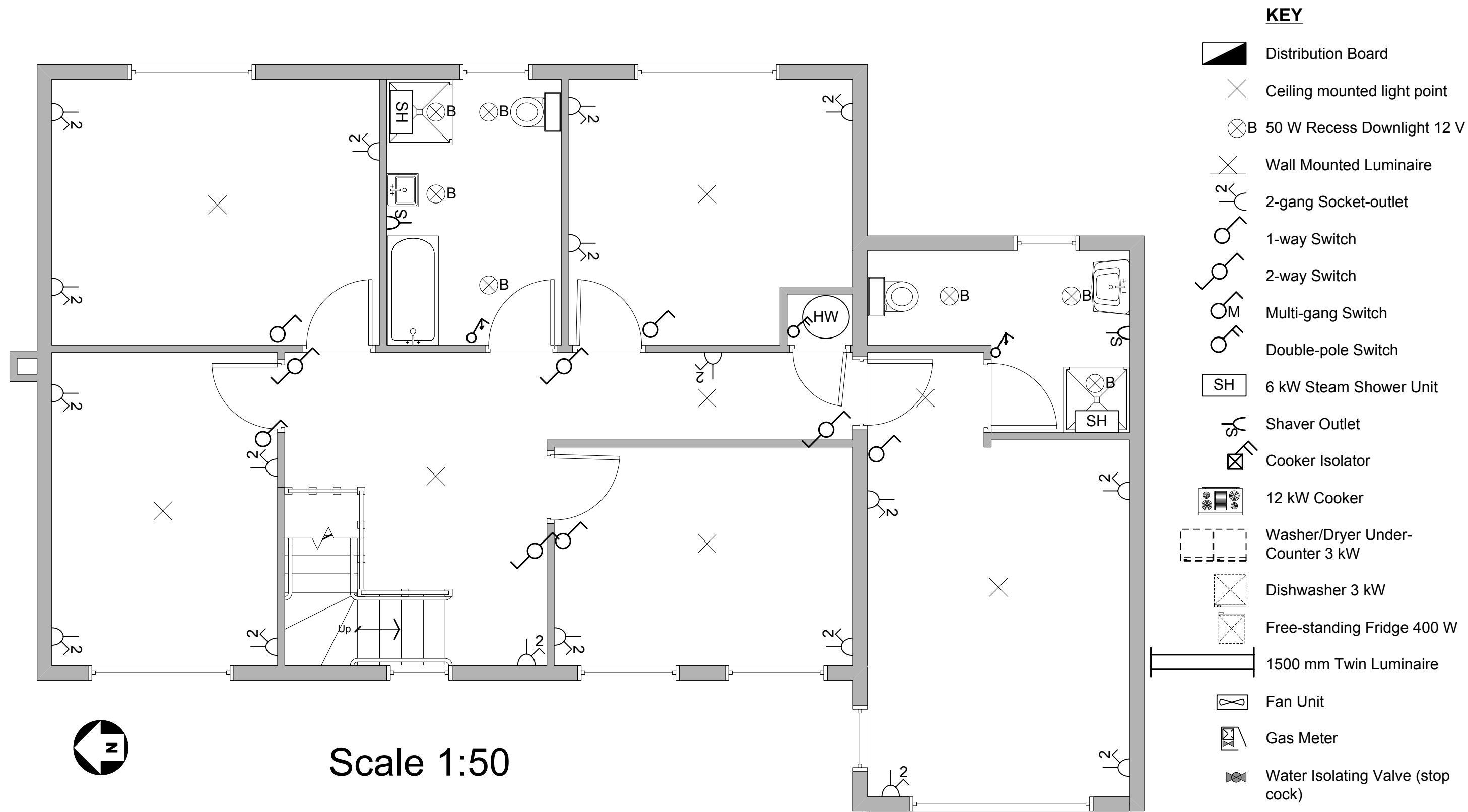
This document contains the site plans for the 2357 Level 3 NVQ Diploma in Electrotechnical Technology. Where possible, plans should be printed at high resolution, and A3 size. Colour printing is not necessary.

Site Plan	Unit Required
2357-A-01/02/03	302, 303, 304, 307
2357-B-01/02/03/04	301, 302, 307
2357-C-01/02/03/04	304, 305, 307
2357-AM-01/02/03	308
2357-BM-01/02/03/04	322
2357-CM-01/02/03/04	308, 321, 322, 323



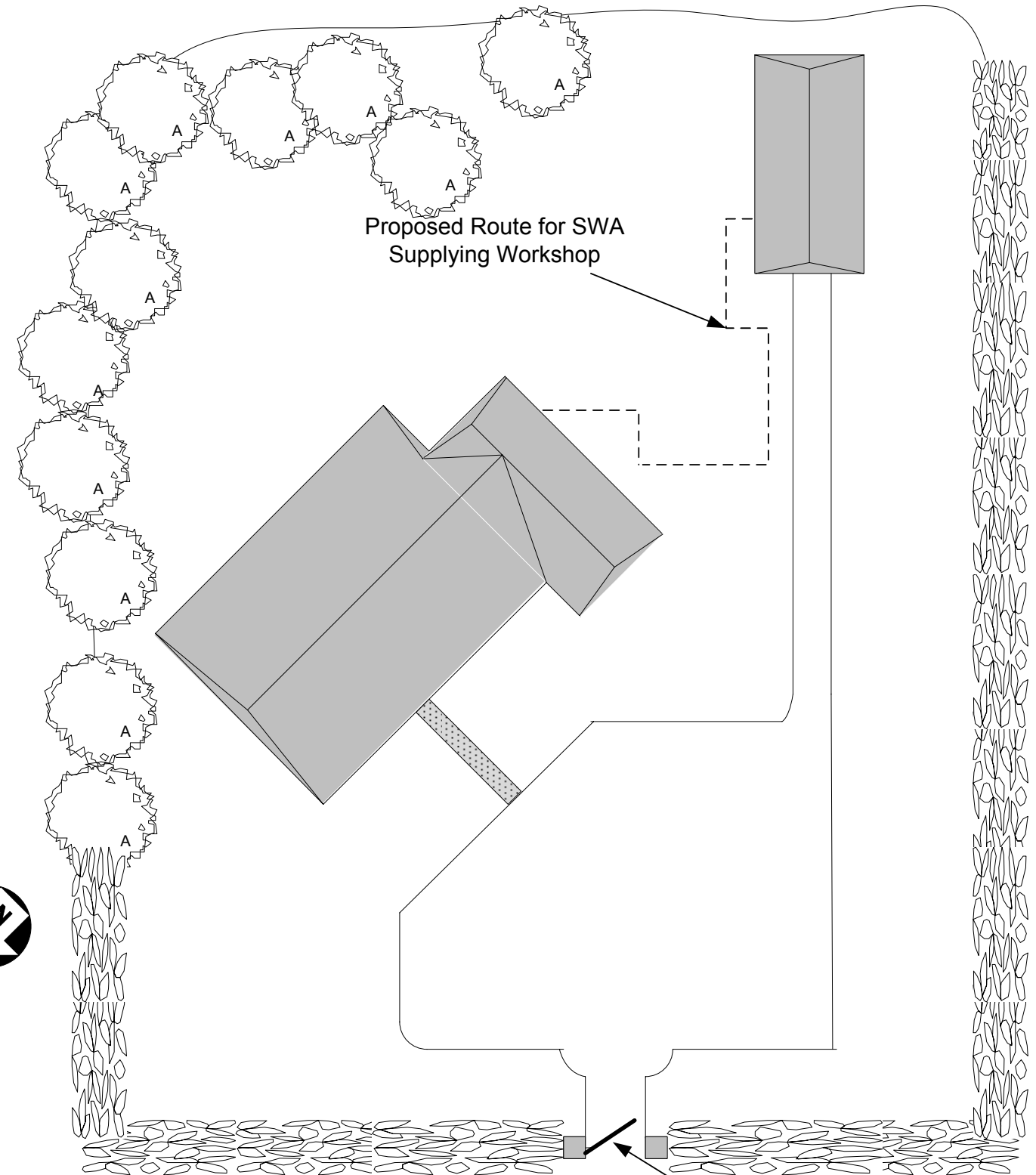
Notes

These drawings show a forty year old domestic property which is to undergo major refurbishment which includes a total rewire of the premises (new wiring, accessories and appliances) and the installation of a new workshop in the garden. The installation forms part of a 230 V single-phase TN-C-S supply with a declared Z_e of 0.19Ω and PFC of 1.2 kA.





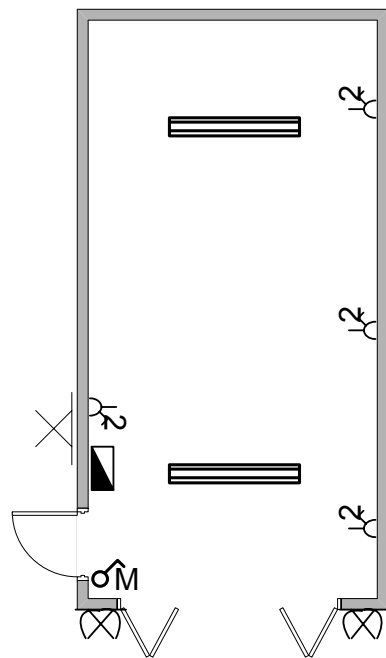
West Elevation
Scale 1:100



Proposed Route for SWA
Supplying Workshop

Wooden five-bar
gate 2.4 m width







Site Plan. Scale 1:200

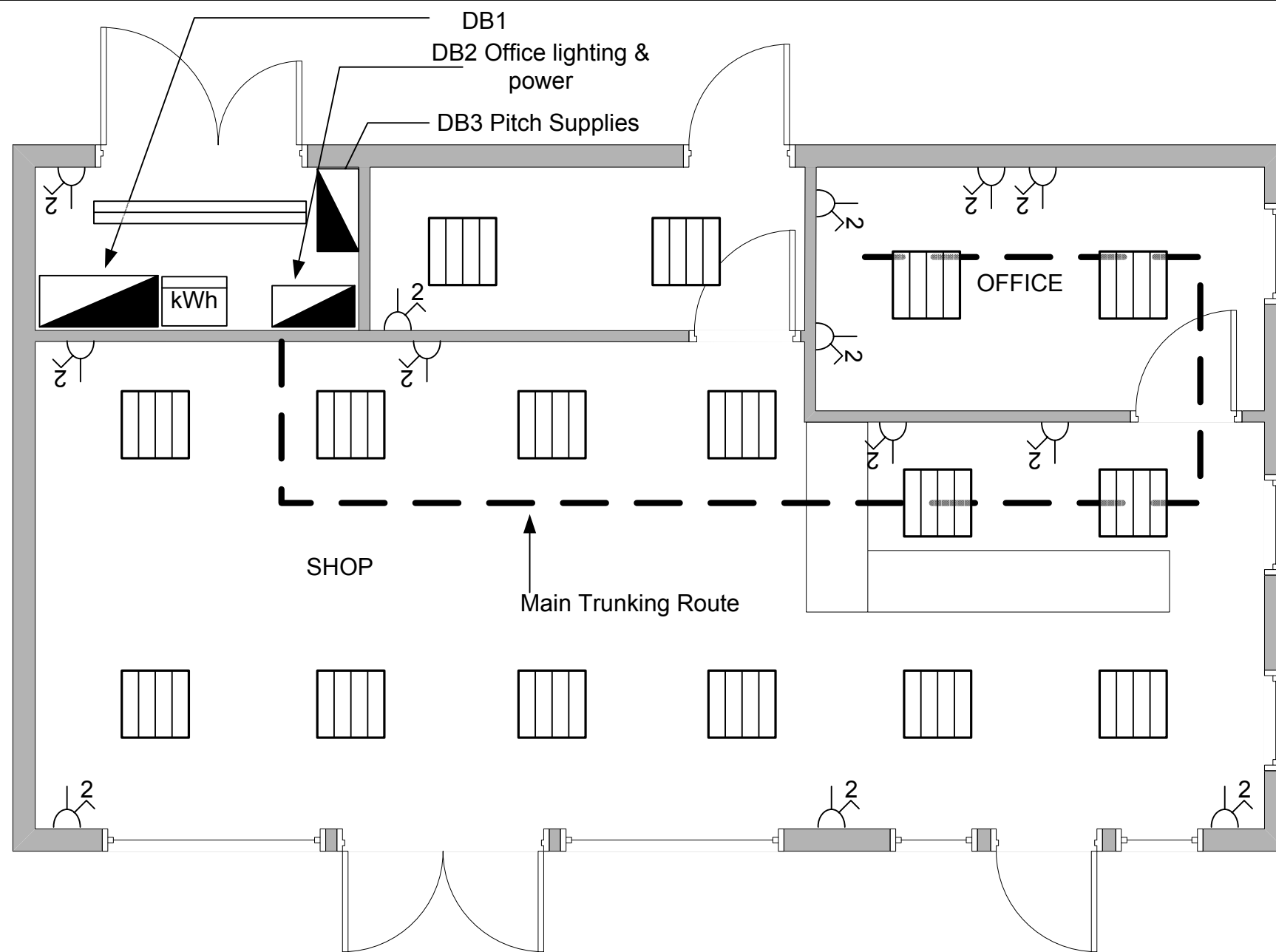


Workshop Plan
Scale 1:100



KEY

-  2-gang socket-outlet
-  1800mm IP 65 twin luminaire
-  Distribution Board
-  Flood light c/w PIR
-  Wall mounted Luminaire
-  Multi-gang single-pole switch



Notes and Specification

Building utilisation

The attached drawings show the proposed refurbishment of the shop/offices and shower block at the Touring Caravan Park.

Building construction

The construction of the two single-storey building are as follows:

Walls

External walls consist of fair-faced brickwork, a cavity and an inner leaf of concrete block-work. Internal walls consist of concrete block-work with structural supports where required. All walls have a plaster finish throughout.

Floors

The floor is to be a standard raft of reinforced concrete with a 100mm screed finish..

Floor finishes

Floor finishes are as follows

Carpet	-	Shop floor and office areas
Non-slip vinyl covering		Throughout public shower and toilet areas
Compressed treated screed-		Service intake and store rooms.

Ceilings

Ceilings are as follows:

- All ceilings in the shop/office block are to be suspended 600 mm x 600 mm grid with removable tiles 2400 mm above ffl in all areas, with the exception of the service intake.
- All ceilings in the shower/toilet block are to be plasterboard with moisture proof paint with access panels where required in all areas, 2400 mm above ffl, with the exception of the service intake room.

Roof

The roof will be tile hung on wood truss.

Electrical supply

The incoming supply is 400 / 230 V 50 Hz three-phase four-wire, which together with the installation forms part of a TN-C-S system. The declared value of Z_e is 0.08 Ω and the prospective fault current is 5 kA. Consumer's control unit (CCU) together with metering equipment are housed in the service intake room located in the shop/office block. The supply to the shower/toilet block will be wired using XLPE multi-core steel-wire-armoured cable.

Electrical installation

This is to be carried out in accordance with BS 7671 and any statutory/non statutory regulations that may apply. All materials and practices employed are to comply with the relevant standards. All wiring systems are to be surface mounted PVC conduit on walls with a metal trunking in the ceiling void. Accessories will be surface mounted.

All wiring to the pitch supplies located around the park and to the park lighting will be using XLPE multi-core steel-wire-armoured cable.

Telephones, security/fire alarm and information technology systems

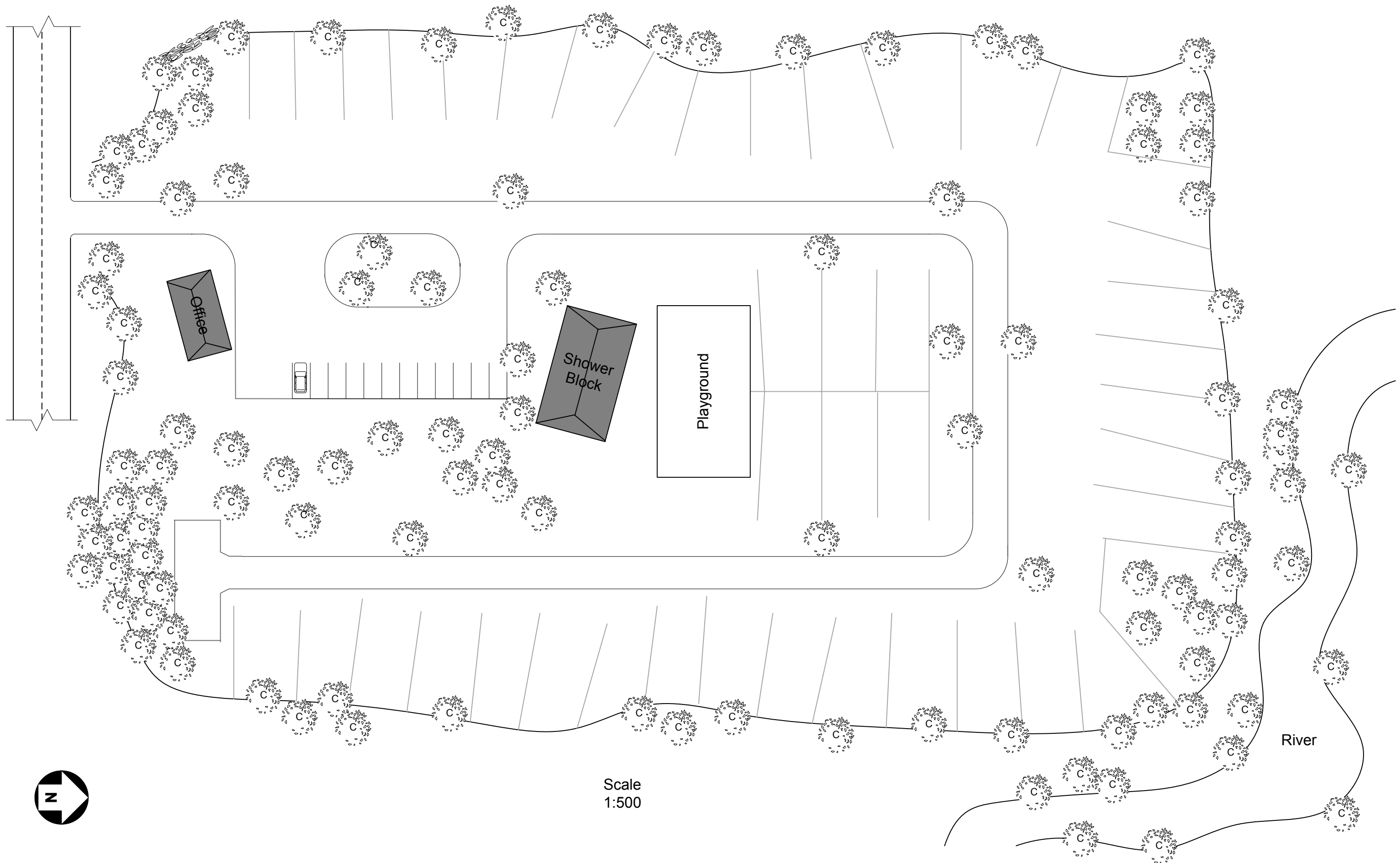
To be installed by specialist installers.

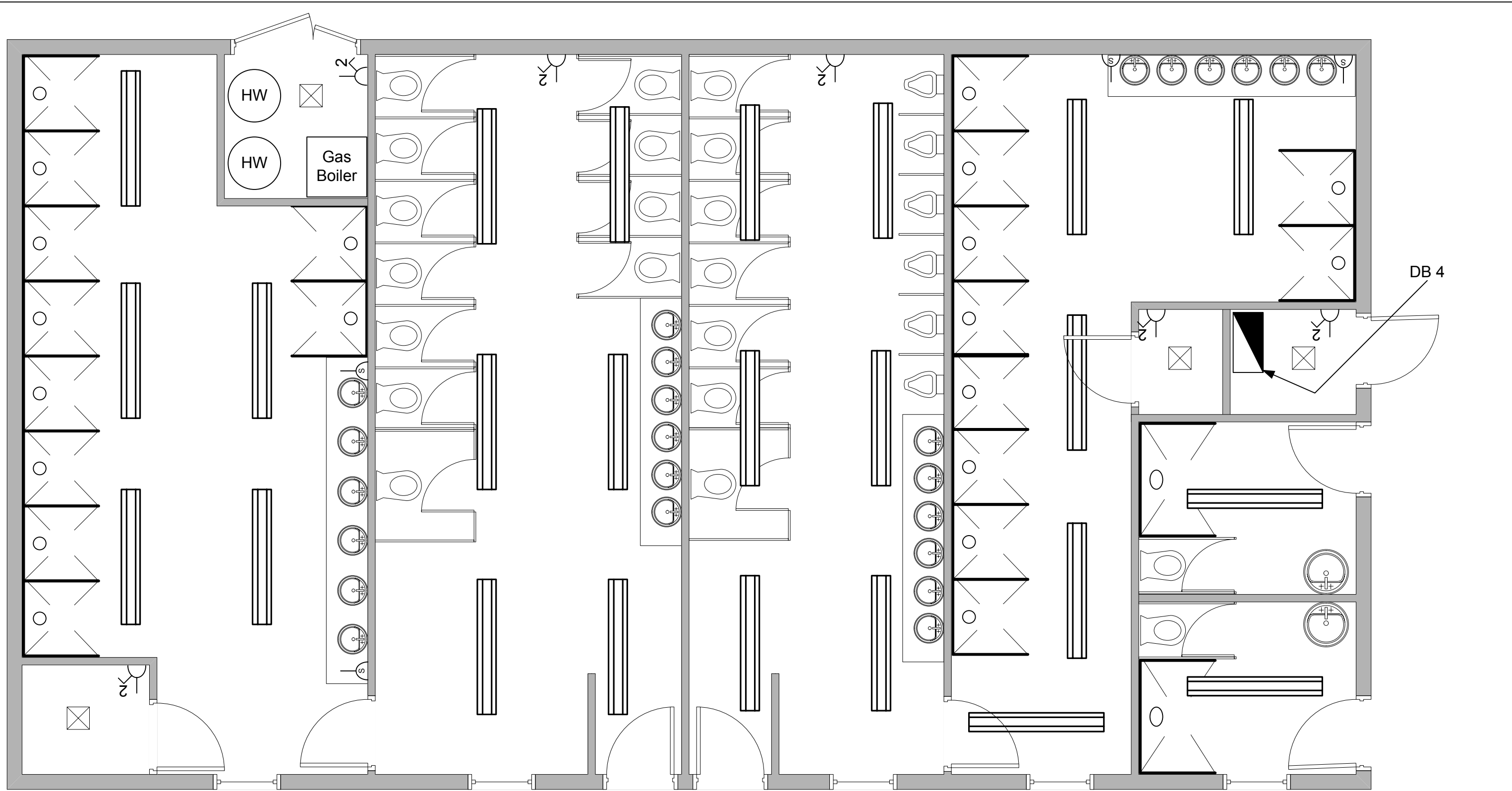
Heating and ventilation

To be installed by specialist contractors.

Temporary site supplies

Installation and maintenance is part of the general electrical contract.





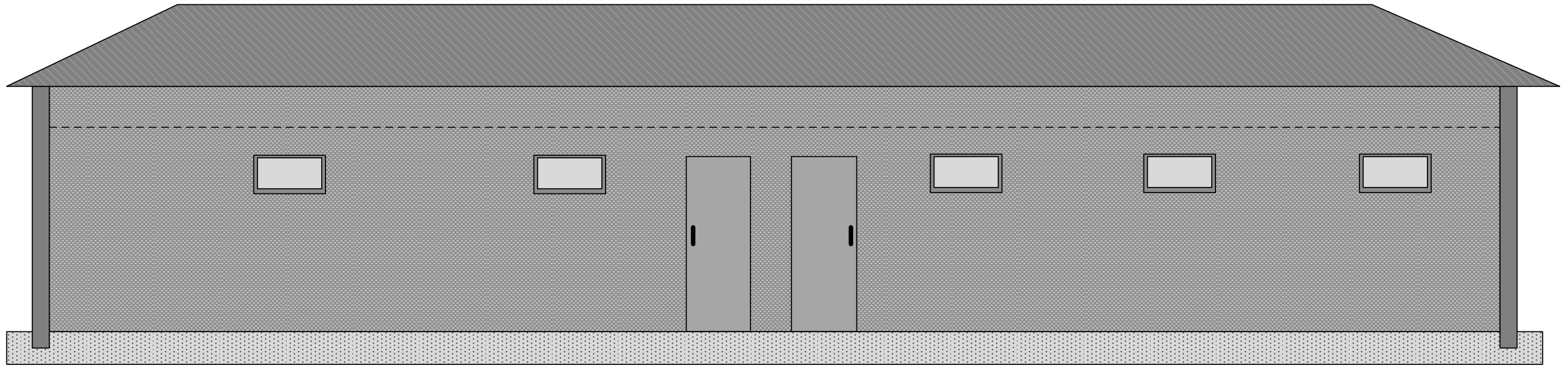
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2357
Assignment

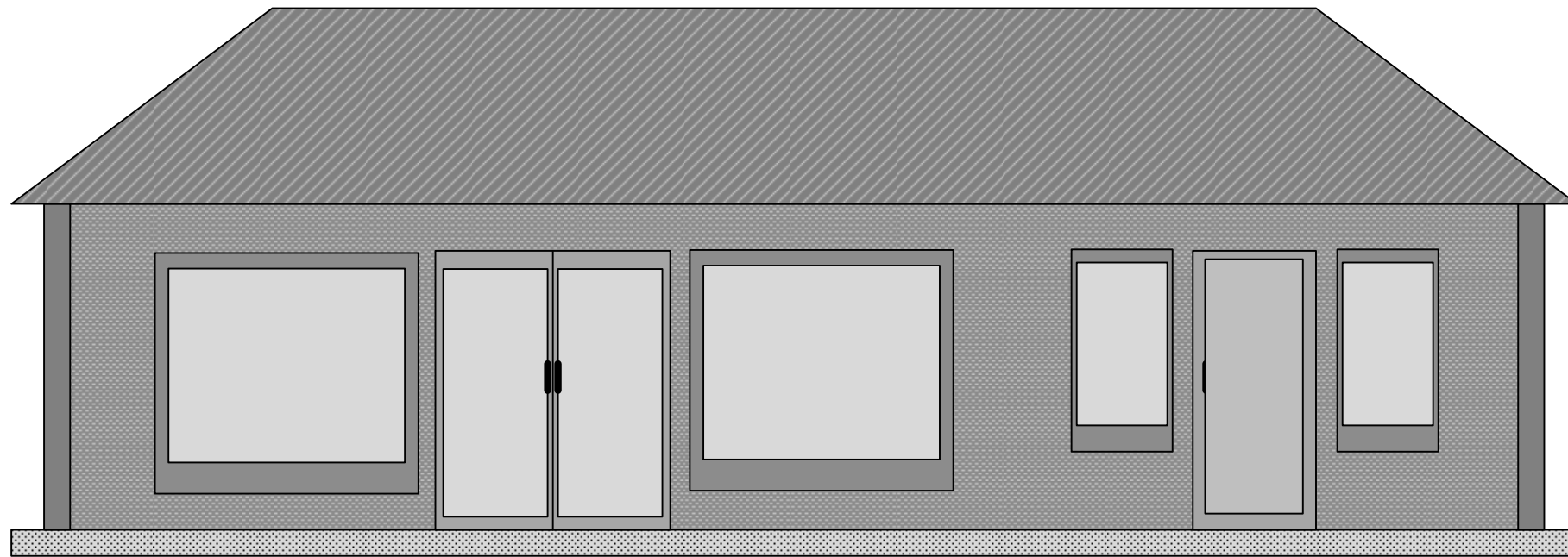
Proposed Caravan
Park

Shower Block
Building Plan

Drawing Number
2357-B-03

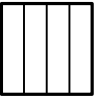
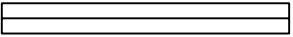






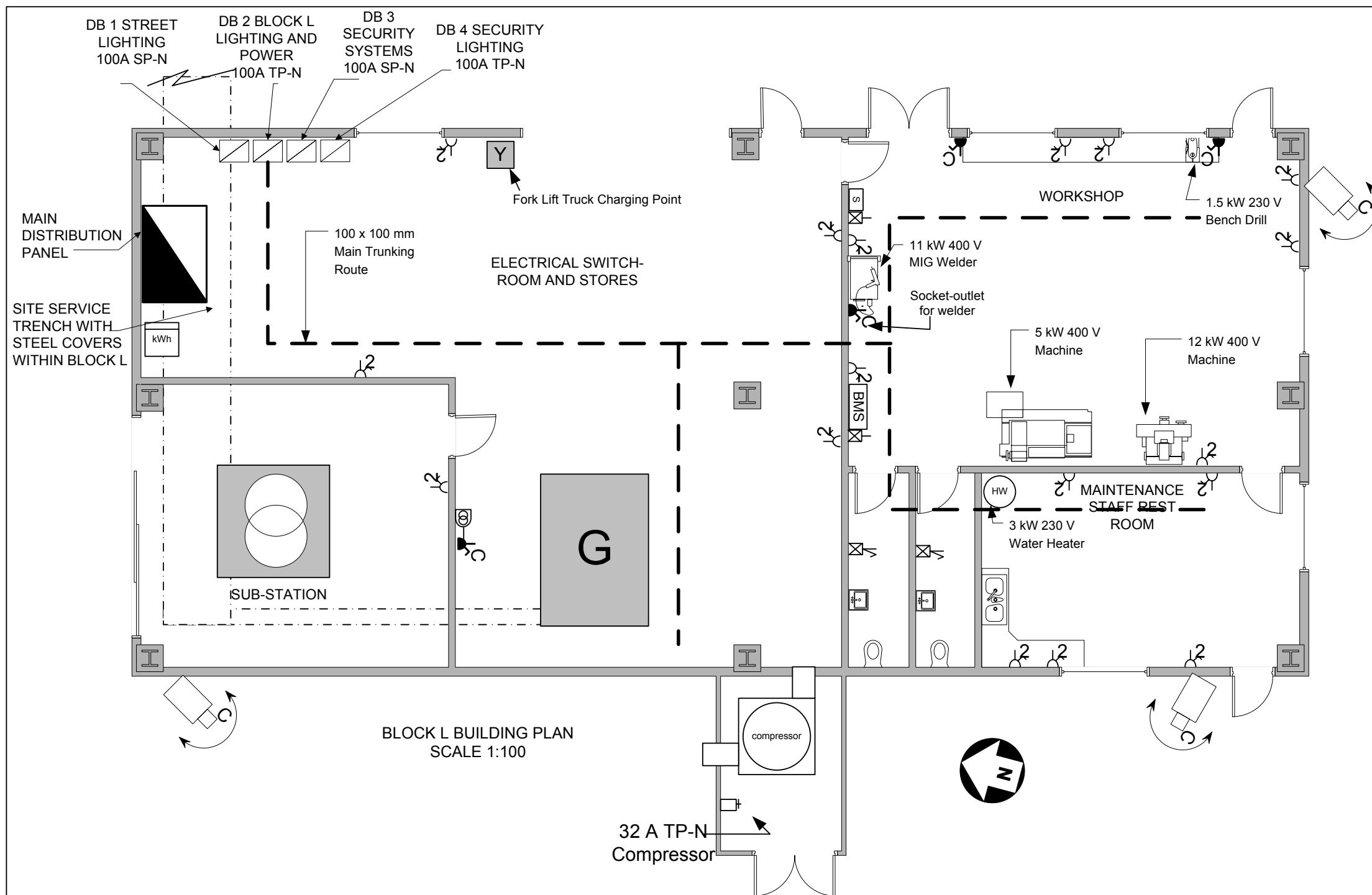
SHOWER BLOCK SOUTH ELEVATION
SCALE 1:50



SHOP NORTH ELEVATION
SCALE 1:50

Key

-  600 x 600 mm recess modular luminaire
-  1800 mm IP 65 surface mounted fluorescent luminaire
-  2-gang switched 13 A socket-outlet
-  Shaver outlet unit
-  Distribution Board
-  6 kW Electric Water Heater (immersion type)



Notes/Specification

Building Construction

The construction of this building is as follows:

Walls

External walls consist of standard brick , cavity and inner leaf blockwork. Internal walls are blockwork to roof height, with exception of the toilet/restroom area where blockwork extends to 2.5 m above ffl.

Floors

The floor is to a standard raft of reinforced concrete with a 100 mm compressed screed finish. Floor finishes are to be epoxy treated throughout.

Ceilings

The underside of the steel clad roof is to be used throughout with the exception of the toilet/restroom area which will have a plasterboard ceiling, 2.4 m above ffl, 200 mm void and chipboard fixed on wood truss which will form a mezzanine storage facility.

Roof

The roof will be steel clad sheeting supported by a steel frame. Steel uprights will be enclosed by fire proof boarding

Electrical Supply

The 11 kV/400/230 V Transformer supply to the Main Distribution Panel will form a TN-C-S supply having a declared Ze of 0.008 Ω and Prospective Fault Current declared as 50 kA. Standby (essential) systems will be supplied by the standby generator should the supply system fail.

Electrical Installation

All wiring systems are to be a mixture of PVC and metallic containment systems. Main metallic trunking routes are shown. Surface conduit will link trunking to final points. All machines will require correct starting/control equipment. Accessories must be suitable for the given environment.

Telephone/Security/Security Systems

Containment systems to be installed as part of the general electrical installation contract, wiring and connections to be carried out by specialist contractors.

Fire Alarm

To be installed as part of the general electrical installation contract

HVAC

To be installed by specialist contractors

Temporary Site Supplies

Installation and maintenance is part of the general electrical installation contract.

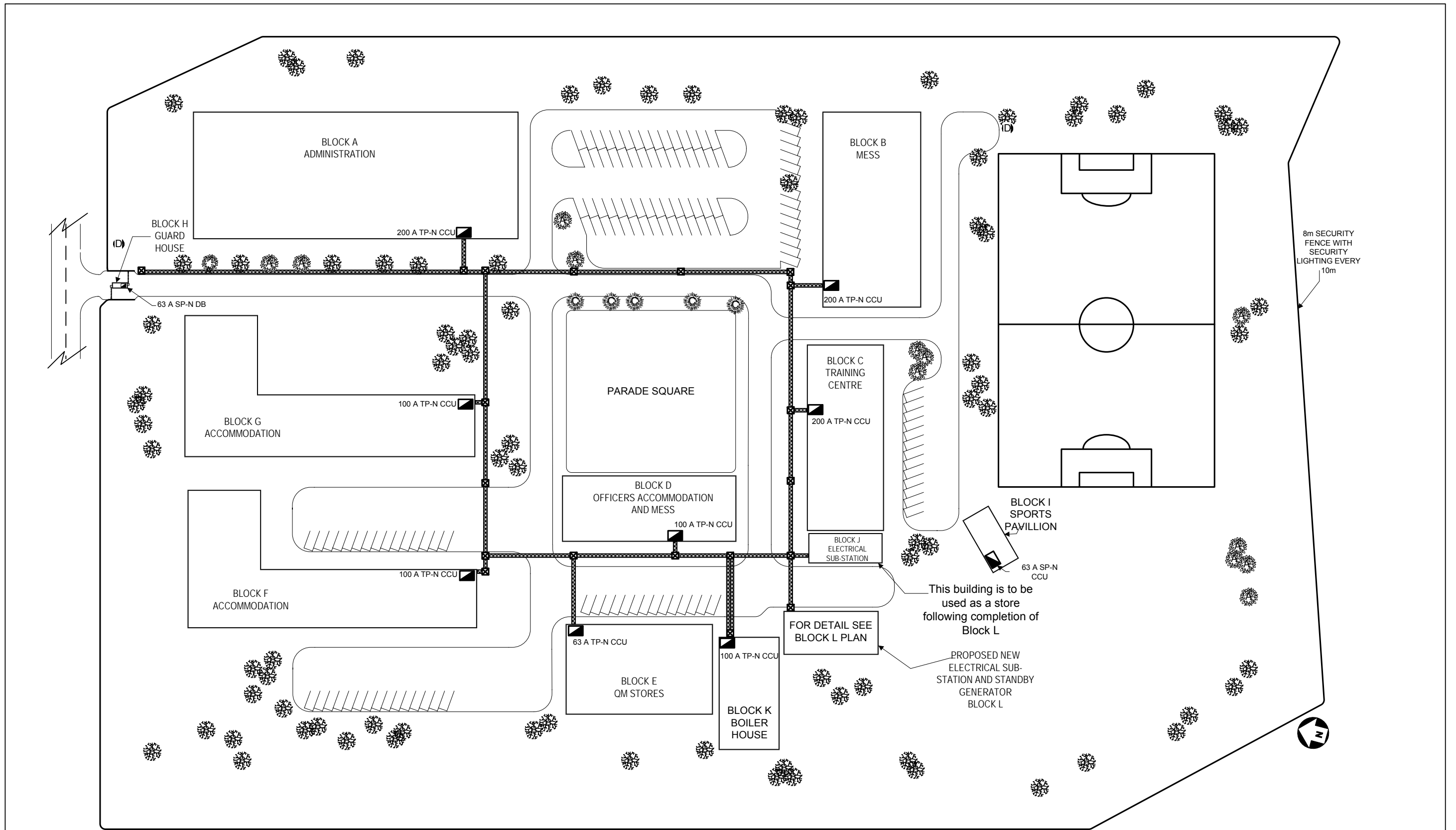
City & Guilds

2357
Assignment

Army Barracks
New Sub-Station

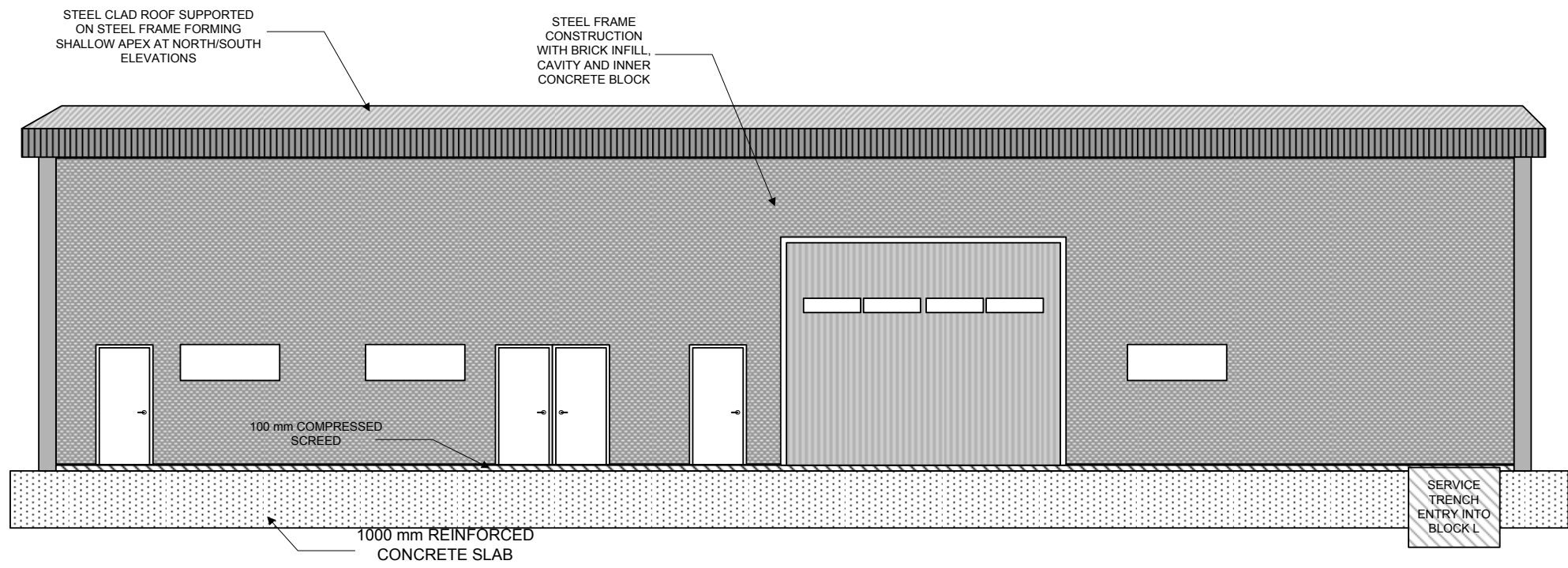
Floor Plan Block L
Electrical Power
Layout

Drawing Number
2357-C-01

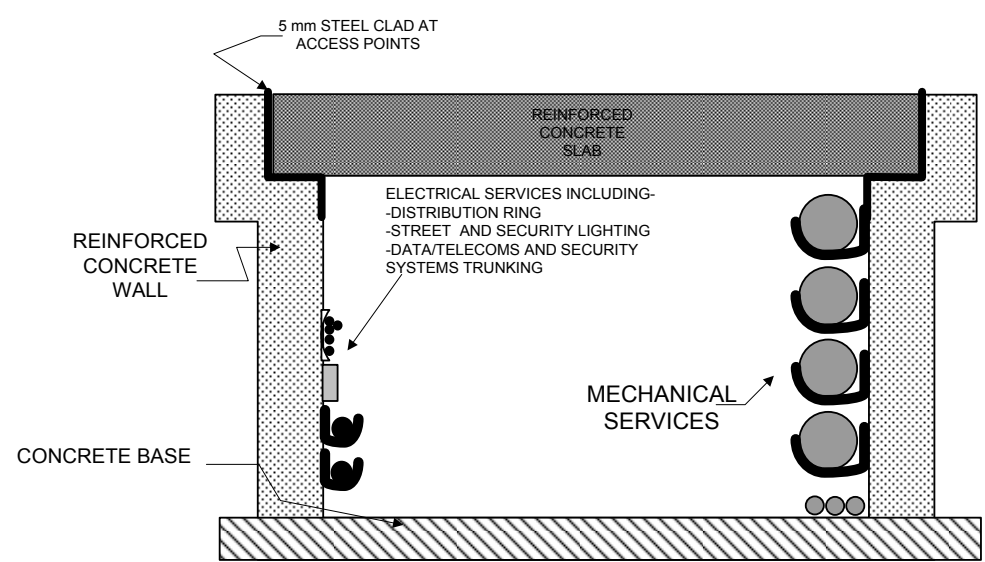


Scale 1:1000

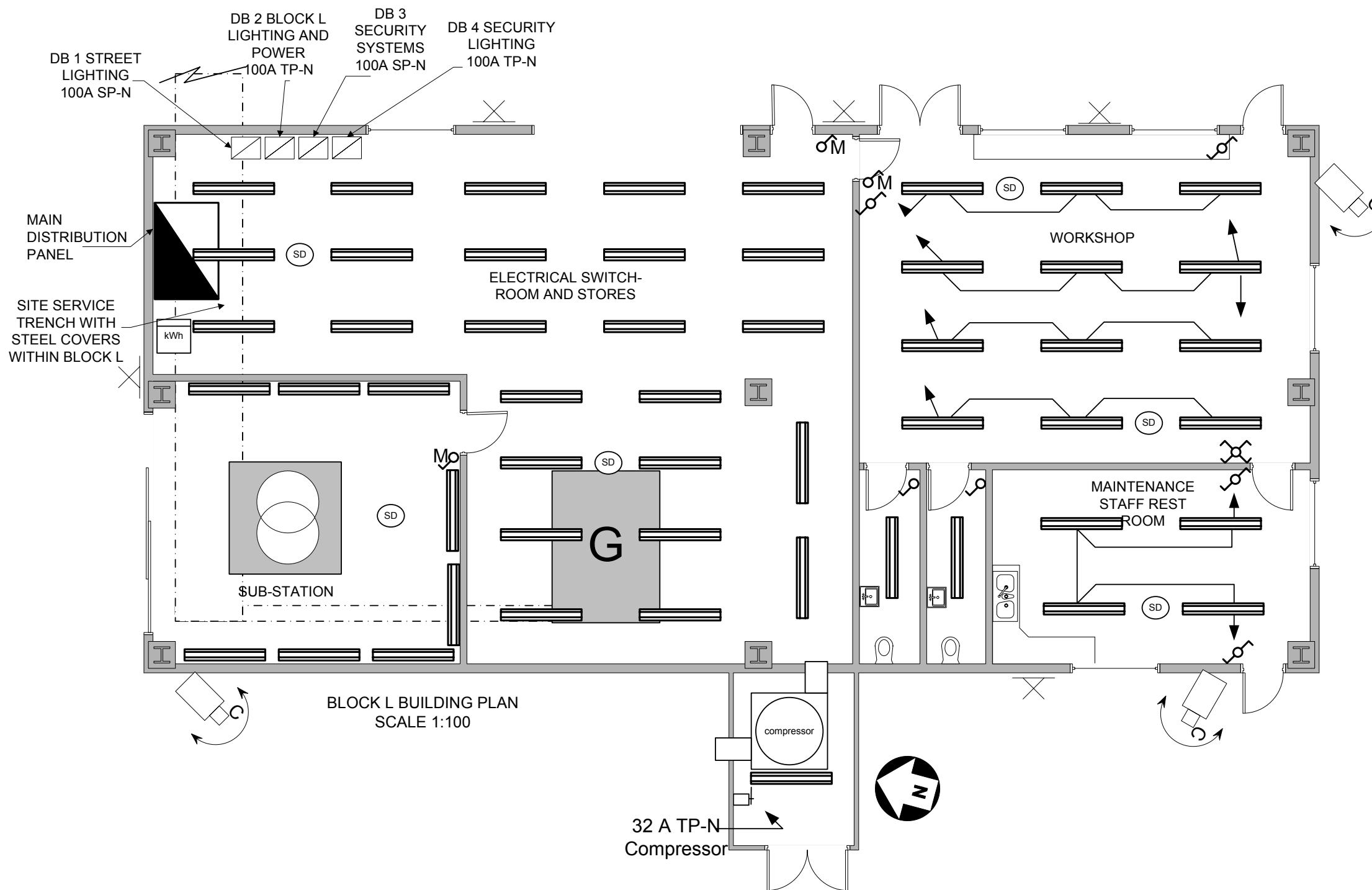
	<p>2357 Assignment</p>	<p>Army Barracks New Sub-Station</p>	<p>Site Plan</p>	<p>Drawing Number 2357- C-02</p>
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EAST ELEVATION SCALE 1:100

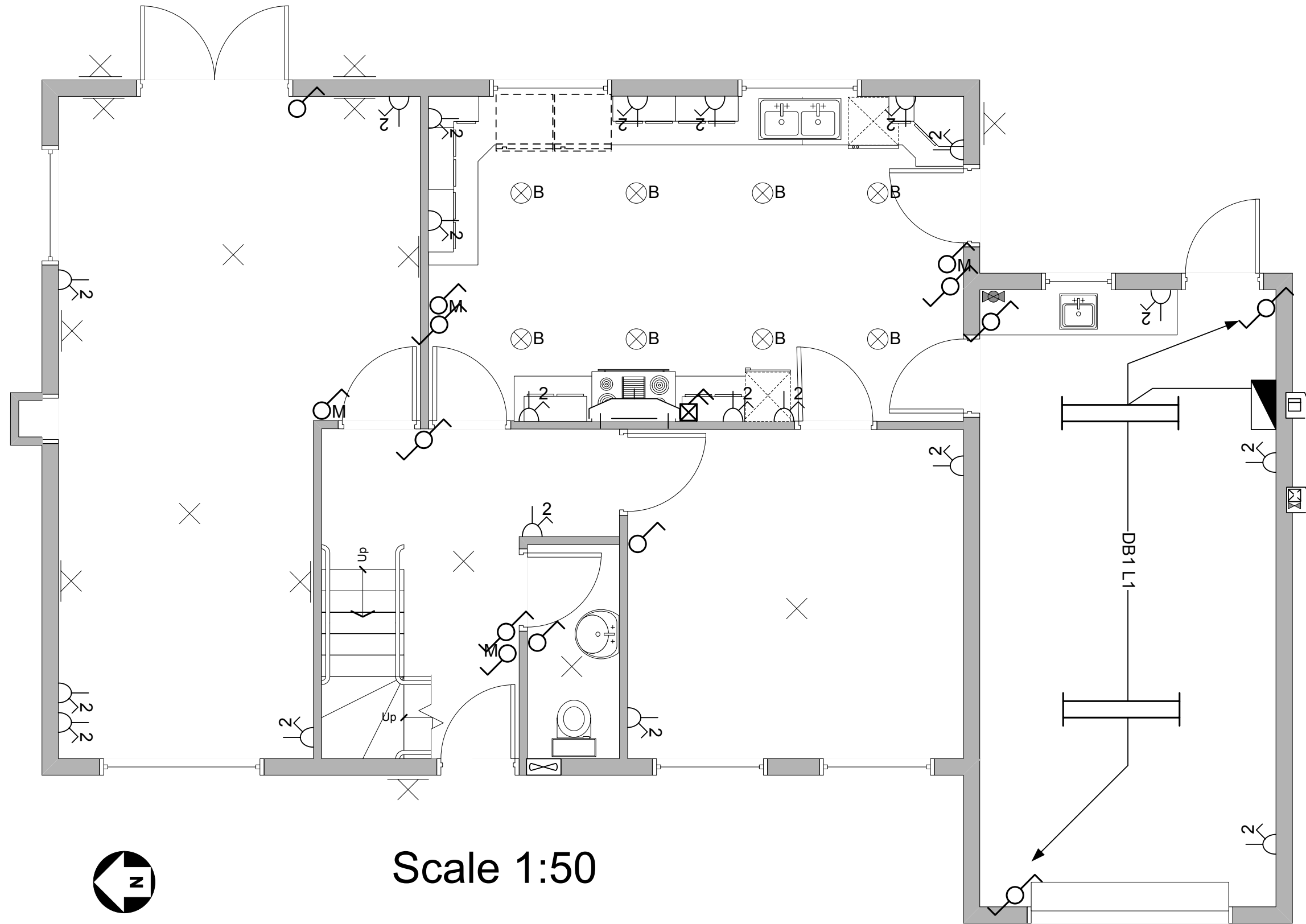


TYPICAL CROSS SECTION OF SERVICE TRENCH SCALE 1:10



KEY

- 2-Gang 13 A Socket-Outlets
- Switched Fused Spur Connection Unit
- Un-switched Fused Spur Connection Unit
- BS EN 60309-2 Socket-Outlet
- Multi-gang light switch
- Two-way light switch
- Intermediate Light Switch
- Transformer (Isolating)
- 1800 mm 2x70 W IP 65 Fluorescent Luminaire
- Wall Mounted Luminaire
- Automatic Fire Detector
- Distribution Board
- Building Management System Control Point
- Security Camera



Notes
 These drawings show a forty year old domestic property. The installation forms part of a 230 V single-phase TN-C-S supply with a declared Z_e of 0.19 Ω and PFC of 1.2 kA. The supply company main fuse located in the service 'cut out' is a 100 A BS 1361. The wiring appears to be twenty years old.

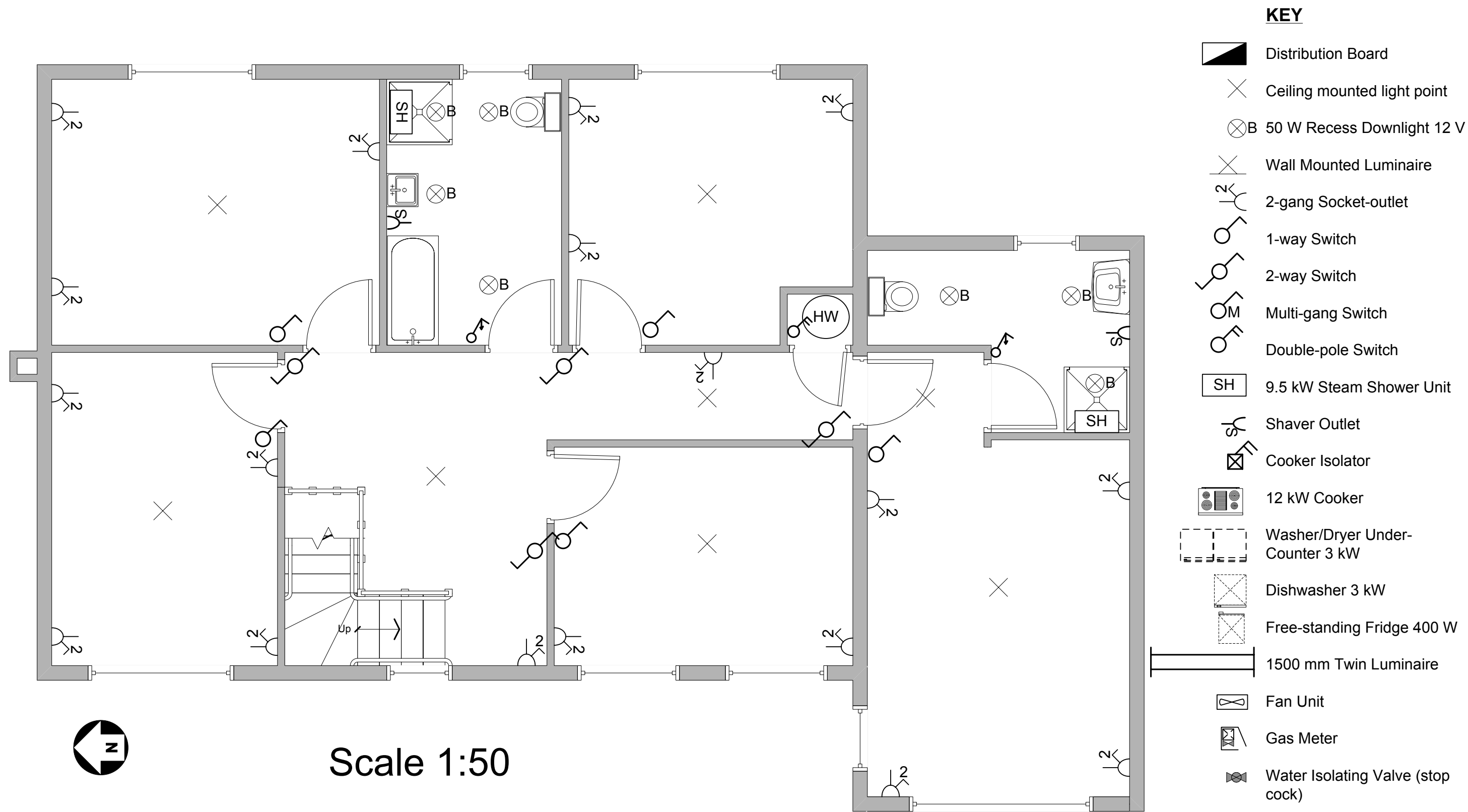
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2357
 Assignment

House
 'As Fitted'

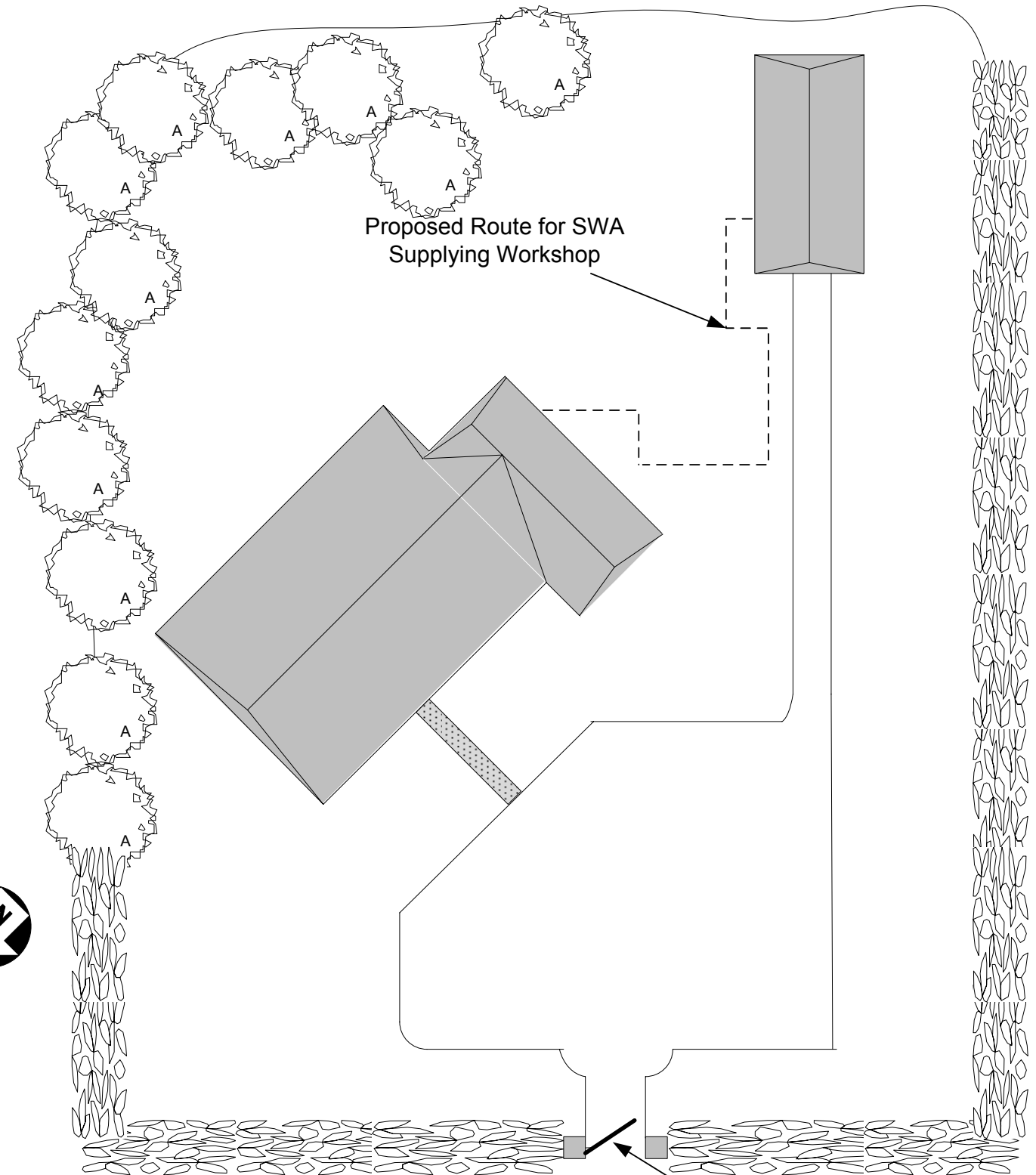
Ground Floor
 Plan

Drawing Number
 2357-AM-01

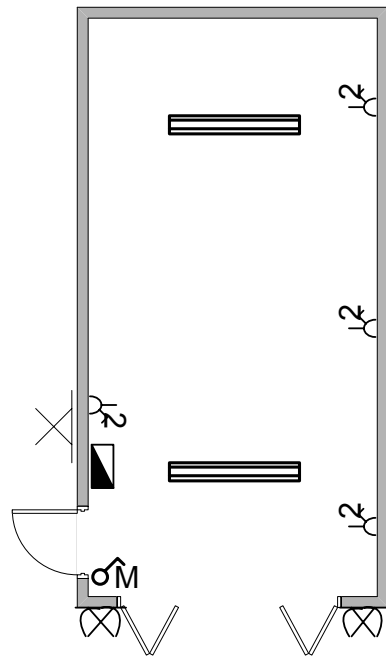




West Elevation
Scale 1:100









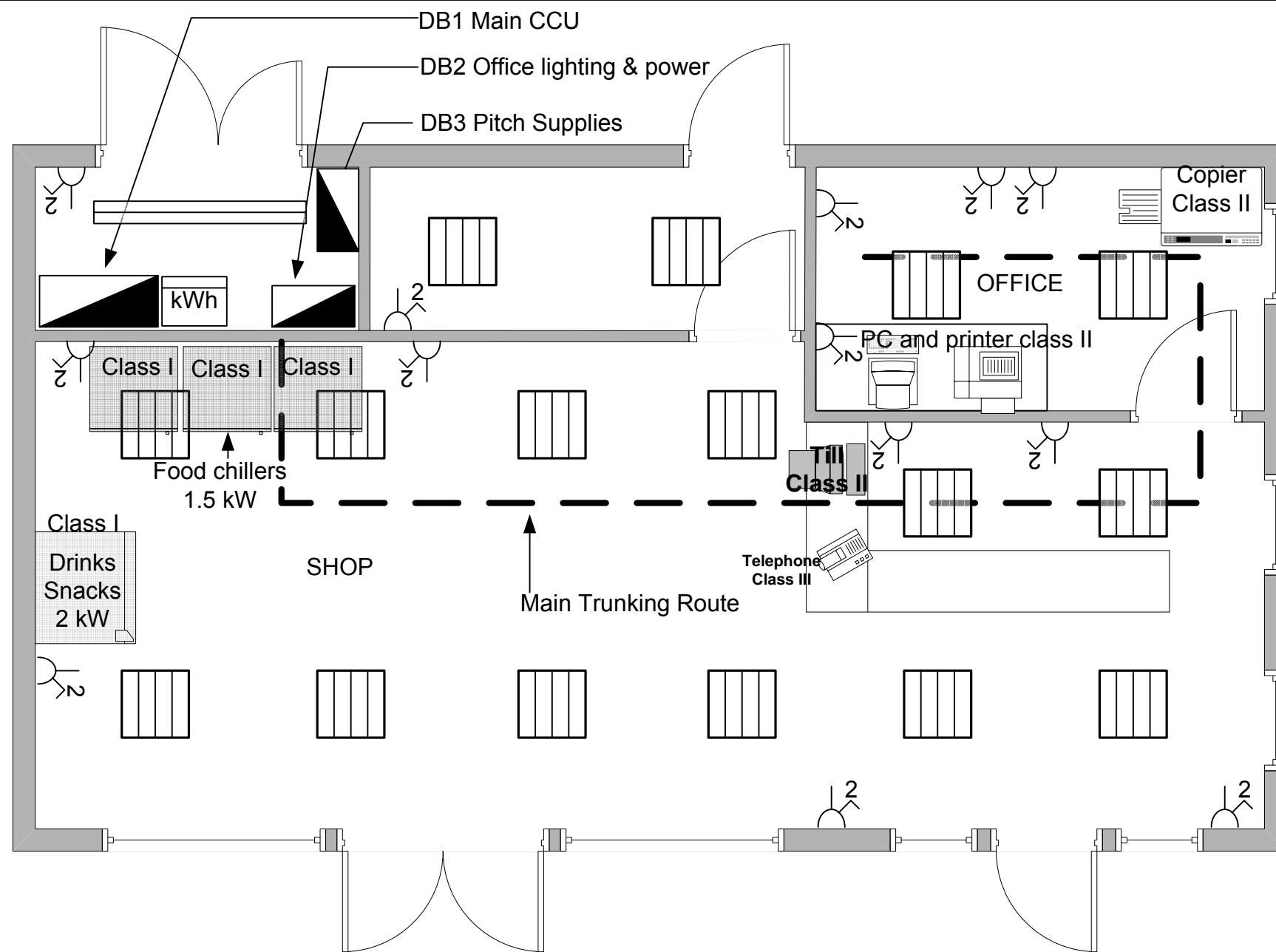
Site Plan. Scale 1:200



Workshop Plan
Scale 1:100

KEY

-  2-gang socket-outlet
-  1800mm IP 65 twin luminaire
-  Distribution Board
-  Flood light c/w PIR
-  Wall mounted Luminaire
-  Multi-gang single-pole switch



Notes

Building utilisation

The attached drawings show the as fitted drawings of the shop/offices and shower block at the Touring Caravan Park.

Building construction

The construction of the two single-storey building are as follows:

Walls

External walls consist of fair-faced brickwork, a cavity and an inner leaf of concrete block-work. Internal walls consist of concrete block-work with structural supports where required. All walls have a plaster finish throughout.

Floors

The floor is a standard raft of reinforced concrete with a 100mm screed finish..

Floor finishes

Floor finishes are as follows

Carpet	-	Shop floor and office areas
Non-slip vinyl covering		Throughout public shower and toilet areas
Compressed treated screed-		Service intake and store rooms.

Ceilings

Ceilings are as follows:

- All ceilings in the shop/office block are suspended 600 mm x 600 mm grid with removable tiles 2400 mm above ffl in all areas, with the exception of the service intake.
- All ceilings in the shower/toilet block are plasterboard with moisture proof paint with access panels where required in all areas, 2400 mm above ffl, with the exception of the service intake room.

Roof

The roof is tile hung on wood truss.

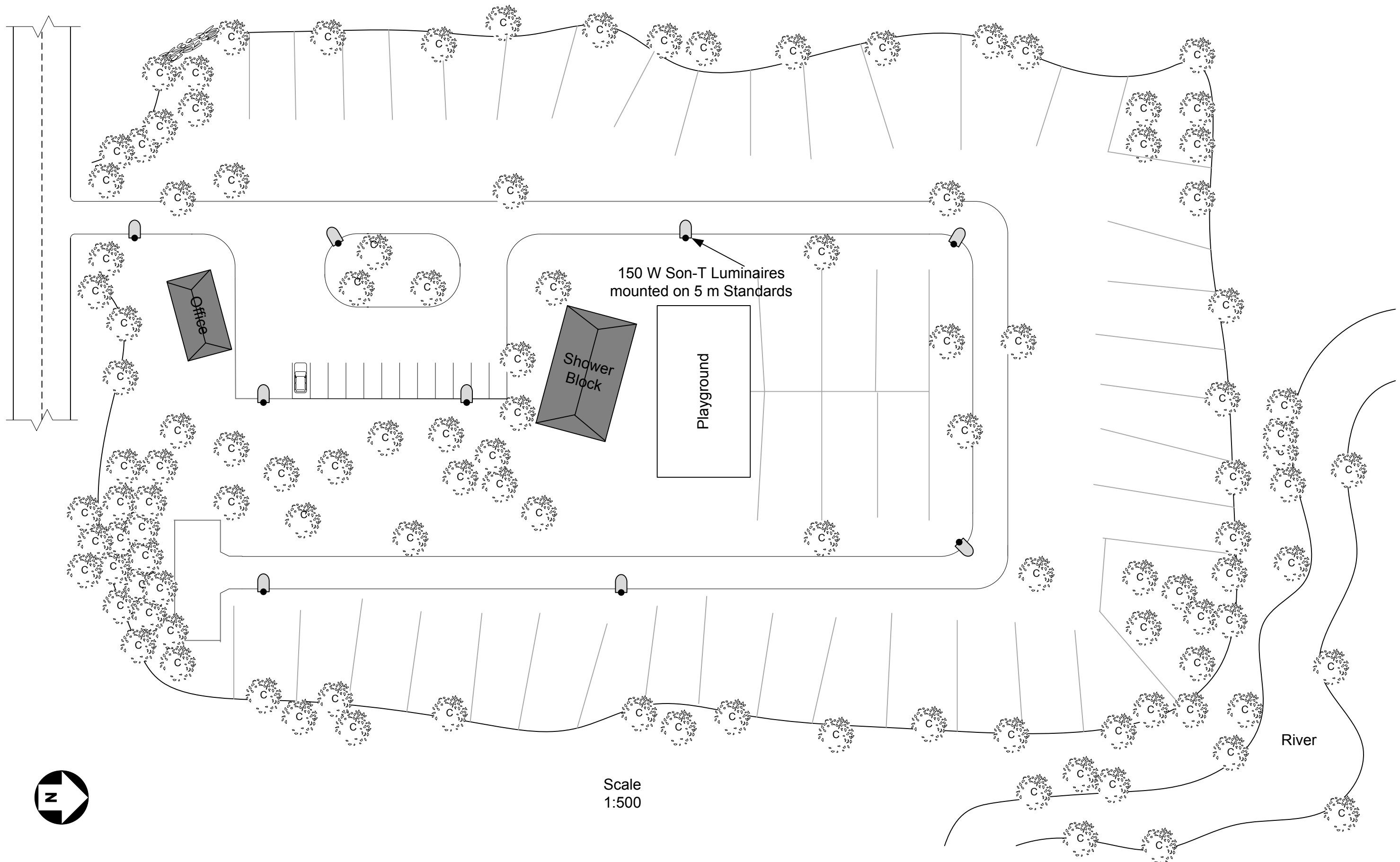
Electrical supply

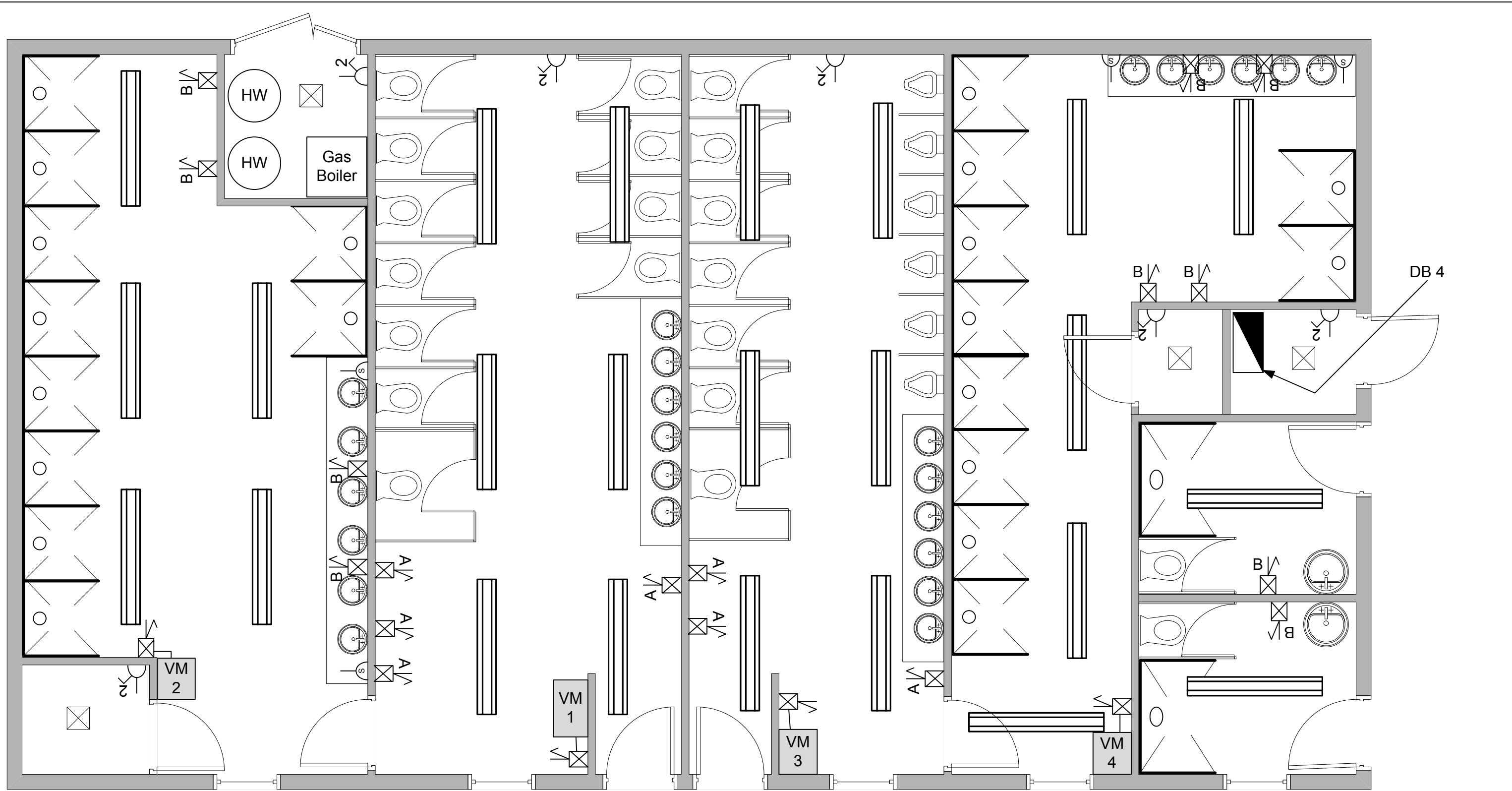
The incoming supply is 400 / 230 V 50 Hz three-phase four-wire, which together with the installation forms part of a TN-C-S system. The declared value of Z_e is 0.08 Ω and the prospective fault current is 5 kA. Consumer's control unit (CCU) together with metering equipment are housed in the service intake room located in the shop/office block. The supply to the shower/toilet block is wired using XLPE multi-core steel-wire-armoured cable.

Electrical installation

All wiring systems are surface mounted PVC conduit on walls with a metal trunking in the ceiling void. Accessories will be surface mounted.

All wiring to the pitch supplies located around the park and to the park lighting are wired using XLPE multi-core steel-wire-armoured cable.





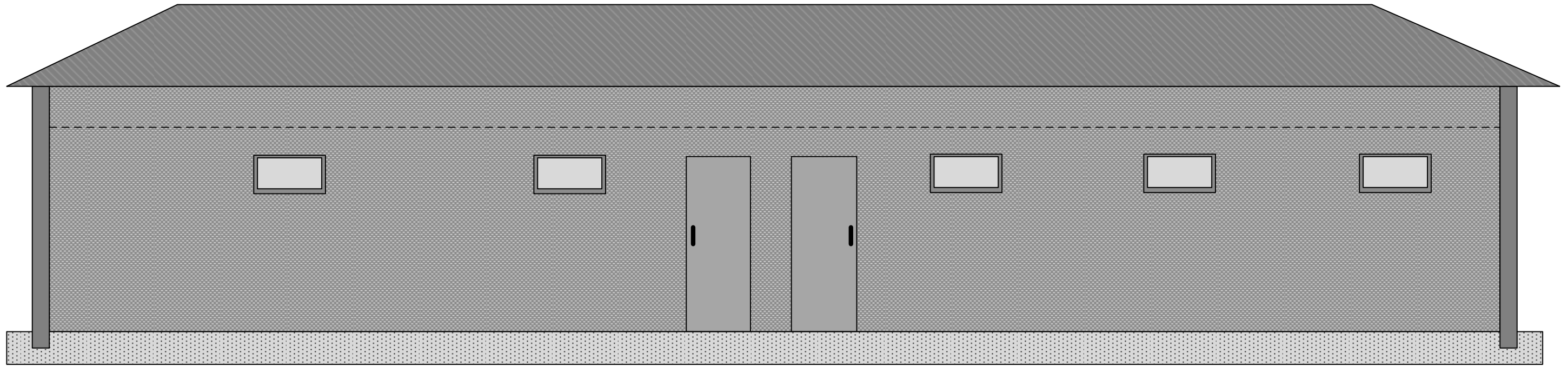
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2357
Assignment

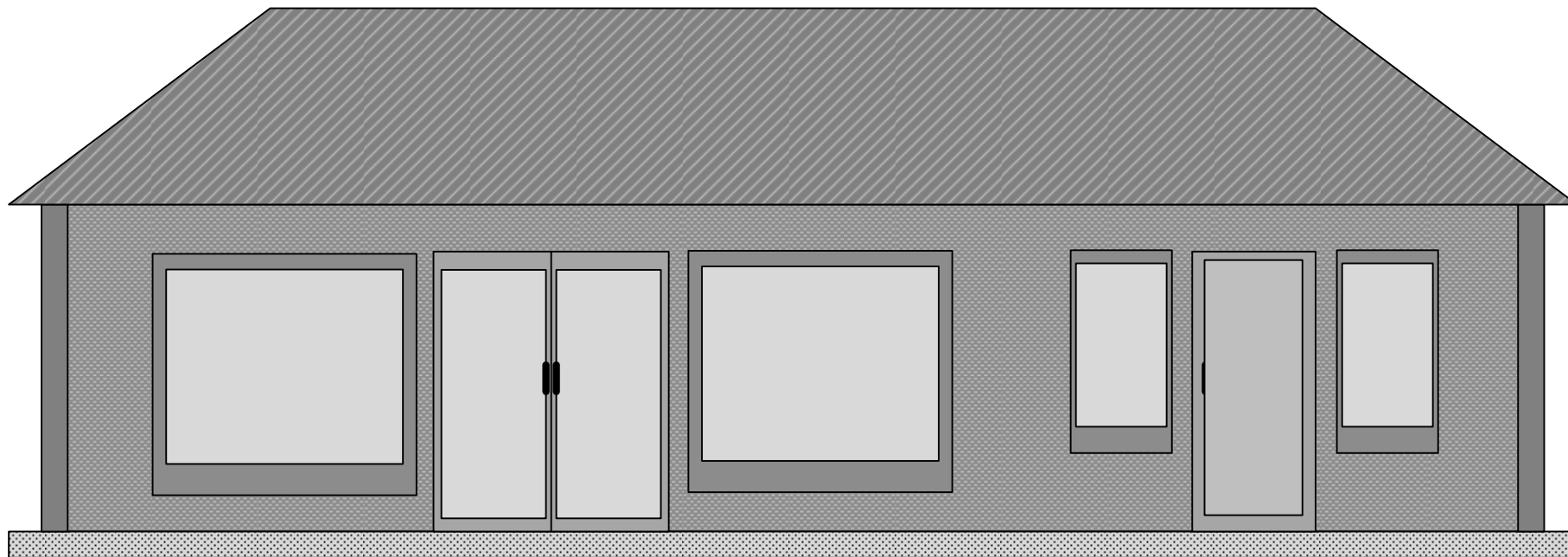
Touring Caravan
Park
'As Fitted'

Shower Block
Building Plan

Drawing Number
2357-BM-03


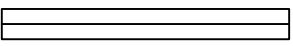










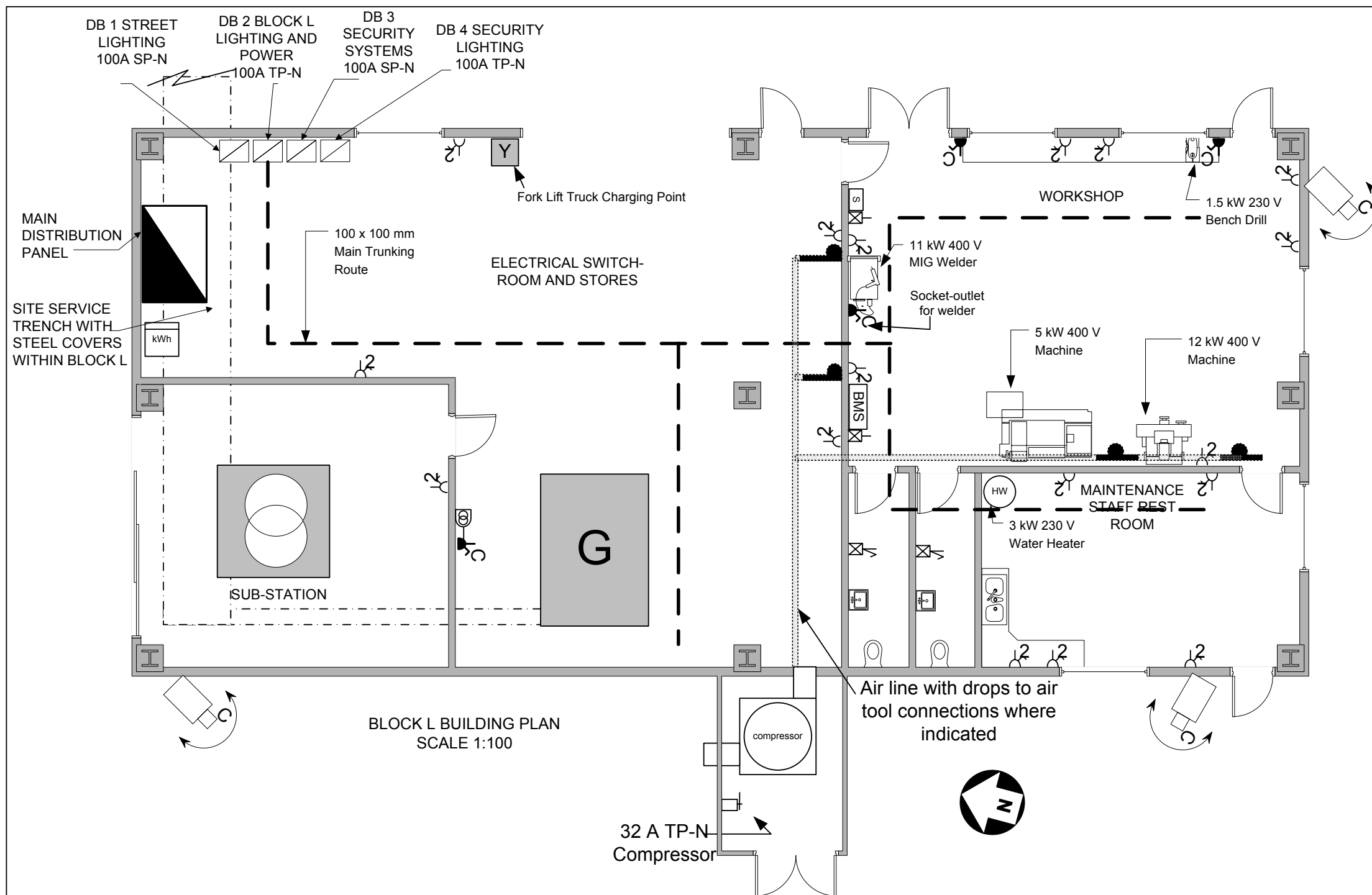
SHOWER BLOCK SOUTH ELEVATION
SCALE 1:50



SHOP NORTH ELEVATION
SCALE 1:50

Key

-  600 x 600 mm recess modular luminaire
-  1800 mm IP 65 surface mounted fluorescent luminaire
-  2-gang switched 13 A socket-outlet
-  Shaver outlet unit
-  Distribution Board
-  6 kW Electric Water Heater (immersion type)
-  13 A Fused Spur Connection Unit for Hand Driers
-  13 A Fused Spur Connection Unit for Hair Driers
-  13 A Fused Spur Connection Unit
-  Vending Machines (720 W)



Notes/Specification

Building Construction

The construction of this building is as follows:

Walls

External walls consist of standard brick , cavity and inner leaf blockwork. Internal walls are blockwork to roof height, with exception of the toilet/restroom area where blockwork extends to 2.5 m above ffl.

Floors

The floor is to a standard raft of reinforced concrete with a 100 mm compressed screed finish. Floor finishes are epoxy treated throughout.

Ceilings

The underside of the steel clad roof is used throughout with the exception of the toilet/restroom area which is a plasterboard ceiling, 2.4 m above ffl, 200 mm void and chipboard fixed on wood truss which will form a mezzanine storage facility.

Roof

The roof is steel clad sheeting supported by a steel frame. Steel uprights will be enclosed by fire proof boarding

Electrical Supply

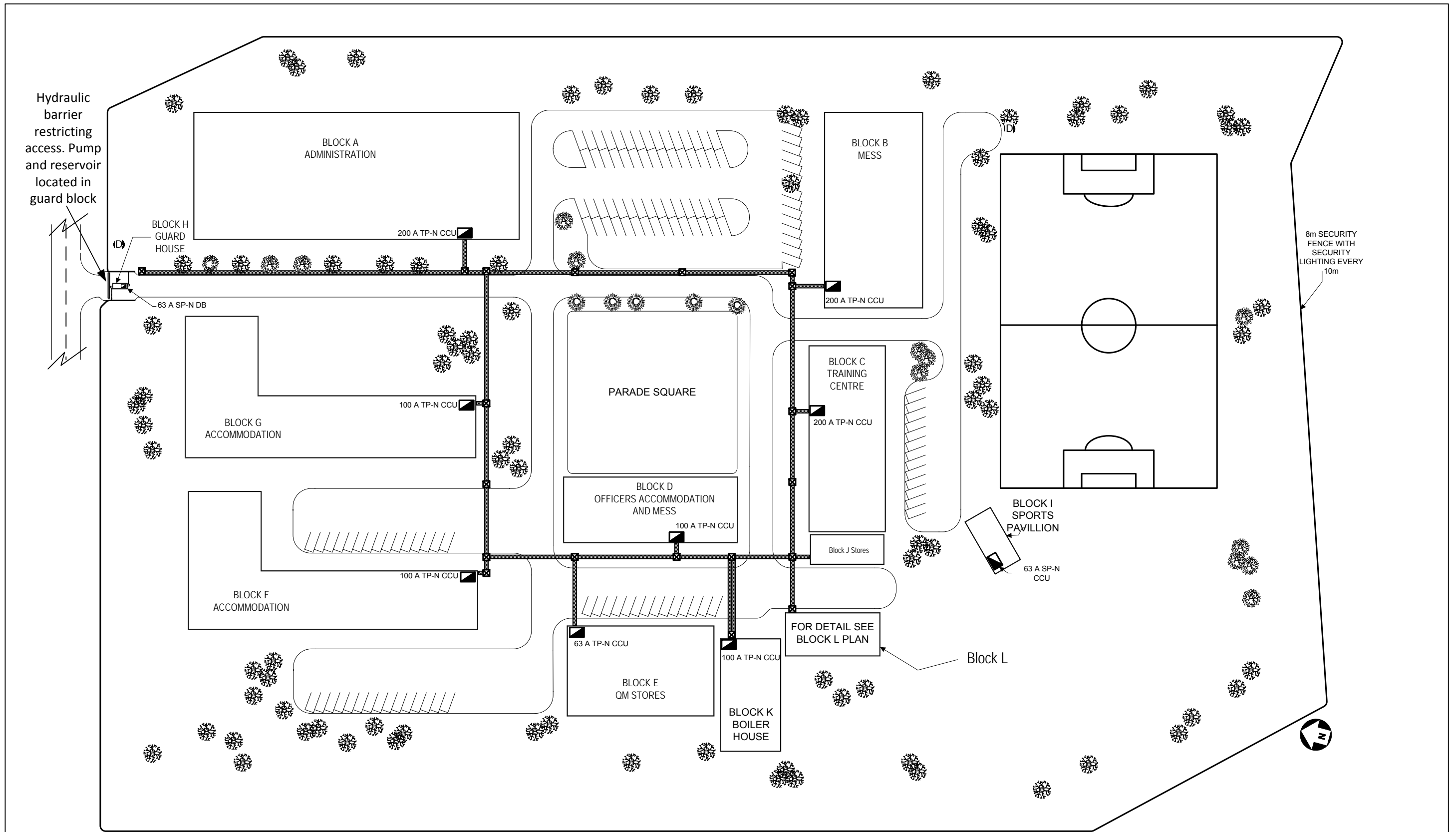
The 11 kV/400/230 V Transformer supply to the Main Distribution Panel forms a TN-C-S supply having a declared Ze of 0.008 Ω and Prospective Fault Current declared as 50 kA.

Generator Set

Standby (essential) systems are supplied by the standby generator should the supply system fail. The generator set is a 700 kVA 400 V three-phase set with six cylinder 18.1 litre in line diesel drive at a constant 1500 rpm.

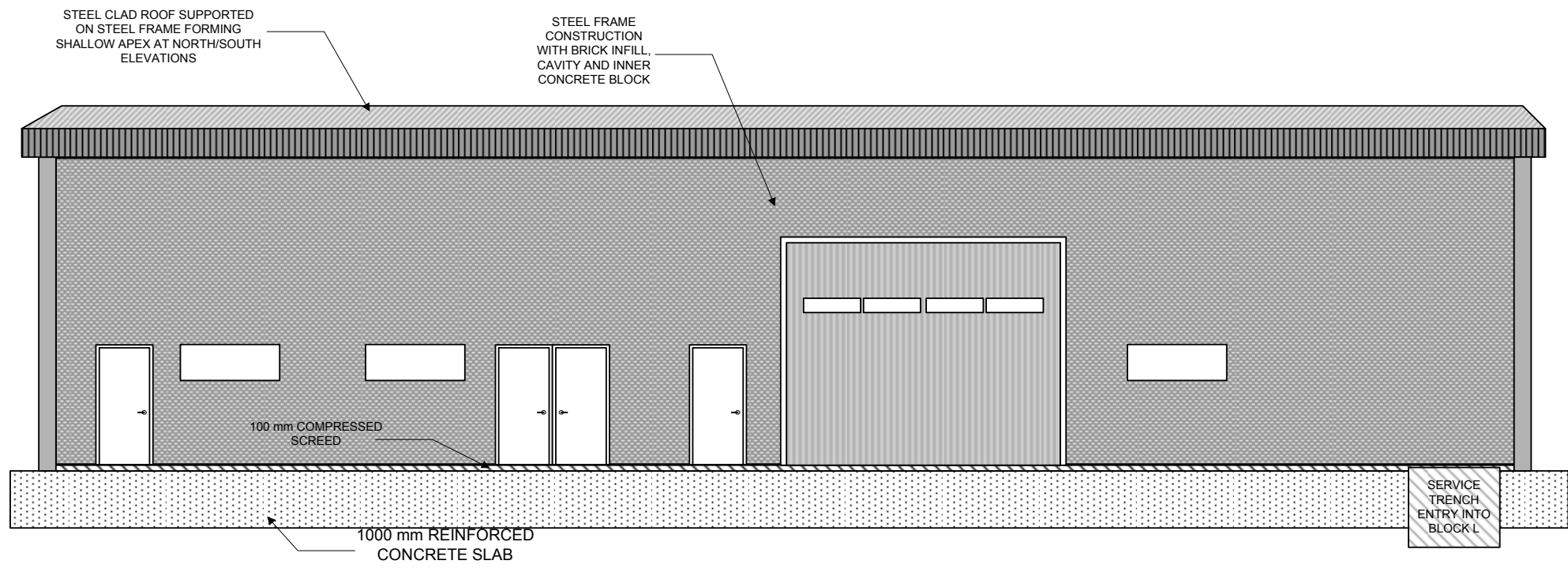
Electrical Installation

All wiring systems are a mixture of PVC and metallic containment systems. Main metallic trunking routes are shown. Surface conduit links trunking to final points. All machines have correct starting/control equipment. Accessories are suitable for the given environment.

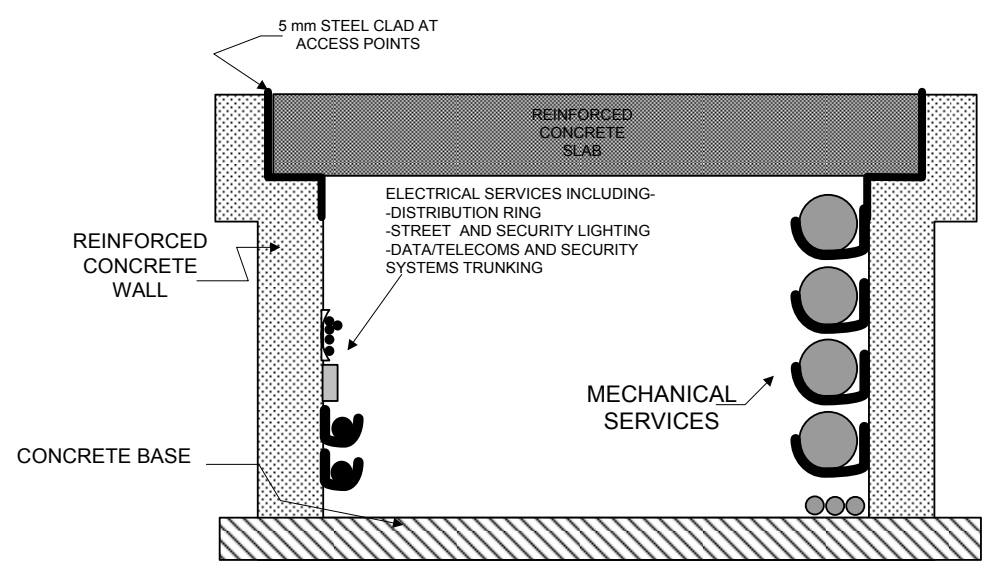


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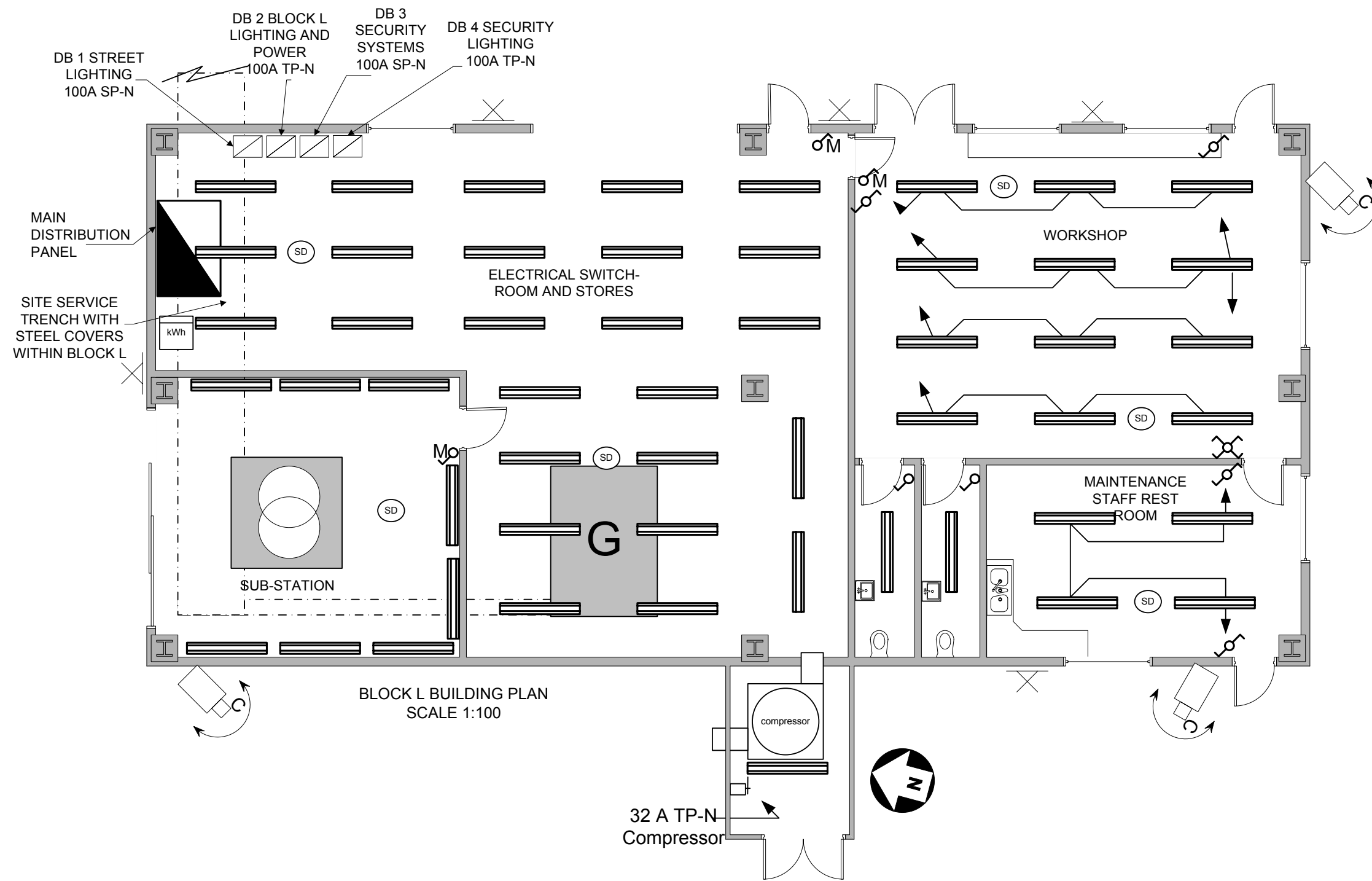
	<p>2357 Assignment</p>	<p>Army Barracks 'As Fitted'</p>	<p>Site Plan</p>	<p>Drawing Number 2357-CM-02</p>
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













EAST ELEVATION SCALE 1:100



TYPICAL CROSS SECTION OF SERVICE TRENCH SCALE 1:10



KEY

-  2-Gang 13 A Socket-Outlets
-  Switched Fused Spur Connection Unit
-  Un-switched Fused Spur Connection Unit
-  BS EN 60309-2 Socket-Outlet
-  Multi-gang light switch
-  Two-way light switch
-  Intermediate Light Switch
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-  Wall Mounted Luminaire
-  Automatic Fire Detector
-  Distribution Board
-  Building Management System Control Point
-  Security Camera

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1 Giltspur Street
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EC1A 9DD
T +44 (0)844 543 0000
F +44 (0)20 7294 2400
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