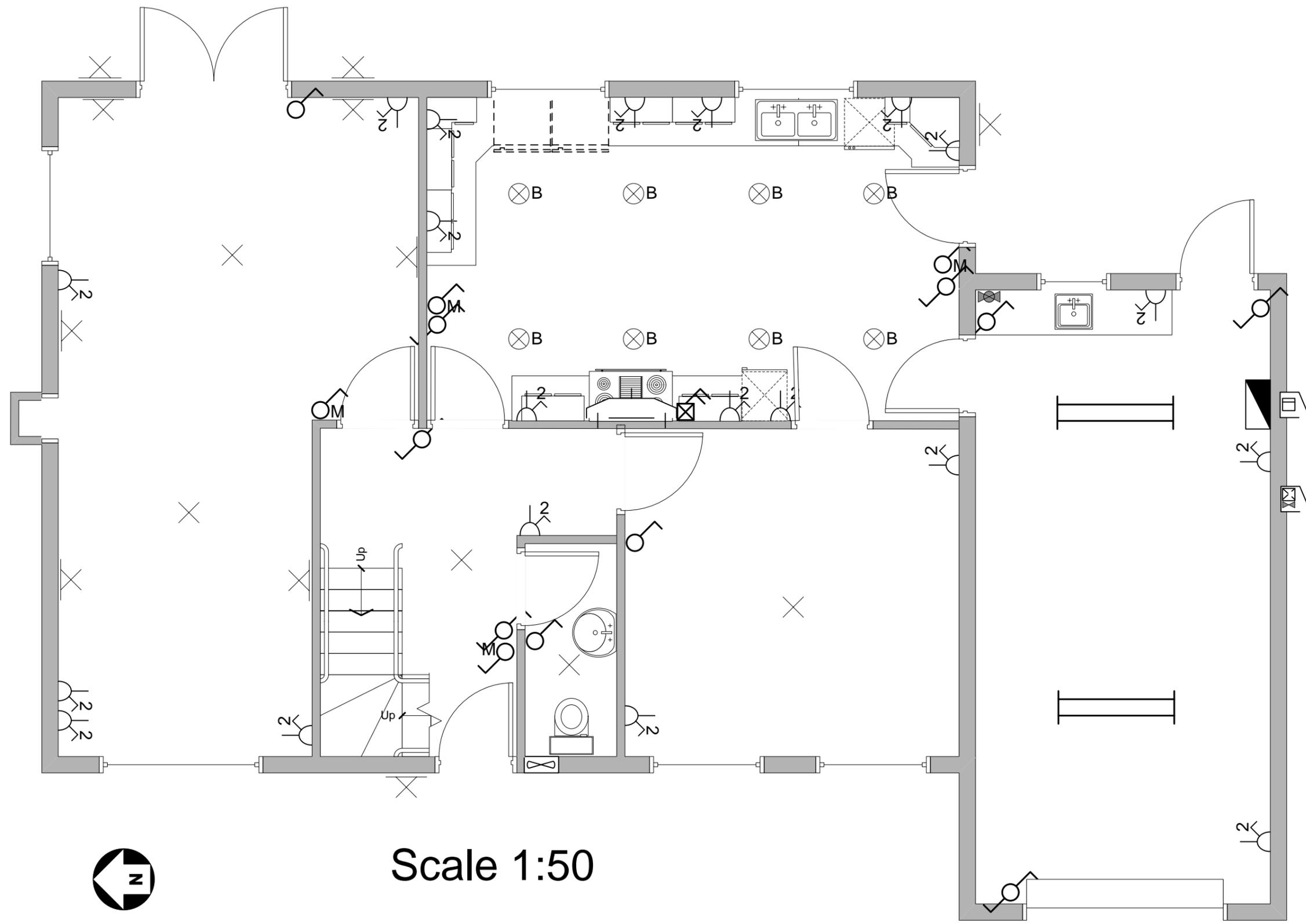


Table showing  
which drawing  
applies to which  
2357 unit

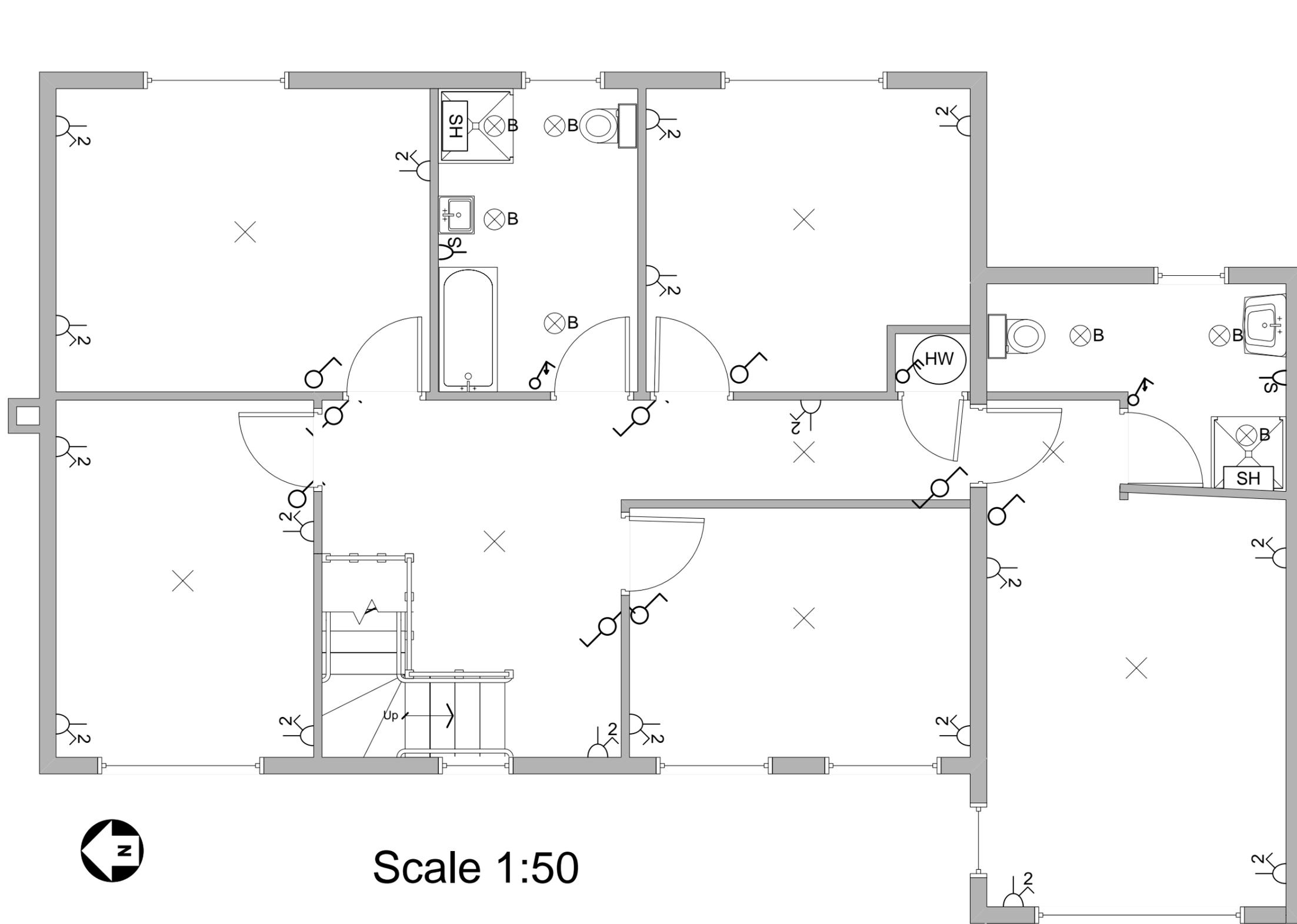
<u>Drawing Number</u>	<u>Units where used</u>	Version A Installation
2357-A-01/ 02/03	2357 Version A302, 303, 304, 307	
2357-B-01/ 02/03/04	2357 version A 301, 302, 307	
2357-C-01/ 02/03/04	2357 Version A 304, 305, 307	
2357-AM-01/ 02/03	2357 Maintenance 308	
2357-BM-01/ 02/03/04	2357 Maintenance 322	
2357-CM-01/ 02/03/04	2357 Maintenance 308, 321, 322, 323	
2357-A2-01/ 02/03	2357 Version B 302, 303, 304, 307	Version B Installation
2357-B2-01/ 02/03/04	2357 version B 301, 302, 307	
2357-C2-01/ 02/03	2357 Version B 304, 305, 307	

Version A  
Maintenance

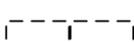
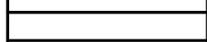
Version B  
Installation



**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  $0.19 \Omega$  and PFC of 1.2 kA.



**KEY**

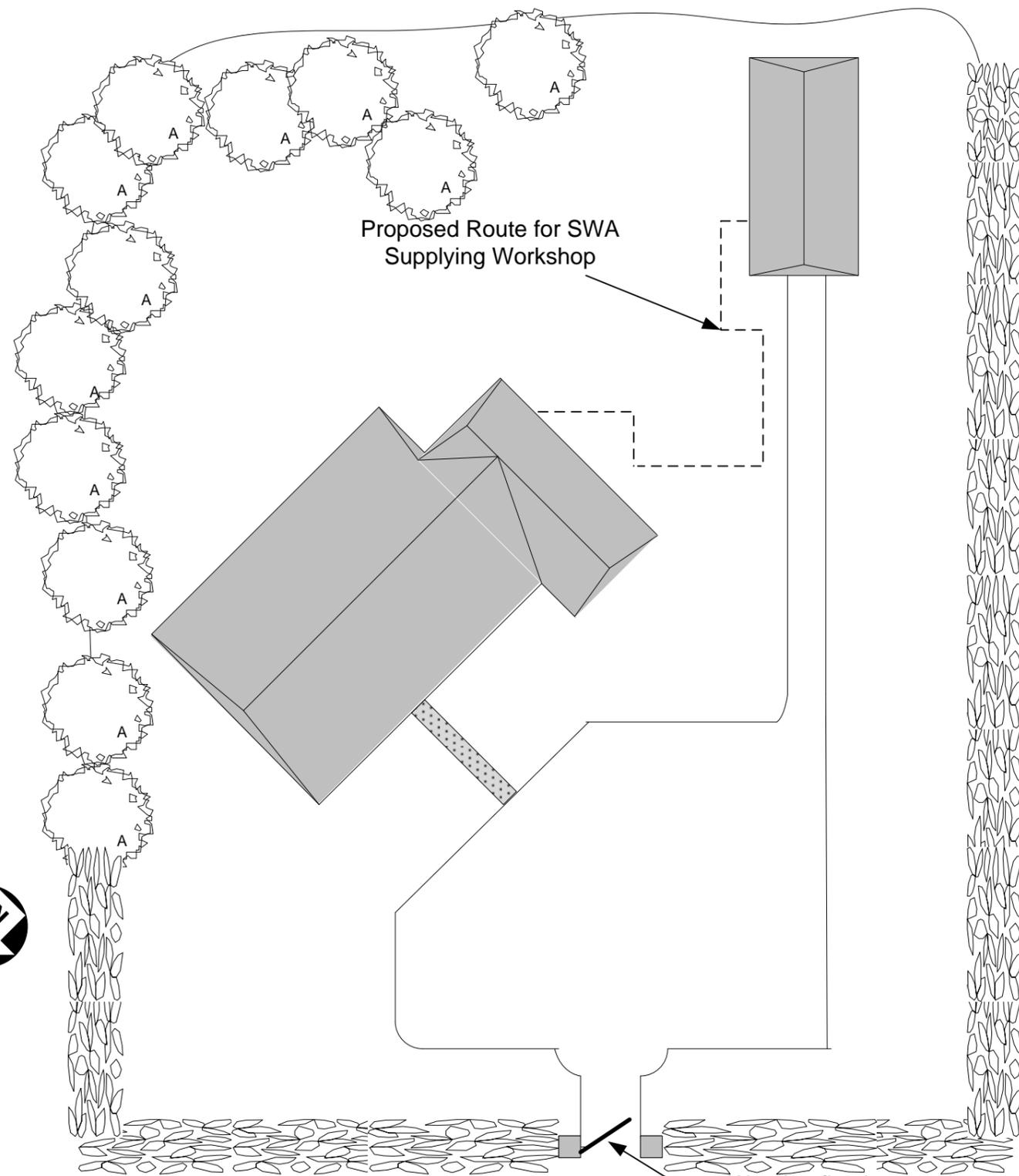
-  Distribution Board
-  Ceiling mounted light point
-  50 W Recess Downlight 12 V
-  Wall Mounted Luminaire
-  2-gang Socket-outlet
-  1-way Switch
-  2-way Switch
-  Multi-gang Switch
-  Double-pole Switch
-  6 kW Steam Shower Unit
-  Shaver Outlet
-  Cooker Isolator
-  12 kW Cooker
-  Washer/Dryer Under-Counter 3 kW
-  Dishwasher 3 kW
-  Free-standing Fridge 400 W
-  1500 mm Twin Luminaire
-  Fan Unit
-  Gas Meter
-  Water Isolating Valve (stop cock)



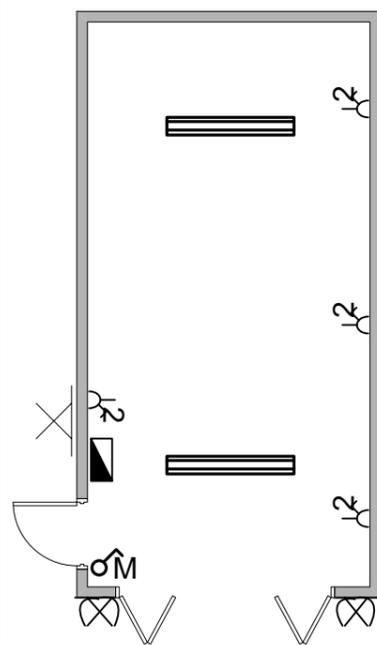
Scale 1:50



West Elevation  
Scale 1:100



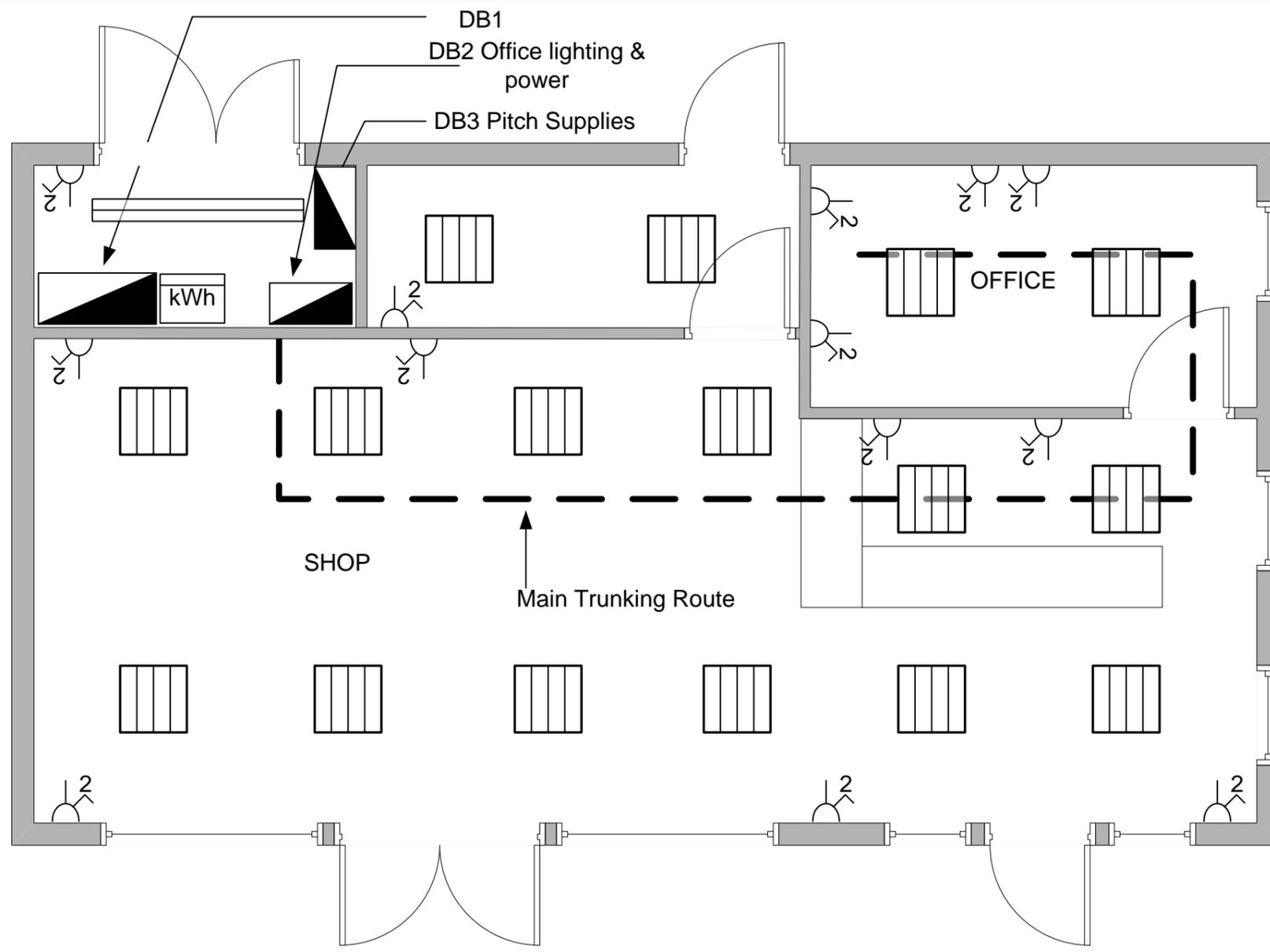
Site Plan. Scale 1:200



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



Scale 1:50

## 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  $\Omega$  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

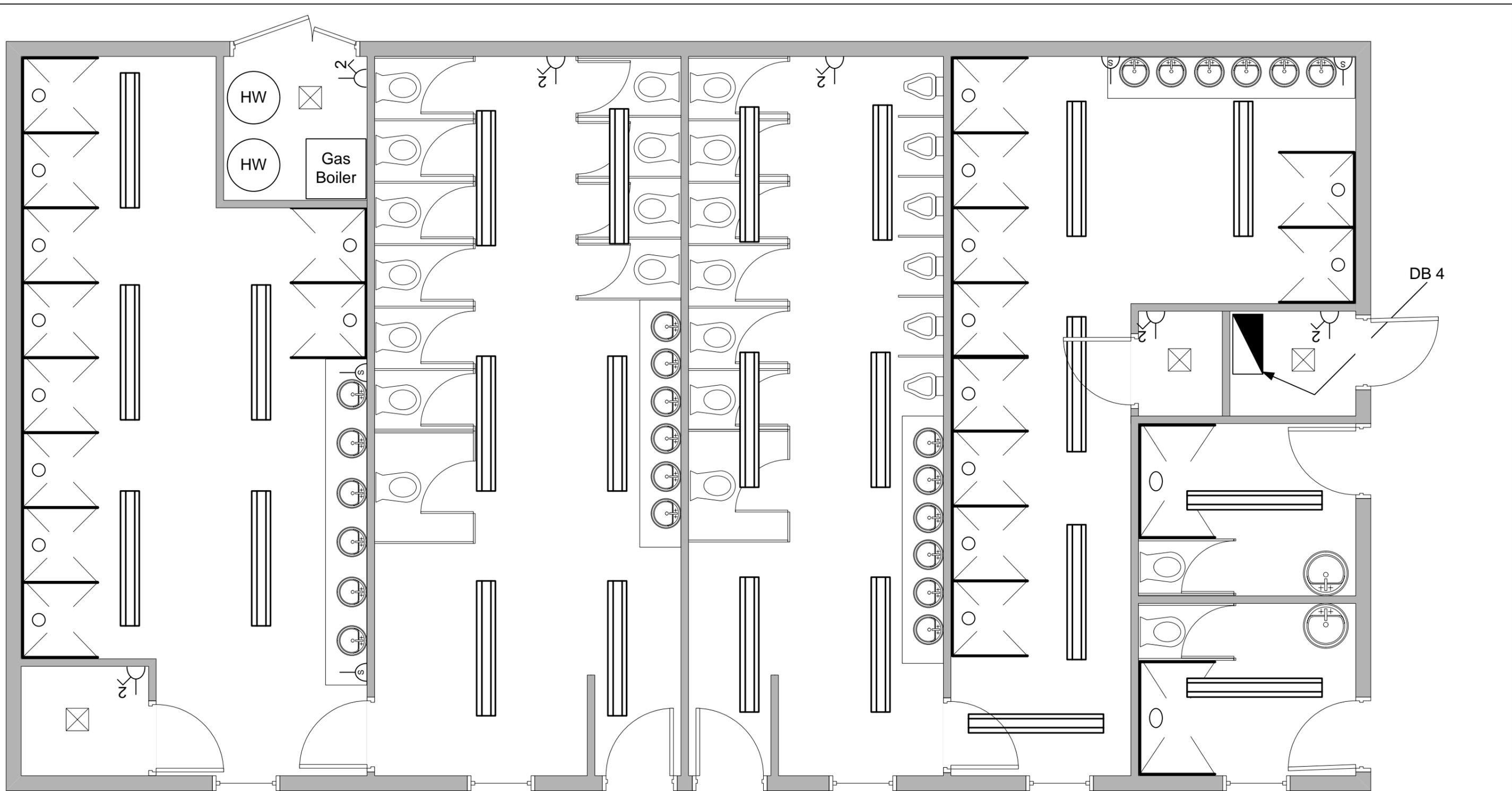
To be installed by specialist contractors.

#### Temporary site supplies

Installation and maintenance is part of the general electrical contract.



Scale  
1:500



Scale 1:50

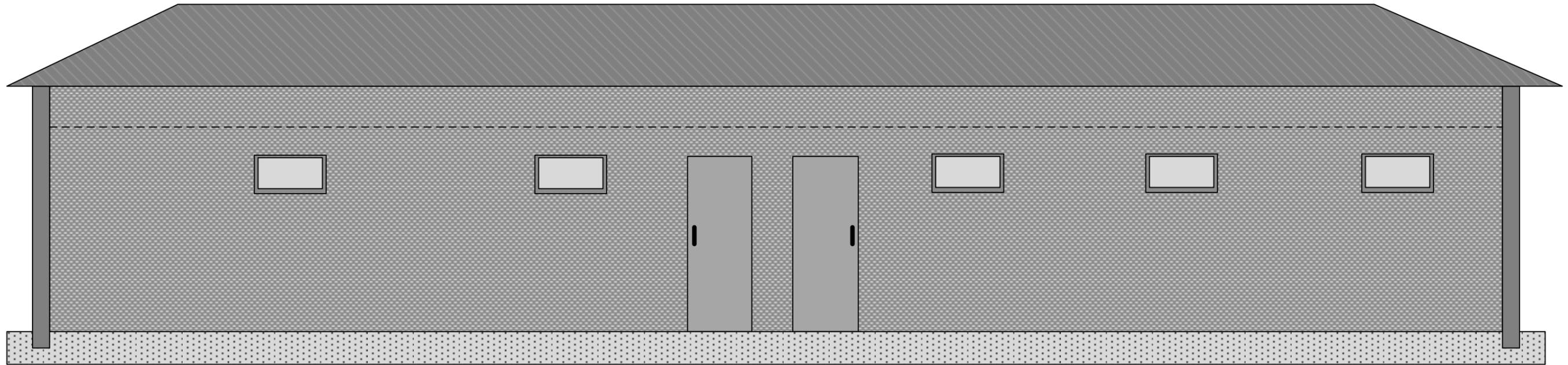
**City & Guilds**

**2357  
Assignment**

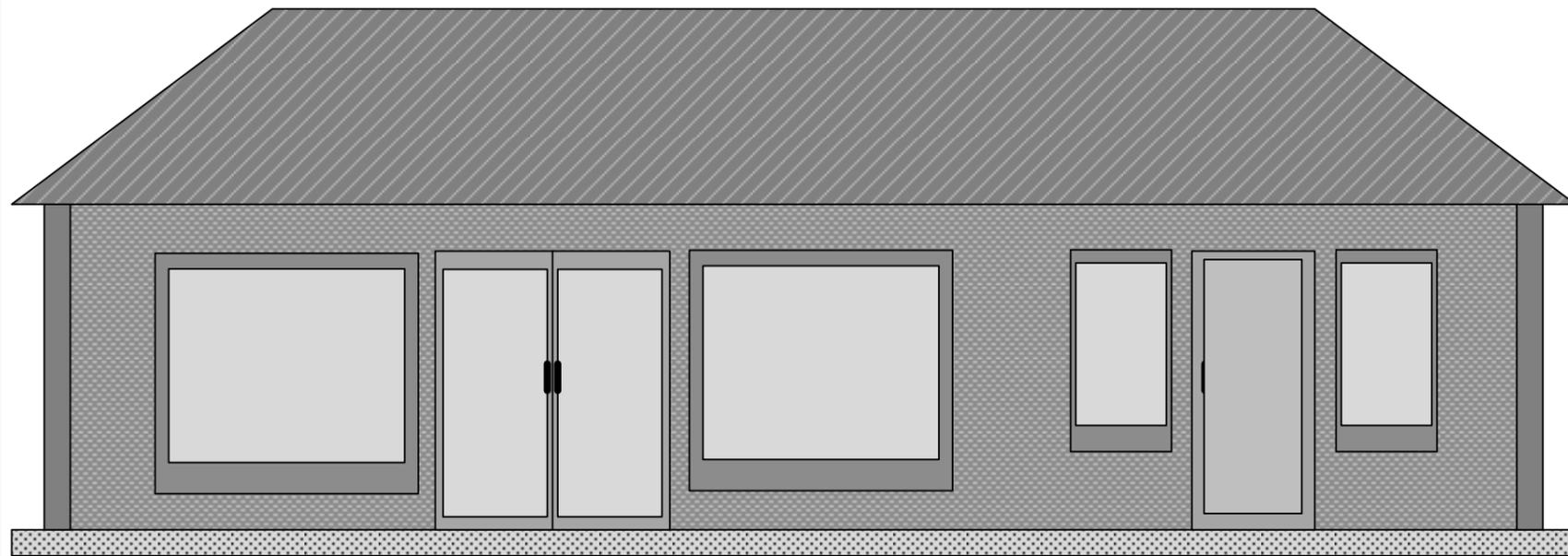
**Proposed Caravan  
Park**

**Shower Block  
Building Plan**

**Drawing Number  
2357-B-03**

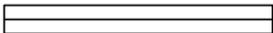


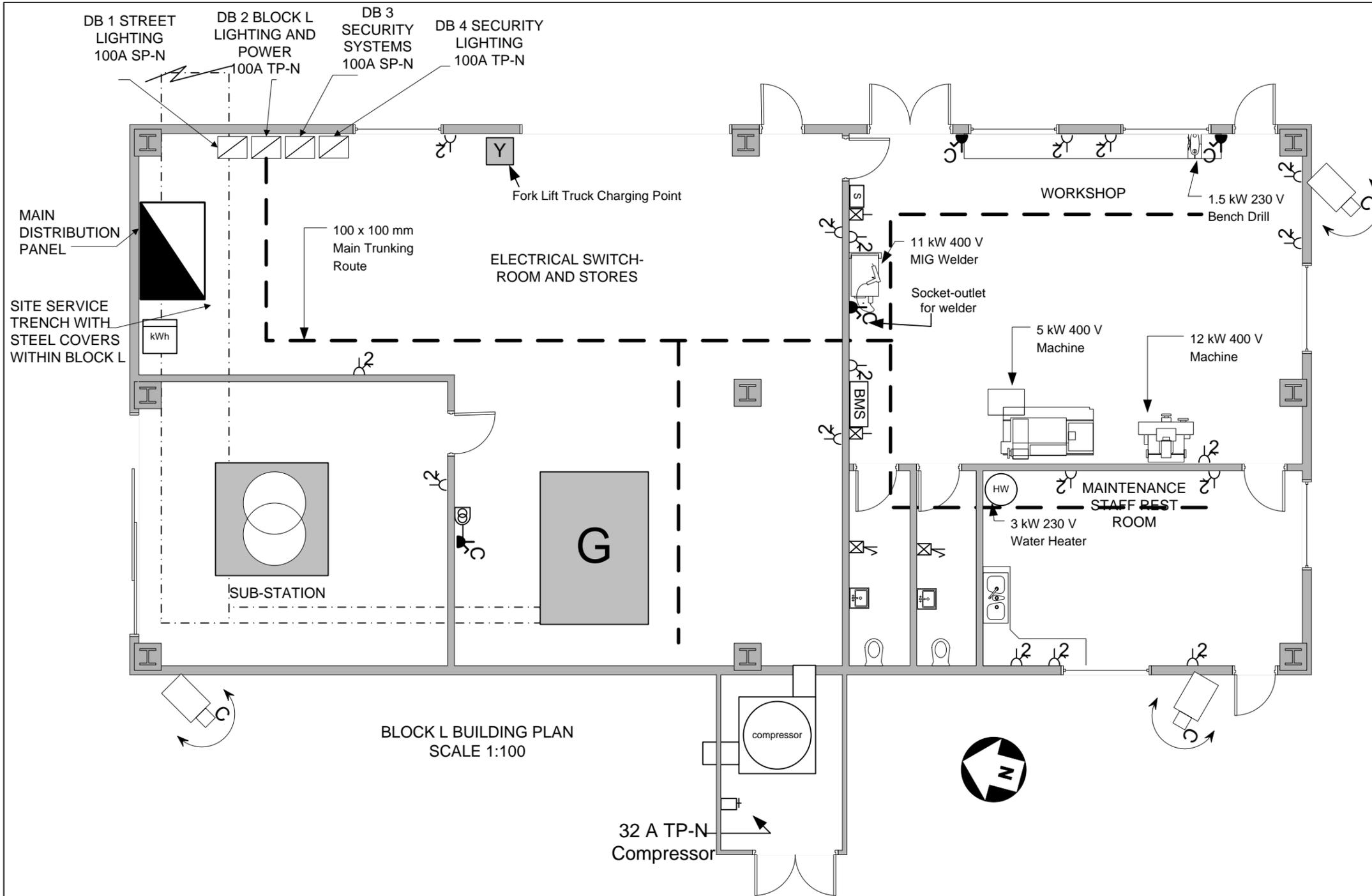
SHOWER BLOCK SOUTH ELEVATION  
SCALE 1:50



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**

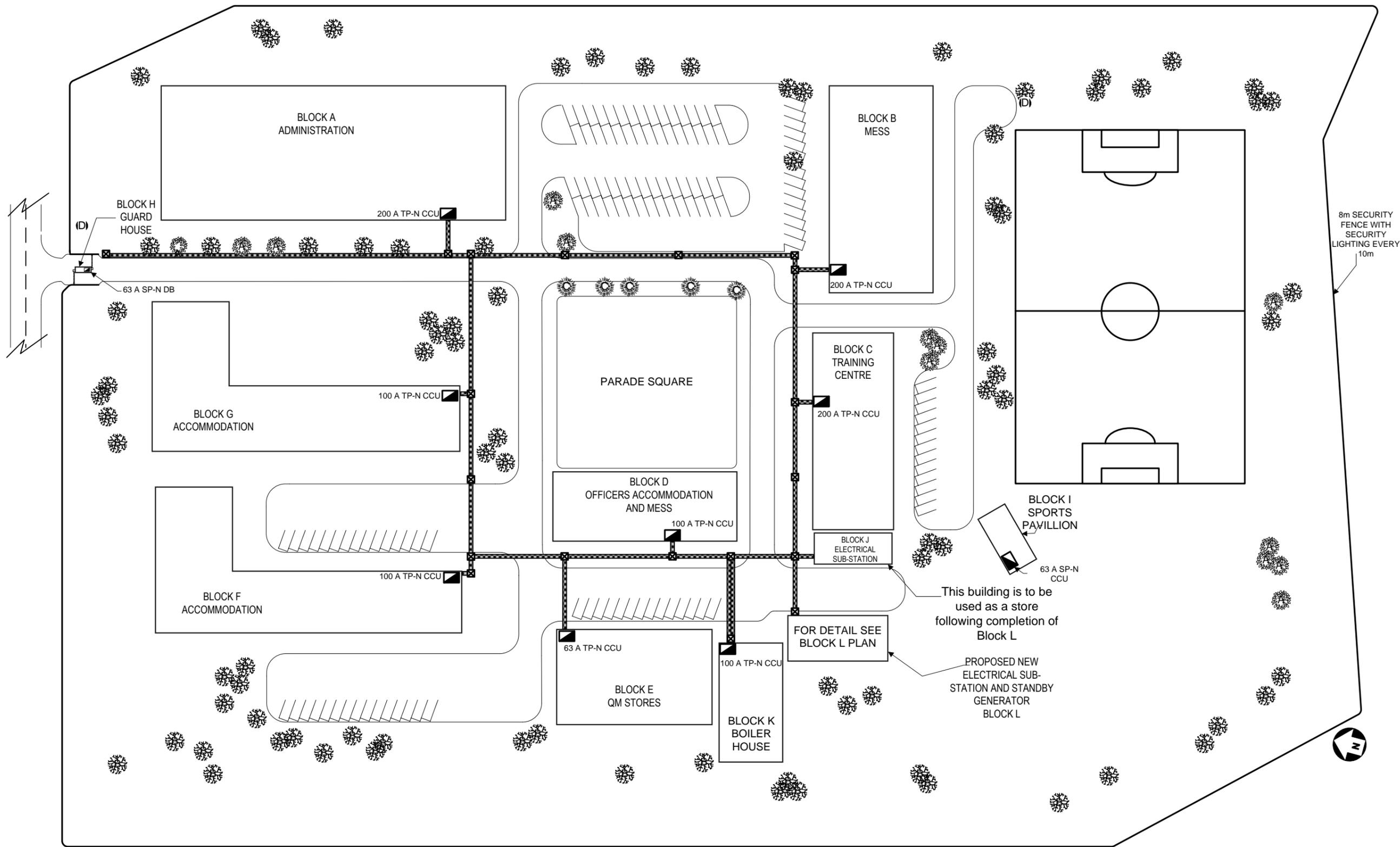
To be installed as part of the general electrical installation contract

**HVAC**

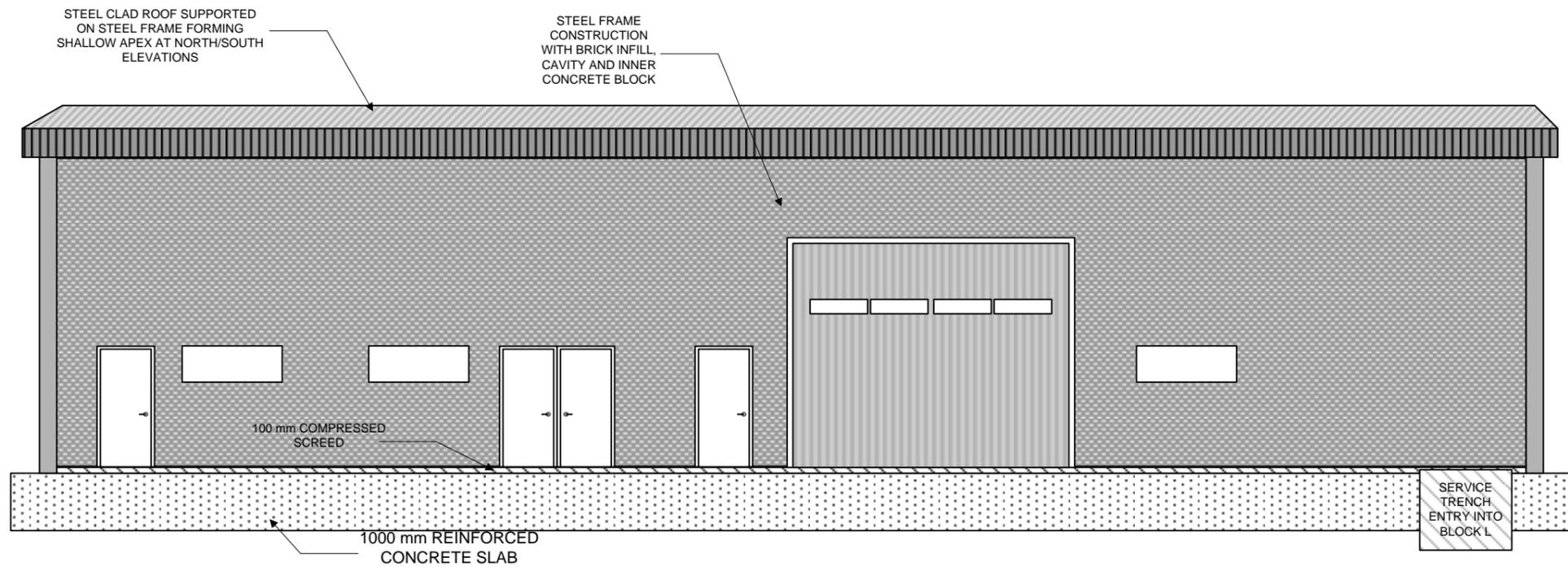
To be installed by specialist contractors

**Temporary Site Supplies**

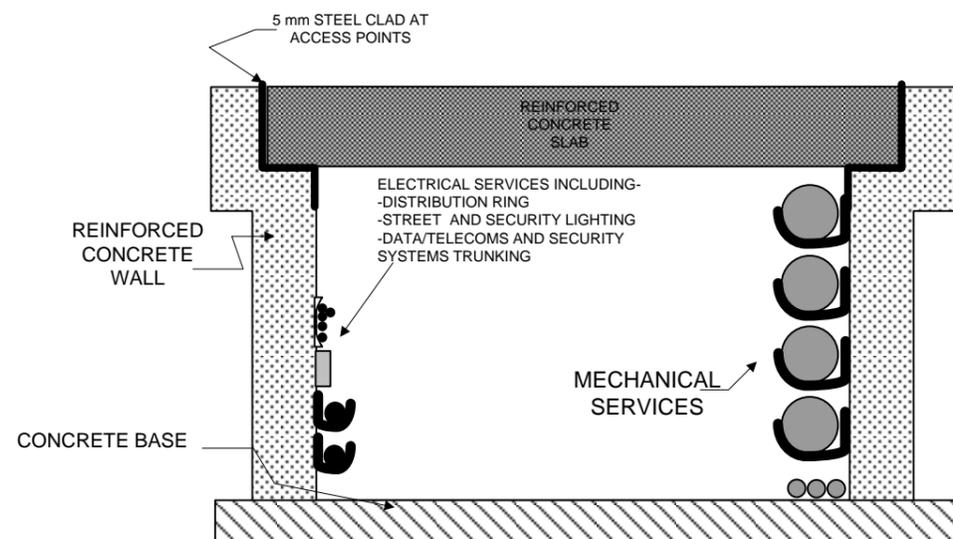
Installation and maintenance is part of the general electrical installation contract.



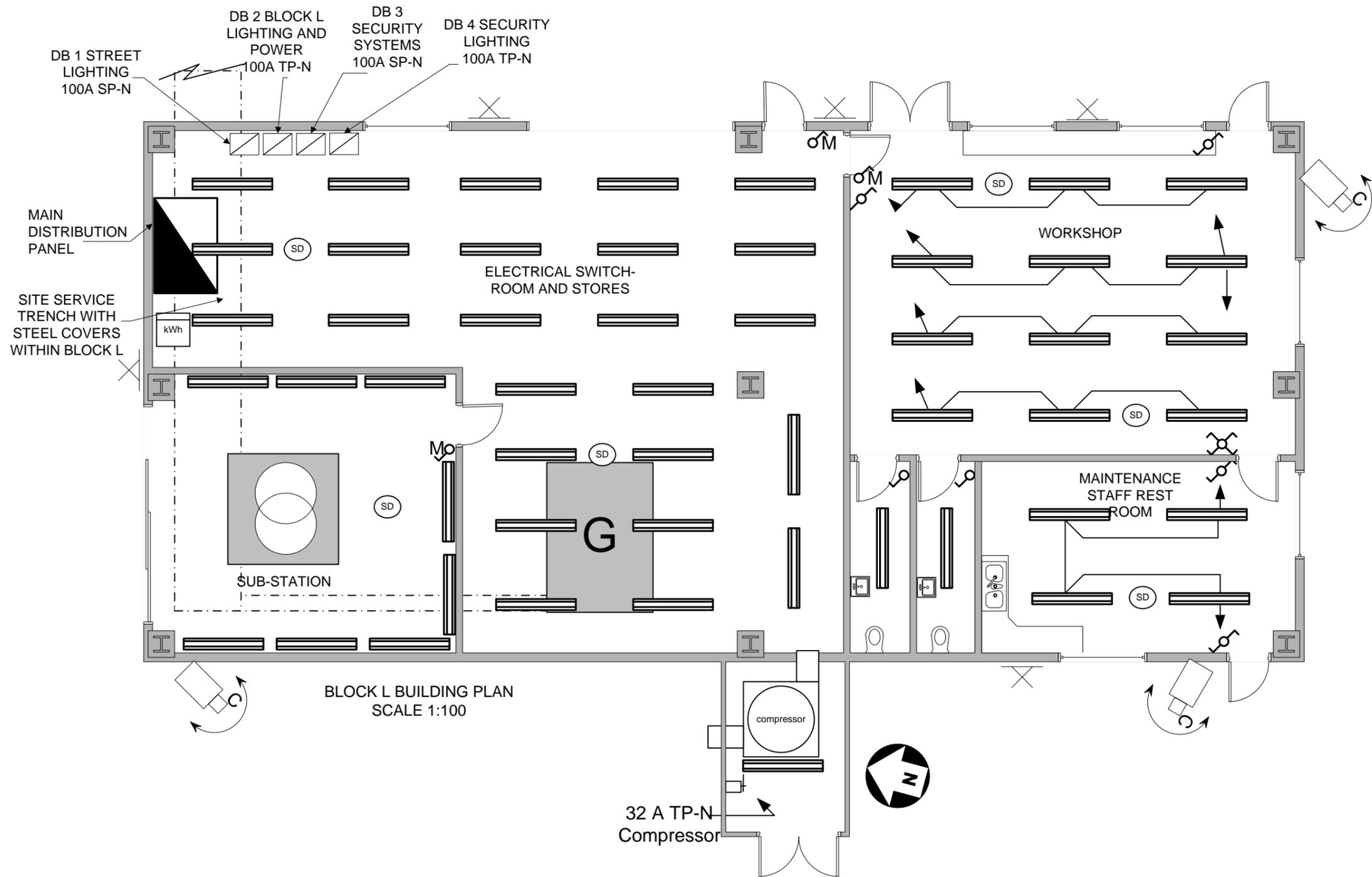
Scale 1:1000



EAST ELEVATION SCALE 1:100

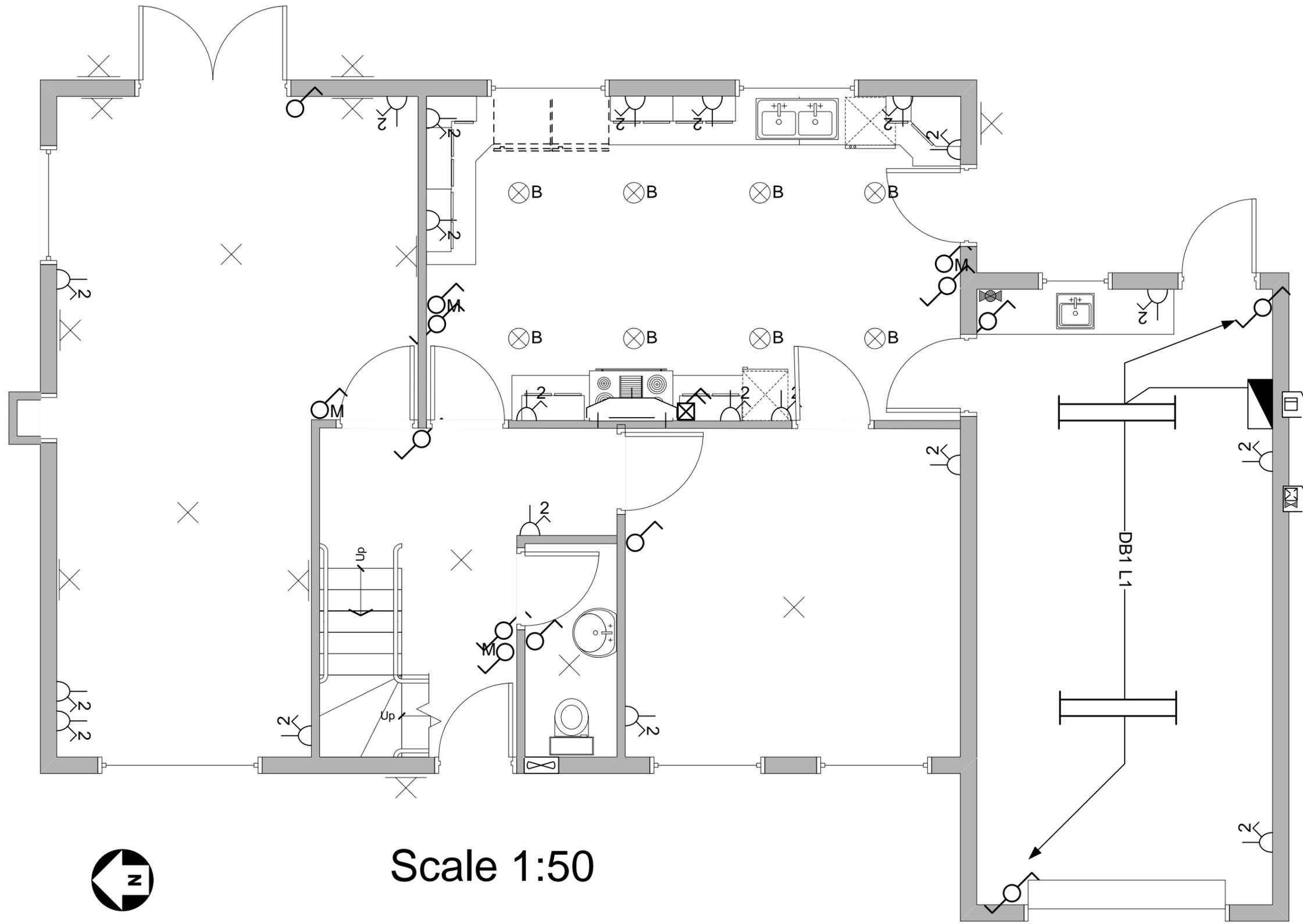


TYPICAL CROSS SECTION OF SERVICE TRENCH SCALE 1:10

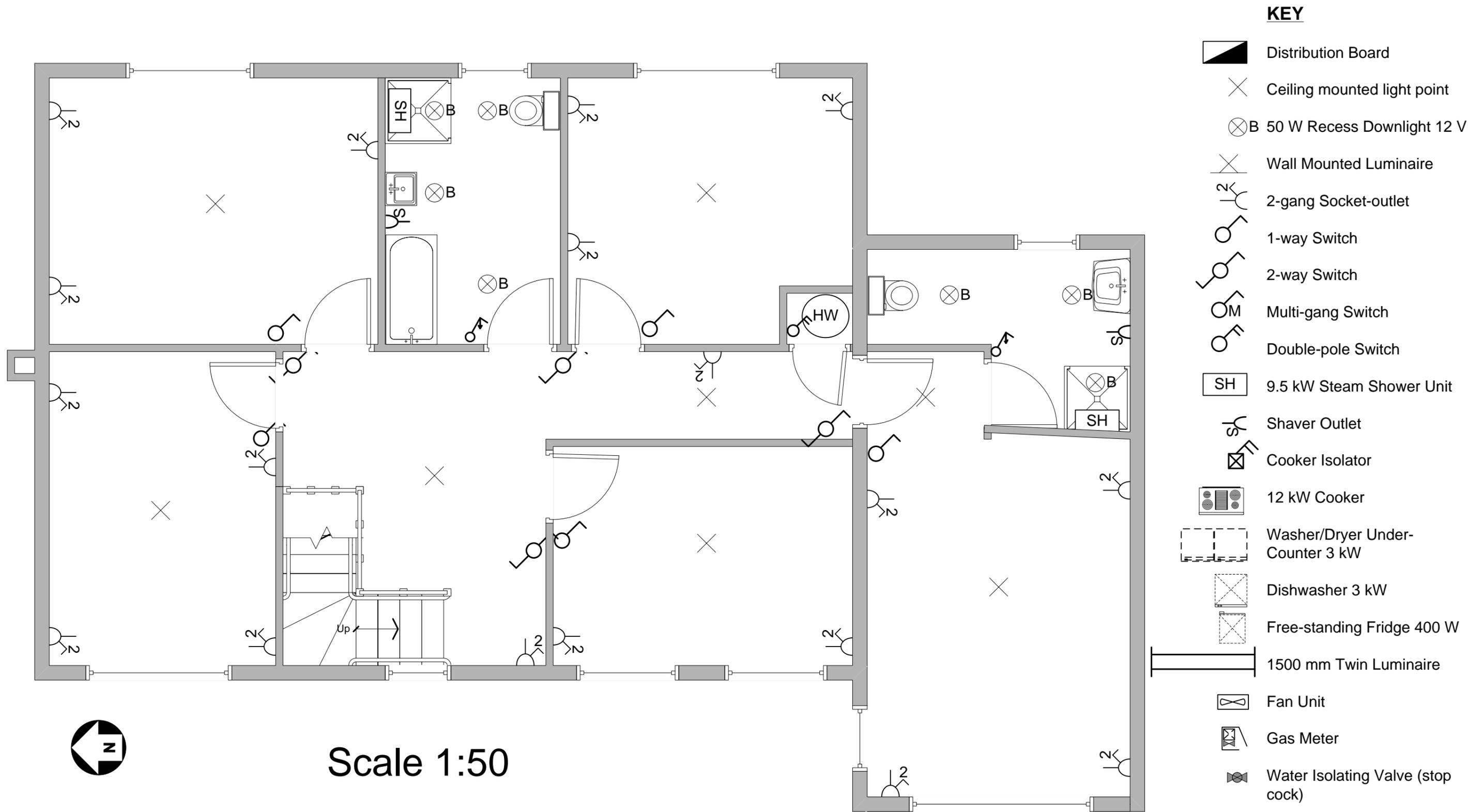


**KEY**

-  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

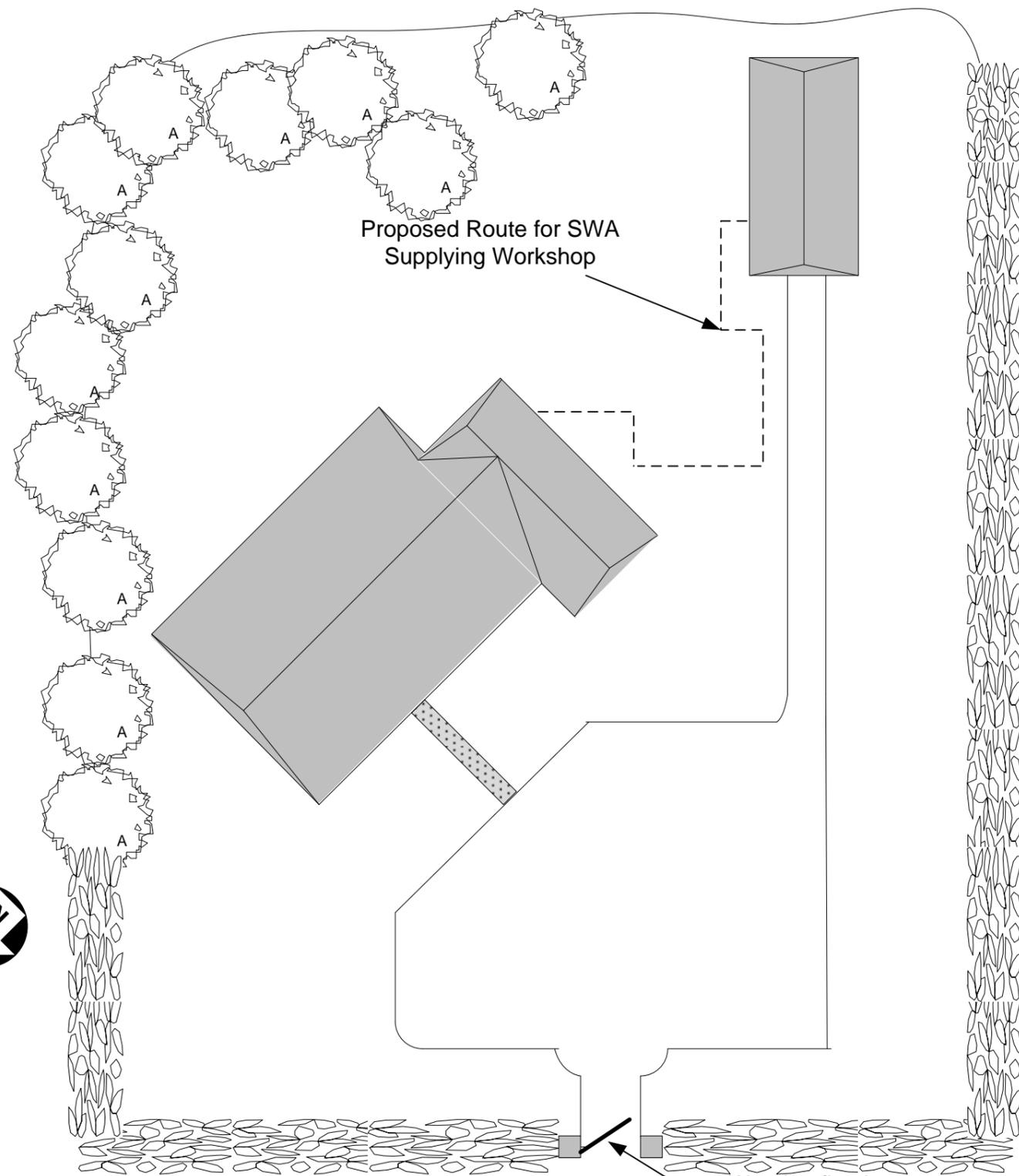


**Notes**  
 These drawings show a forty year old domestic property The installation forms part of a 230 V single-phase TN-C-S supply with a declared  $Z_e$  of 0.19  $\Omega$  and PFC of 1.2 kA. The supply company main fuse located in the service 'cut out' is a 100 A BS 1361. The wiring appears to be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





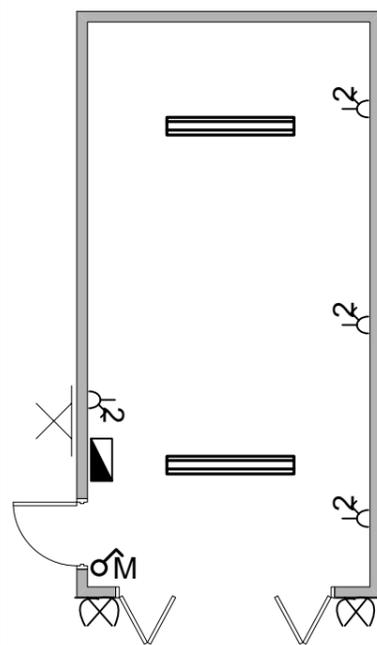
West Elevation  
Scale 1:100



Proposed Route for SWA  
Supplying Workshop

Wooden five-bar  
gate 2.4 m width

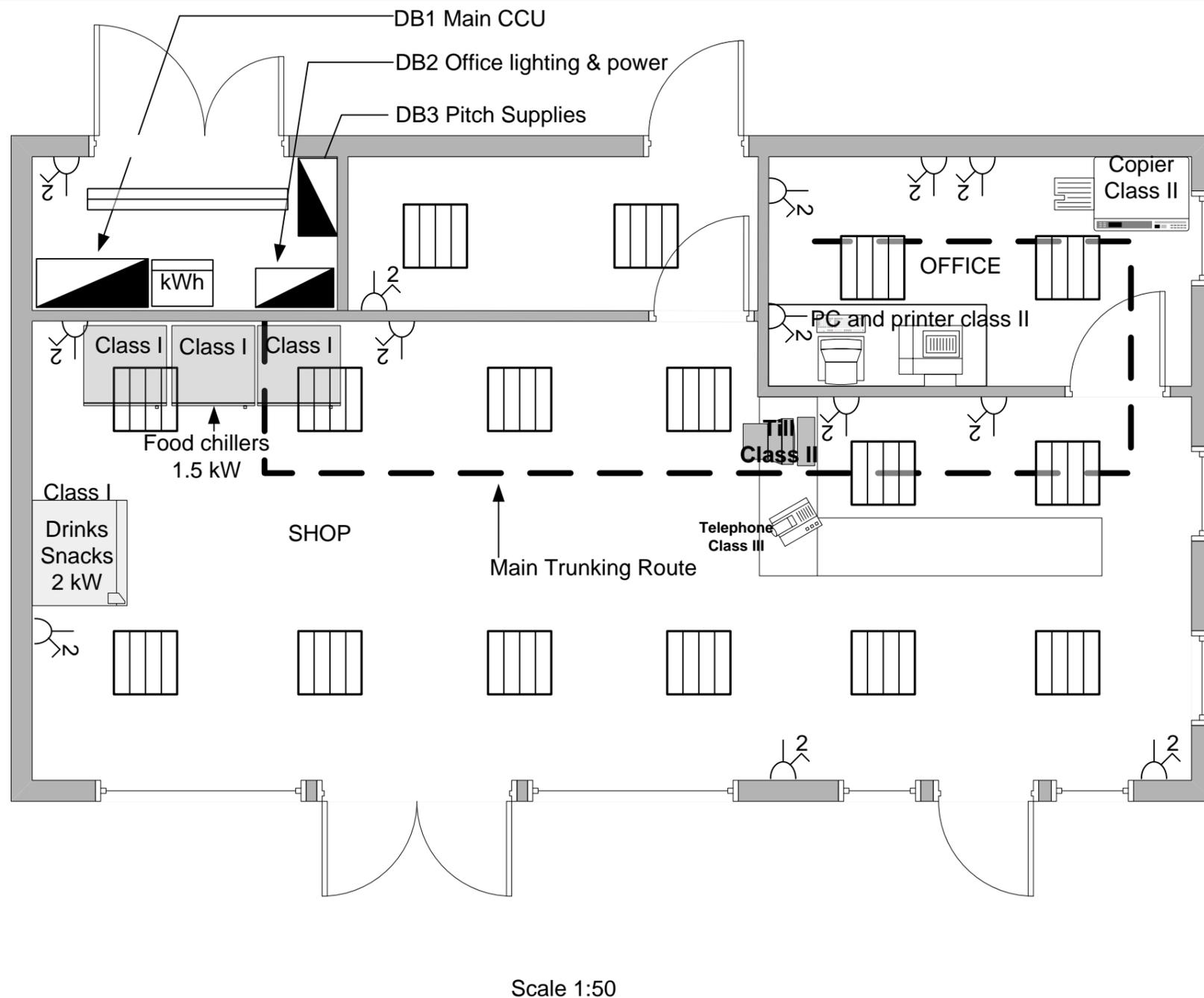
Site Plan. Scale 1:200



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



Scale 1:50

**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  $0.08 \Omega$  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.



150 W Son-T Luminaires  
mounted on 5 m Standards

Shower  
Block

Playground

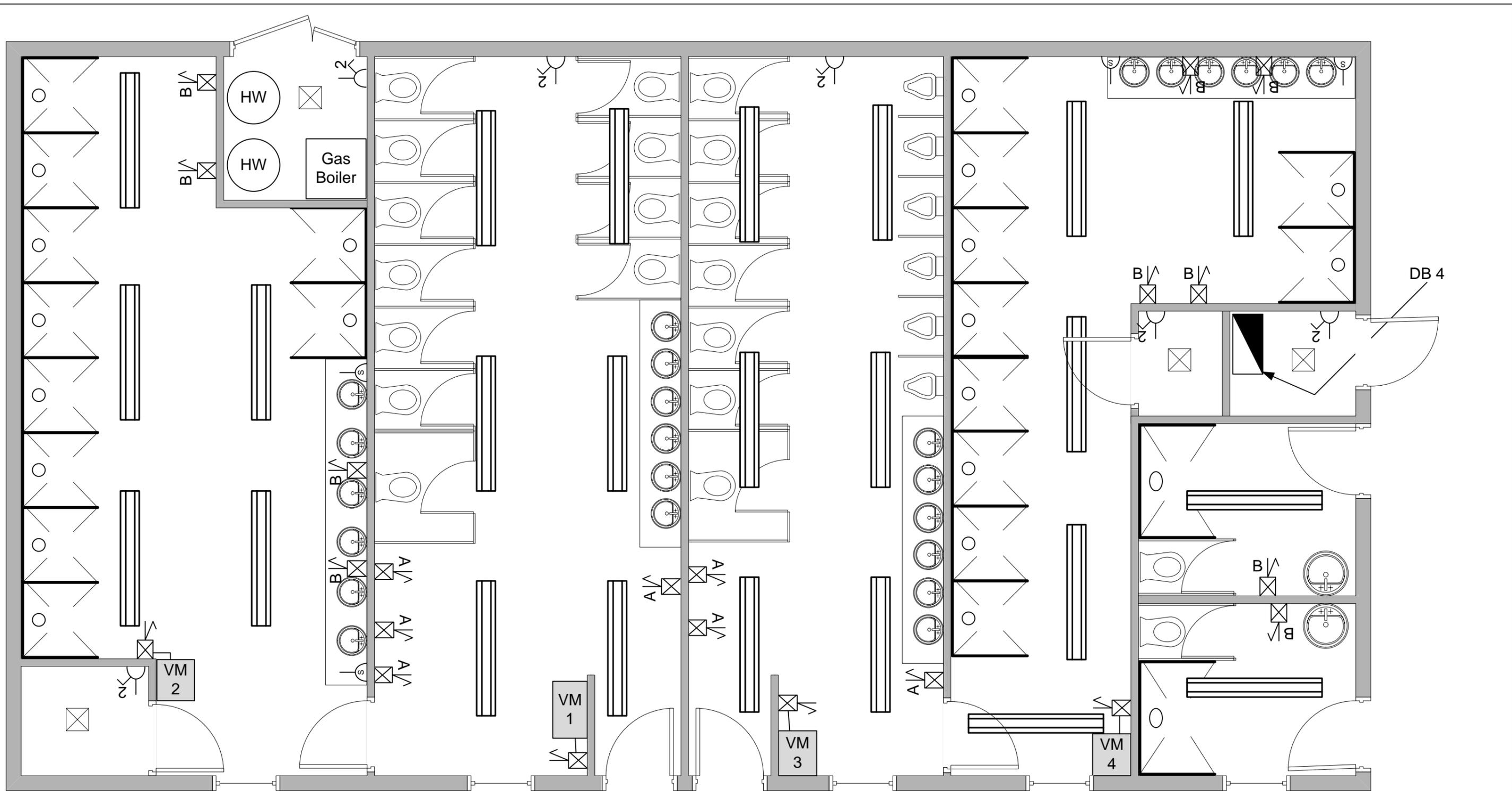
Office

River



Scale  
1:500

	<p>2357 Assignment</p>	<p>Touring Caravan Park 'As Fitted'</p>	<p>Site Plan</p>	<p>Drawing Number 2357-BM-02</p>
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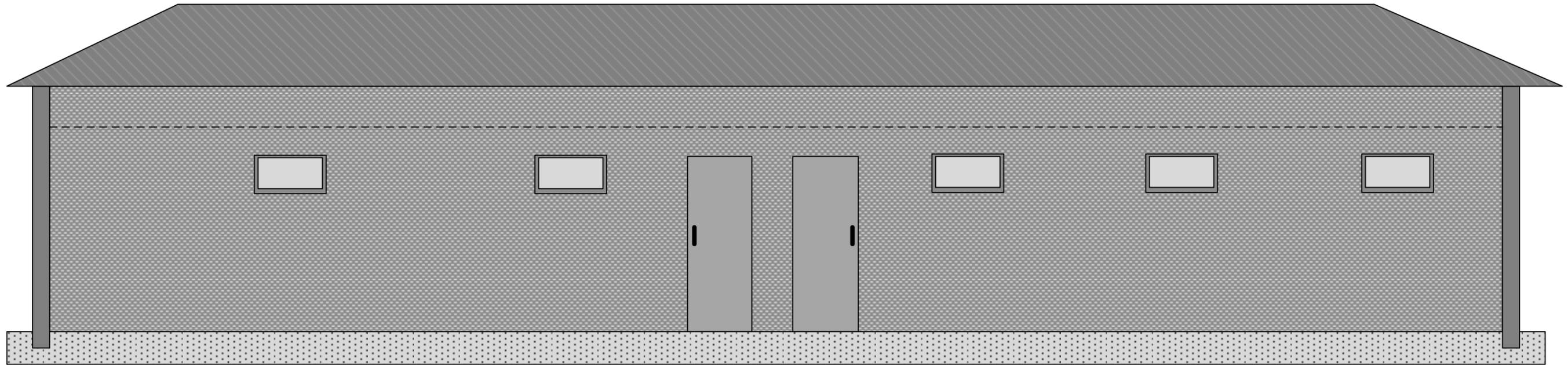
**City & Guilds**

2357  
Assignment

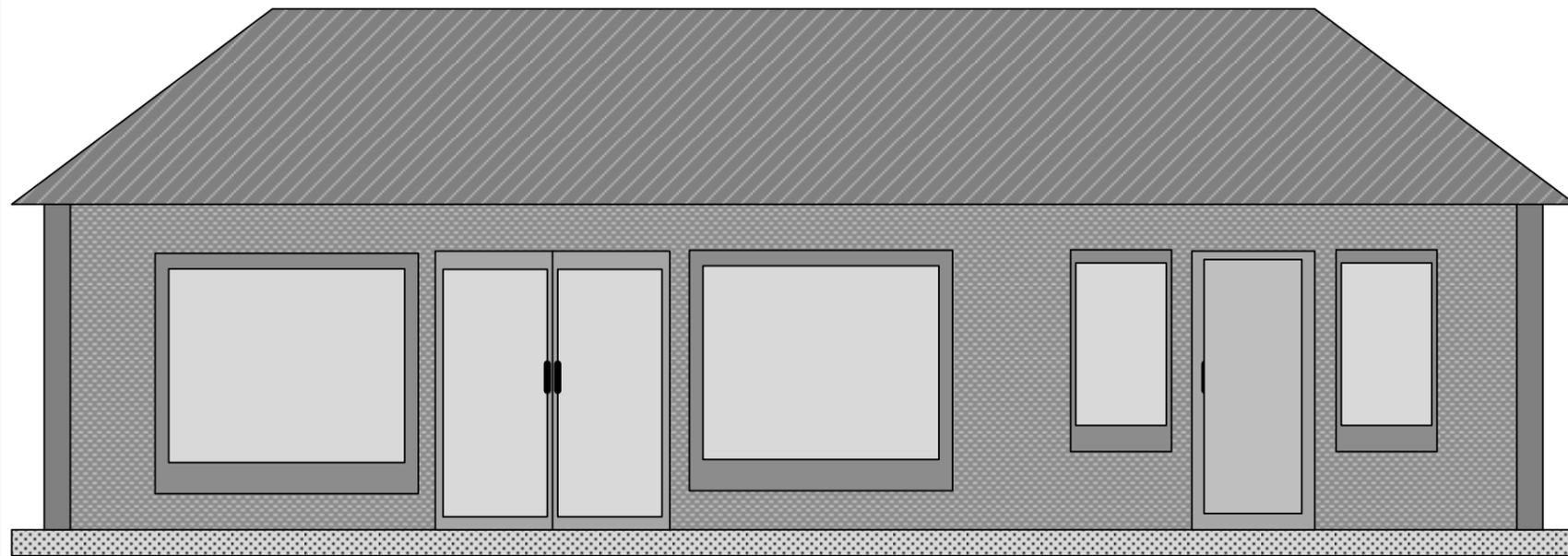
Touring Caravan  
Park  
'As Fitted'

Shower Block  
Building Plan

Drawing Number  
2357-BM-03

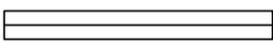


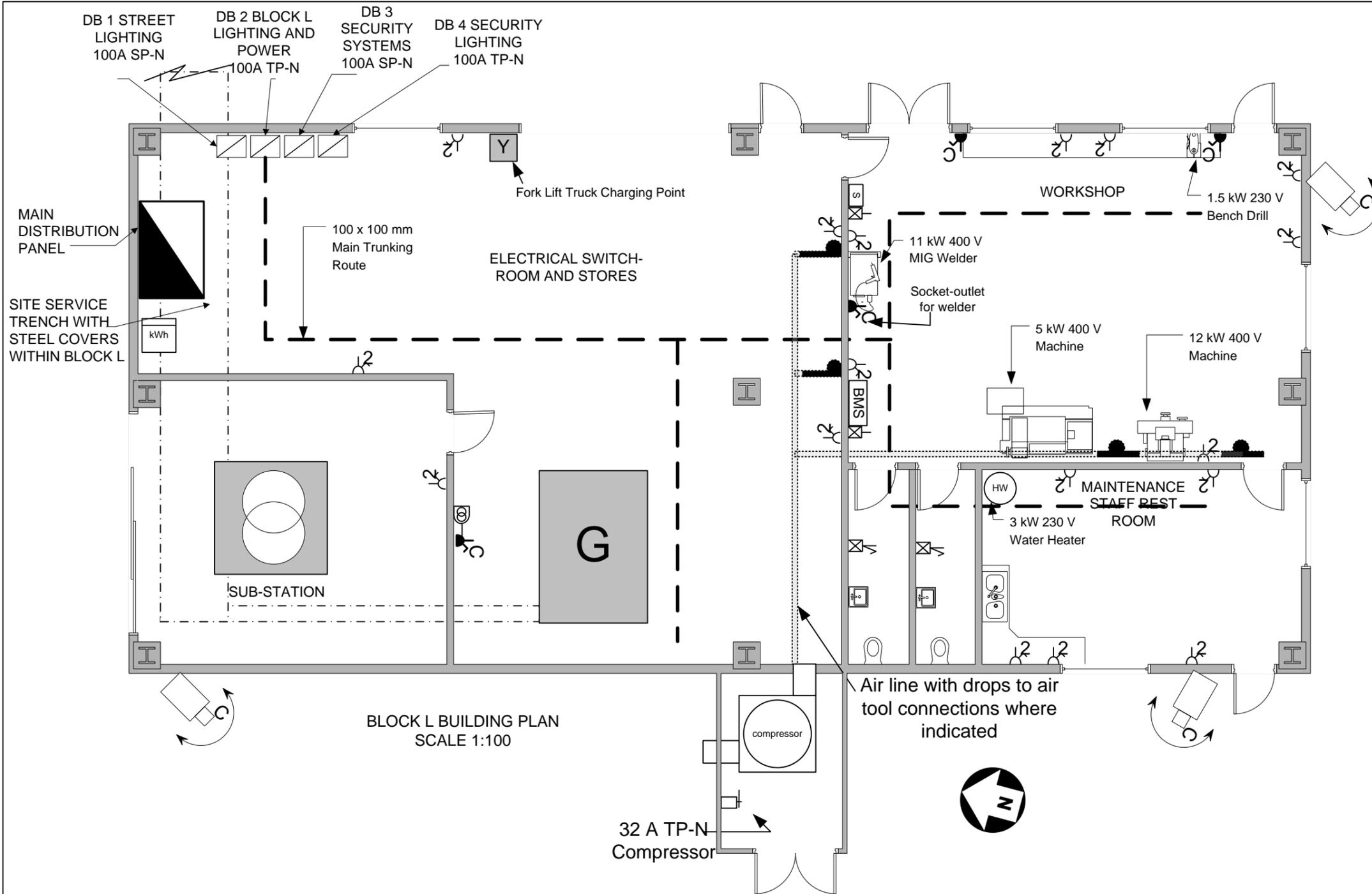
SHOWER BLOCK SOUTH ELEVATION  
SCALE 1:50



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.

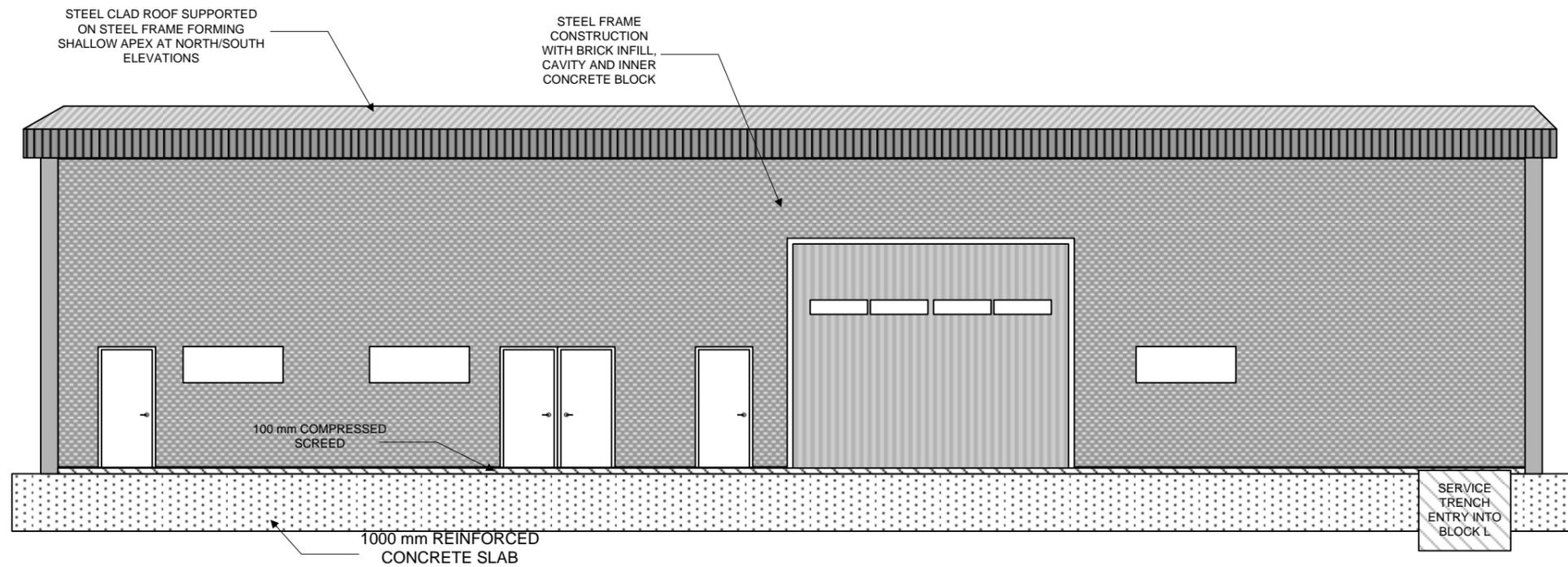
**Generator Set**

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.

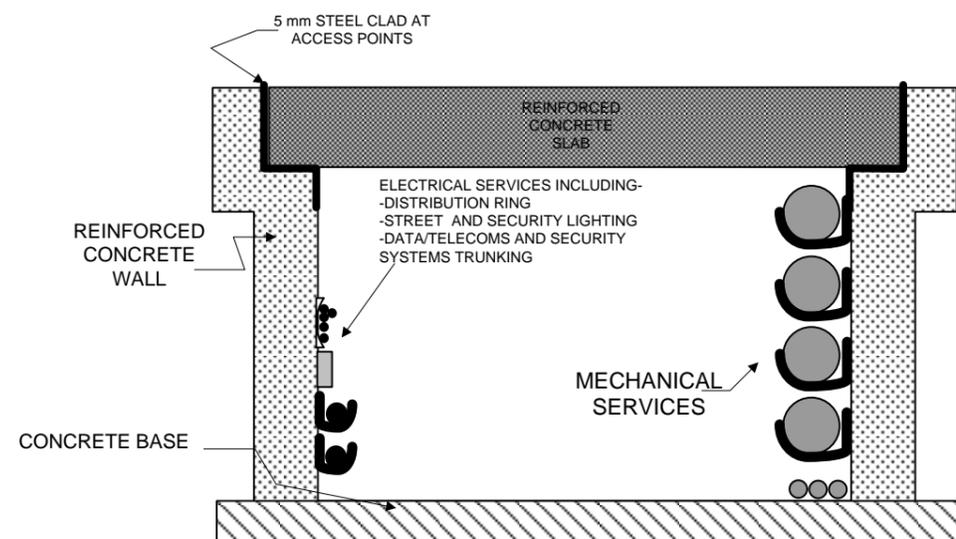
**Electrical Installation**

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.



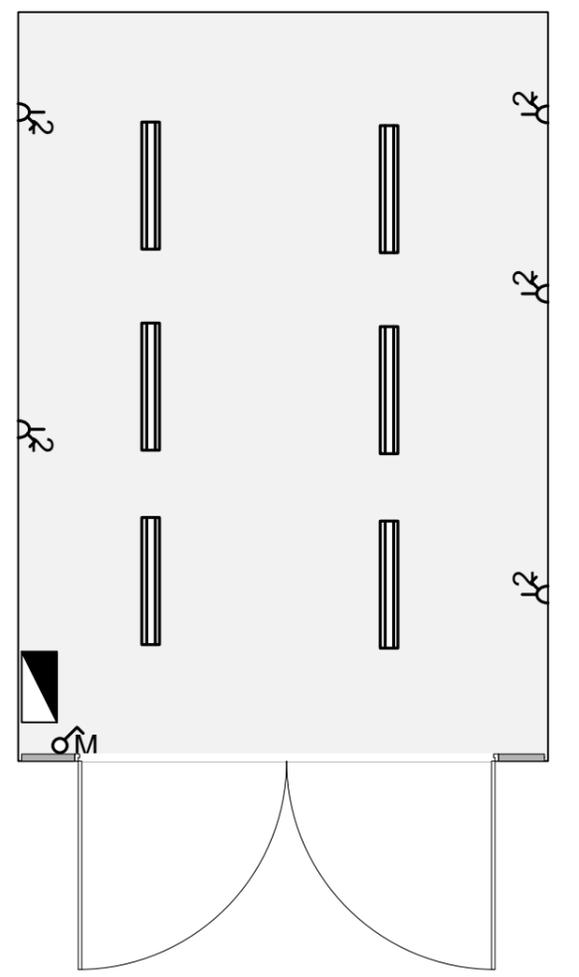
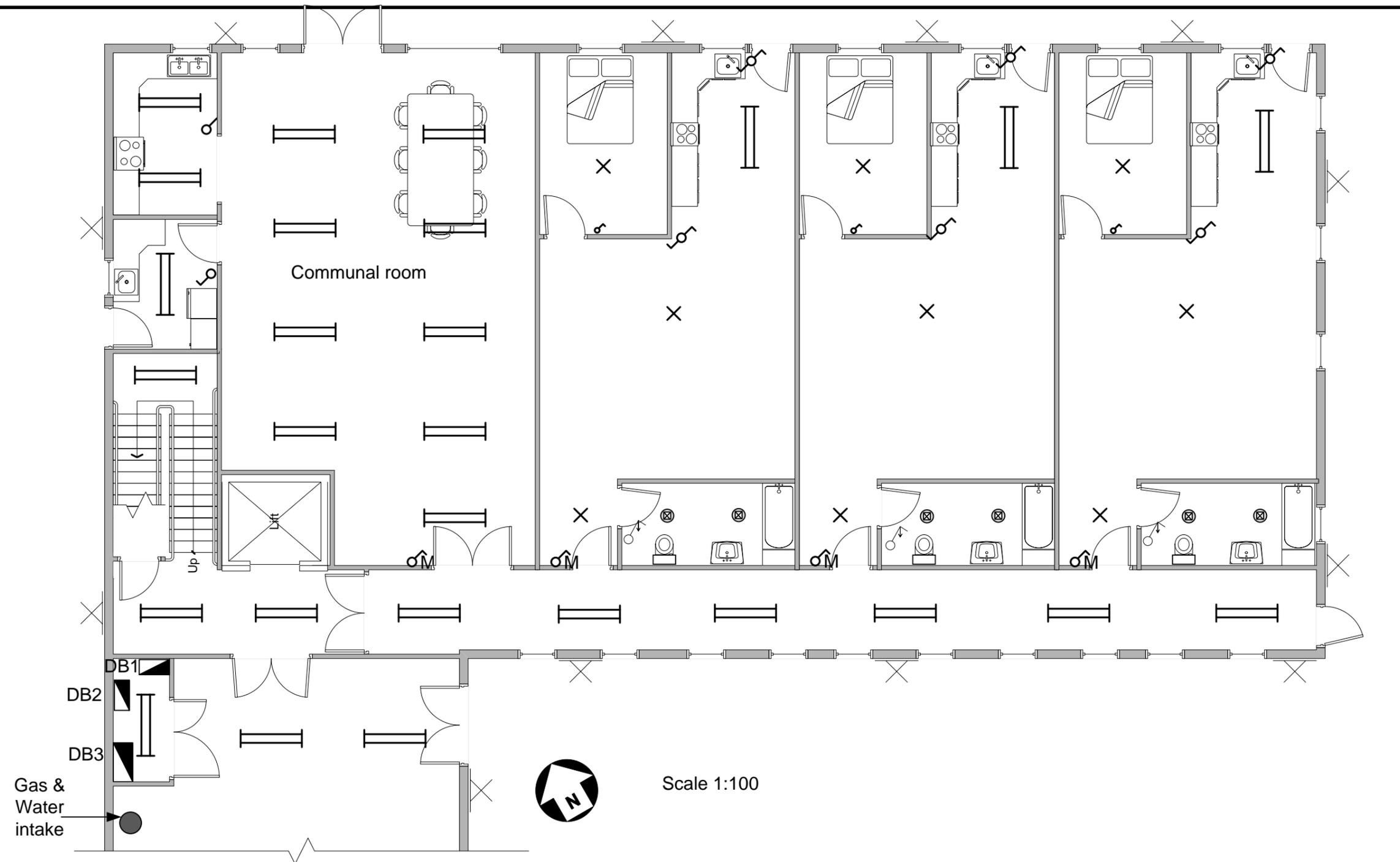


EAST ELEVATION SCALE 1:100



TYPICAL CROSS SECTION OF SERVICE TRENCH SCALE 1:10





Not to scale

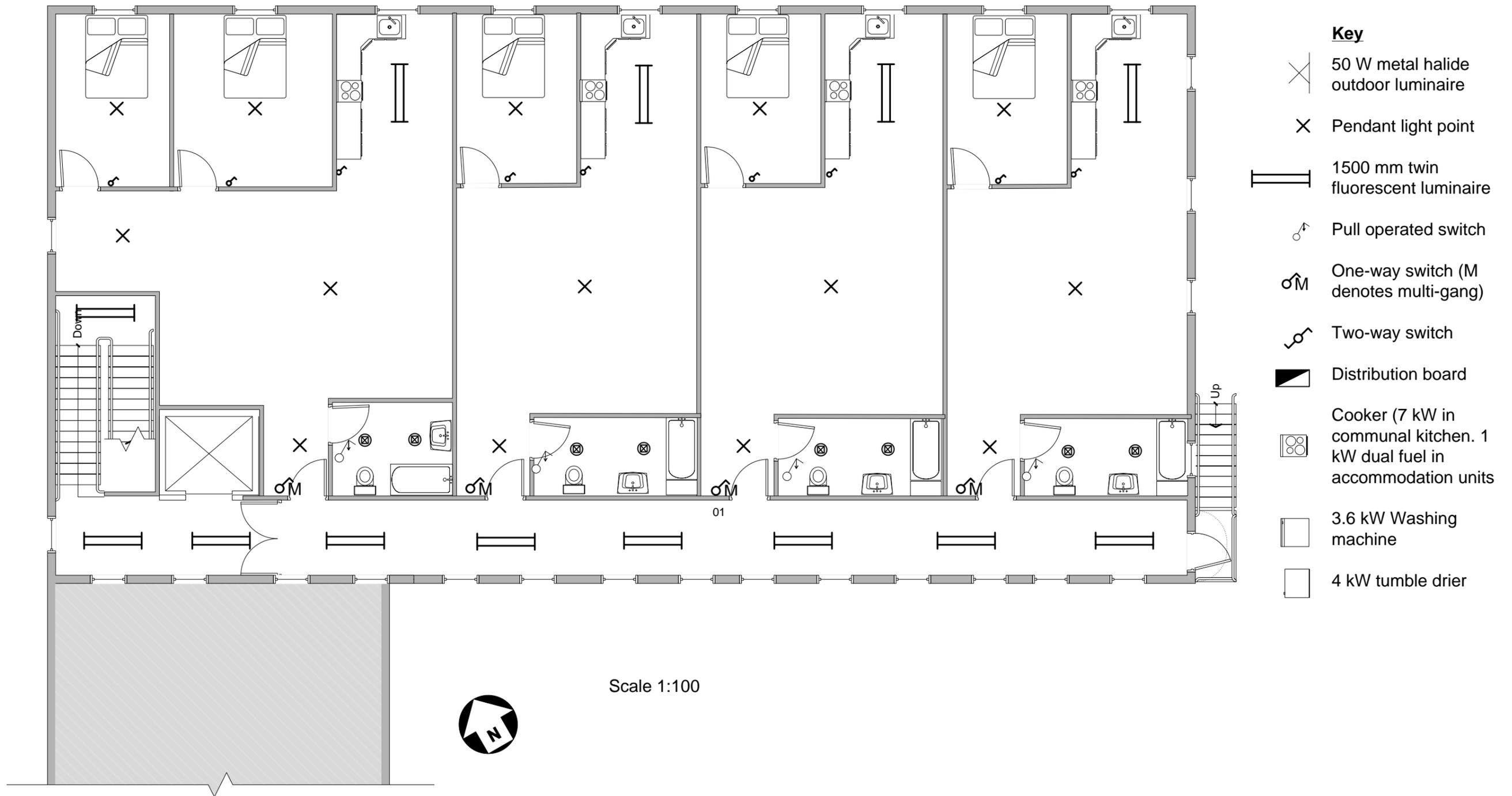
**Workshop**  
Timber construction workshop built on a concrete base

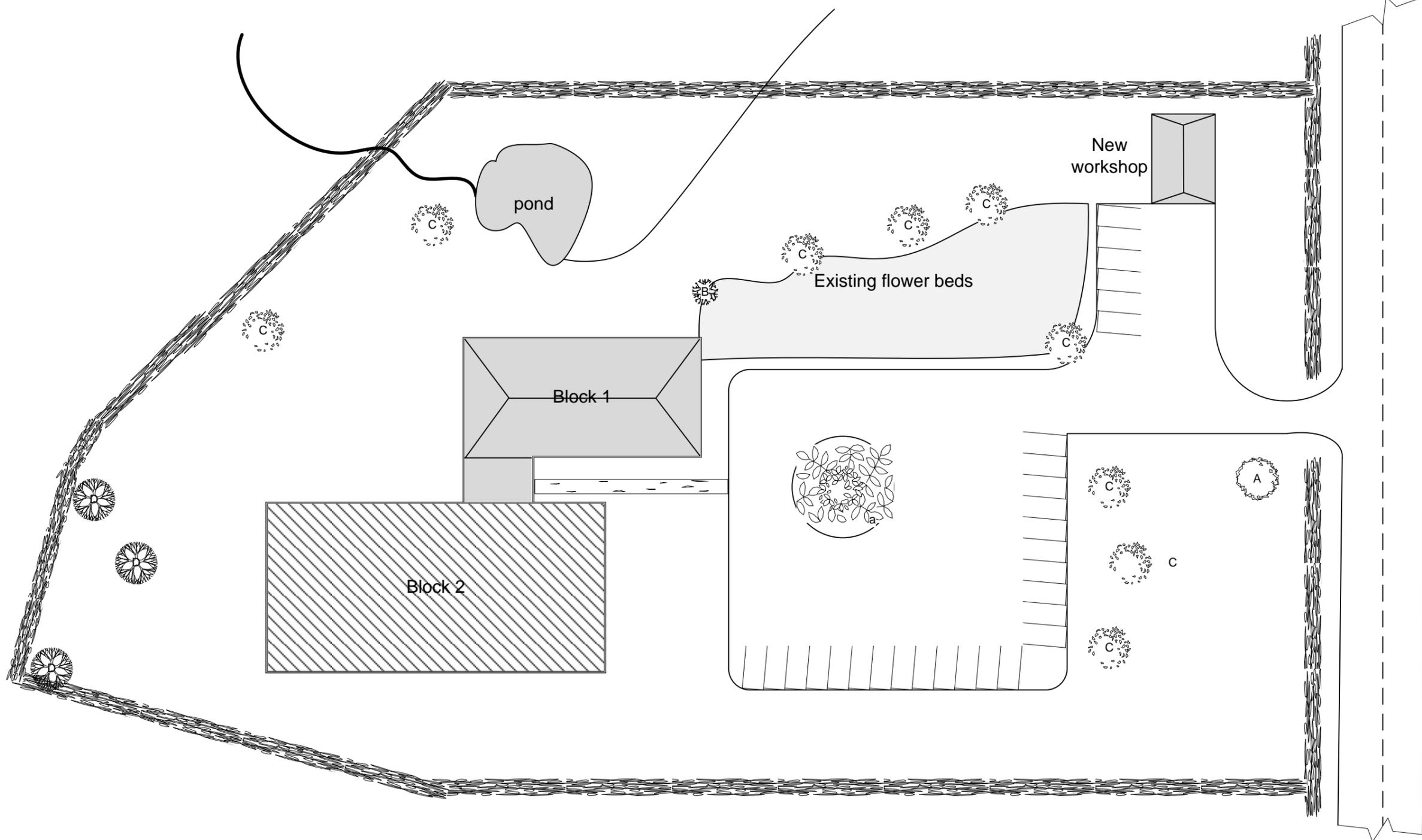
**City & Guilds**  
2357  
Level 3 NVQ Diploma  
in Electrotechnical  
Technology

Sunnymead Sheltered  
Accommodation Ground Floor Plan

Layout of  
refurbishment

Drawing Number  
2357-A2-01





**Notes**

Electrical Supply  
 Three-phase TN-C-S.  
 $Z_e = 0.16 \Omega$ .  
 $PFC = 2.5 \text{ kA}$

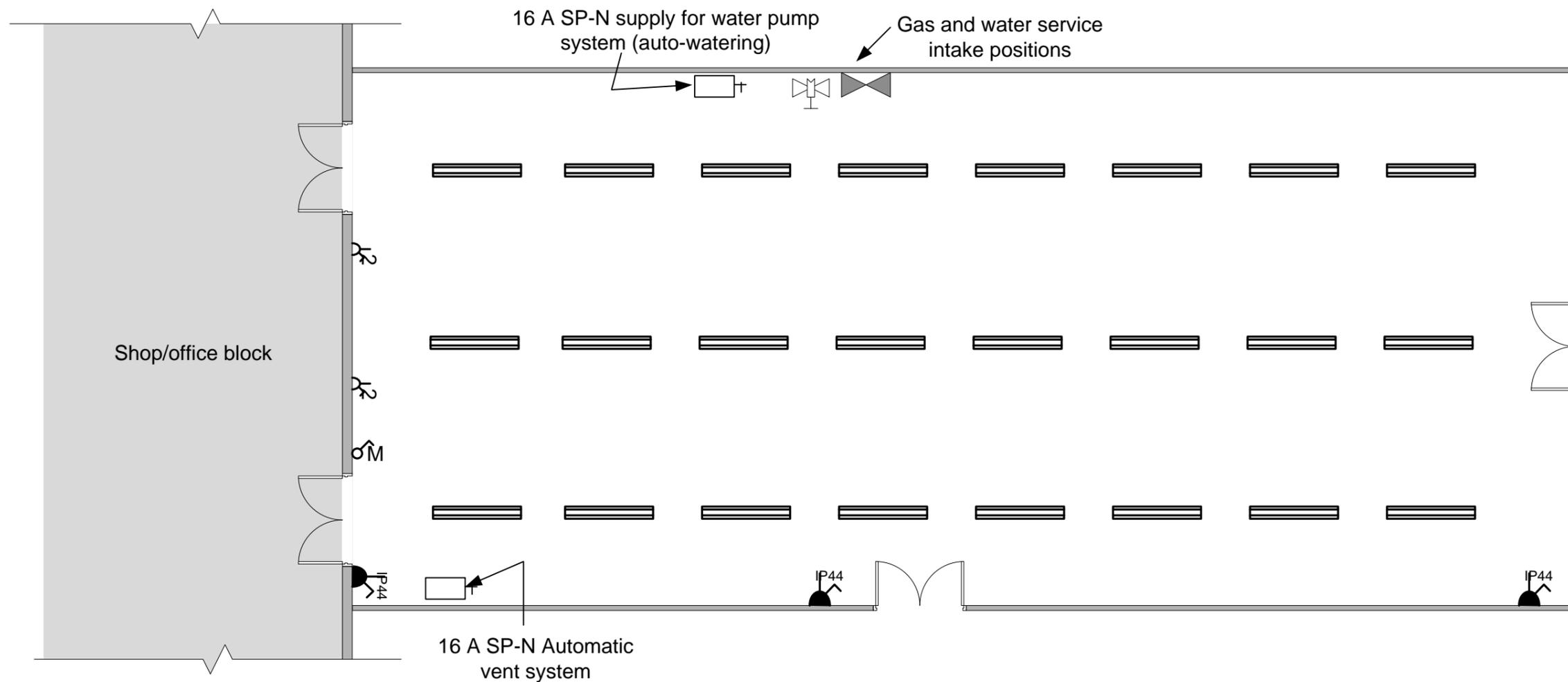
Block 1 is a forty year old building which is to undergo renovation work. The building is constructed of outer brick with cavity and inner block work. All internal walls are block work with plaster finish. Floors- the ground floor is concrete base with screed. First floor is tongue and groove floor board on wooden joists. All ceilings are aertex. Roof is tiled on wood truss and felt.

All stair, corridor and outside lighting is controlled by time clock/daylight sensor combination.

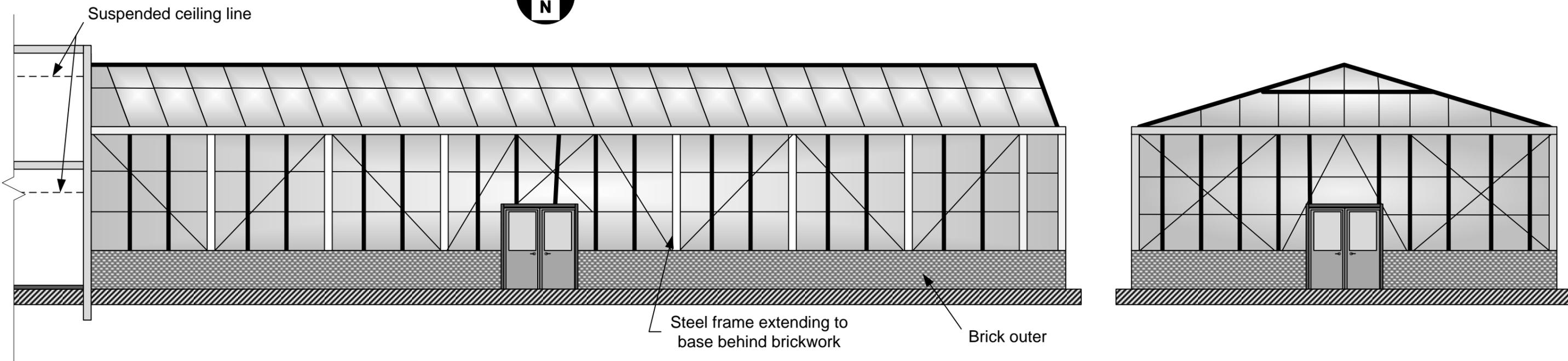
Block 2 is a newly completed and is in use by residents whilst work to block 1 is carried out.



Scale 1:500



Scale 1:100



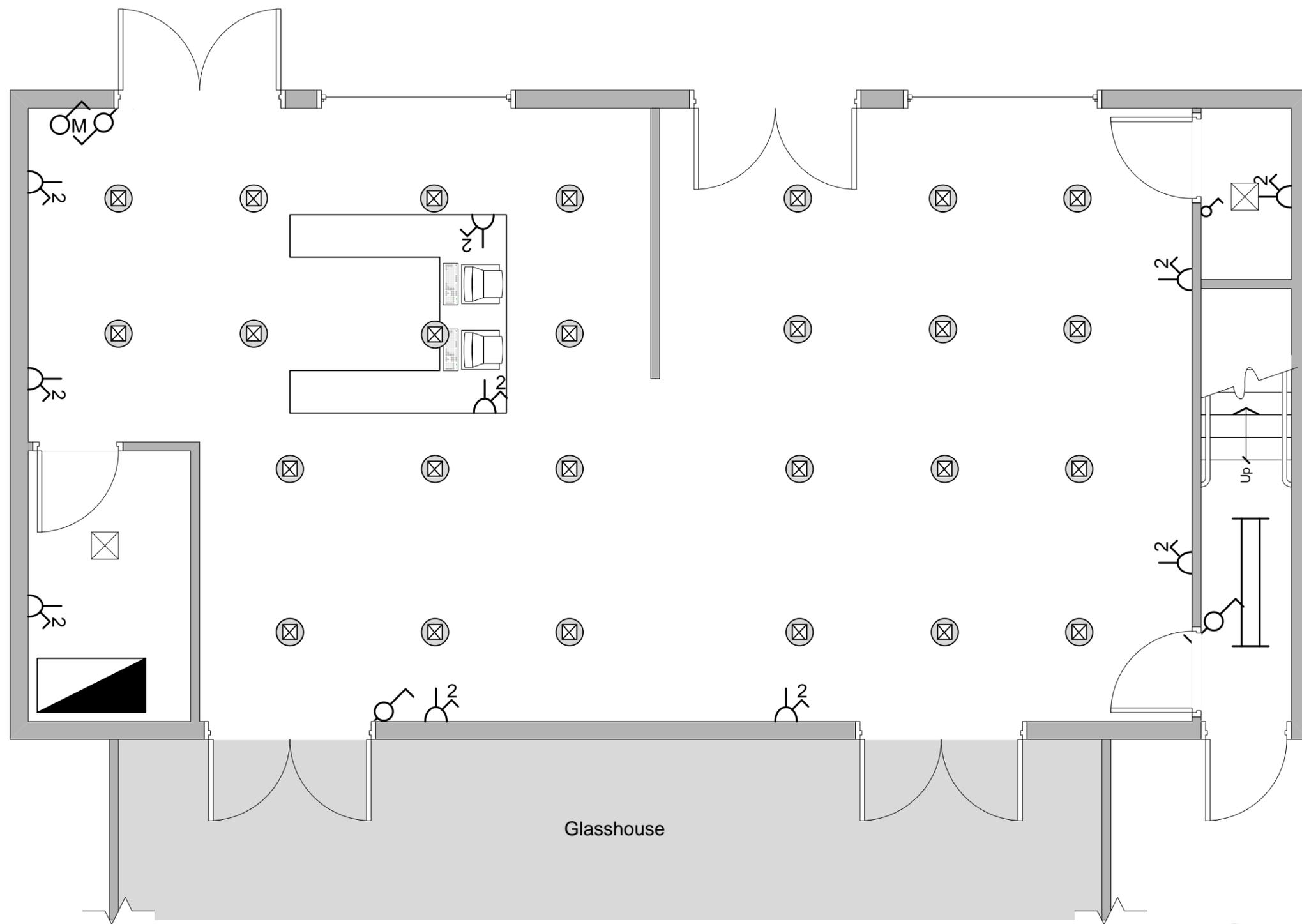
City & Guilds

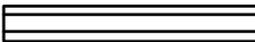
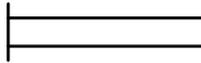
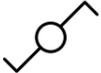
2357  
Level 3 NVQ Diploma in  
Electrotechnical Technology

**Barnsmead  
Nursery**

New bedding plant sales  
centre and office

Drawing Number  
2357-B2-01

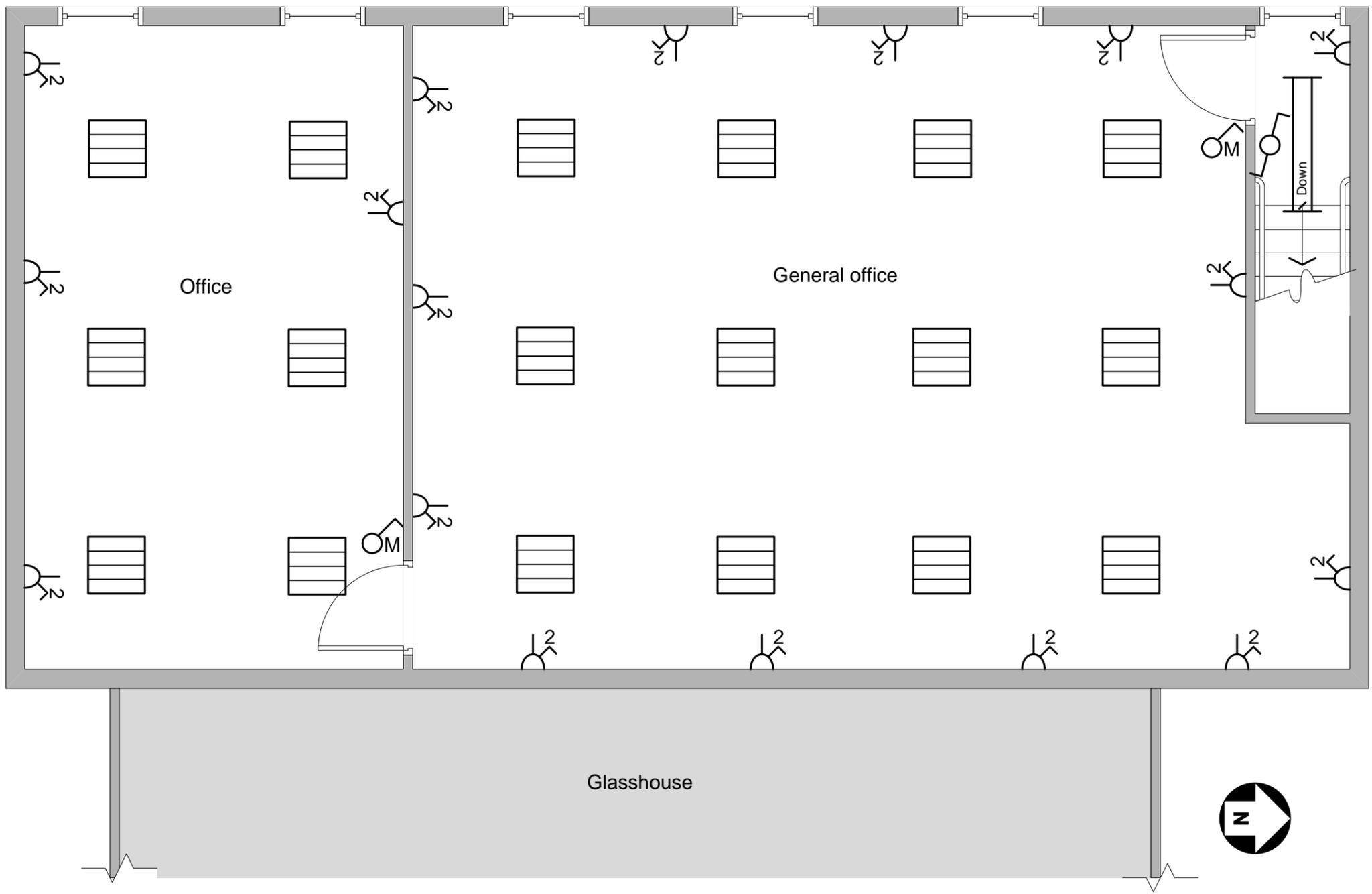


- Key**
-  Consumer's Control Unit
  -  1800 mm twin IP65 luminaire
  -  1500 mm twin luminaire
  -  Wall mounted luminaire with PIR controller
  -  28 W 2D bulkhead
  -  Recess compact fluorescent luminaire downlight
  -  13 A switched socket-outlet
  -  Two-way switch
  -  Fused connection unit with neon indicator
  -  One-way switch
  -  Multi-gang switch point
  -  IP44 socket-outlet to BS EN 60898
  -  Earth rod location

Scale 1:50



All accessories in offices are mounted on three-compartment dado trunking



Scale 1:50

**Notes**

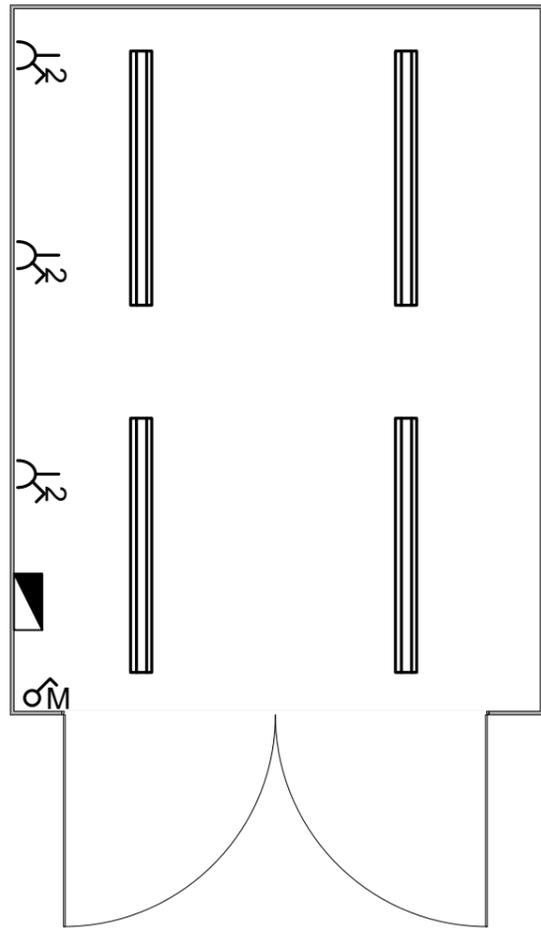
**Electrical Supply**

230 V single-phase TT system

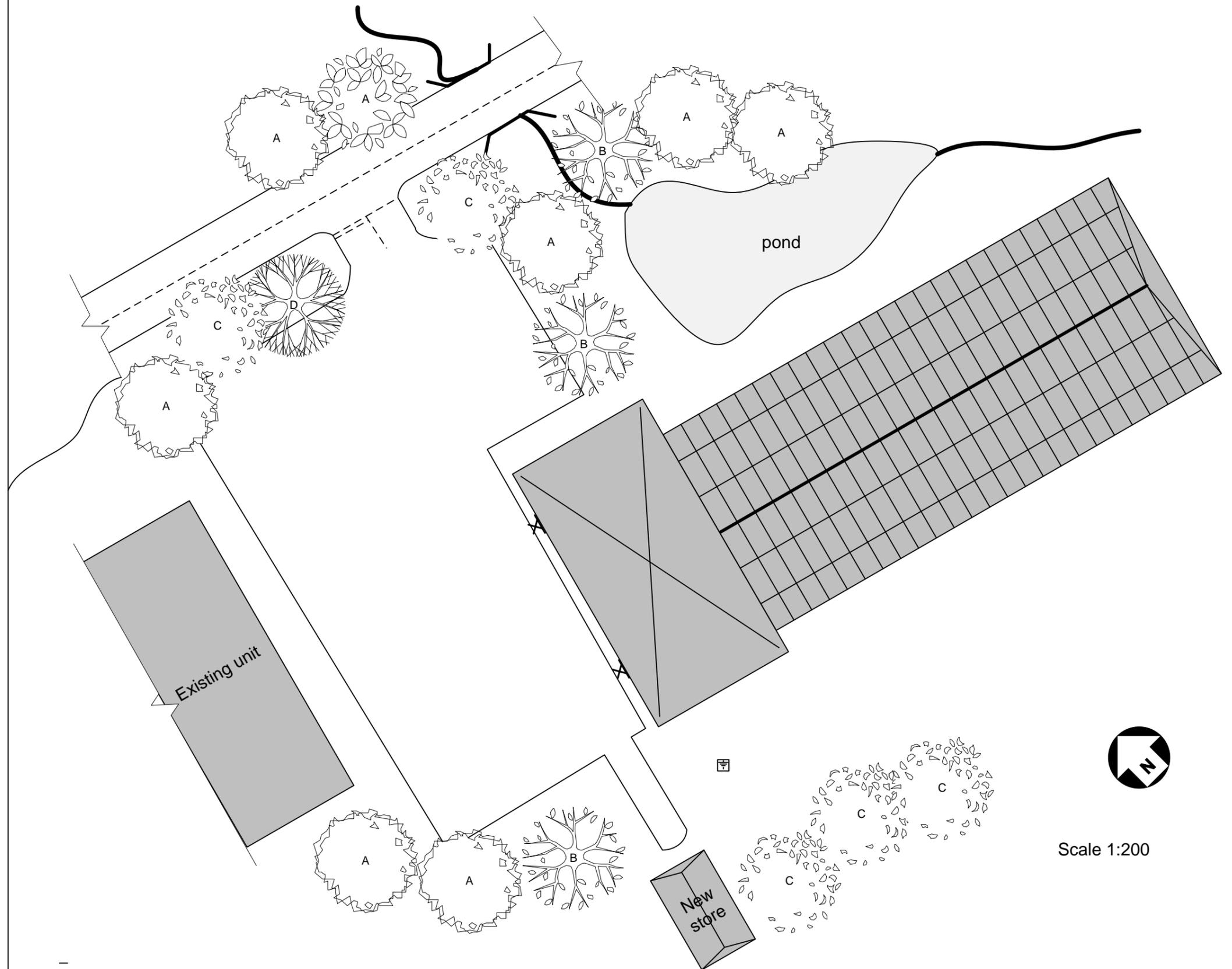
**Building Construction**

Glasshouse- steel framed with brick dwarf wall and toughened glass. Floor is treated screed.

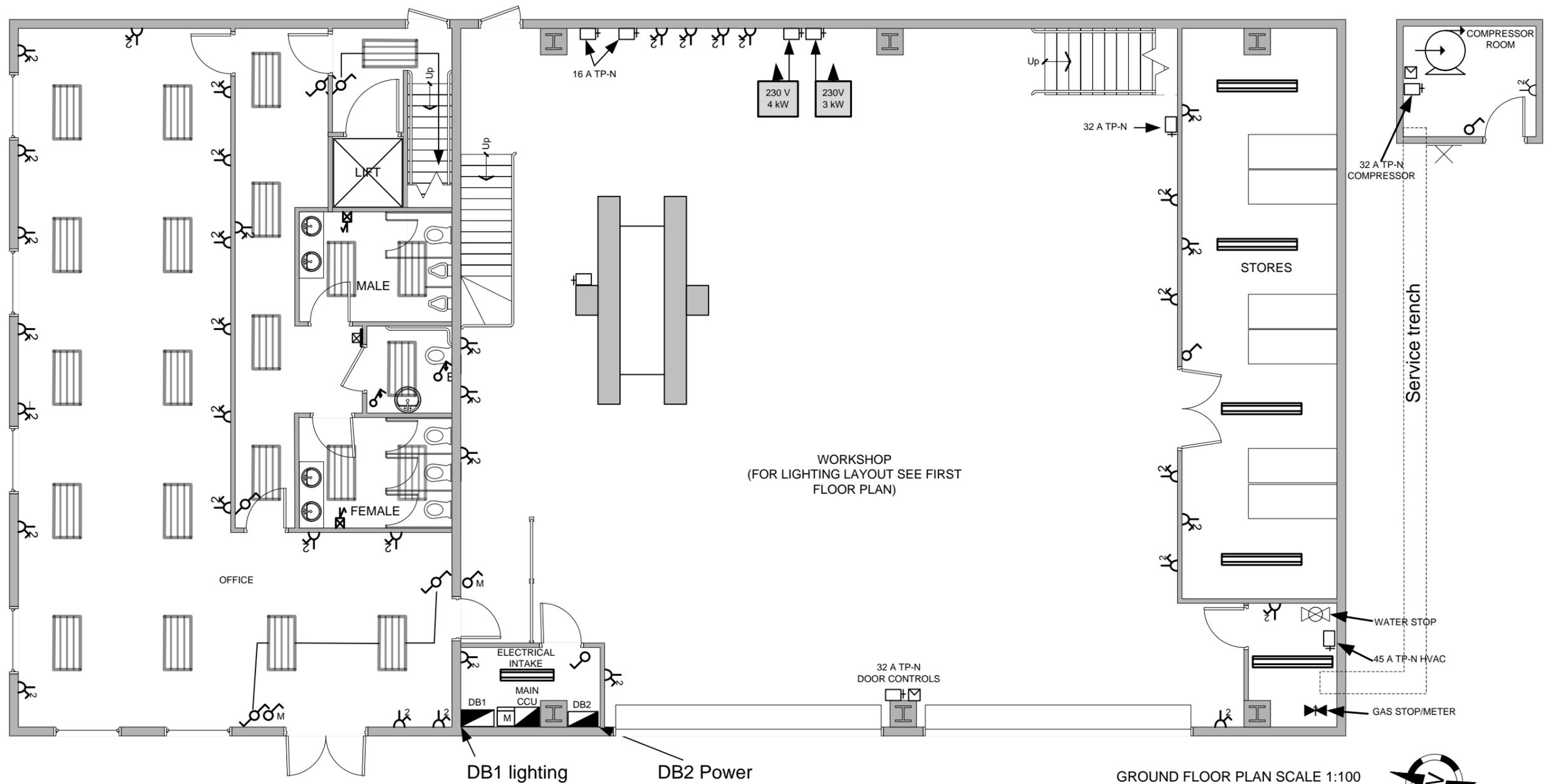
Office/shop- wood framed with fairfaced brick outer skin and boarded inner. All partition walls to be metal framed with plasterboard finish. Suspended 600x600 mm tiled suspended ceiling in all areas except staircase and store rooms.



New Store  
Scale 1:50



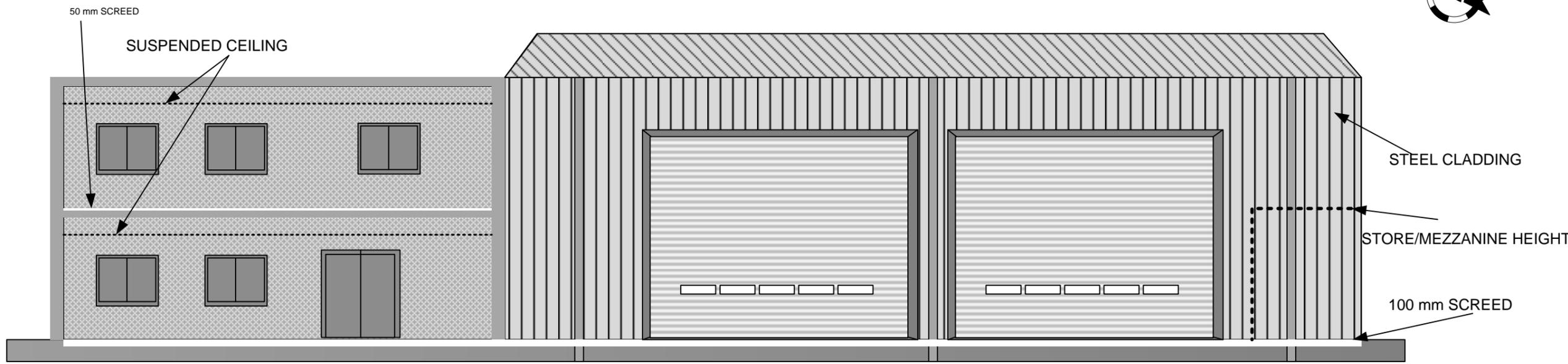
Scale 1:200



DB1 lighting

DB2 Power

GROUND FLOOR PLAN SCALE 1:100



WEST ELEVATION SCALE 1:100

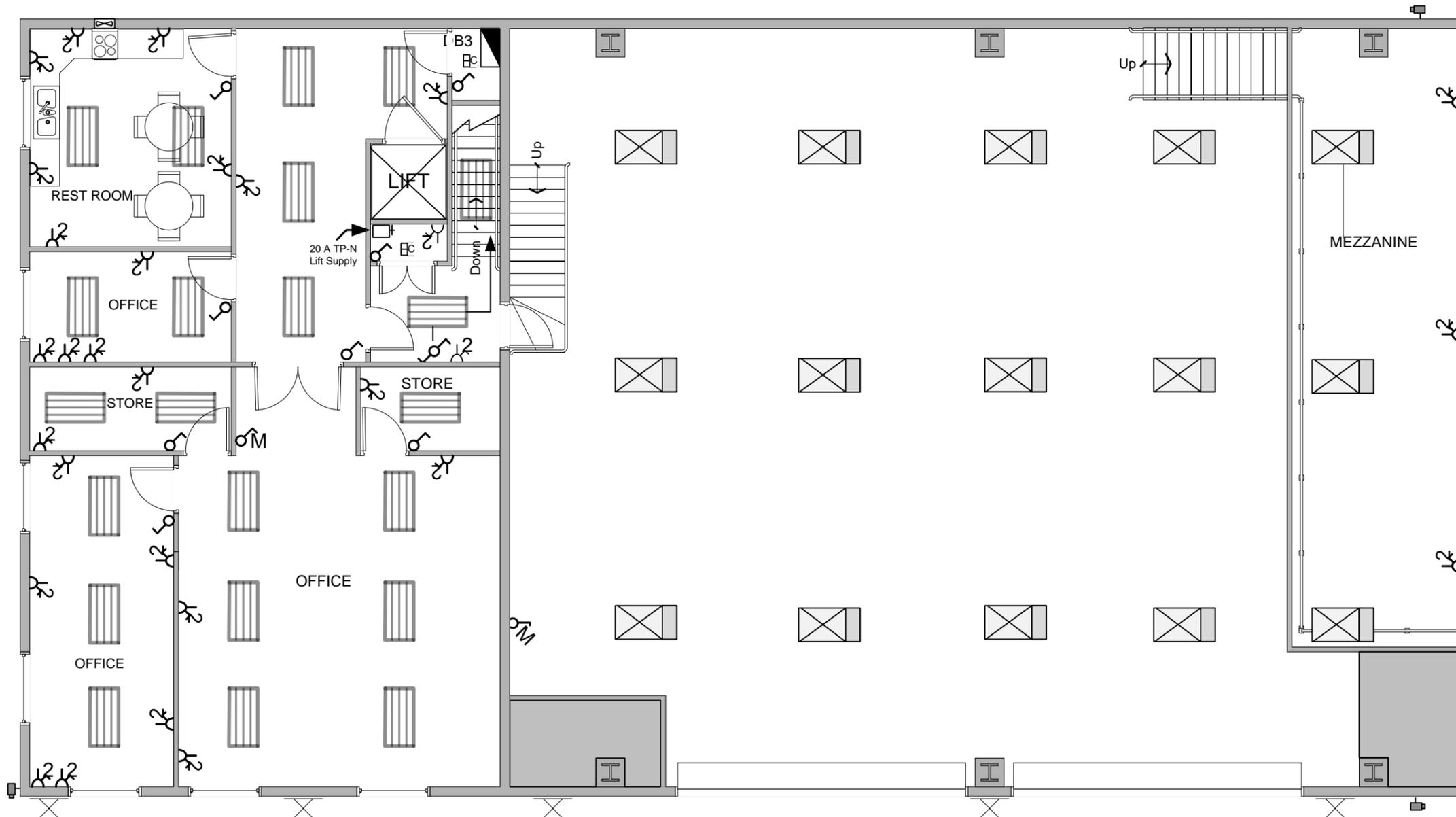
**County  
Highways  
Depot**

**Proposed new  
Highways  
Depot  
Ground Floor**

**Drawing  
Number  
2357-C2-01**

**City &  
Guilds**

**2357  
Level 3 NVQ  
Diploma in  
Electrotechnical  
Technology**



FIRST FLOOR PLAN SCALE 1:100

LEGEND

- |  |   |  |   |  |   |
|--|---|--|---|--|---|
|  | 1-WAY SWITCH (M DENOTES MULTI-GANG)                   |  | HIGH-BAY 150 W LUMINAIRE  |  | COOKER- 230 V 9 Kw                            |
|  | 1-WAY PULL CORD SWITCH (E DENOTES FOR EMERGENCY CALL) |  | TWIN IP 54 1800 mm FLUORESCENT LUMINAIRE                              |  | WELDING EQUIPMENT (RATING/ VOLTAGE INDICATED) |
|  | TWO-WAY SWITCH  |  | WALL MOUNTED EMERGENCY BEACON/ SOUNDER                                |  | OUTDOOR WALL MOUNTED 70 W SON-T LUMINAIRE     |
|  | SOCKET-OUTLET (2 DENOTES TWO-GANG)                    |  | THREE-TUBE 1200 x 1200 mm RECESS MODULAR LUMINAIRE WITH CAT II LOUVRE |  | CCTV units                                    |
|  | SWITCHED FUSED-CONNECTION UNIT WITH NEON INDICATOR    |  | 50 W EYBALL ELV SPOTLIGHT   |  | 150 W SON-T                                   |
|  | SOCKET-OUTLET SUPPLIED FROM SEPERATED SOURCE)         |  | 2D SURFACE MOUNTED BULKHEAD LUMINAIRE                                 |  |   |
|  | DISTRIBUTION BOARD                                    |  | EXTRACTION FAN  |  |   |
|  | CONSUMERS' CONTROL EQUIPMENT                          |  | MOTOR CONTROL DEVICE  |  |   |
|  | SWITCHED-FUSE DISCONNECTOR                            |  |   |  |   |

Notes

Supply detail

230/400 V TN-C-S  
 Ze- 0.12 Ω  
 PFC- 3.5 kA

Building Construction

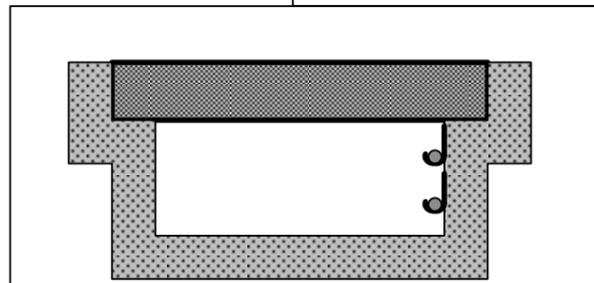
The workshop section of this building is steel framed and steel clad with blockwork inner walls. The mezzanine floor is wood board mounted on wooden joists which also serves as the ceiling for the storeroom below (open joist). Workshop floors are bare screed with anti-slip oil resistant treatment.

The office section is outer fairfaced brick with inner leaf blockwork. All inner walls are plaster finish. Ceilings are suspended 600 x 600 mm tiles on grid 2400 mm above ffl. Floors are carpet throughout with exception of the toilets, restroom and stores which have an anti-slip sealed covering.

**County Highways Depot**

**Proposed new Highways Depot First Floor**

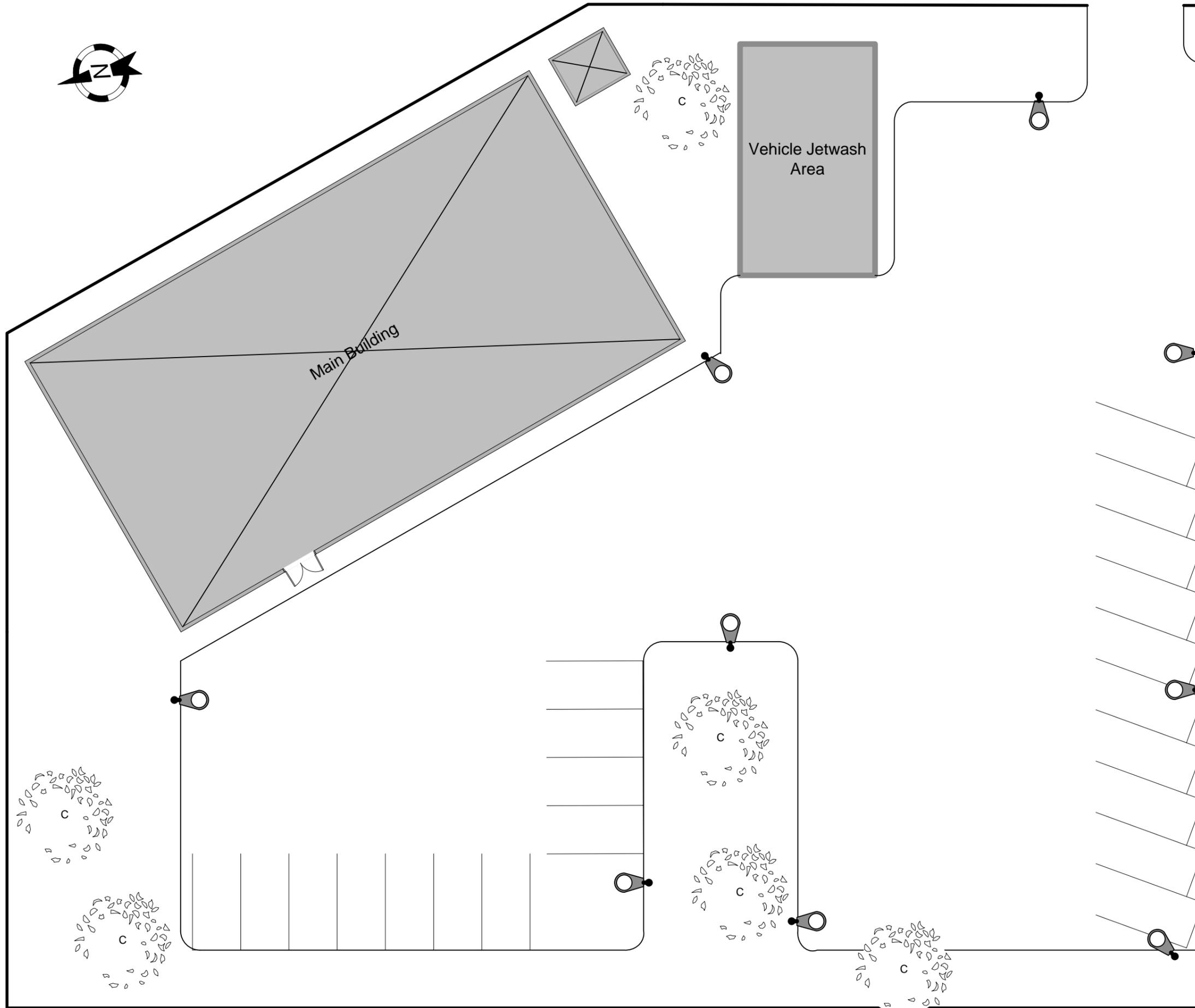
**Drawing Number 2357-C2-02**



Trench profile  
Not to scale

**City & Guilds**

2357  
 Level 3 NVQ  
 Diploma in Electrotechnical Technology



Scale 1:200

**County  
Highways Depot**

**Proposed new  
Highways Depot  
Site Plan**

**Drawing Number  
2357-C2-03**

**City &  
Guilds**  
**2357**  
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Electrotechnical  
Technology