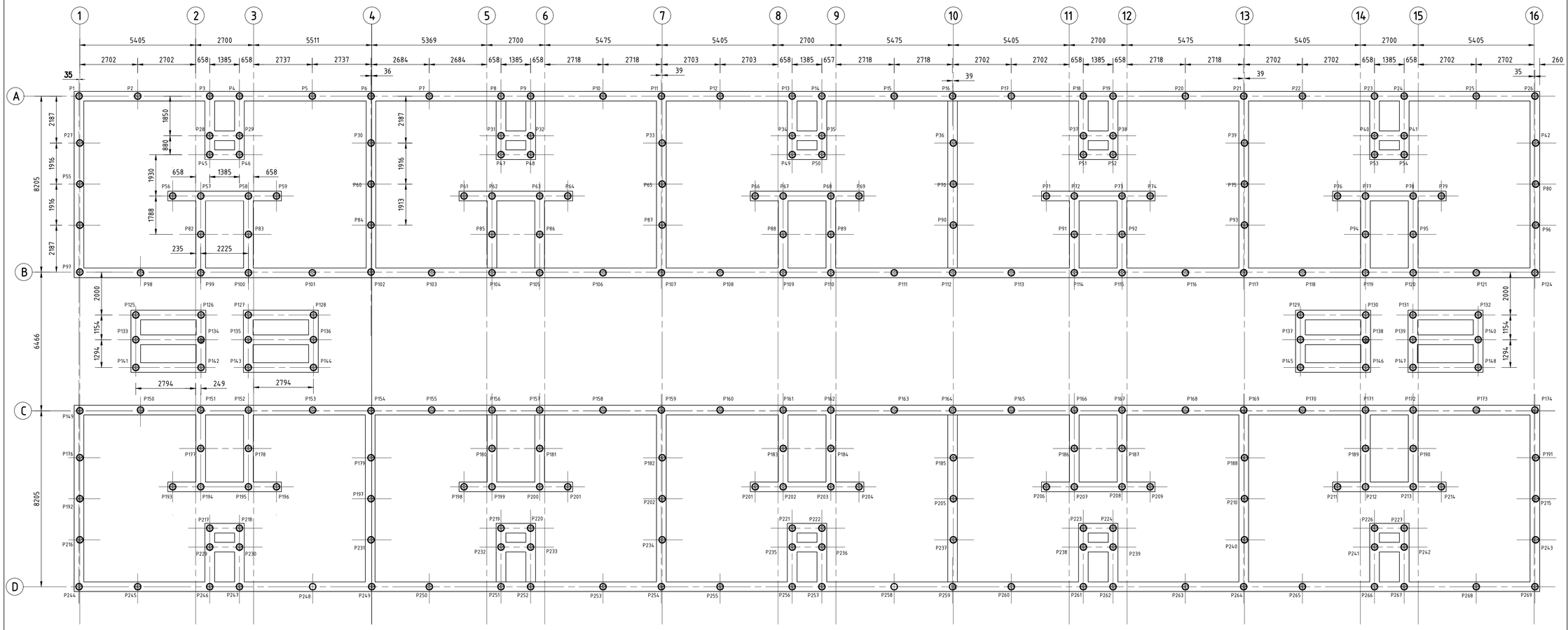

PILING LAYOUT

SCALE 1:100

PILING KEY

PILE TYPE	PILE NUMBER	TOTAL
300mm Ø PRESSURE GROUTED CONTINUOUS FLIGHT AUGER PILE WITH A SERVICE LOAD OF 750 kN.	P1 - P269	269 PILES

Piling Notes :

1. All piling to be carried out in accordance with SABS 1200F.
2. The responsibility for the design and performance of all piles shall lie with the Piling Contractor and the Piling Contractor shall supply a 'Piling Guarantee' or a 'Piling Liability Insurance Policy' in this regard. The 'Piling Guarantee' or a 'Piling Liability Insurance Policy' is to be in place for a minimum period of 3 years after the final pile has been installed. The Piling Contractor's Pile Design Engineer must submit a 'Certificate of Stability' to the Principal Structural Engineer on completion of the piling contract.
3. The 'Piling Liability Insurance Policy' should have insurance cover for the following sections :-
   a) Public Liability Cover.
   b) General Constructural Liability Cover.
   c) Foundation Failure Indemnity Cover.
   d) Products and Defective Workmanship Liability Cover.
   e) The 'Certificate of Insurance' is to be submitted to the Principal Structural Engineer for approval.
   f) The limit of Indemnity and the required insurance cover amounts will be as stipulated in the Piling Tender Document or as advised by the appointed Quantity Surveyor.
4. Concrete grout strength for all piles at 28 days is 30 MPa. Concrete cube tests to be carried out on pile grout for every 20 piles installed. 6 cubes to be taken after every 20 piles installed (3 cubes to be tested at 7 days and 3 cubes to be tested at 28 days). Results of the cube tests to be sumbittedto the Principal Structural Engineer for approval.
5. Pile type is 300mm Ø Pressure Grouted Continuou Flight Auger pile (in 'end bearing') with a service load of 750 kN.
6. Pile cut-off level to be 50mm above soffit of the ground beam or as indicated on the piling layouts with 500mm pile rebar projection.
7. Pile Integrity Testing is to be carried out on all piles by an independent Geotechnical Engineer. No 'in-house' integrity testing by the Piling Contractor will be accepted.
8. All pile setting out is to be carried out by the Piling Contractor and verified by the Main Contractor whom assumes full responsibility for the pile setting out. All pile positions are to be set out by the Piling Contractor's registered Engineering Surveyor.
9. The final piling design is to be submitted by the Piling Contractor to the appointed Geotechnical Engineer for approval. The cost for this approval process is to be provided for by the Piling Contractor. The Piling Contractor can only commence with piling, pending the approval of the final pile design from the appointed Geotechnical Engineer and the approval from the Principal Structural Engineer.
10. The maximum permissible deviation of the pile positions shall be 50mm.
11. All piles are to be neatly trimmed to pile cut-off level. The top surface of all trimmed piles is to be finished 'level and smooth'. An approved non-shrink leveling concrete grout must be allowed for by the Contractor to achieve the 'level and smooth' finish requirement, noted above.
12. Two copies of an 'As-Built' localtion drawing signed by the Piling Contractor showing the precise position of ever pile shall be supplied to the Principal Structural Engineer. Any pile outside the tolerance limits specified shall be clearly highlighted on the 'As-Built' layout.

1. All levels and dimensions to be checked on site.
2. This drawing is to be read in conjunction with the Architectural drawings.
3. All concrete work is to comply with SABS 1200G.
4. Concrete Class :-
a) Pilecaps & Ground Beams = 25 MPa
b) Strip Footings & Bases = 25 MPa
c) Columns, Shear Walls & Lift Shaft Walls = 30 MPa
d) Slabs, Beams & Staircases = 25 MPa
e) Retaining Walls = 25 MPa
f) Surface Bed Slabs = 30 MPa
g) Raft Slabs = 30 MPa
h) Raft Slab Ground Beams = 30 MPa
i) Blinding = 10 MPa
5. Cover to reinforcement :-As indicated on drawings.
6. All foundation excavations are to be inspected by the Engineer prior to casting of concrete.
7. All reinforcing fixing is to be inspected by the Engineer prior to casting of concrete.
8. Six concrete cubes to be taken per pour. Three cubes to be tested at seven days, the remainder at twenty eight days. The results are to be forwarded to the Engineer for review and approval.
9. The Contractor is to construct a blinding layer if soil conditions result in reinforcement cover not being maintained.
10. All structural concrete is to be cured for a minimum of five days.
11. All brickwork shown 'hatched' are load bearing. All load bearing brickwork is to be 14MPa NFX bricks in Class 2 mortar. The top of all load bearing brickwork (at all concrete interfaces) is to receive 2 layers of 3 ply malthoid placed on a smooth rendered surface.
12. All single skin brickwork is to be stopped 2 courses below the soffit of the slab and completed after the props have been removed.
13. All concrete plaster and brickwork plaster interfaces to receive 'v'-joints.
14. The Engineer requires 24 hours notice for all inspections.

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

LILIBARA PROJECTS (PTY) LTD
Cambridge Office Park
5 Bauhinia Street, Unit 12 1st Floor
Highveld Techno Park, Centurion
0169
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E-mail: info@lilibara.co.za
www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT: HOSTEL 1

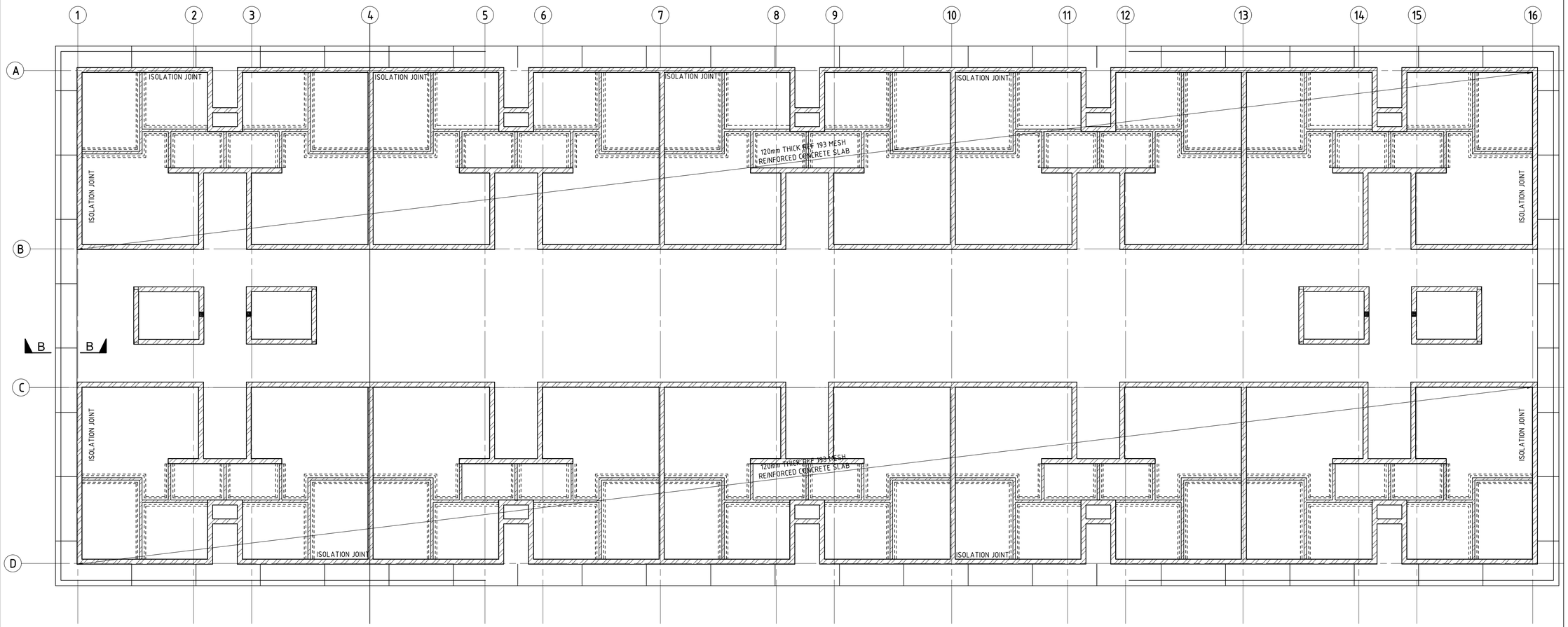
SERVICE:

DRAWING TITLE: PILE LAYOUT

SCALE:	DRAWN:
AS SHOWN	T MOYO
DATE:	DESIGN:
07 NOVEMBER '22	T MOYO
CHECKED:	APPROVED:

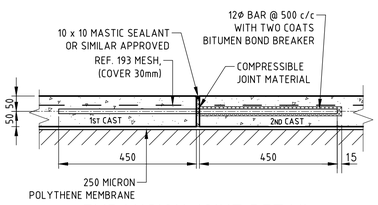
DRAWING NUMBER: 203-T1

STATUS: FOR INFORMATION



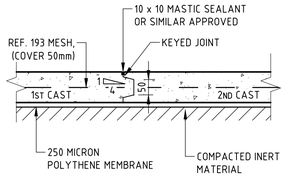
SURFACE BED LAYOUT

SCALE 1:100



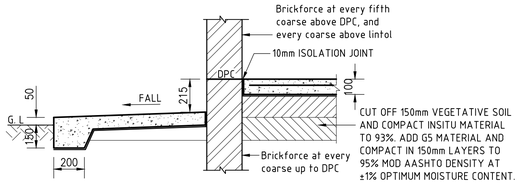
EXPANSION JOINT DETAIL

SCALE 1:10



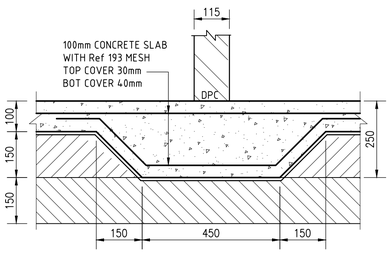
KEYED CONSTRUCTION JOINT DETAIL

SCALE 1:10



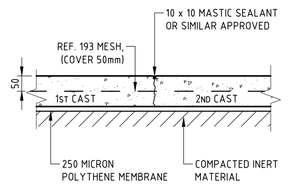
SECTION B-B

SCALE 1:20



TYPICAL DETAIL UNDER 115 WALL

SCALE 1:10



CONSTRUCTION JOINT DETAIL

SCALE 1:10

1. All levels and dimensions to be checked on site.
2. This drawing is to be read in conjunction with the Architectural drawings.
3. All concrete work is to comply with SABS 1200G.
4. Concrete Class :-
a) Pilecaps & Ground Beams = 25 MPa
b) Strip Footings & Bases = 25 MPa
c) Columns, Shear Walls & Lift Shaft Walls = 30 MPa
d) Slabs, Beams & Staircases = 25 MPa
e) Retaining Walls = 25 MPa
f) Surface Bed Slabs = 30 MPa
g) Raft Slabs = 30 MPa
h) Raft Slab Ground Beams = 30 MPa
i) Blinding = 10 MPa
5. Cover to reinforcement :-As indicated on drawings.
6. All foundation excavations are to be inspected by the Engineer prior to casting of concrete.
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10. All structural concrete is to be cured for a minimum of five days.
11. All brickwork shown 'hatched' are load bearing. All load bearing brickwork is to be 14MPa NFX bricks in Class 2 mortar. The top of all load bearing brickwork (at all concrete interfaces) is to receive 2 layers of 3 ply malthoid placed on a smooth rendered surface.
12. All single skin brickwork is to be stopped 2 courses below the soffit of the slab and completed after the props have been removed.
13. All concrete plaster and brickwork plaster interfaces to receive 'v'-joints.
14. The Engineer requires 24 hours notice for all inspections.

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

CONSULTANT DETAIL

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www.lilibara.com

Civil Engineering Consultants & Project Managers

PROJECT: HOSTEL 1

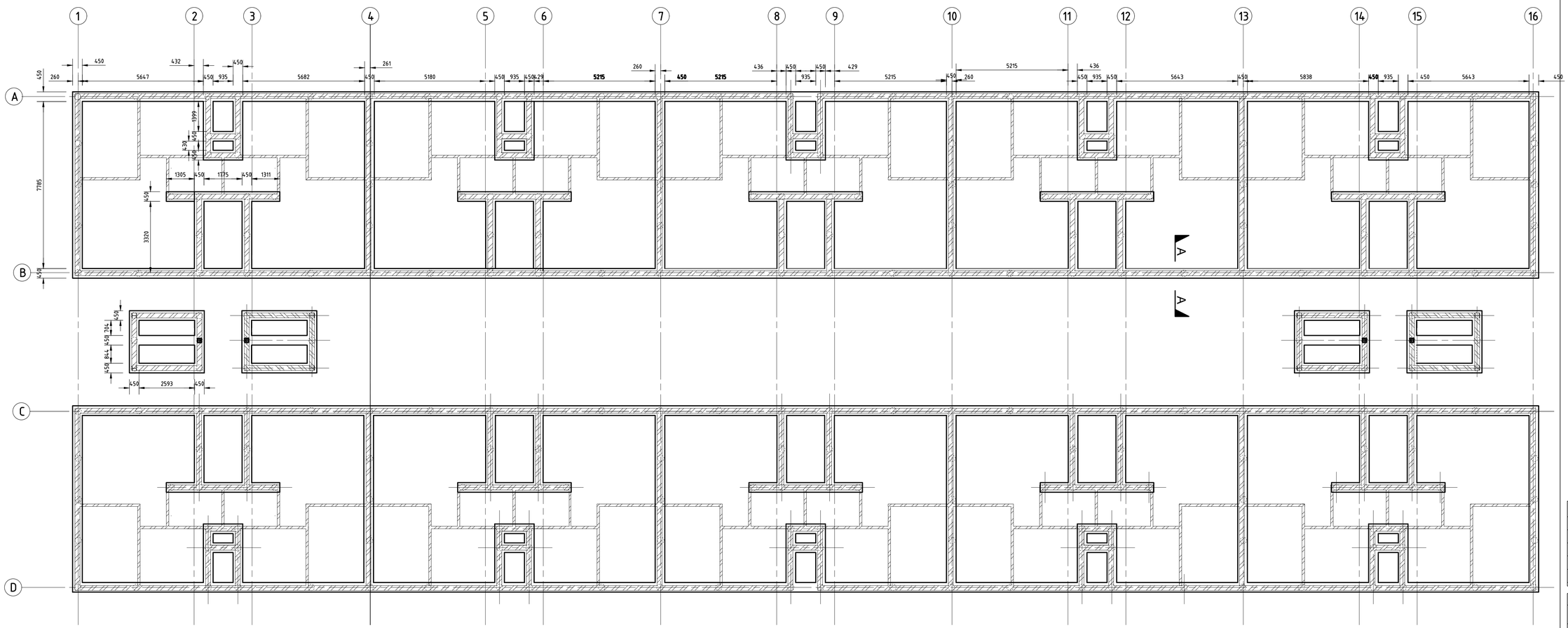
SERVICE:

DRAWING TITLE: SURFACE BED LAYOUT

SCALE: AS SHOWN	DRAWN: T MOYO
DATE: 07 NOVEMBER '22	DESIGN: T MOYO
CHECKED:	APPROVED:

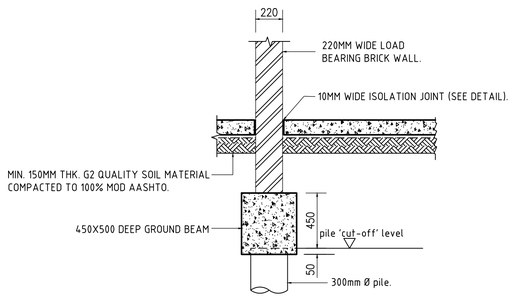
DRAWING NUMBER: 205-T1

STATUS: FOR INFORMATION



GROUND BEAM LAYOUT

SCALE 1:100



SECTION A-A

SCALE 1:25

1. All levels and dimensions to be checked on site.
2. This drawing is to be read in conjunction with the Architectural drawings.
3. All concrete work is to comply with SABS 1200G.
4. Concrete Class :-

a) Pilecaps & Ground Beams = 25 MPa
b) Strip Footings & Bases = 25 MPa
c) Columns, Shear Walls & Lift Shaft Walls = 30 MPa
d) Slabs, Beams & Staircases = 25 MPa
e) Retaining Walls = 25 MPa
f) Surface Bed Slabs = 30 MPa
g) Raft Slabs = 30 MPa
h) Raft Slab Ground Beams = 30 MPa
i) Blinding = 10 MPa

5. Cover to reinforcement :-As indicated on drawings.
6. All foundation excavations are to be inspected by the Engineer prior to casting of concrete.
7. All reinforcing fixing is to be inspected by the Engineer prior to casting of concrete.
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12. All single skin brickwork is to be stopped 2 courses below the soffit of the slab and completed after the props have been removed.
13. All concrete plaster and brickwork plaster interfaces to receive 'v'-joints.
14. The Engineer requires 24 hours notice for all inspections.

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

CONSULTANT DETAIL

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www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

HOSTEL 1

SERVICE:

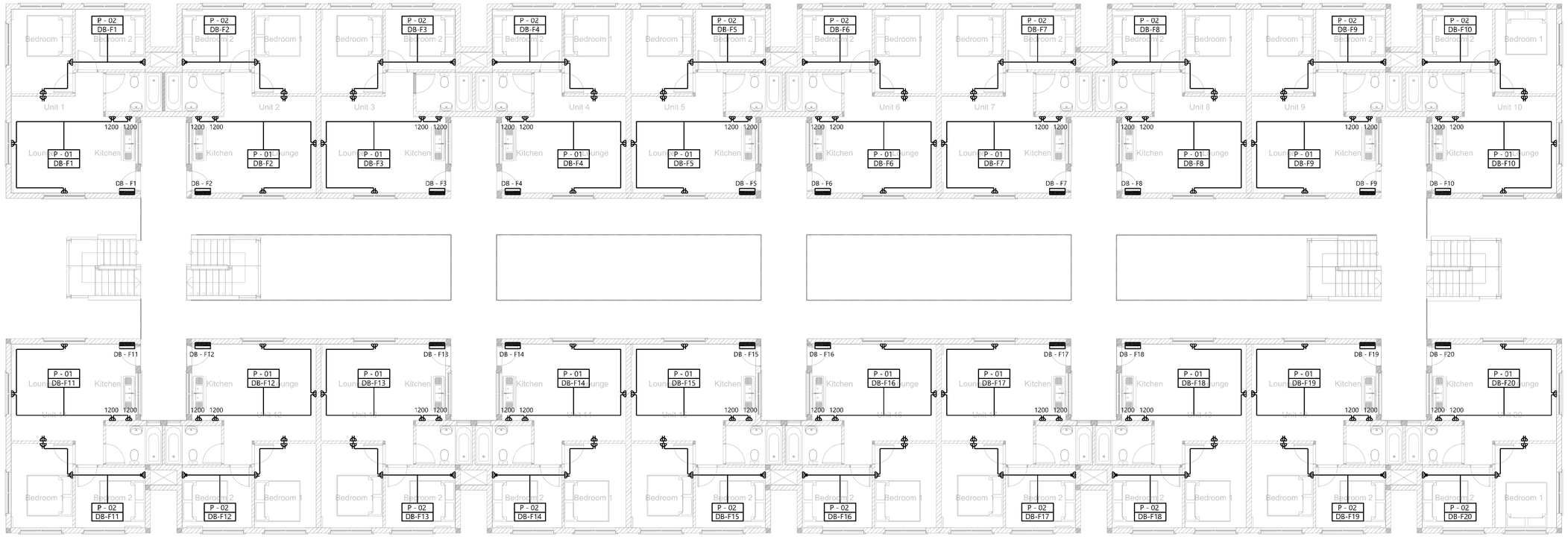
DRAWING TITLE:

GROUND BEAM LAYOUT

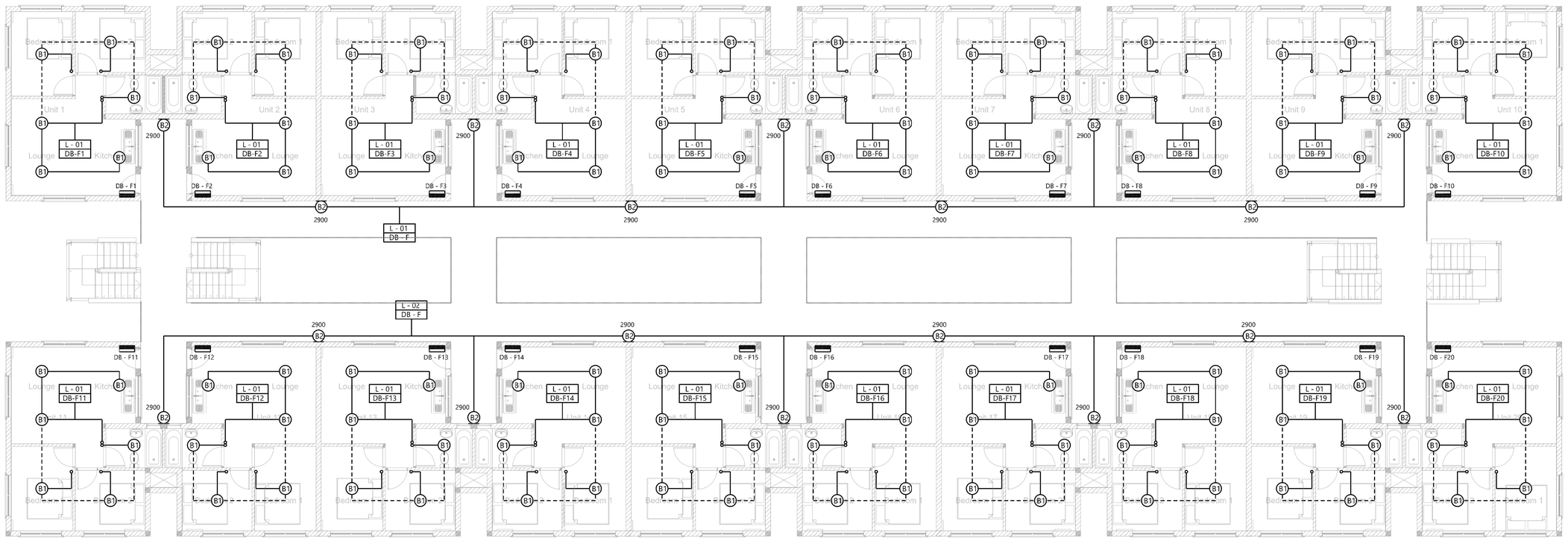
SCALE: AS SHOWN	DRAWN: T MOYO
DATE: 07 NOVEMBER '22	DESIGN: T MOYO
CHECKED:	APPROVED:

DRAWING NUMBER: 204-T1

STATUS: FOR INFORMATION



FIRST FLOOR - SMALL POWER & LIGHTING LAYOUT



LEGEND:

- ELECTRICAL DISTRIBUTION BOARD
- 16A DOUBLE SWITCHED SOCKET OUTLET, WALL MOUNTED AT 300mm AFFL OR STATED/INDICATED
- SINGLE PHASE ISOLATOR
- B1 TYPE B1 BULKHEAD LIGHT FITTING
- B2 TYPE B2 BULKHEAD LIGHT FITTING

NOTES

NO.	DESCRIPTION

REVISION:

NO.	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:

NGUNI CONSULTING (PTY) LTD

SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
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Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

SERVICE:

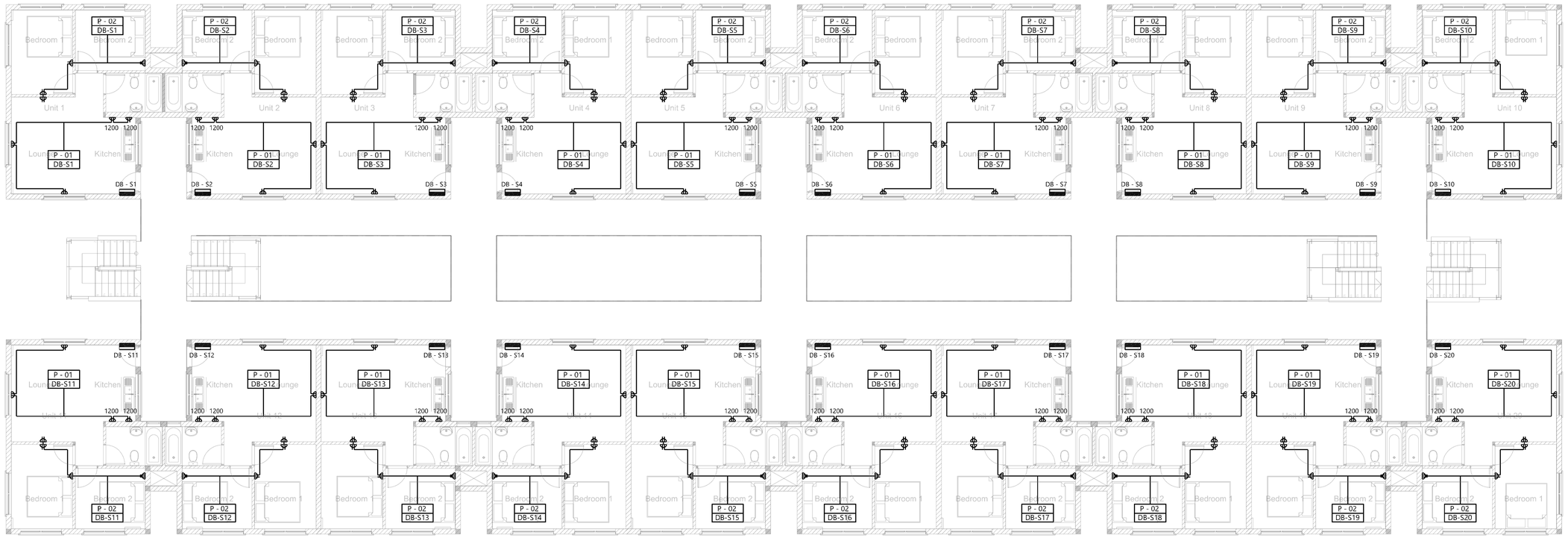
HOSTEL 1 ELECTRICAL INSTALLATION

DRAWING TITLE:

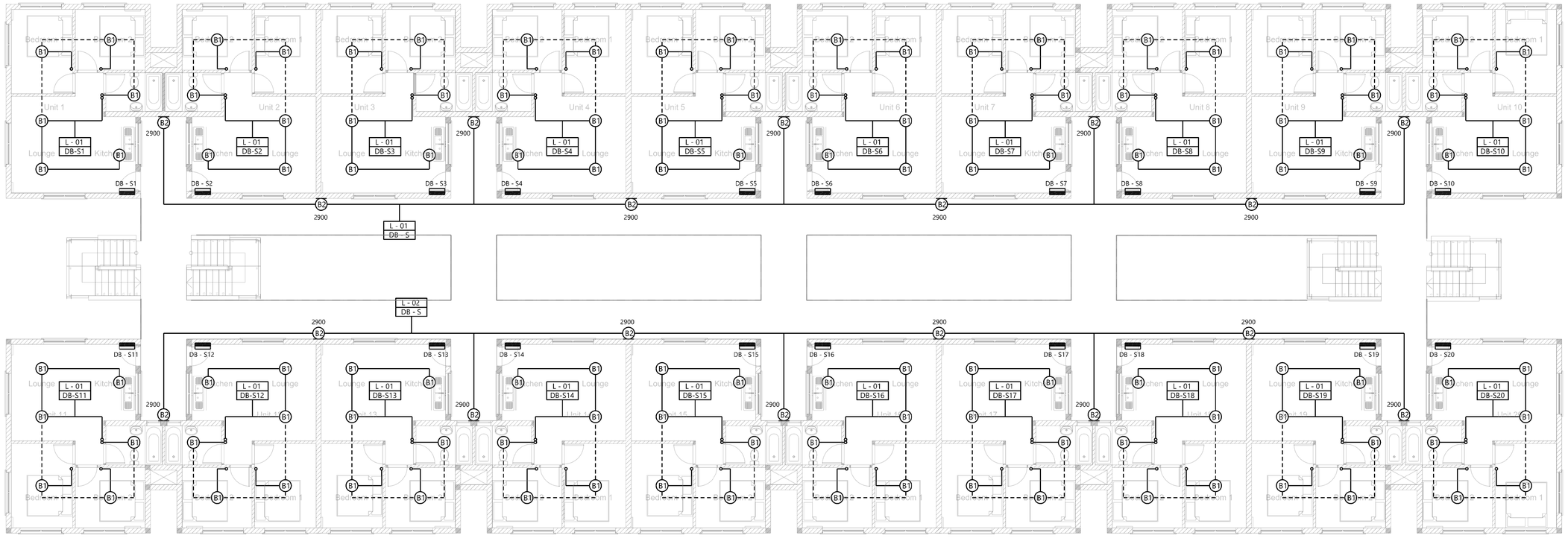
FIRST FLOOR ELECTRICAL LAYOUT

SCALE: 1:100 (A1)	DRAWN: N. PHIRI
DATE: OCT. 2022	DESIGN: N. PHIRI
CHECKED: I. GONESE	APPROVED: I. GONESE
CAD REFERENCE: 102/2022/CRU.dgn	

DRAWING NO.: 102/2022/CRU



SECOND FLOOR - SMALL POWER & LIGHTING LAYOUT



LEGEND:

- ELECTRICAL DISTRIBUTION BOARD
- 16A DOUBLE SWITCHED SOCKET OUTLET, WALL MOUNTED AT 300mm AFFL OR STATED/INDICATED
- SINGLE PHASE ISOLATOR
- B1 TYPE B1 BULKHEAD LIGHT FITTING
- B2 TYPE B2 BULKHEAD LIGHT FITTING

NOTES

NO.	DESCRIPTION

REVISION:

NO.	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:

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www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

SERVICE:

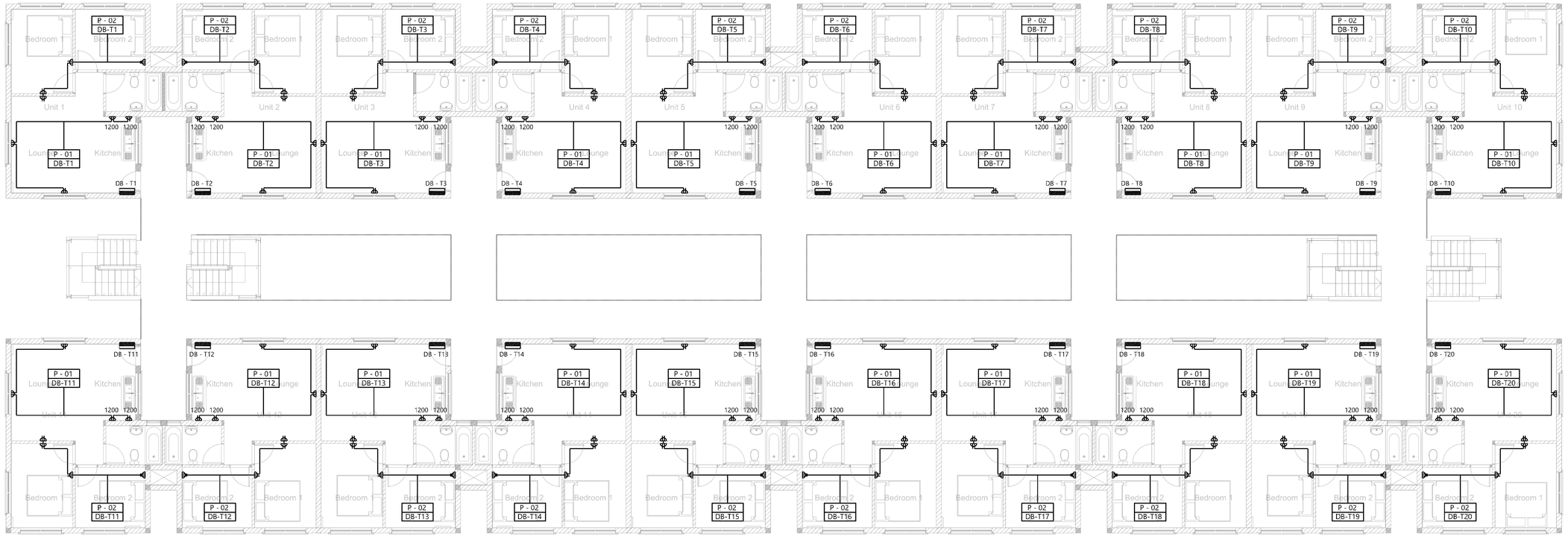
HOSTEL 1 ELECTRICAL INSTALLATION

DRAWING TITLE:

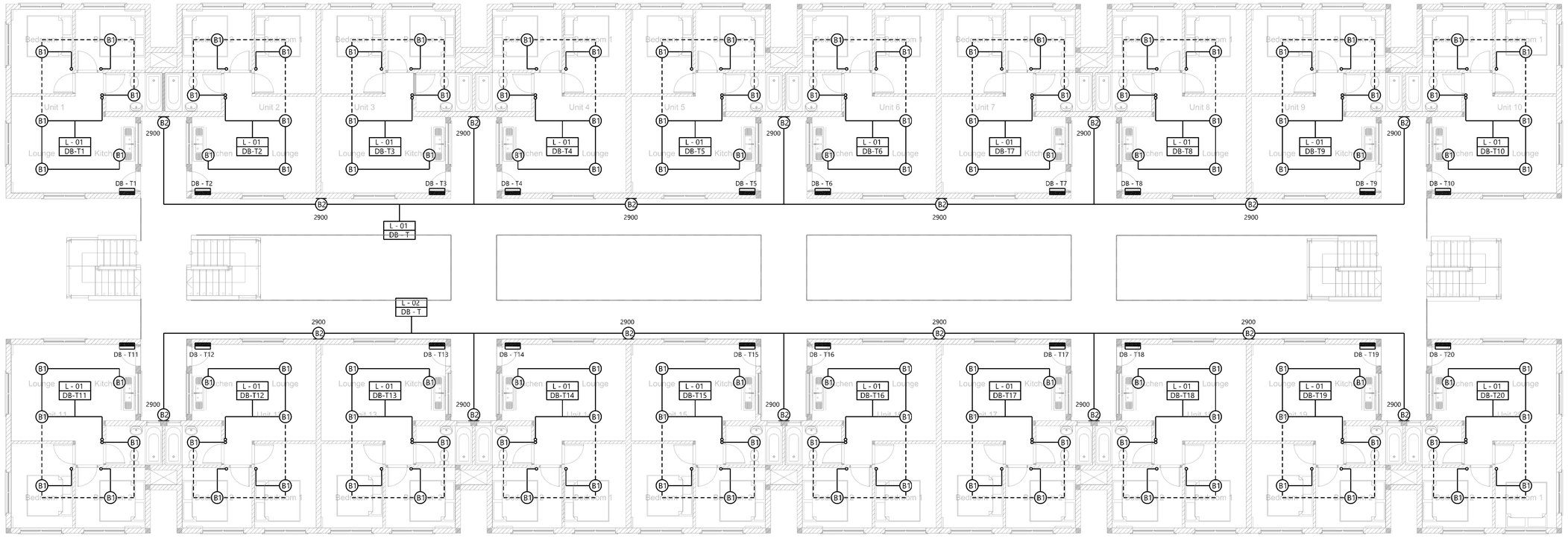
SECOND FLOOR ELECTRICAL LAYOUT

SCALE: 1:100 (A1)	DRAWN: N. PHIRI
DATE: OCT. 2022	DESIGN: N. PHIRI
CHECKED: I. GONESE	APPROVED: I. GONESE
CAD REFERENCE: 103/2022/CRU.dgn	

DRAWING NO.: 103/2022/CRU



THIRD FLOOR - SMALL POWER & LIGHTING LAYOUT



LEGEND:

- ELECTRICAL DISTRIBUTION BOARD
- 16A DOUBLE SWITCHED SOCKET OUTLET, WALL MOUNTED AT 300mm AFFL OR STATED/INDICATED
- SINGLE PHASE ISOLATOR
- B1 TYPE B1 BULKHEAD LIGHT FITTING
- B2 TYPE B2 BULKHEAD LIGHT FITTING

NOTES

NO.	DESCRIPTION

REVISION:

NO.	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:

NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
3201

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E-mail: info@lilibara.co.za
www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

SERVICE:

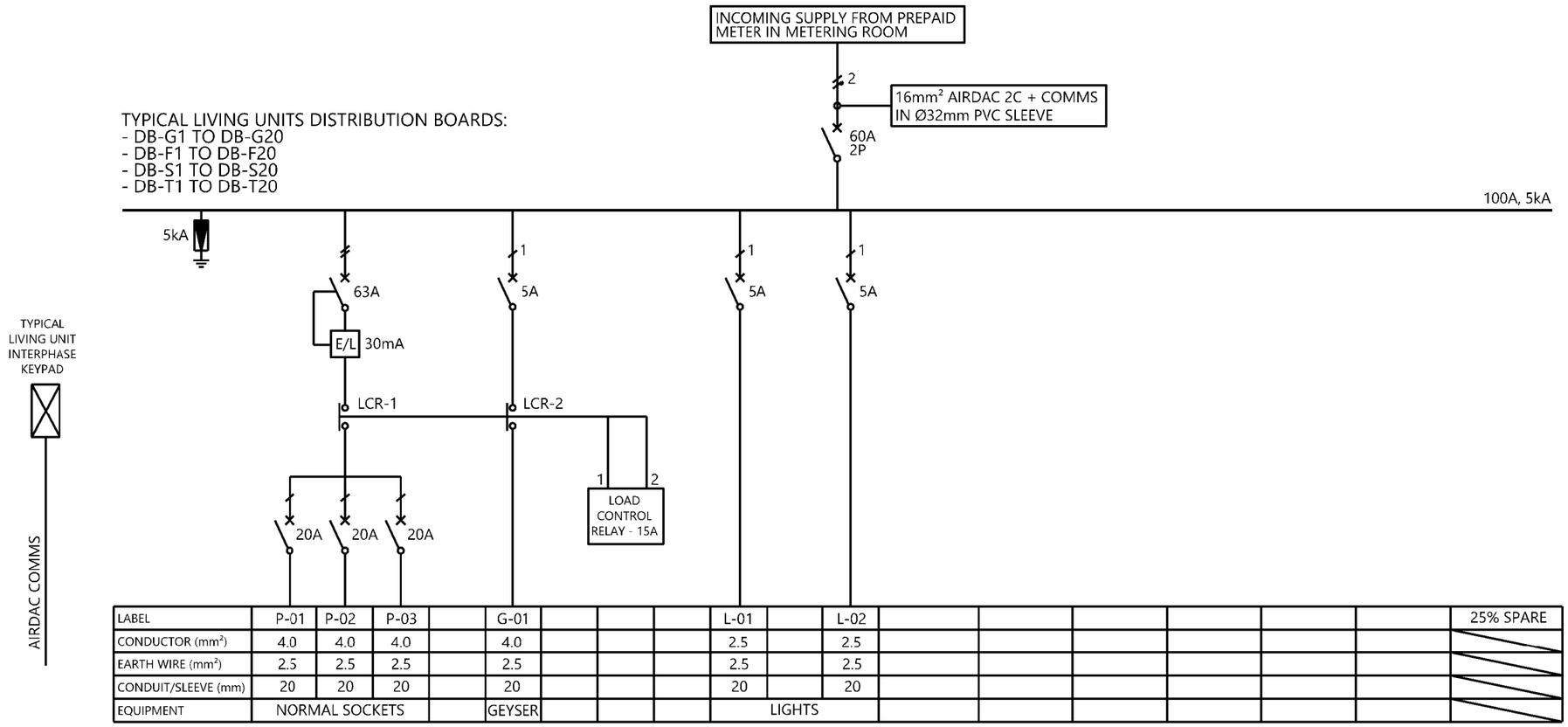
HOSTEL 1 ELECTRICAL INSTALLATION

DRAWING TITLE:

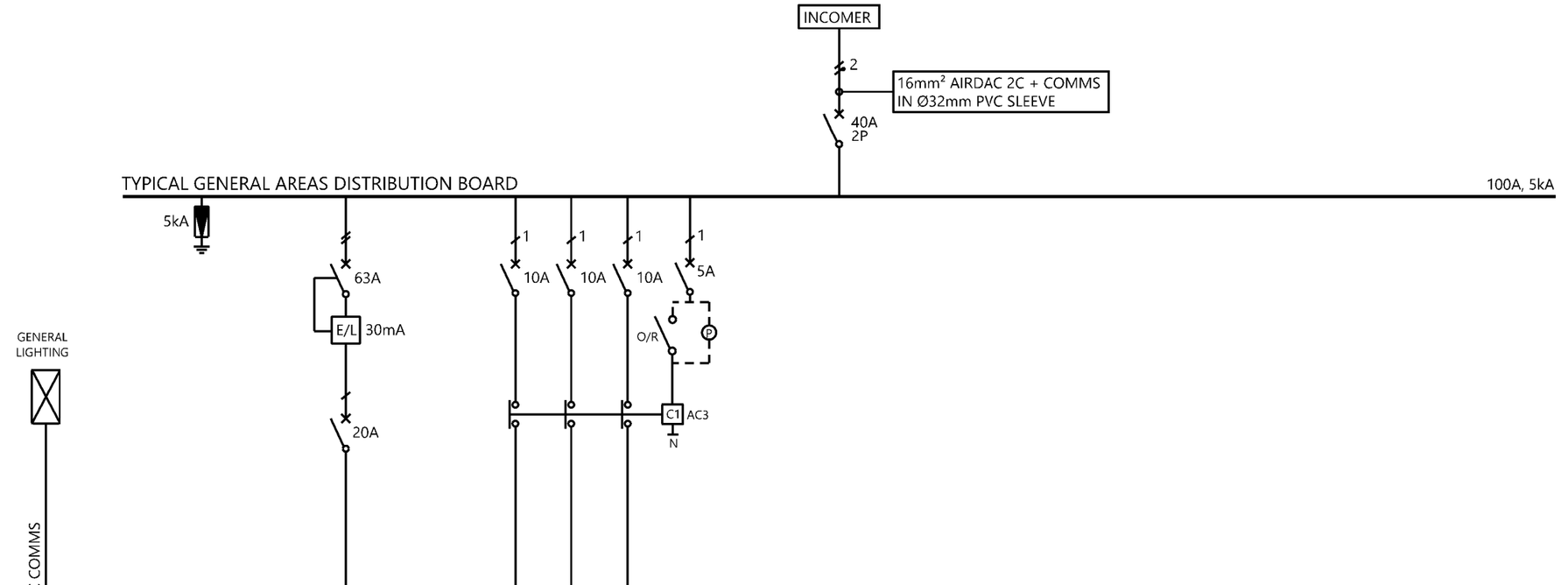
THIRD FLOOR ELECTRICAL LAYOUT

SCALE: 1:100 (A1)	DRAWN: N. PHIRI
DATE: OCT. 2022	DESIGN: N. PHIRI
CHECKED: I. GONESE	APPROVED: I. GONESE
CAD REFERENCE: 104/2022/CRU.dgn	

DRAWING NO.: 104/2022/CRU



LABEL	P-01	P-02	P-03		G-01				L-01		L-02							25% SPARE
CONDUCTOR (mm^2)	4.0	4.0	4.0		4.0				2.5		2.5							
EARTH WIRE (mm^2)	2.5	2.5	2.5		2.5				2.5		2.5							
CONDUIT/SLEEVE (mm)	20	20	20		20				20		20							
EQUIPMENT	NORMAL SOCKETS				GEYSER				LIGHTS									



LABEL		P-01		L-01	L-02	L-03	L-04											25% SPARE
CONDUCTOR (mm^2)		4.0		2.5	2.5	2.5	2.5											
EARTH WIRE (mm^2)		2.5		2.5	2.5	2.5	2.5											
CONDUIT/SLEEVE (mm)		20		20	20	20	20											
EQUIPMENT	NORMAL SOCKETS			GENERAL LIGHTING														

DISTRIBUTION BOARDS - SINGLE LINE DIAGRAMS

LEGEND:

NOTES

NO.	DESCRIPTION

REVISION:

NO.	DESCRIPTION	NAME	DATE

CLIENT:
ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:
NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
3201

CONSULTANT:
NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
3201

PROJECT:
SJ SMITH CRU

SERVICE:
HOSTEL 1 ELECTRICAL INSTALLATION

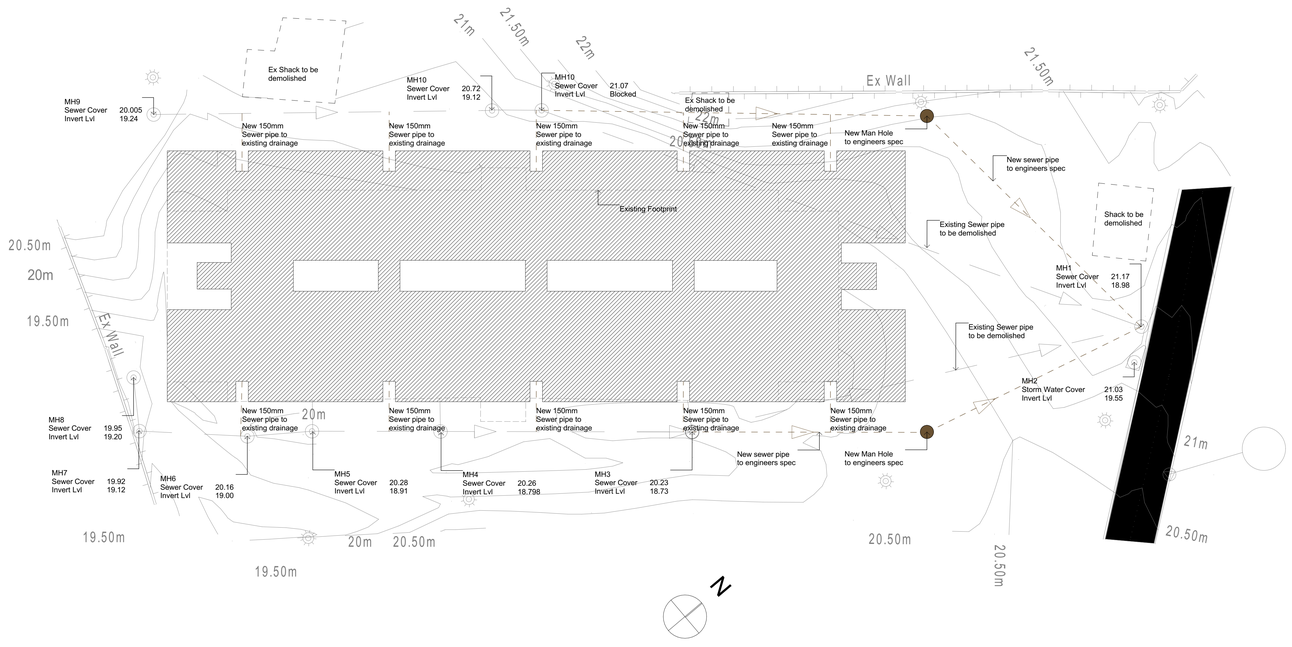
DRAWING TITLE:
SINGLE LINE SCHEMATICS

SCALE: 1:100 (A1)	DRAWN: N. PHIRI
DATE: OCT. 2022	DESIGN: N. PHIRI
CHECKED: I. GONESE	APPROVED: I. GONESE
CAD REFERENCE: 105/2022/CRU.dgn	

DRAWING NO.: 105/2022/CRU

TYPICAL FLOOR PLAN

Scale 1:100



SITE PLAN

Scale 1:200

- ALL WORK TO BE DONE IN ACCORDANCE TO SANS 10400 & TO THE APPROVAL OF LOCAL AUTHORITY
- FIGURED DIMENSIONS TO BE TAKEN IN PREFRENCE TO SCALED DIMENSIONS
- REPORT ANY DISCREPENCIES DIRECTLY TO THE ARCHITECT BEFORE COMMENCING WORK.
- THE DESIGN ON THIS DRAWING IS THE PROPERTY OF THE ARCHITECTS AND COPYRIGHT THEREOF IS RESERVED BY THEM.

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:

NGUNI CONSULTING (PTY) LTD
SUITE 06, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
3201

Architects Signature : SACAP No. :

CONSULTANT DETAIL

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www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

SERVICE:

HOSTEL 1 DRAWINGS

DRAWING TITLE:

TYPICAL PLAN, SECTION AND ELEVATIONS

SCALE:	1:50 ; 1:100 (A0)	DRAWN:	M.MBOTHENI
DATE:	02 NOVEMBER '22	DESIGN:	M.MBOTHENI
CHECKED:		APPROVED:	

DRAWING NUMBER: 110-2022-CRU

STATUS: FOR SUBMISSION

TYPICAL SIDE ELEVATION

Scale 1:100

SECTION B-B

Scale 1:100

TYPICAL SIDE ELEVATION

Scale 1:100

Section A-A

Scale 1:50

- ALL WORK TO BE DONE IN ACCORDANCE TO SANS 10400 & TO THE APPROVAL OF LOCAL AUTHORITY
- FIGURED DIMENSIONS TO BE TAKEN IN PREFRENCE TO SCALED DIMENSIONS
- REPORT ANY DISCREPENCIES DIRECTLY TO THE ARCHITECT BEFORE COMMENCING WORK.
- THE DESIGN ON THIS DRAWING IS THE PROPERTY OF THE ARCHITECTS AND COPYRIGHT THEREOF IS RESERVED BY THEM.

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:

NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
3201

Architects Signature :

SACAP No. :

CONSULTANT DETAIL:

LILIBARA PROJECTS (PTY) LTD
Cambridge Office Park
5 Cambridge Crescent, 12 1st Floor
Highveld Techno Park, Centurion
0169
Tel+ 27 (0) 87 654 0099
Fax+ 27 (0) 11 794 1217
E-mail: info@lilibara.co.za
www.lilibara.com

Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

SERVICE:

HOSTEL 1 DRAWINGS

DRAWING TITLE:

TYPICAL PLAN, SECTION AND ELEVATIONS

SCALE:	1:50 ; 1:100 (A0)	DRAWN:	M.MBOTHENI
DATE:	02 NOVEMBER '22	DESIGN:	M.MBOTHENI
CHECKED:		APPROVED:	

DRAWING NUMBER: 111-2022-CRU

STATUS: FOR SUBMISSION

COORDINATE LIST

WG31

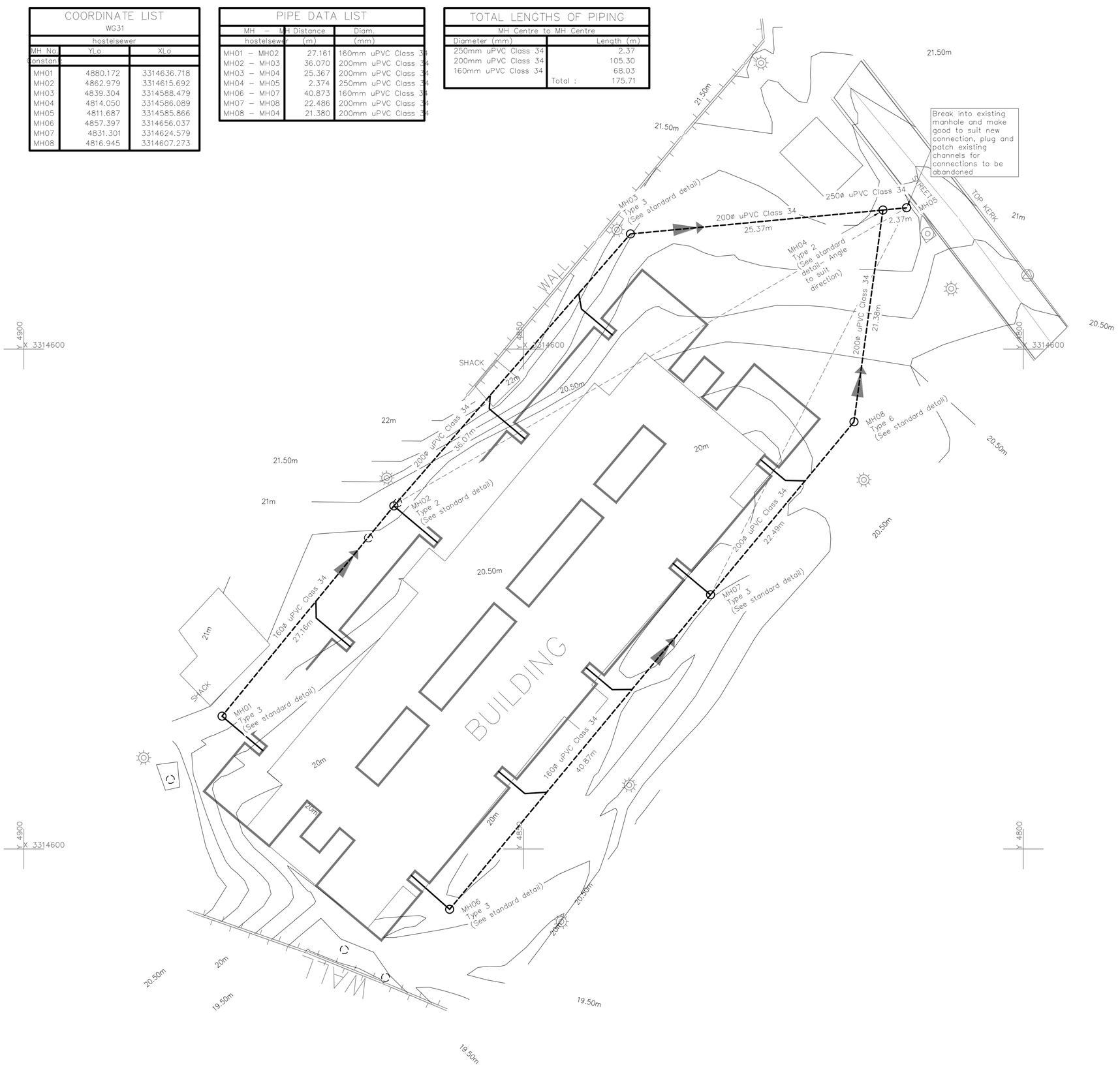
hostelsewer		
MH No.	YLo	XLo
Constants		
MH01	4880.172	3314636.718
MH02	4862.979	3314615.692
MH03	4839.304	3314588.479
MH04	4814.050	3314586.089
MH05	4811.687	3314585.866
MH06	4857.397	3314656.037
MH07	4831.301	3314624.579
MH08	4816.945	3314607.273

PIPE DATA LIST

MH – MH Distance		Diam.
hostelsewer	(m)	(mm)
MH01 – MH02	27.161	160mm uPVC Class 34
MH02 – MH03	36.070	200mm uPVC Class 34
MH03 – MH04	25.367	200mm uPVC Class 34
MH04 – MH05	2.374	250mm uPVC Class 34
MH06 – MH07	40.873	160mm uPVC Class 34
MH07 – MH08	22.486	200mm uPVC Class 34
MH08 – MH04	21.380	200mm uPVC Class 34

TOTAL LENGTHS OF PIPING

MH Centre to MH Centre	
Diameter (mm)	Length (m)
250mm uPVC Class 34	2.37
200mm uPVC Class 34	105.30
160mm uPVC Class 34	68.03
Total :	175.71



STANDARD NOTES

1) General

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1.4. The position and depth of all existing services on the site and **off the site where affected by the works** shall be confirmed prior to any construction work on the installation of water of sewer mains being commenced.
1.5. Only Midvaal staff or a third party authorised by Midvaal shall carry out tie-in connections to existing water and sewer manholes.

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2.1. For standard details refer to separate set of standard drawings**.**
2.2. Protection of fittings and mains;
2.2.1. Steel mains: Copon lined and suitably wrapped per specification.
2.2.2. Steel fittings: Copon coated internally and suitably wrapped per specification.
2.2.3. Galvanised fittings; suitably wrapped per specification.
2.3. All valve and below ground hydrant chambers to be watertight.
2.4. Position of across the road erf connections to be marked by a **W** cut into the kerbstone.
2.5. The contractor shall not operate any water valve or other fittings without the permission of The Local Municipality.
2.6. Cover to water mains;

The depths listed are depths to final ground level **inclusive** of **any landscaping** undertaken on the site.

	Minimum (mm)	Maximum (mm)
Gravel Road	1000	1500
Tarred roads and traffic areas	800	1500
Pedestrian areas and other areas not used by vehicular traffic	600	1500

2.7. All water mains are to be installed at 2 meters from erf boundaries unless otherwise shown on the drawing.
2.8. Any anchor blocks constructed are to properly shuttered and cast against undisturbed ground. Any over excavation is to be filled with mass concrete.

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2. All materials shall comply with the relevant SABS Specification and with Midvaal requirements.
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3.1. Sewers laid at gradients steeper than 1:12 shall be anchored at the joints with properly designed anchor blocks.
3.2. Concrete of strength 15MPa (1:3:6) shall be used for anchor blocks.
4. No trees or shrubs shall be planted within **2 meters** of any sewer main.
5. Sewer manholes are to be spaced a maximum distance of **80 meters**.
6. Tie in new sewer sofit-to-sofit with the existing 900mm diameter outfall sewer.

LEGEND

- PROPOSED SEWER LINE
- EXISTING SEWER LINE
- SEWER PIPE TO BE ABANDONED
- EXISTING SEWER MANHOLE TO BE REMOVED
- PROPOSED SEWER MANHOLE
- CONNECTION TO THE BUILDING

FOR APPROVAL

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

CIVIL ENGINEER:

NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARTIZBURG
3201

Civil Engineer Signature : _____ _____

CONSULTANT DETAIL

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Cambridge Office Park
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Highveld Techno Park, Centurion
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E-mail: info@lilibara.co.za
www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

FOR APPROVAL

SERVICE:

HOSTEL 1 DRAWINGS

DRAWING TITLE:

SEWER LAYOUT

SCALE:	DRAWN:
1:200 (A1)	N. MZIMELA
DATE: 20 OCTOBER '22	DESIGN: N. MZIMELA
CHECKED:	APPROVED:

DRAWING NUMBER: 106/2022/CRU

STATUS: FOR INFORMATION

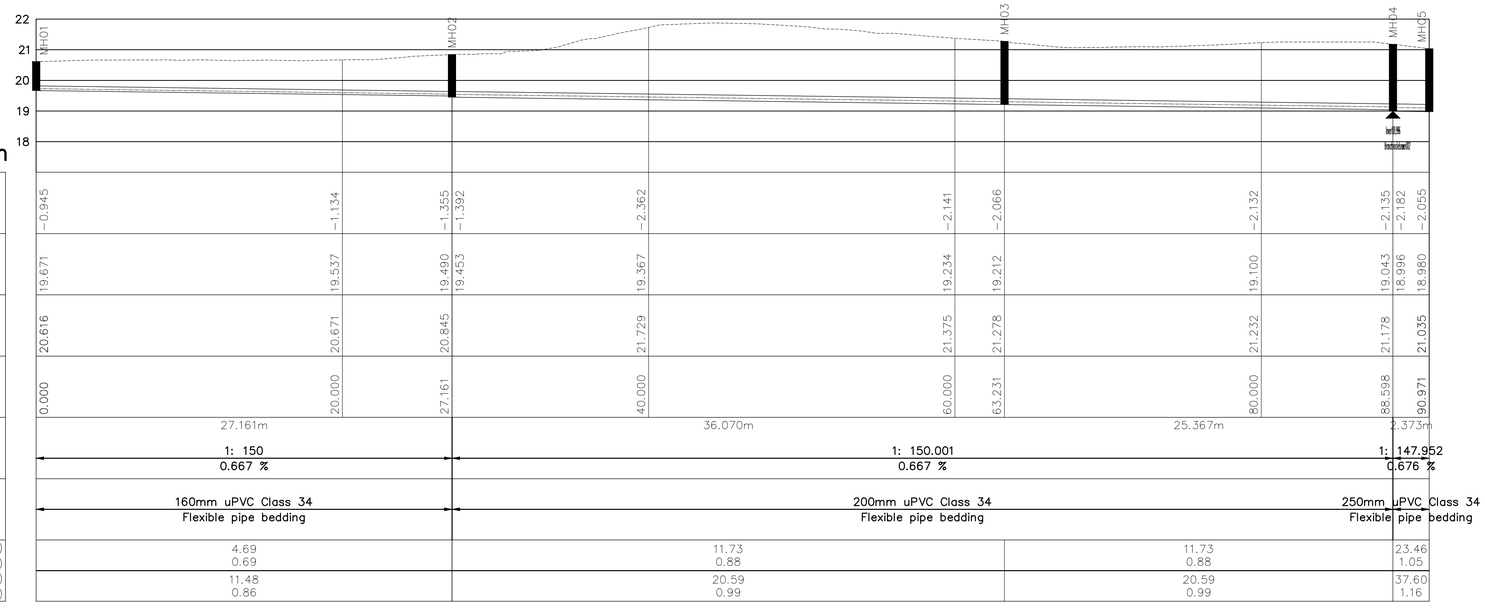
HGL

PIPE

NGL

SCALES:
Horizontal 1:200
Vertical 1:100

Datum : 17m



DEPTH TO INVERTS				
INVERT LEVEL				
GROUND LEVEL				
CHAINAGE (m)				
PIPE GRADES				
PIPE DETAILS				
HYDRAULICS	DESIGN: Q (l/s)	4.69	11.73	11.73 / 23.46
	V (m/s)	0.69	0.88	0.88 / 1.05
	MAX.(0.7D): Q (l/s)	11.48	20.59	20.59 / 37.60
	V (m/s)	0.86	0.99	0.99 / 1.16

MH01 – MH05
Branch: hostelsewer001

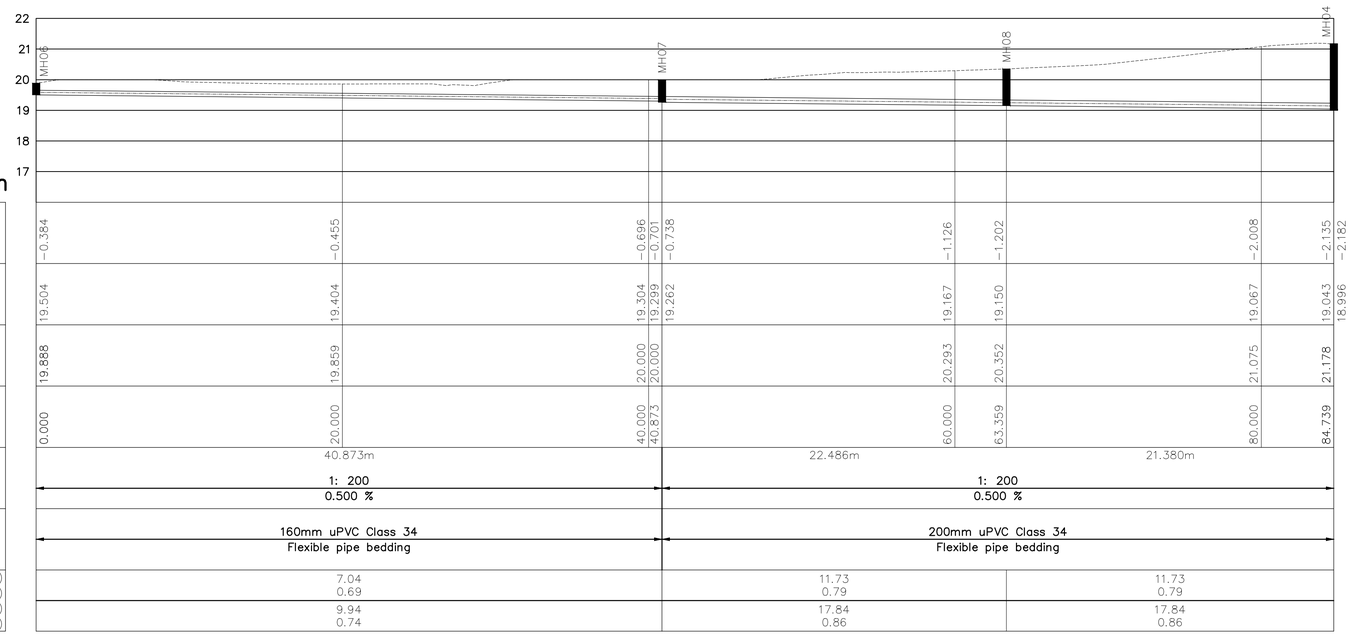
HGL

PIPE

NGL

SCALES:
Horizontal 1:200
Vertical 1:100

Datum : 16m



DEPTH TO INVERTS				
INVERT LEVEL				
GROUND LEVEL				
CHAINAGE (m)				
PIPE GRADES				
PIPE DETAILS				
HYDRAULICS	DESIGN: Q (l/s)	7.04	11.73	11.73
	V (m/s)	0.69	0.79	0.79
	MAX.(0.7D): Q (l/s)	9.94	17.84	17.84
	V (m/s)	0.74	0.86	0.86

MH06 – MH04
Branch: hostelsewer002

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1) General

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4. No trees or shrubs shall be planted within **2 meters** of any sewer main.
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LEGEND

- PROPOSED SEWER LINE
- EXISTING SEWER LINE
- SEWER PIPE TO BE ABANDONED
- EXISTING SEWER MANHOLE TO BE REMOVED
- PROPOSED SEWER MANHOLE
- CONNECTION TO THE BUILDING

FOR APPROVAL

NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

CIVIL ENGINEER:

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SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARTIZBURG
3201

Civil Engineer Signature :

CONSULTANT DETAIL

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www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

FOR APPROVAL

SERVICE:

HOSTEL 1 DRAWINGS

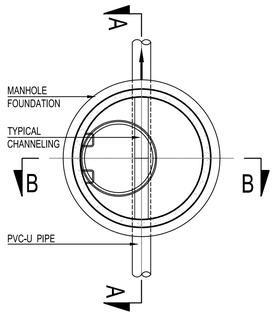
DRAWING TITLE:

SEWER LONG SECTIONS

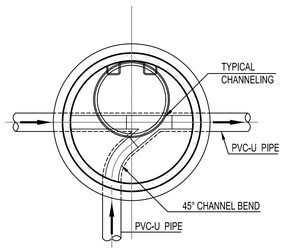
SCALE: 1:200 (A1)	DRAWN: N. MZIMELA
DATE: 20 OCTOBER '22	DESIGN: N. MZIMELA
CHECKED:	APPROVED:

DRAWING NUMBER: 107/2022/CRU

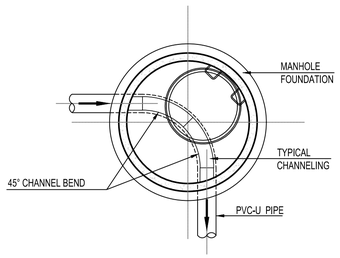
STATUS: FOR INFORMATION



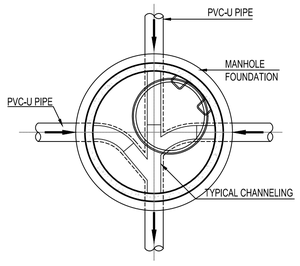
PLAN
TYPICAL TYPE 1 MANHOLE (STRAIGHT)
SCALE 1:25



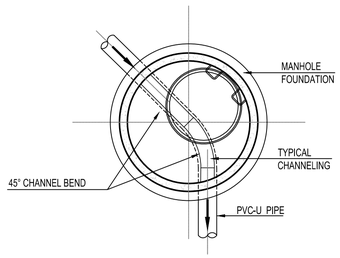
PLAN
TYPICAL TYPE 2 MANHOLE (90° JUNCTION)
SCALE 1:25



PLAN
TYPICAL TYPE 3 MANHOLE (90° BEND)
SCALE 1:25

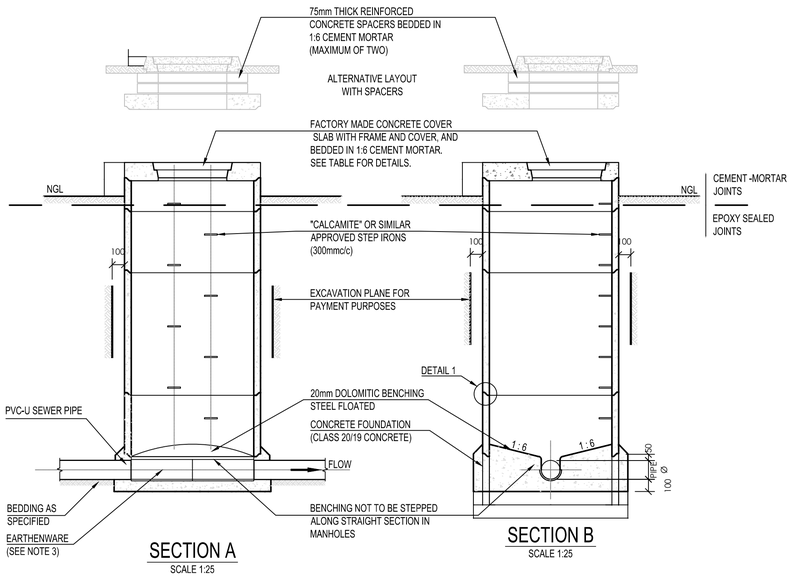


PLAN
TYPICAL TYPE 4 MANHOLE (90° 2 SIDE JUNCTION)
SCALE 1:25



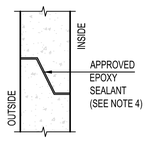
PLAN
TYPICAL TYPE 6 MANHOLE (45° BEND)
SCALE 1:25

TYPICAL MANHOLE LAYOUTS SHOWING POSITIONS OF MANHOLE FRAME, STEPS AND CHANNELING

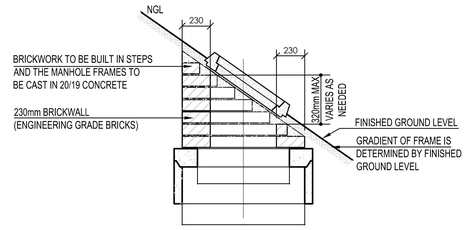


SECTION A
SCALE 1:25

SECTION B
SCALE 1:25

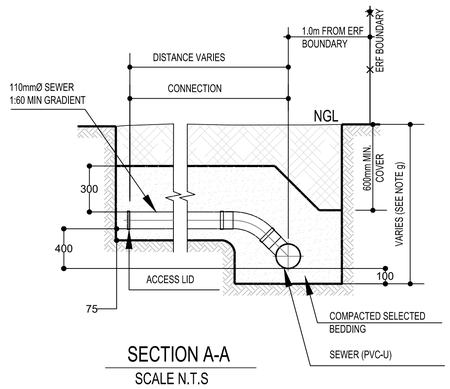


DETAIL 1
NTS

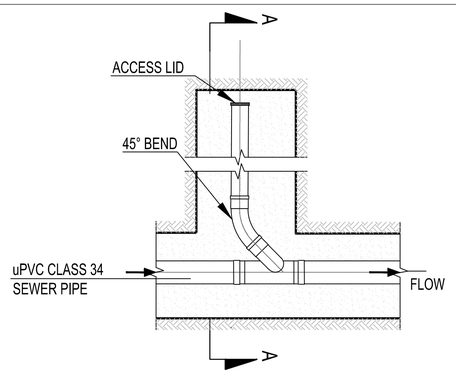


TYPICAL SECTION
BUILT IN MANHOLE FRAME AT FINISHED SLOPED SIDEWALKS
SCALE 1:25
(WITH WRITTEN PERMISSION FROM THE ENGINEER ONLY)

MANHOLE COVERS AND FRAMES (SANS 558)	
POSITION OF MANHOLE	TYPE OF COVER
CARRIAGE WAY	TYPE 2A CAST IRON FRAME AND COVER
STREET RESERVE	TYPE 4 CAST IRON OR CONCRETE FRAME AND CONCRETE COVER
ERVEN	TYPE 4 CAST IRON OR CONCRETE FRAME AND CONCRETE COVER
GENERAL	ONLY TYPE 2A MANHOLE COVERS MAY BE USED FOR SEWERS 300mmØ AND GREATER
NOTE : CI COVERS ARE USED ONLY WITH WRITTEN INSTRUCTION FROM THE ENGINEER.	



SECTION A-A
SCALE N.T.S



DETAIL A - PLAN
HOUSE CONNECTION TYPE A
SCALE: N.T.S

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NOTES:

NO.:	DESCRIPTION

REVISION:

NO.:	DESCRIPTION	NAME	DATE

CLIENT:
ETHEKWINI MUNICIPALITY
METRO HOUSING

CIVIL ENGINEER:

NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARTZBURG
3201

Civil Engineer Signature :

CONSULTANT DETAIL

LILIBARA PROJECTS (PTY) LTD
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5 Sauhina Street, Unit 12 1st Floor
Highveld Techno Park, Centurion
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Tel:+ 27 (0) 87 654 0099
Tel+ 27 (0) 11 784 1217
E-mail: info@lilibara.co.za
www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:
SJ SMITH CRU

FOR APPROVAL

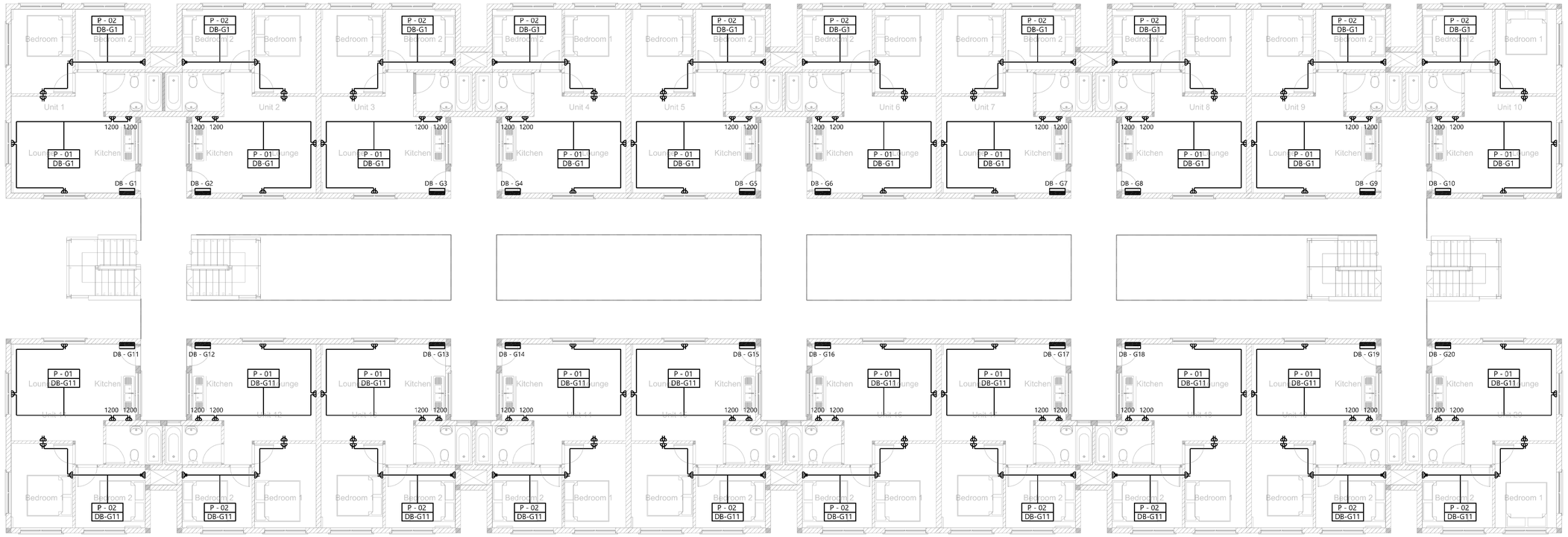
SERVICE:
HOSTEL 1 DRAWINGS

DRAWING TITLE:
STANDARD DETAILS

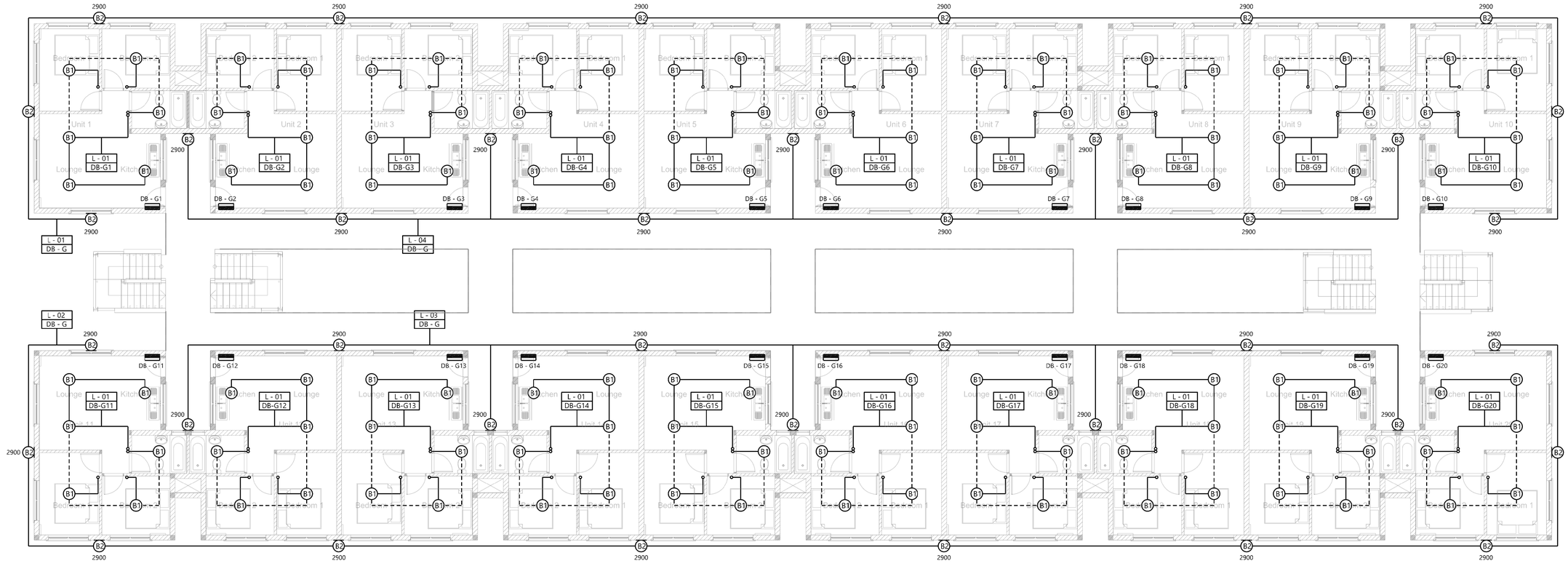
SCALE:	DRAWN:
AS SHOWN	N. MZIMELA
DATE:	DESIGN:
20 OCTOBER '22	N. MZIMELA
CHECKED:	APPROVED:

DRAWING NUMBER:
108/2022/CRU

STATUS:
FOR INFORMATION



GROUND FLOOR - SMALL POWER & LIGHTING LAYOUT



LEGEND:

- ELECTRICAL DISTRIBUTION BOARD
- 16A DOUBLE SWITCHED SOCKET OUTLET, WALL MOUNTED AT 300mm AFFL OR STATED/INDICATED
- SINGLE PHASE ISOLATOR
- B1 TYPE B1 BULKHEAD LIGHT FITTING
- B2 TYPE B2 BULKHEAD LIGHT FITTING

NOTES

NO.	DESCRIPTION

REVISION:

NO.	DESCRIPTION	NAME	DATE

CLIENT:

ETHEKWINI MUNICIPALITY
METRO HOUSING

ARCHITECT:

NGUNI CONSULTING (PTY) LTD
SUITE 08, HOMELINK HOUSE
103 ROBERTS ROAD, PIETERMARITZBURG
3201

CONSULTANT DETAIL

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E-mail: info@lilibara.co.za
www.lilibara.com
Civil Engineering Consultants & Project Managers

PROJECT:

SJ SMITH CRU

SERVICE:

HOSTEL 1 ELECTRICAL INSTALLATION

DRAWING TITLE:

GROUND FLOOR ELECTRICAL LAYOUT

SCALE: 1:100 (A1)	DRAWN: N. PHIRI
DATE: OCT. 2022	DESIGN: N. PHIRI
CHECKED: I. GONESE	APPROVED: I. GONESE

CAD REFERENCE: 101/2022/CRU.dgn

DRAWING NO.: 101/2022/CRU