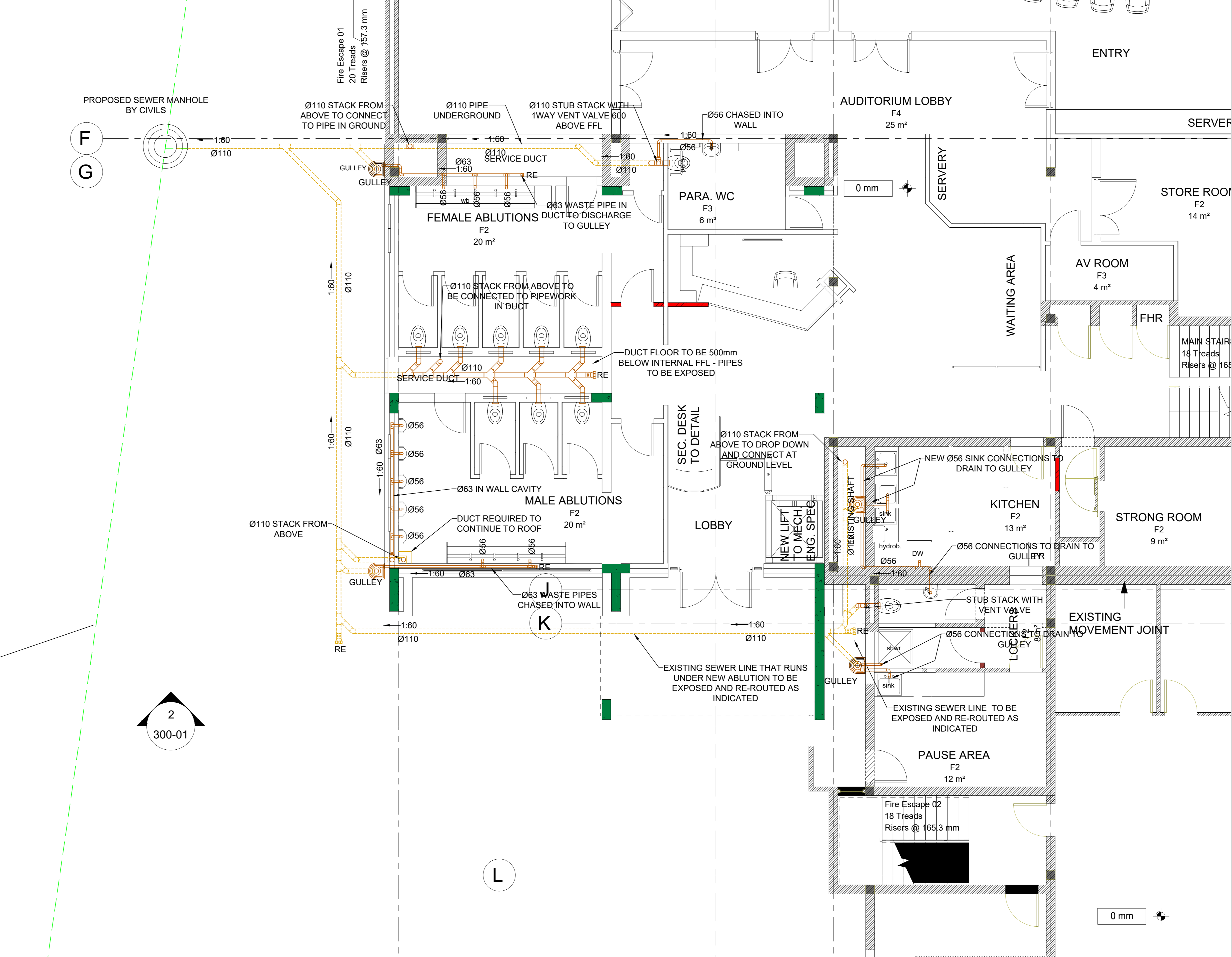


1 SITE LAYOUT
1 : 200



2 NEW ABLUTION LAYOUT
1 : 50

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FOR TENDER

NO.	DATE	DESCRIPTION	REV BY:
A	14/04/2020	LAYOUTS REVISED TO NEW ARCHITECTURAL LAYOUTS RECEIVED	LM

- NOTES:**
- 1. Ø110 PIPE TO BELOW WITH Ø10 SLEEVE
 - 2. Ø63 PIPE TO BELOW WITH Ø63 SLEEVE
 - 3. SHOWER DRAIN IN SLAB TO BELOW WITH Ø56 PIPE
 - 4. RPOF STAINLESS STEEL FLOOR DRAIN WITH SIDE OUTLET, NO DRAIN HINGED
 - 5. RPOF STAINLESS STEEL FLOOR DRAIN NO DRAIN HINGED
 - 6. RPOF STAINLESS STEEL FLOOR DRAIN NO DRAIN HINGED
- DRAINAGE PIPE LEGEND:**
- UNDERGROUND DRAINAGE
 - - - IN EXPOSED BELOW SLAB
 - ABOVE SLAB OVERHEAD
 - ALLOWANCE (CEILING FLOOR FINISH)

- PIPES & FITTINGS TO BE HDPE**
- DRAINAGE NOTES:**
1. ALL WORK TO BE LAPPED OUT IN STREET AND THE EXACT SITUATION NOTED.
 2. USE DRINKING WATER QUALITY ONLY.
 3. ALL JOINTS TO BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 4. ADEQUATE ACCESS TO BE PROVIDED FOR INSPECTION, TESTING AND MAINTENANCE.
 5. LANCE RINGS TO BE AT THE BASE OF STACK OR DOWNPIPE, A MINIMUM OF 100mm TO BE MAINTAINED AT ALL TIMES.
 6. DEEP SEAL TRAPS TO BE USED THROUGHOUT.
 7. MINIMUM FALL FOR Ø110 DRAINS 1:80 FALL FOR Ø63 DRAINS.
 8. EXISTING PIPE TO BE PRESERVED OVER EXISTING ALL NEW PIPES TO DISCONNECT TO ANTI-SIPHONAGE.
 9. ROOMS ONE OR SERVICES AT CORNERS OF CORNERS.
 10. ACCESS TO DRAIN EVERY 25m.
 11. ALL NEW PIPES TO BE INSTALLED TO INCREASE THE MINIMUM FALL TO A MINIMUM OF 100mm TO DRAIN PIPES AT 1:80 FALL TO SLAB.
 12. NO DRY WIRE TO BE INSTALLED.
 13. ALL NEW PIPES TO BE INSTALLED WITH A VERTICAL DROP OF MORE THAN 300mm WILL BE INSTALLED WITH A VERTICAL DROP.
 14. ACCESS TO BE PROVIDED AT ALL PLUMBING FIXTURES.
 15. ALL ACCESS TO UNDERGROUND DRAINAGE PIPES WILL BE PROVIDED WITH A VERTICAL DROP OF MORE THAN 300mm TO BE INSTALLED WITH A VERTICAL DROP.
 16. UNDERGROUND DRAINAGE PIPES TO BE SUPPORTED THROUGHOUT WITH SCHEDULED USE THROUGHOUT.
 17. DRAINAGE SYSTEM TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 18. ALL DRAINAGE PIPES TO BE INSTALLED WITH A VERTICAL DROP OF MORE THAN 300mm TO BE INSTALLED WITH A VERTICAL DROP.
 19. ALL DRAINAGE PIPES TO BE INSTALLED WITH A VERTICAL DROP OF MORE THAN 300mm TO BE INSTALLED WITH A VERTICAL DROP.
 20. ALL DRAINAGE PIPES TO BE INSTALLED WITH A VERTICAL DROP OF MORE THAN 300mm TO BE INSTALLED WITH A VERTICAL DROP.
 21. AT ALL EXPANSION JOINTS, PIPING TO HAVE LONG EXPANSION COLLARS.
 22. PIPE JOINTS TO BE MADE WITH JOINTS TO BE ENDED WITH COLLARS.
 23. A SLEEVE TO BE USED OVER THE JOINTS TO BE ENDED WITH COLLARS.
 24. JOINTS TO BE MADE WITH JOINTS TO BE ENDED WITH COLLARS.
 25. CONCRETE DRAIN PIPES TO BE INSTALLED WITH COLLARS.
 26. NO OVERLAP TO BE MADE AT JOINTS TO BE ENDED WITH COLLARS.
 27. OVERLAP TO BE MADE AT JOINTS TO BE ENDED WITH COLLARS.

LEGEND

T/B - TO BELOW
T/A - TO ABOVE
F/B - FROM BELOW
F/A - FROM ABOVE
W/L - HIGH LEVEL IN CEILING / SOFFIT

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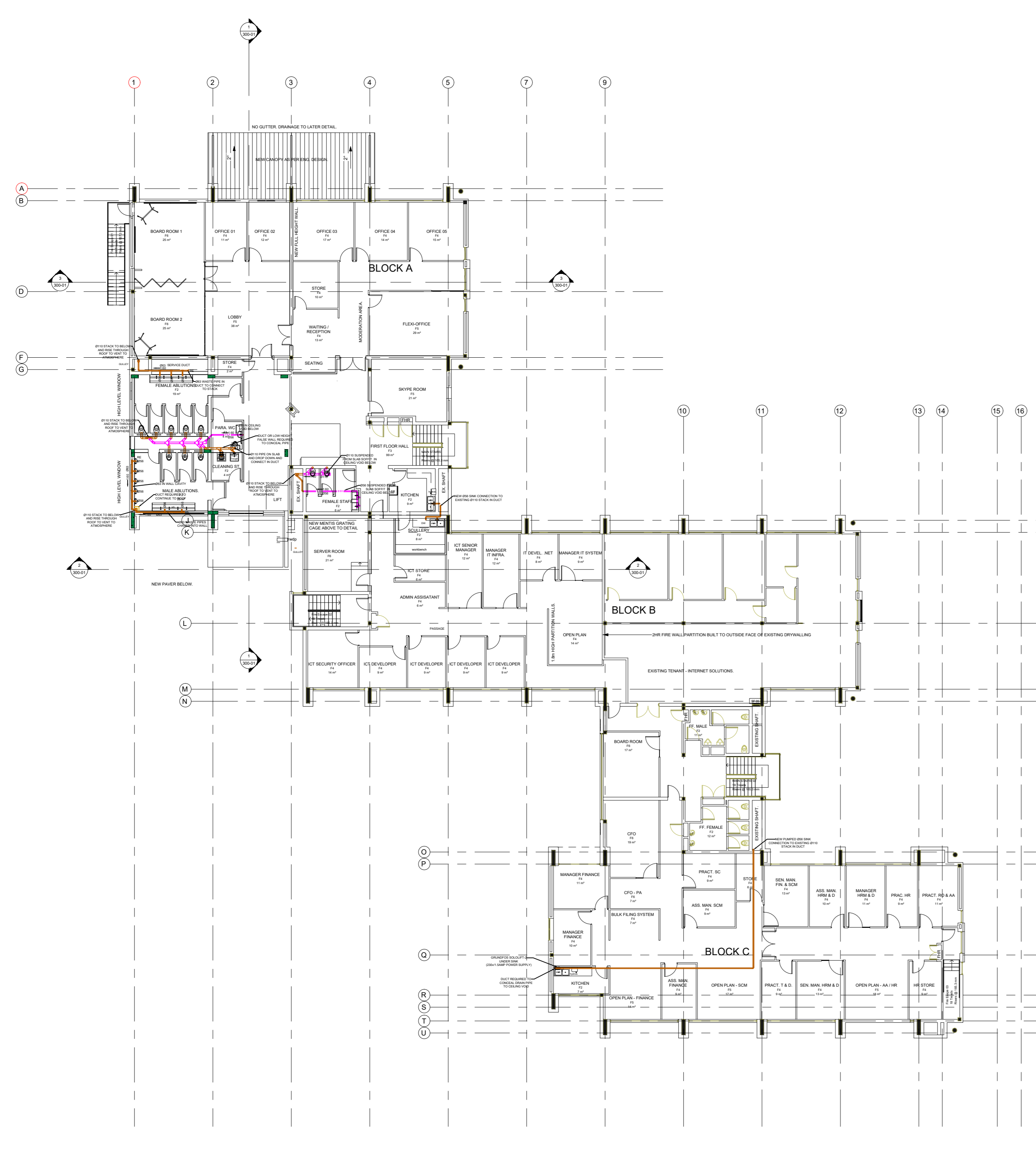
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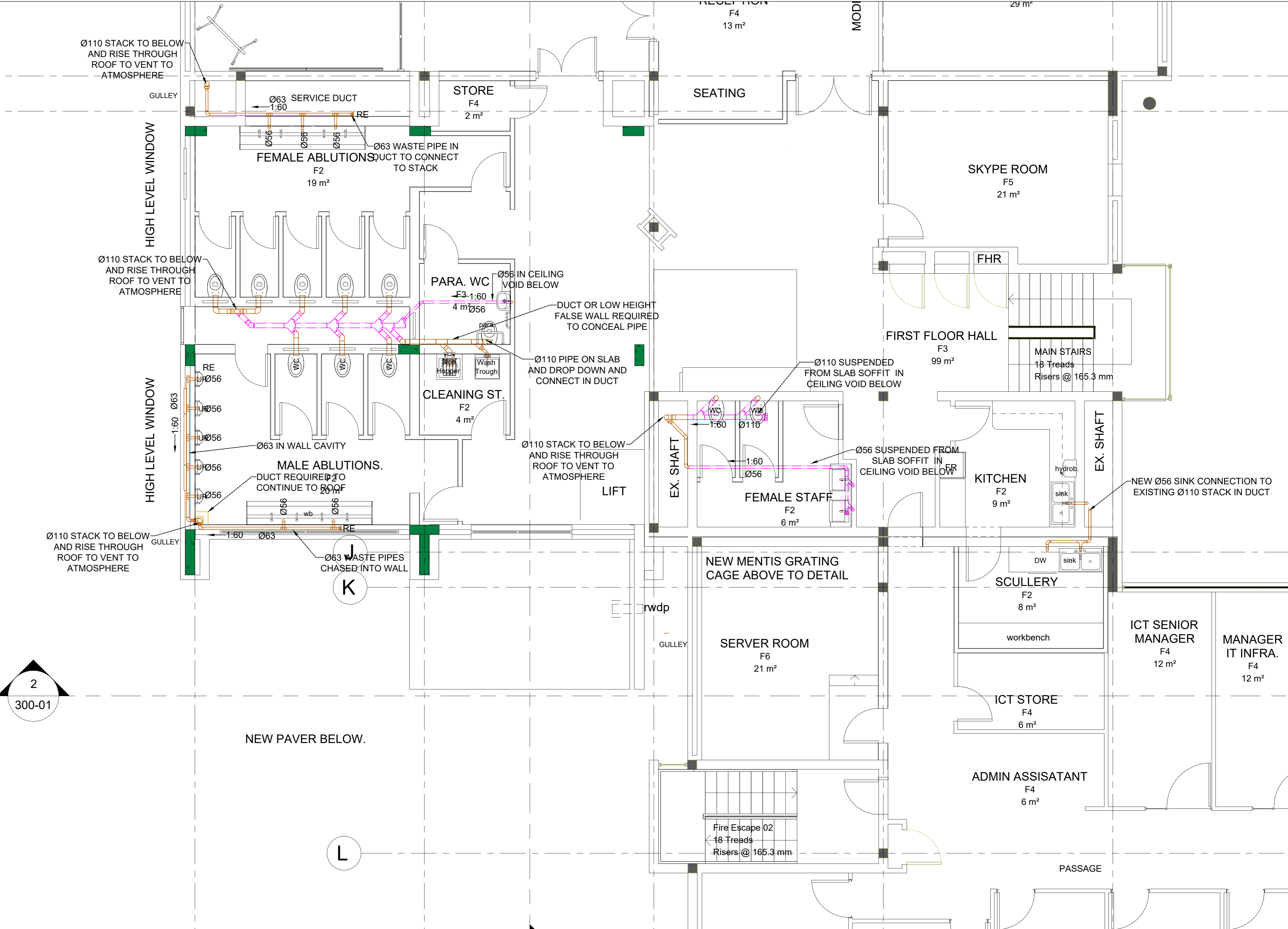
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UMALUSI OFFICES ADDITIONS AND ALTERATIONS
37 GENL VAN REYNELD ST, BRUMMERIA, PRETORIA, 00220.

DRAWING TITLE:
GROUND FLOOR DRAINAGE LAYOUT

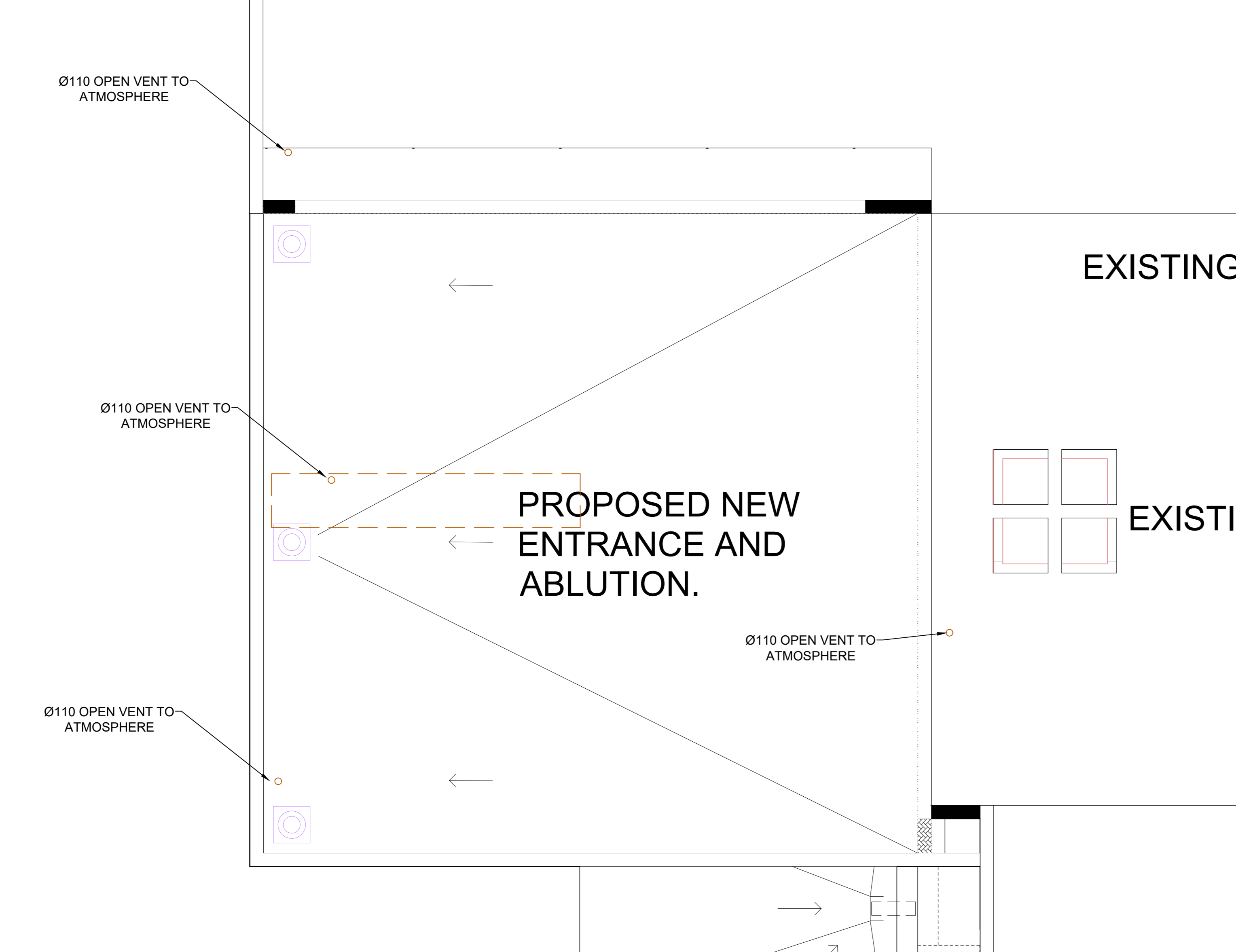
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Product No:	LSG-GP-19-002	Revision:	T00
Drawings No:	D-4000		



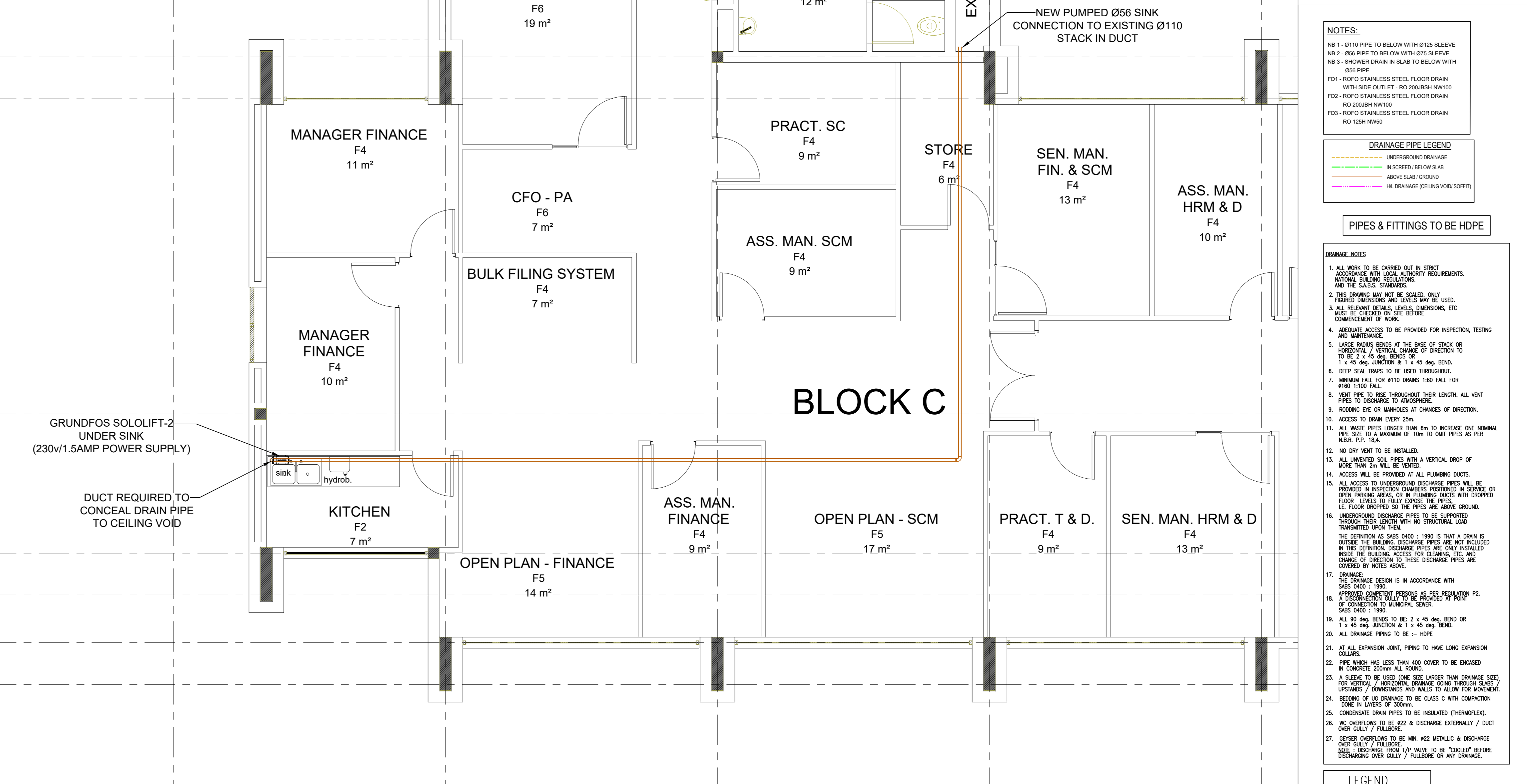
1 SITE LAYOUT
1 : 200



2 NEW ABLUTION LAYOUT
1 : 50



3 PART PLAN NEW ABLUTION ROOF
1 : 50



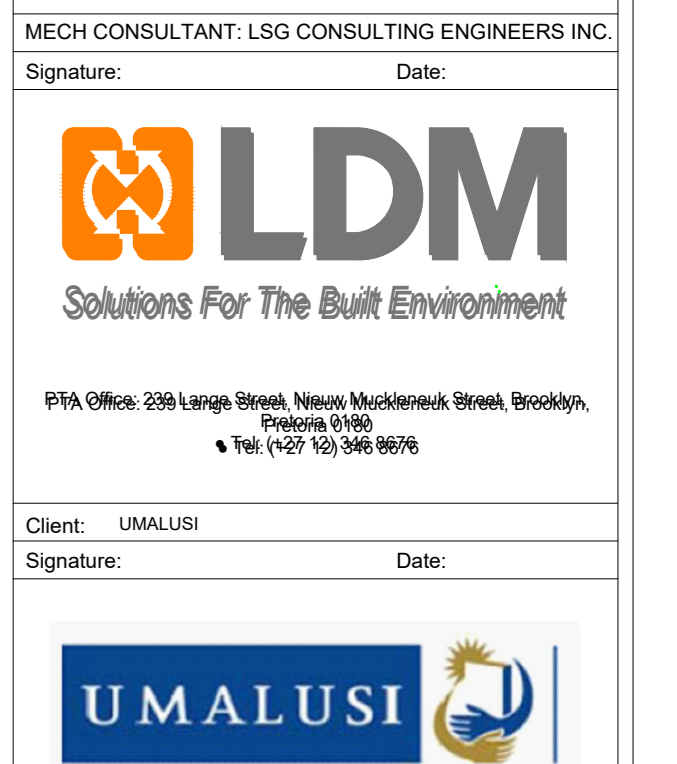
4 PART PLAN NEW KITCHEN
1 : 50

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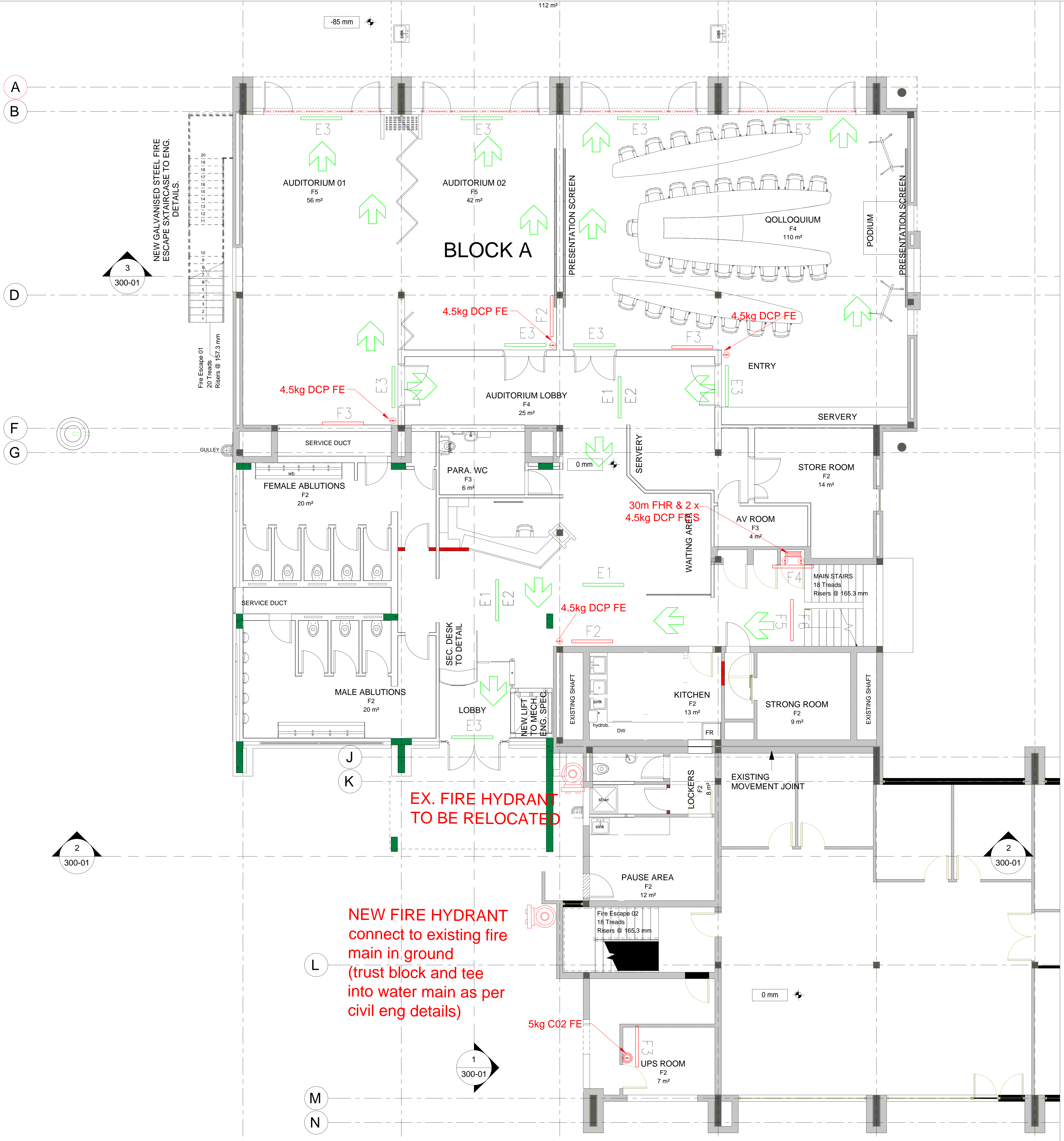
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PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS:
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Page Size:	A0	Scale:	AS SHOWN
Drawn:	LM	Checked:	GG
Project No.:	LSG-GP-19-002	Date:	13/11/2019
Revision:		Revision:	
Drawing No.:	D-4001	Drawing No.:	T00

- NOTES:**
- NO 1 - Ø110 PPR TO BELOW WITH 4000 BLEND
 - NO 2 - Ø83 PPR TO BELOW WITH 4000 BLEND
 - NO 3 - SHOWER DRAIN IN SLAB TO BELOW WITH 4000 BLEND
 - FD01 - 8000 STAINLESS STEEL FLOOR DRAIN WITH 5000 OUTLET, NO 300MM HANDBO
 - FD02 - 8000 STAINLESS STEEL FLOOR DRAIN NO 200MM HANDBO
 - FD03 - 8000 STAINLESS STEEL FLOOR DRAIN NO 1200 HANDBO
- DRAINAGE PIPE LEGEND**
- UNDERGROUND DRAINAGE
 - IN SLAB DRAINAGE
 - ABOVE SLAB DRAINAGE
 - HL DRAINAGE (CEILING VOID SOFFIT)
- PIPES & FITTINGS TO BE HDPE**
- DRAINAGE NOTES:**
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FIRE ESCAPE SIGNAGE LEGEND

	E1	01
	E2	00
	E3	09
	E4	00
	E5	00
	E6	03
	E7	03
	E8	00
	E9	03
	E10	00
	E11	00
	E1/E2	02
	E1/E2	00
	E45	00

NOTES
ALL SIGNS IN ENCLOSED AREAS TO BE 190X190mm PHOTOLUMINESCENT SIGNS.
ALL SIGNS IN EXTERNAL AREAS TO BE 290X290mm PHOTOLUMINESCENT SIGNS.
ALL ILLUMINATED SIGNS TO HAVE 2HR BATTERY.

FIRE EQUIPMENT SIGNAGE LEGEND

	F1	00
	F2	02
	F3	03
	F4	01
	F5	00
	F6	00
	F7	00
	F8	00
	F9	00
	F10	00
	F11	00
	F12	00
	F13	00
	F14	00
	F15	00
	F16	01
	F17	00
	F18	00
	F22	00
	F23	00

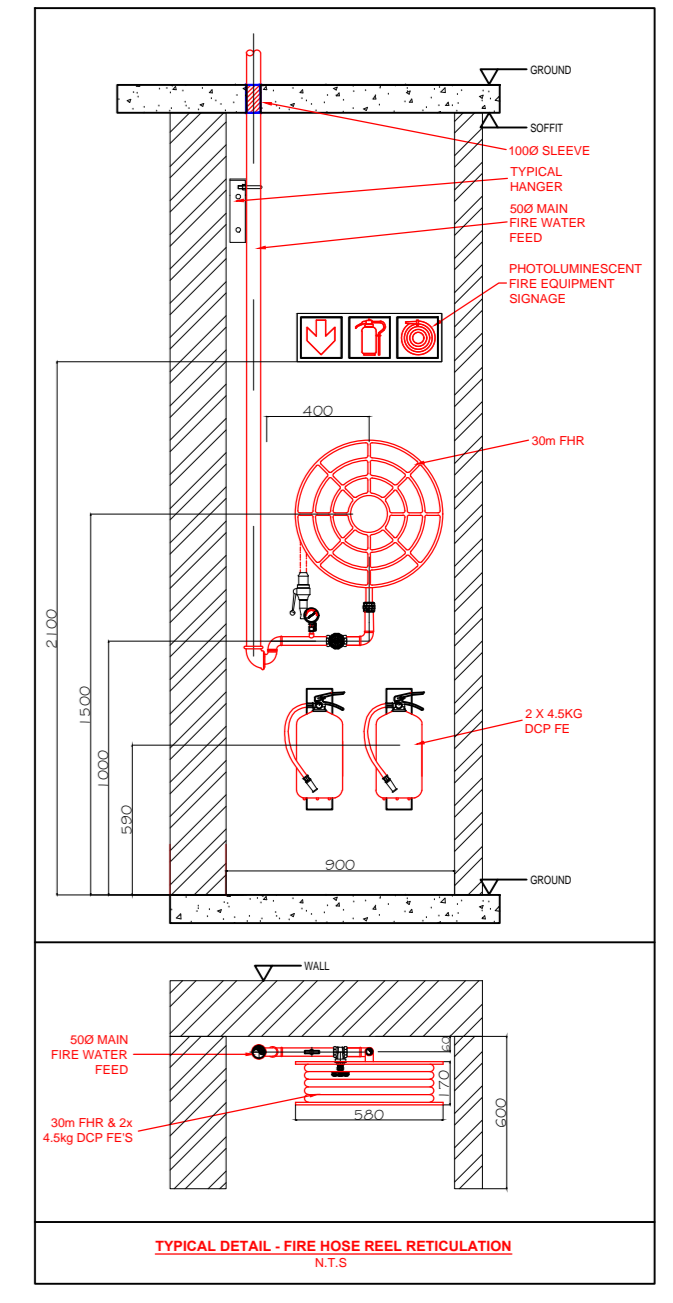
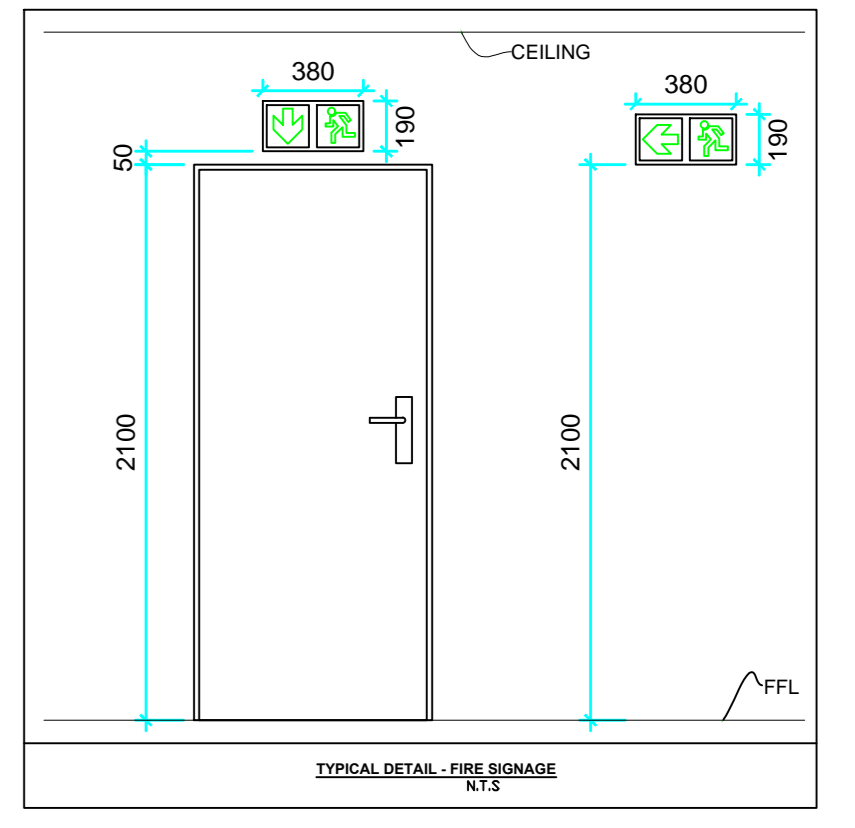
NOTES
ALL SIGNS IN ENCLOSED AREAS TO BE 190X190mm PHOTOLUMINESCENT SIGNS.
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EQUIPMENT LEGEND

02		FIRE HYDRANT
01		FIRE HOSE REEL
06		FIRE EXTINGUISHER - 4.5 KG DCP
01		FIRE EXTINGUISHER - 5 KG CO2
00	TOTAL EQUIPMENT GROUND FLOOR	

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Client: UMALUSI
Signature: _____ Date: _____

PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS:
37 GENL. VAN REYNVELD ST. BRUMMERIA, PRETORIA, 0020.

DRAWING TITLE:
GROUND FLOOR FIRE SIGNAGE AND PROTECTION LAYOUT

Building Classification: G1
Climate Zone: Zone 2
Paper Size: A0
Scale: AS SHOWN
Drawn: LM
Checked: GG
Date: 13/11/2019
PROJECT No: LSG-GP-19-002
DRAWING No: F-5000

REVISION: T00



FIRE ESCAPE SIGNAGE LEGEND

	E1	01
	E2	00
	E3	07
	E4	00
	E5	00
	E6	03
	E7	03
	E8	00
	E9	03
	E10	00
	E11	00
	E1/E2	03
	E1/E2	00
	E45	00

NOTES

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 ALL SIGNS IN EXTERNAL AREAS TO BE 290X290mm PHOTOLUMINESCENT SIGNS.
 ALL ILLUMINATED SIGNS TO HAVE 2HR BATTERY.

FIRE EQUIPMENT SIGNAGE LEGEND

	F1	00
	F2	01
	F3	03
	F4	04
	F5	00
	F6	00
	F7	00
	F8	00
	F9	00
	F10	00
	F11	00
	F12	00
	F13	00
	F14	00
	F15	00
	F5/F6	02
	F22/F23	00
	F16	00
	F17	00
	F18	00

NOTES

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EQUIPMENT LEGEND

00		FIRE HYDRANT
04		FIRE HOSE REEL
09		FIRE EXTINGUISHER - 4.5 KG DCP
01		FIRE EXTINGUISHER - 5 KG CO2
00	TOTAL EQUIPMENT GROUND FLOOR	

GENERAL NOTES:

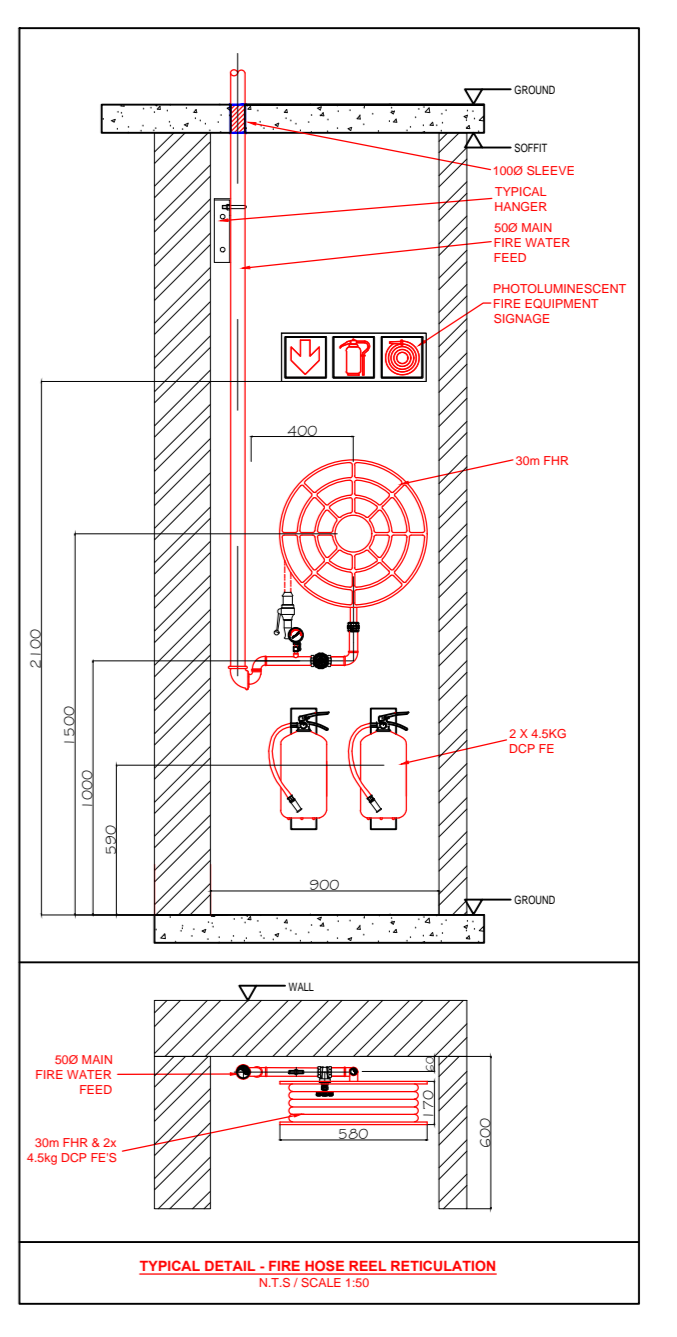
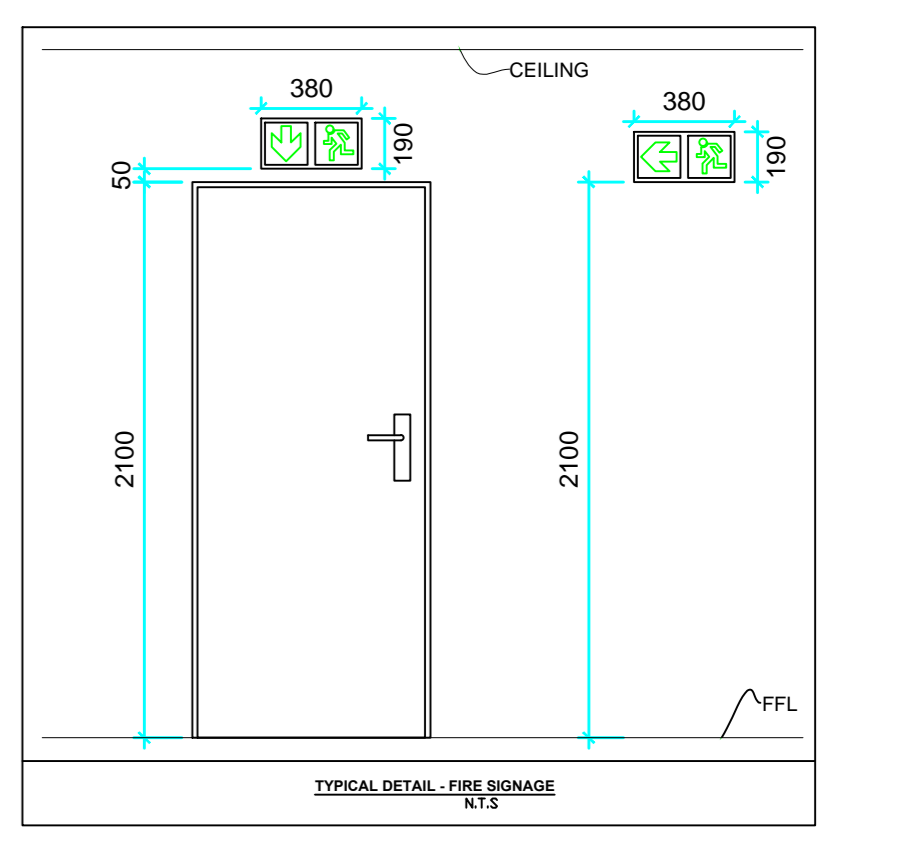
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PROJECT: UMALUSI OFFICES ADDITIONS AND ALTERATIONS
 ADDRESS: 37 GENL. VAN REYNEVELD ST. BRUMMERIA, PRETORIA, 0020.

DRAWING TITLE: FIRST FLOOR FIRE SIGNAGE AND PROTECTION LAYOUT

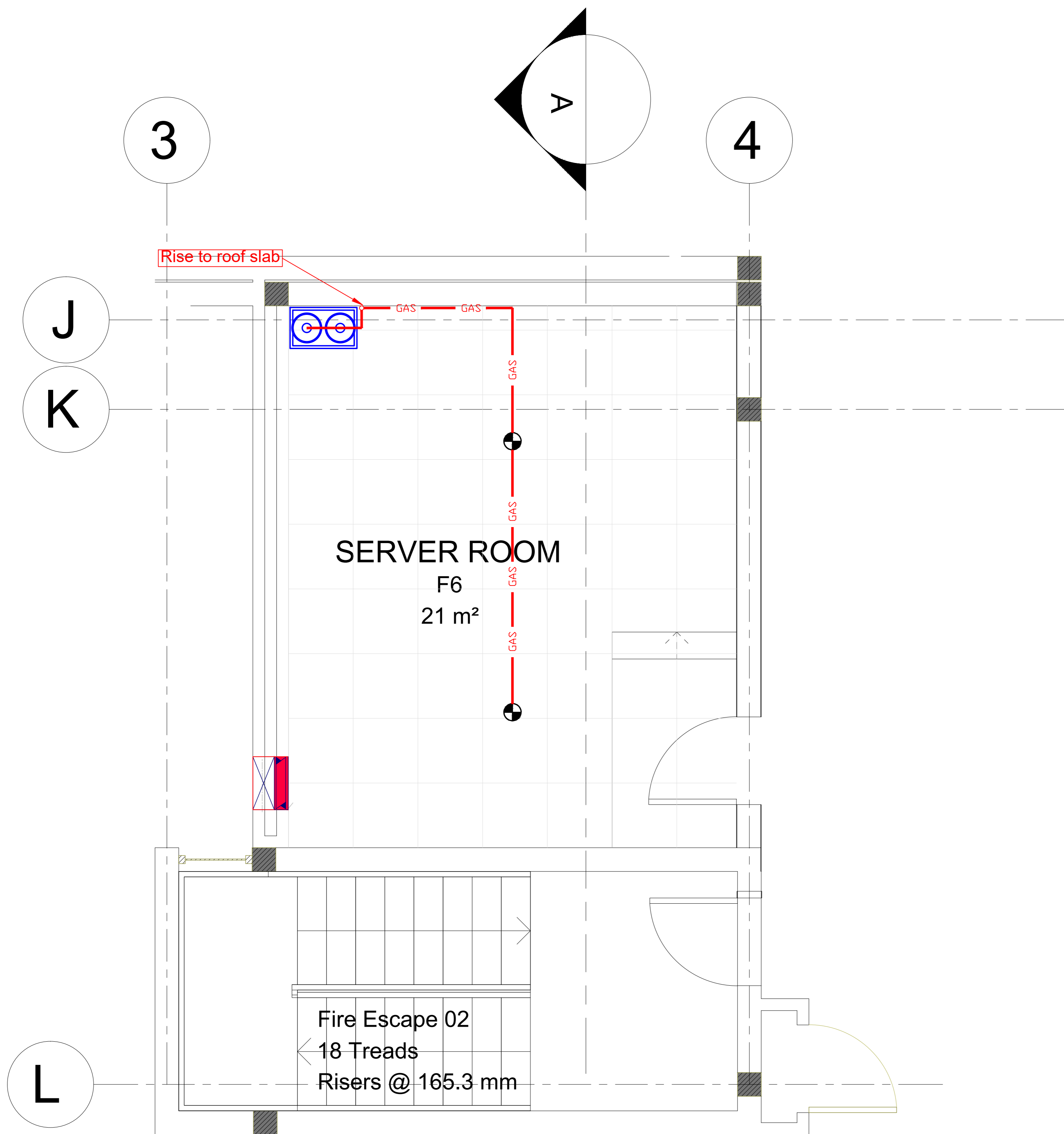
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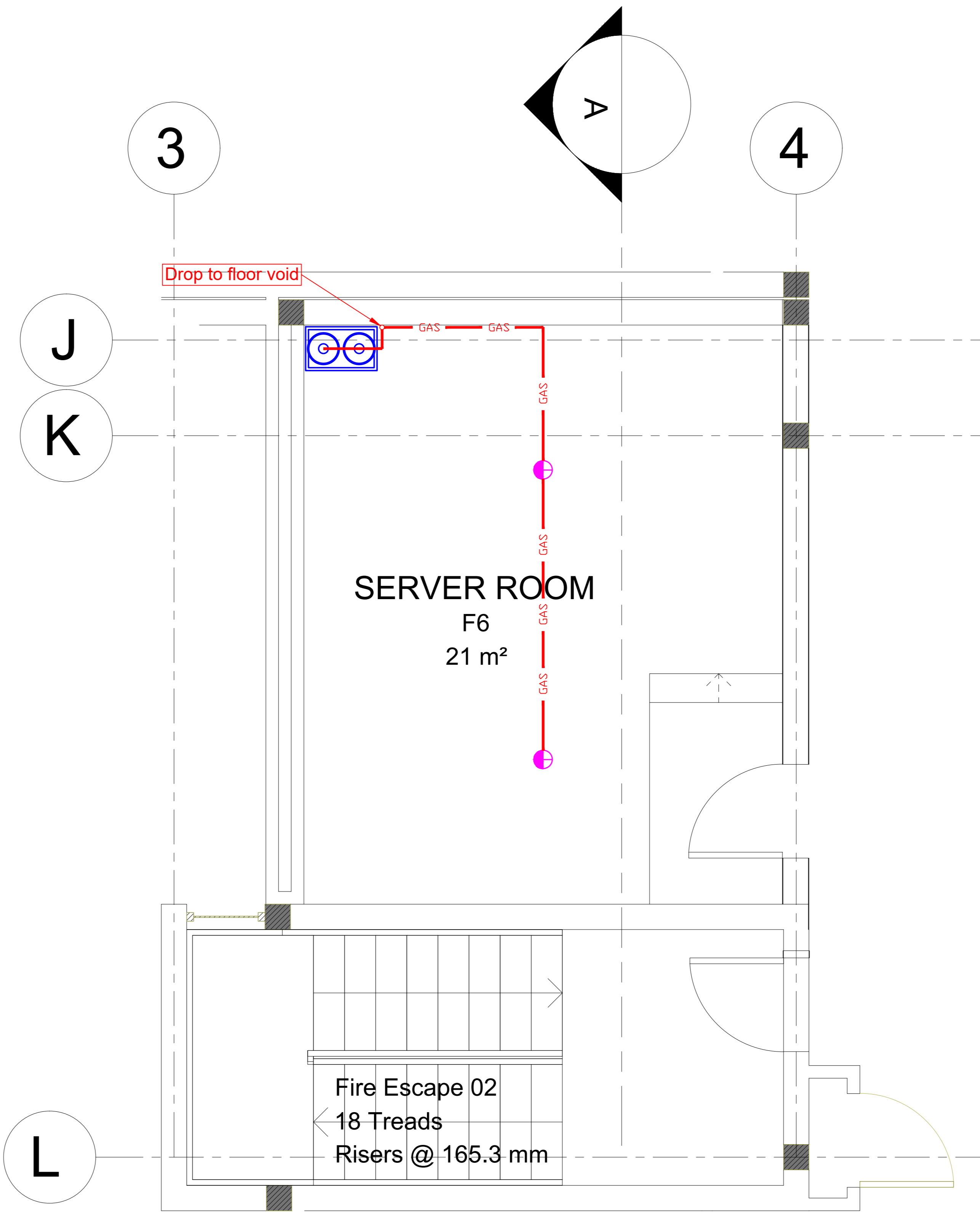
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 Checked: GG
 Date: 13/11/2019

PROJECT No: LSG-GP-19-002
 DRAWING No: F-5001

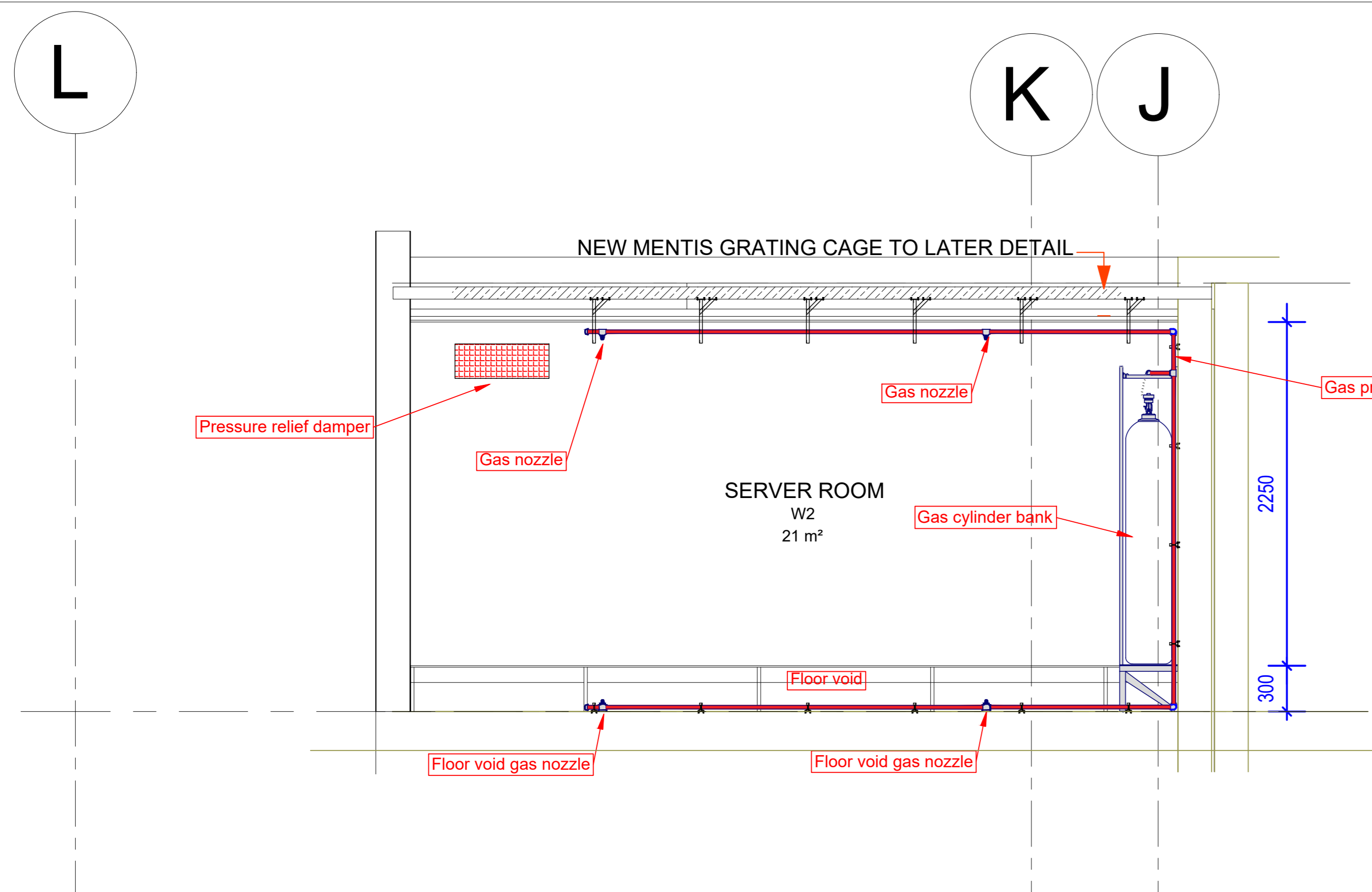
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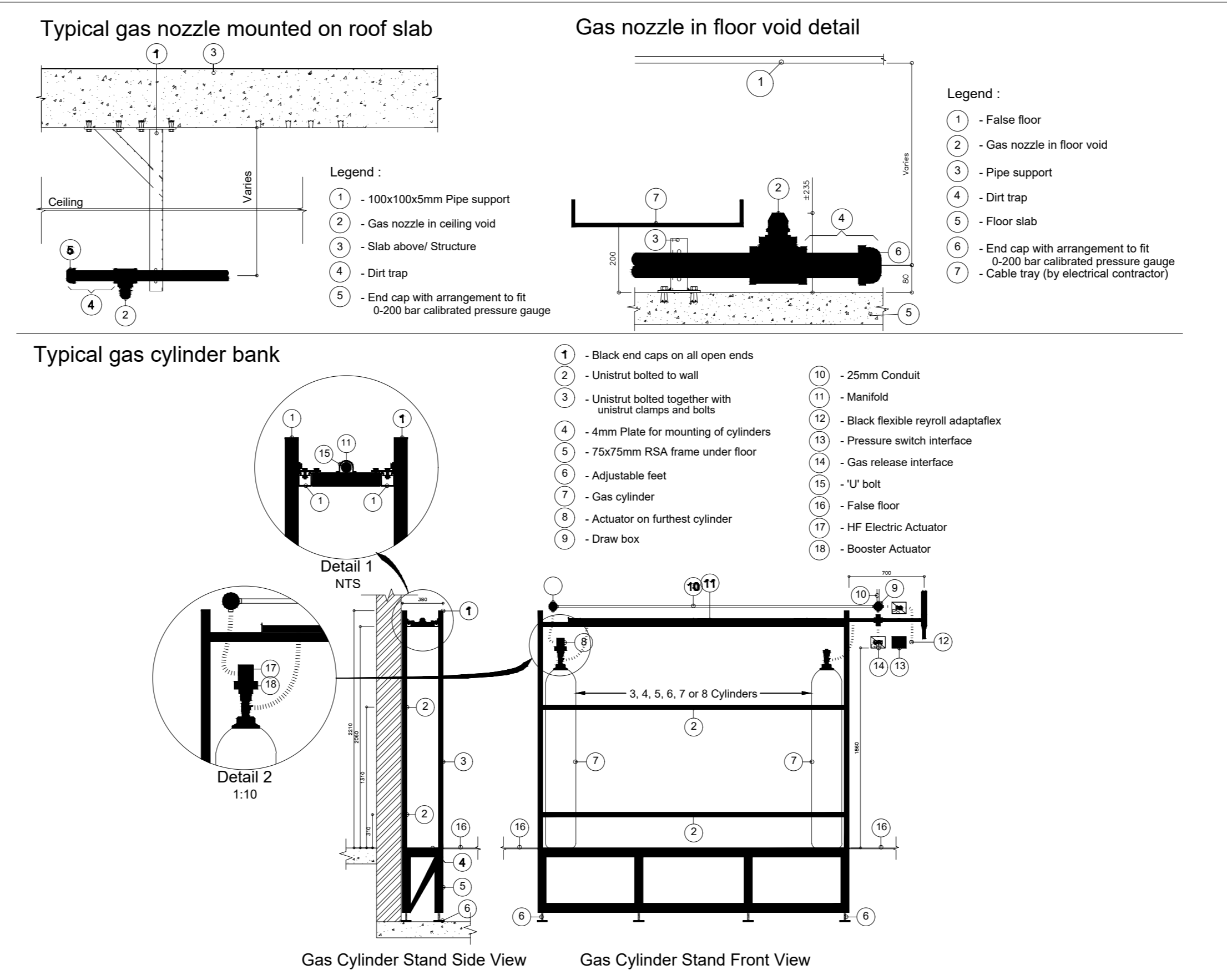
1 SEVER ROOM GAS SUPPRESSION LAYOUT - CEILING
1 : 25



2 SEVER ROOM GAS SUPPRESSION LAYOUT - FLOOR VOID
1 : 25



3 SEVER ROOM SECTION A
1 : 25



4 TYPICAL GAS SUPPRESSION DETAILS
N.T.S

- Legend:**
- QTY: 2 Gas nozzle mounted on ceiling
 - QTY: 2 Gas nozzle in floor void
 - QTY: 1 Pressure relief damper
 - Gas suppression pipe
 - 2 Cylinder bank

- NOTES:**
- Contractor to provide all calculations for approval prior to ordering equipment
 - Preferred system to have two cylinders with two nozzles in the room and two nozzles in the floor void
 - Concentration for *NOAEL should be less than 10%
 - Maximum overpressure of 300pa to be allowed for the relief louvre, size and details to be confirmed by gas supplier
 - Architect to ensure that the room is air tight and must hold in a pressure in excess of 300Pa
 - Main contractor to seal around pipe supports, etc.

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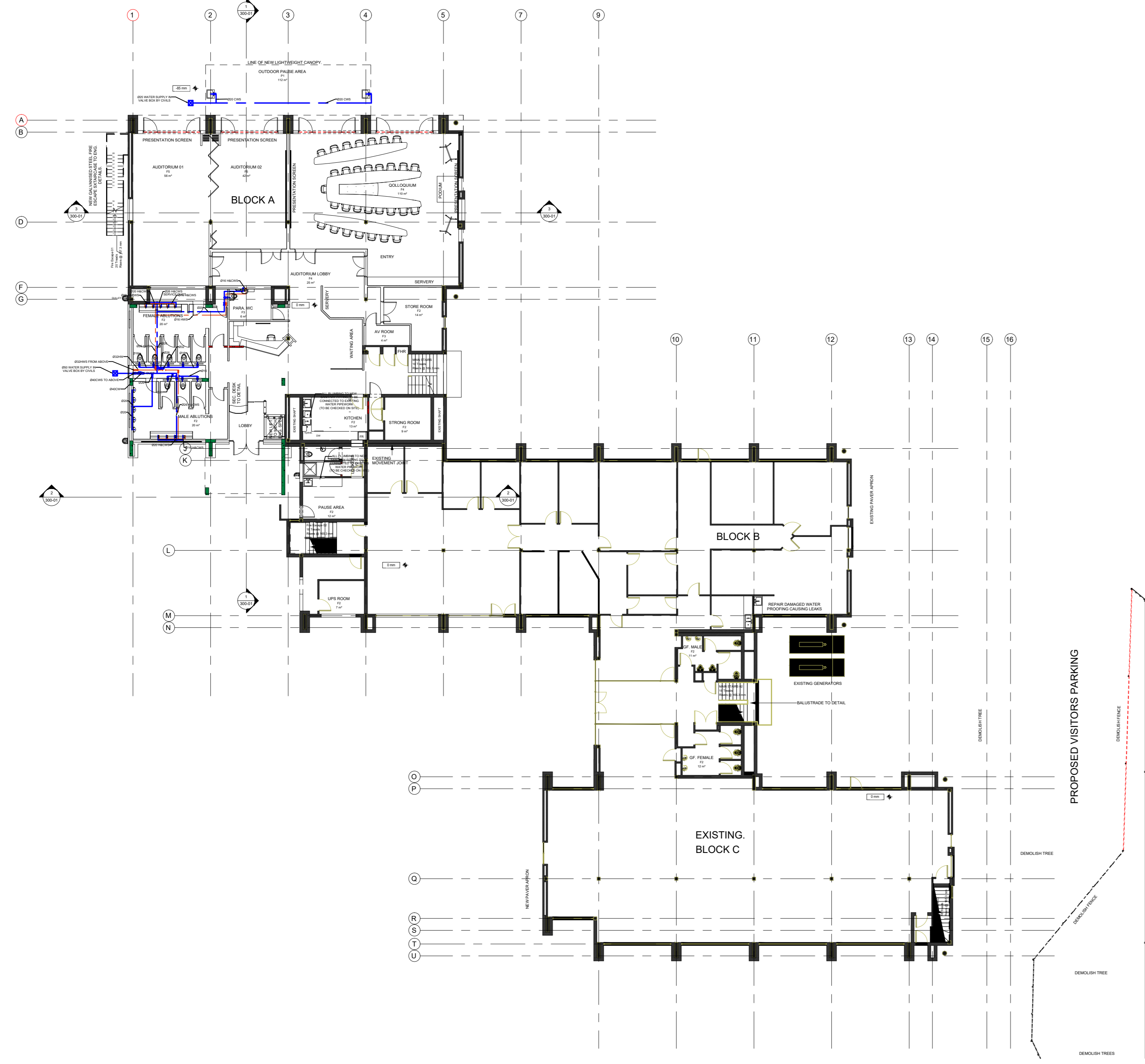
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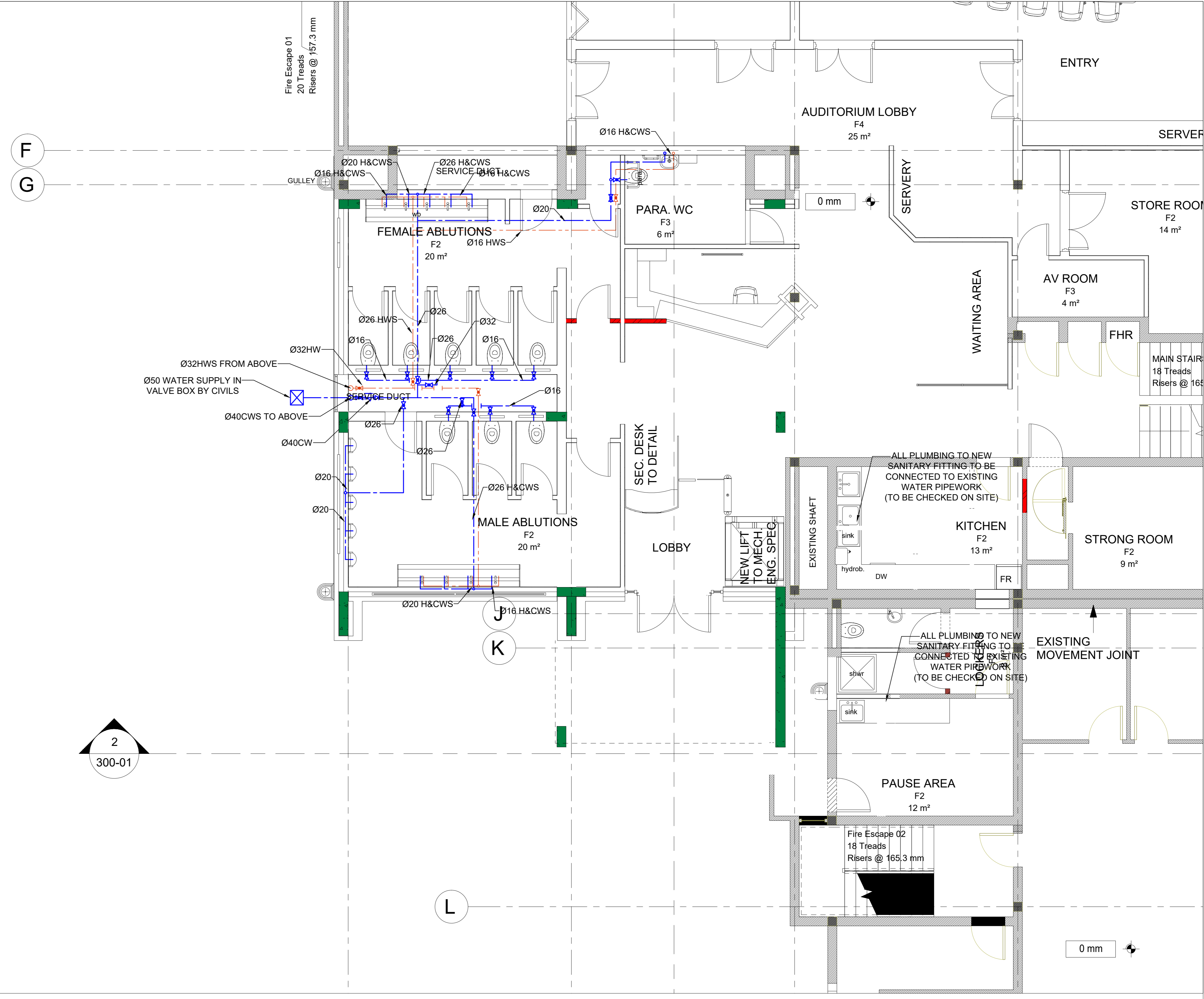
PROJECT:
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ADDRESS:
37 GENL. VAN REYNVELD ST. BRUMMERIA, PRETORIA, 0020.

DRAWING TITLE:
FIRST FLOOR SERVER ROOM GAS SUPPRESSION SYSTEM

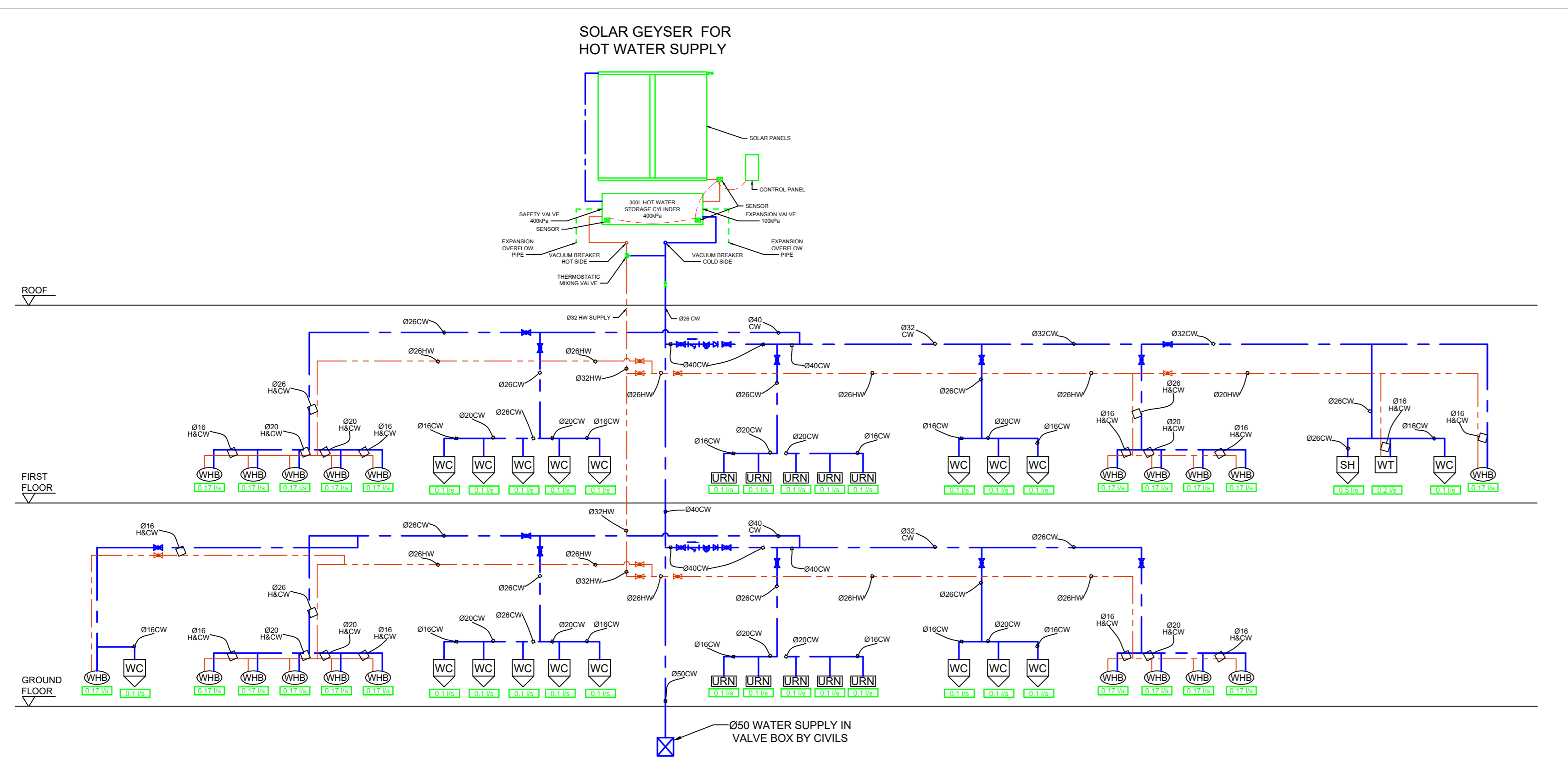
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Drawn: LM	Checked: GG
Date: 13/11/2019	REVISION: T00
PROJECT No: LSG-GP-19-002	DRAWING No: F-5011



1 SITE LAYOUT
1 : 200



2 NEW ABLUTION LAYOUT
1 : 50



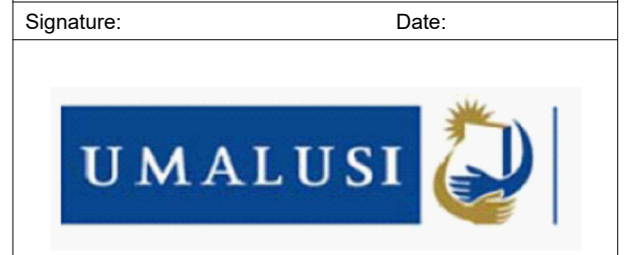
3 PIPE SCHEMATIC
N.T.S

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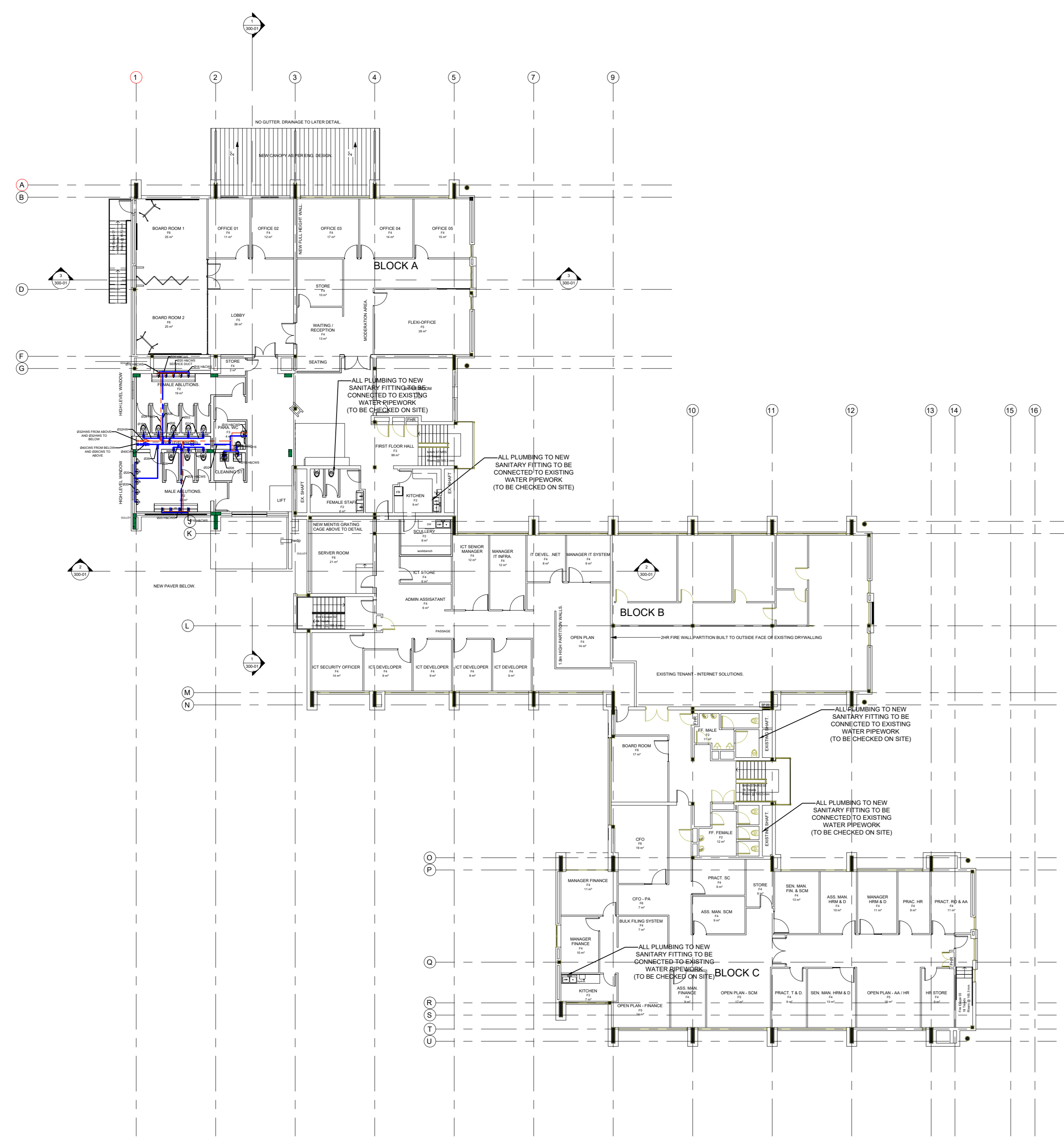
NO.	DATE	DESCRIPTION	REV BY:
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MECH CONSULTANT: LSG CONSULTING ENGINEERS INC.
Date: _____

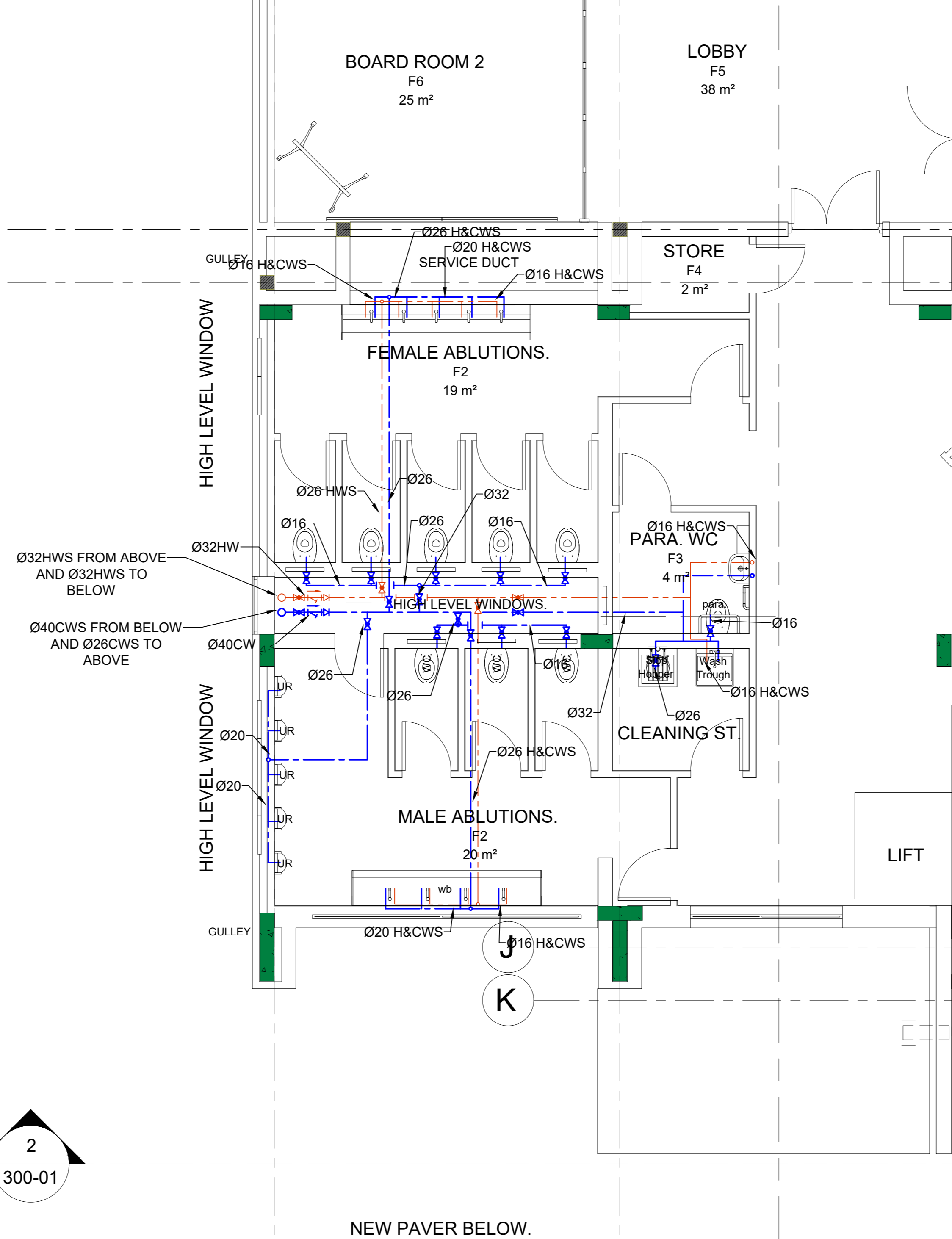


PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS:
37 GENL. VAN REYNELD ST. BRUMMERIA, PRETORIA, 0020.

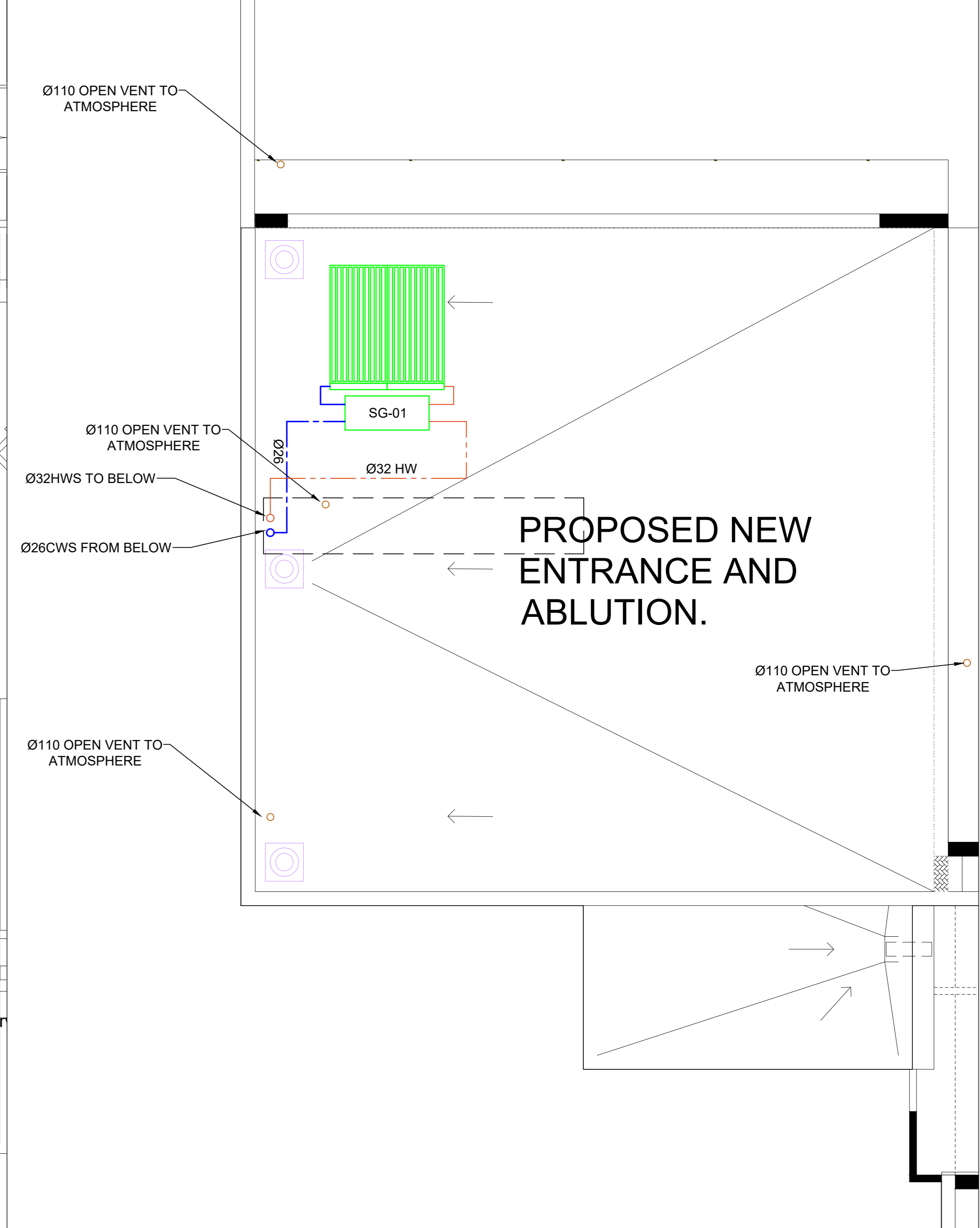
DRAWING TITLE: GROUND FLOOR DOMESTIC WATER LAYOUT	
Blanking Classification: G1	Climatic Zone: Zone 2
Project No: LM	Scale: AS SHOWN
Drawn: GG	Date: 13/11/2019
Checked: GG	Revision: T00
Product No: LSG-GP-19-002	
Drawing No: P-3000	



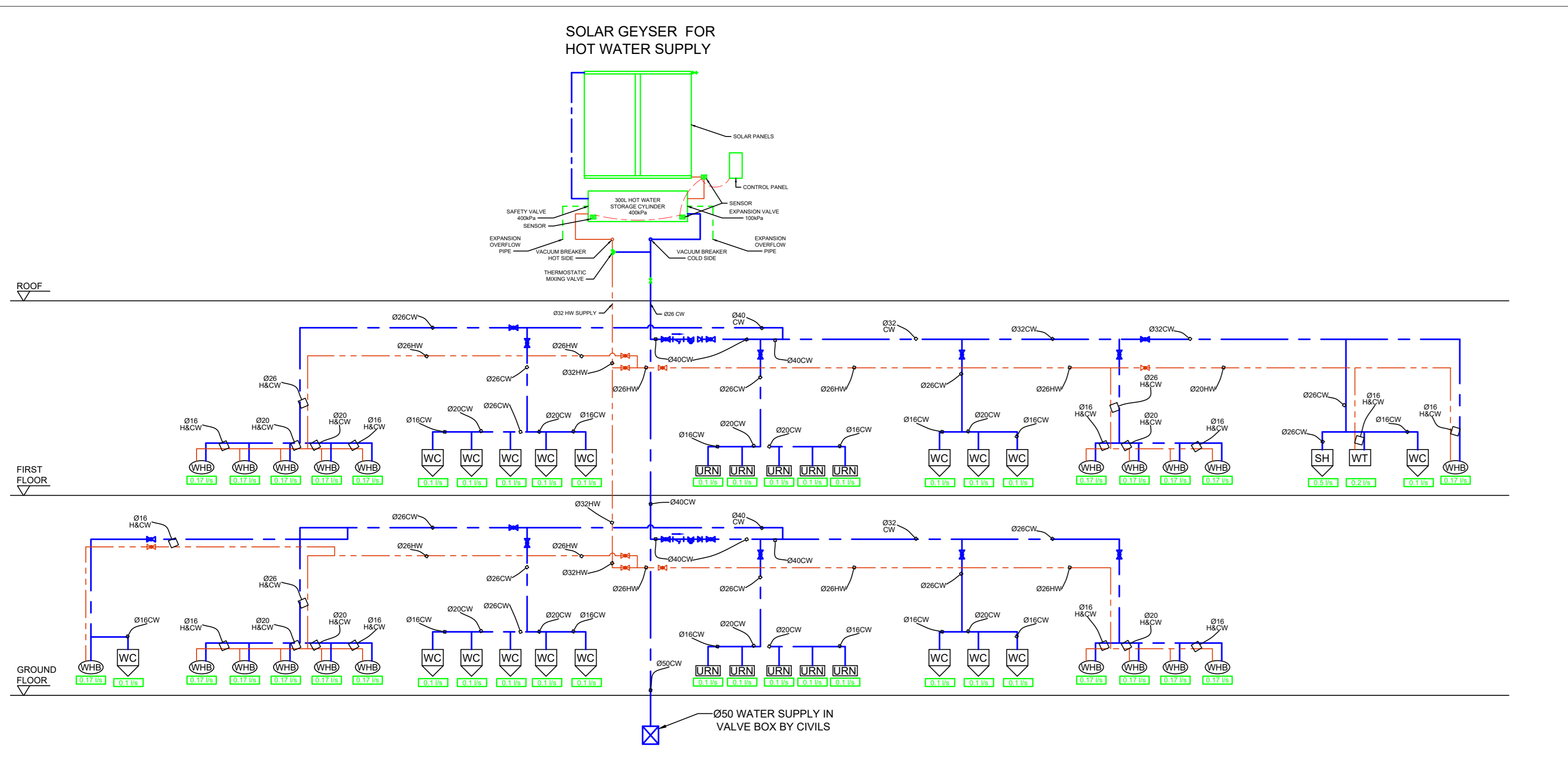
1 SITE LAYOUT
1 : 200



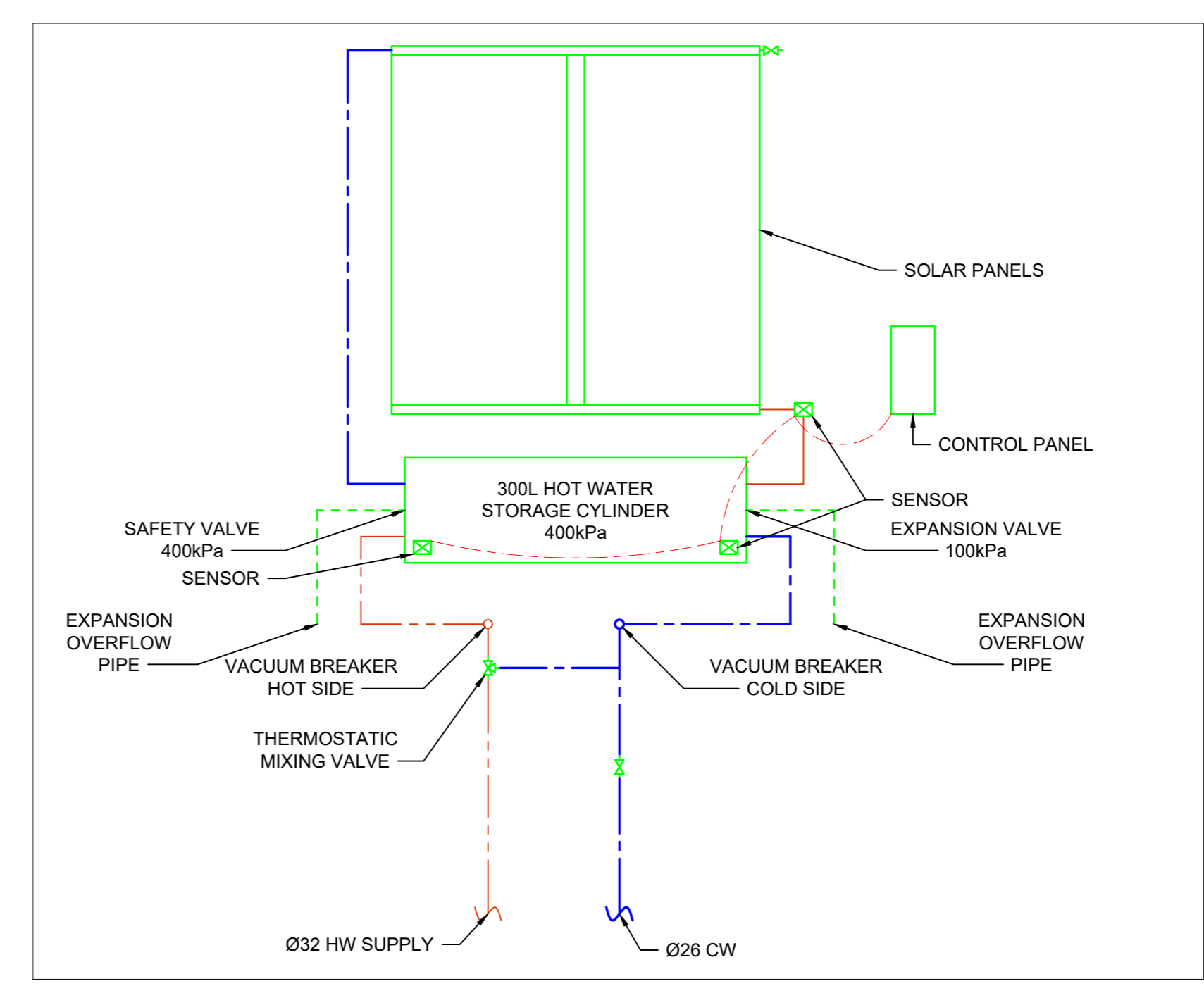
2 NEW ABLUTION LAYOUT
1 : 50



3 NEW ABLUTION ROOF LAYOUT
1 : 50



4 PIPE SCHEMATIC
N.T.S



4 SOLAR GEYSER DETAILS
N.T.S

SOLAR SYSTEM SCHEDULE					
REF NO.	DESCRIPTION	No. OF PANELS	PANEL SIZES (mm)	ELECTRICAL ELEMENT	STORAGE CYLINDER
SG-01	SOLAR GEYSER	2	2000 x 1000	3 kW	300L
*KWIKOT, SOLSQUARE OR SIMILAR APPROVED					

WATER SUPPLY LEGEND

- HW - HOT WATER SUPPLY
- CW - DOMESTIC WATER SUPPLY
- GW - GROUND WATER (TO WCH & URINALS ONLY)
- HW-R - HOT WATER RETURN

DOMESTIC WATER NOTES

- ALL WORK TO BE CHECKED OUT IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS. NOTIFY LOCAL AUTHORITY.
- THIS DRAWING MAY BE SEALD ONLY AFTER THE WORK HAS BEEN COMPLETED AND APPROVED BY THE ARCHITECT AND APPROVAL IS TO BE SOUGHT BEFORE IMPLEMENTATION OF THE DRAWING.
- ALL WORK TO BE DONE WITHIN THE SPECIFIED TIME FRAME.
- ALL WORK TO BE DONE WITHIN THE SPECIFIED TIME FRAME.
- THIS DRAWING IS TO BE USED IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL & OTHER DRAWINGS.

NOTES

- ALL CONNECTIONS TO WAYS TO BE AT 10mm ANGLE RELIEF VALVE BELOW WAYS.
- ALL CONNECTIONS TO DOMESTIC KITCHEN SINKS TO BE ABOVE.
- ALL CONNECTIONS TO URINALS TO BE ABOVE.
- ALL CONNECTIONS TO SINKS TO BE ABOVE.
- PIPES IN CONCRETE TO HAVE JOINTS ABOVE.
- ADHESION TO MASONRY WORKING WITH STOPCOCK AT 10mm ANGLE.
- ALL PIPING SHALL BE QUALIFIED IN A TEST PROCEDURE OF AT LEAST 1000 kPa, BUT NOT LESS THAN 10 TIMES THE WORKING PRESSURE. ALL PIPING SHALL BE QUALIFIED IN A TEST PROCEDURE OF AT LEAST 1000 kPa, BUT NOT LESS THAN 10 TIMES THE WORKING PRESSURE. ALL PIPING SHALL BE QUALIFIED IN A TEST PROCEDURE OF AT LEAST 1000 kPa, BUT NOT LESS THAN 10 TIMES THE WORKING PRESSURE.
- ALL HOT WATER PIPES TO BE RELIANT WITH THERMALLY STABLE JOINT APPROVED TO BE INSTALLED IN THE STANDARD PROTECTION.
- MOVING AND BLEED / RELIEF VALVES TO BE FITTED AT ALL HIGH POINTS WITH HOT & COLD LINES.
- PIPING TO BE INSTALLED WITH SLOPE FROM HOT WATER SINKS TO HOT WATER SINKS AND FROM COLD WATER SINKS TO COLD WATER SINKS.
- ALL FITTINGS TO BE INSTALLED WITH SLOPE FROM SINKS TO SINKS.
- ALL FITTINGS TO BE INSTALLED WITH SLOPE FROM SINKS TO SINKS.
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FOR TENDER

REVISIONS

NO.	DATE	DESCRIPTION	REV BY:
A	14/04/2020	LAYOUTS REVISED TO NEW ARCHITECTURAL LAYOUTS RECEIVED	LM

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MECH CONSULTANT: LSG CONSULTING ENGINEERS INC.

Signature: _____ Date: _____



PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS:
37 GENL. VAN REYNELD ST. BRUMMERIA, PRETORIA, 0002.

DRAWING TITLE:
FIRST FLOOR DOMESTIC WATER LAYOUT

Client: UMALUSI
Signature: _____ Date: _____

Project Classification: C1
Climate Zone: Zone 2

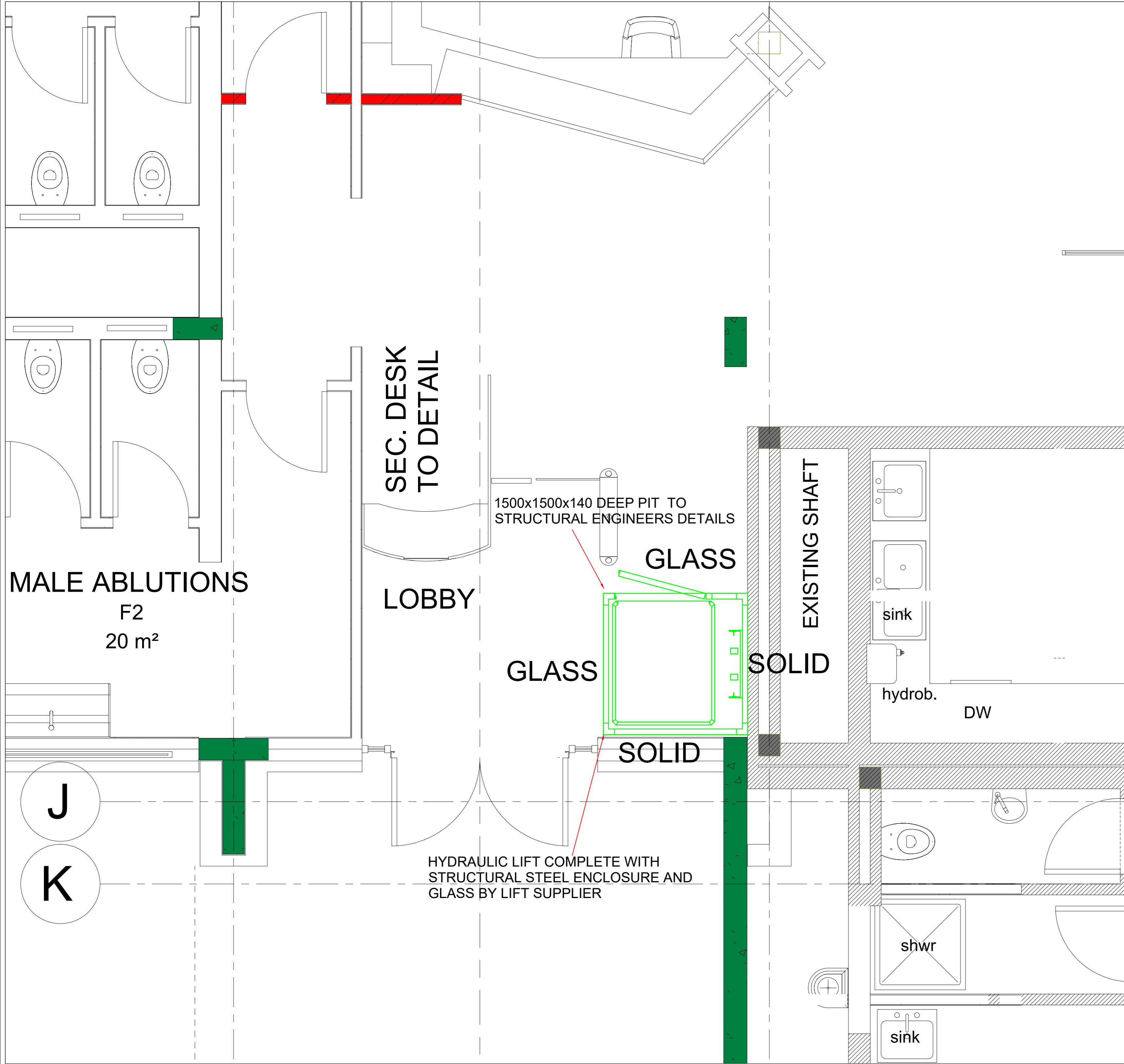
Zone: Zone 2

Scale: AS SHOWN

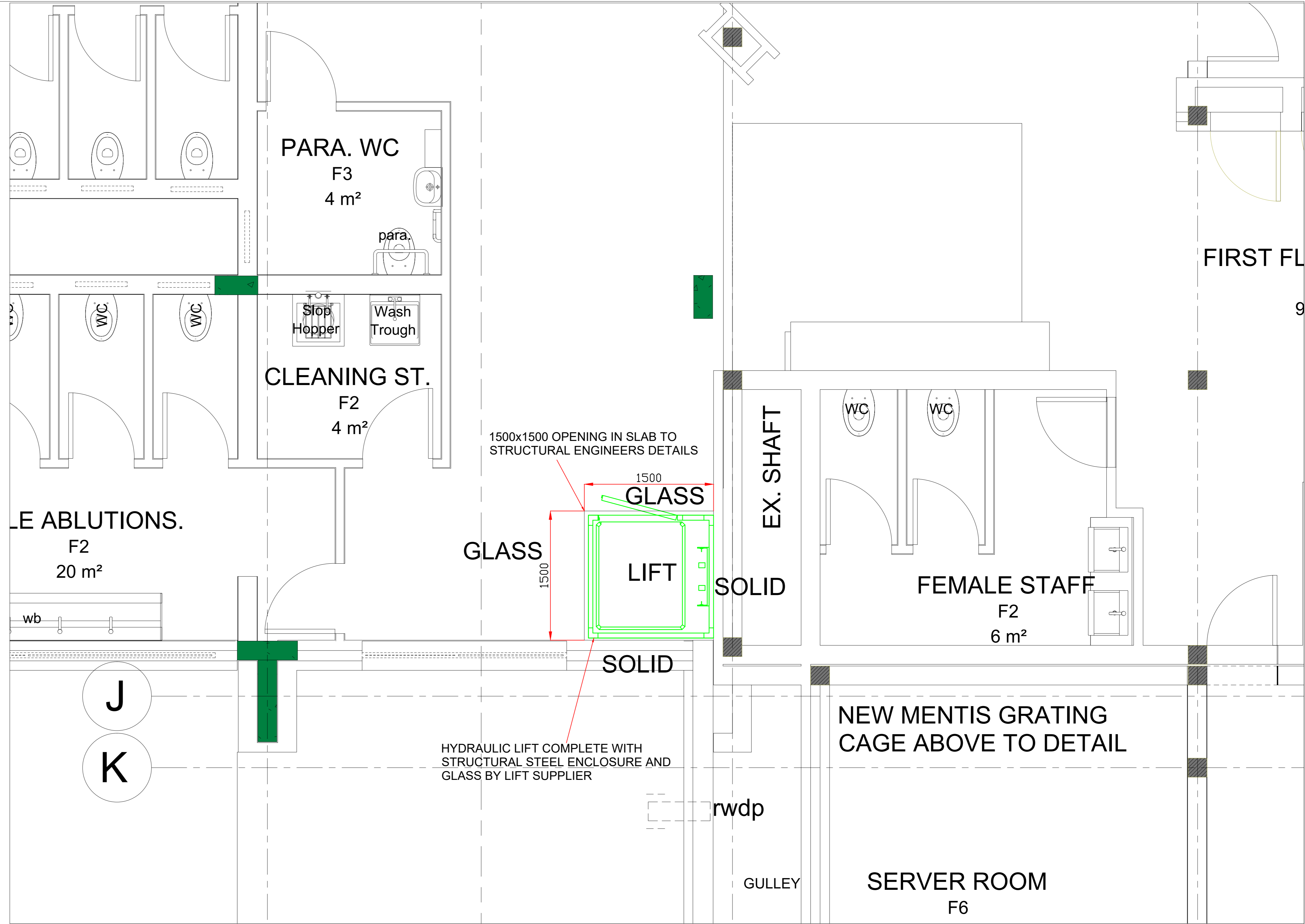
Drawn: LM
Checked: GG
Date: 13/11/2019

PROJECT NO.: LSG-GP-19-002
DRAWING NO.: P-3001

REVISION: T00



1 GROUND FLOOR PART PLAN
1 : 25



2 FIRST FLOOR PART PLAN
1 : 25

LIFT SUPPLIED TO BE "VIMEC" OR EQUAL AND APPROVED.

HYDRAULIC LIFT DATA: "VIMEC"
 CAPACITY: 400 KG
 TRAVEL: 2975mm (?)
 SPEED: 0.15 m/sec

- SAFETY STOP IN THE PIT WITH ELECTRIC MONITORING AND VISUAL FLASHING ALARM WITH MANUAL RESET MECHANICAL SAFETY LOCK IN THE HEADROOM WITH SURVEILLANCE (ELECTRIC LOCK)
- O.S.G. OVER SPEED GOVERNOR - SPEED LIMITER
- LOOSE CONTROL DRIVE BELTS WITH ELECTRIC MONITORING AND SHUTDOWN
- O.L.C. OVER LOAD CONTROL: LOCK AND LOAD CONTROL EQUIPMENT
- IN CASE OF POWER FAILURE, ELECTRIC EMERGENCY OPERATION (BATTERY 36 VOLT)
- EASY ALLOWANCE FOR MAINTENANCE INSIDE THE CABIN

GENERAL FEATURES: "VIMEC"

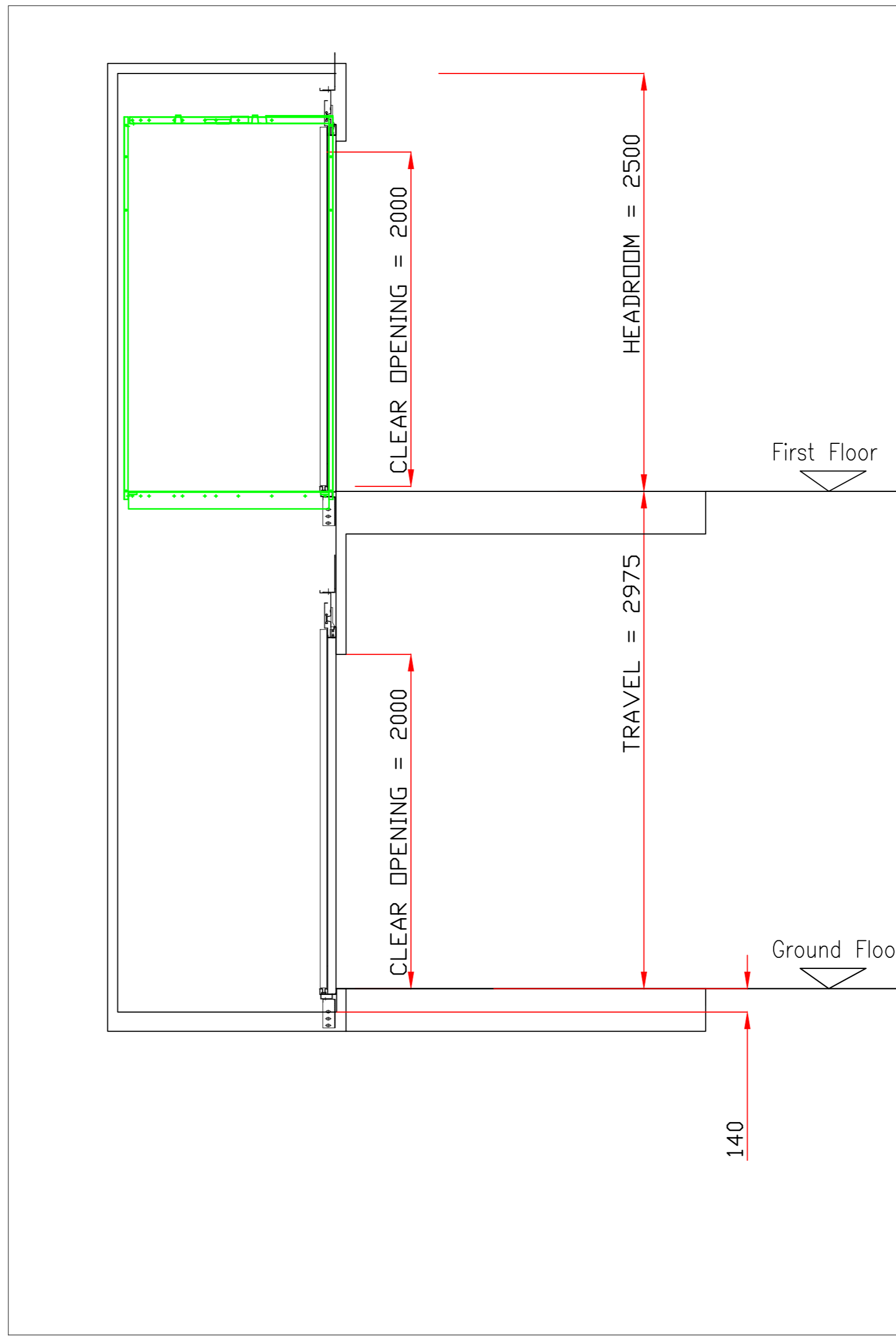
- DRIVE SYSTEM AT THE GROUND CONTROL
- BELT DRIVE
- DRIVE MOTOR - 220 V 50 Hz
- ELECTRIC TRACTION
- SOFT START/STOP SYSTEM
- VOLTAGE SUPPLY 24 V DC
- FIRE ALARM RETURN TO SAFE FLOOR (GROUND)
- MECHANICAL KEY ENABLING ON-BOARD KEYPAD
- No. 6 ACCESSES MAXIMUM
- No. 2 ACCESSES TO THE FLOOR MAXIMUM
- ELECTRICAL SAFETY LOCKS
- ON FLOOR CONTROLS WITH "SIMPLE TOUCH"
- 140mm PIT FOR UNIT WITH SUPPORT STRUCTURE

INSIDE THE LIFT CABIN & ALLOWANCES: "VIMEC"

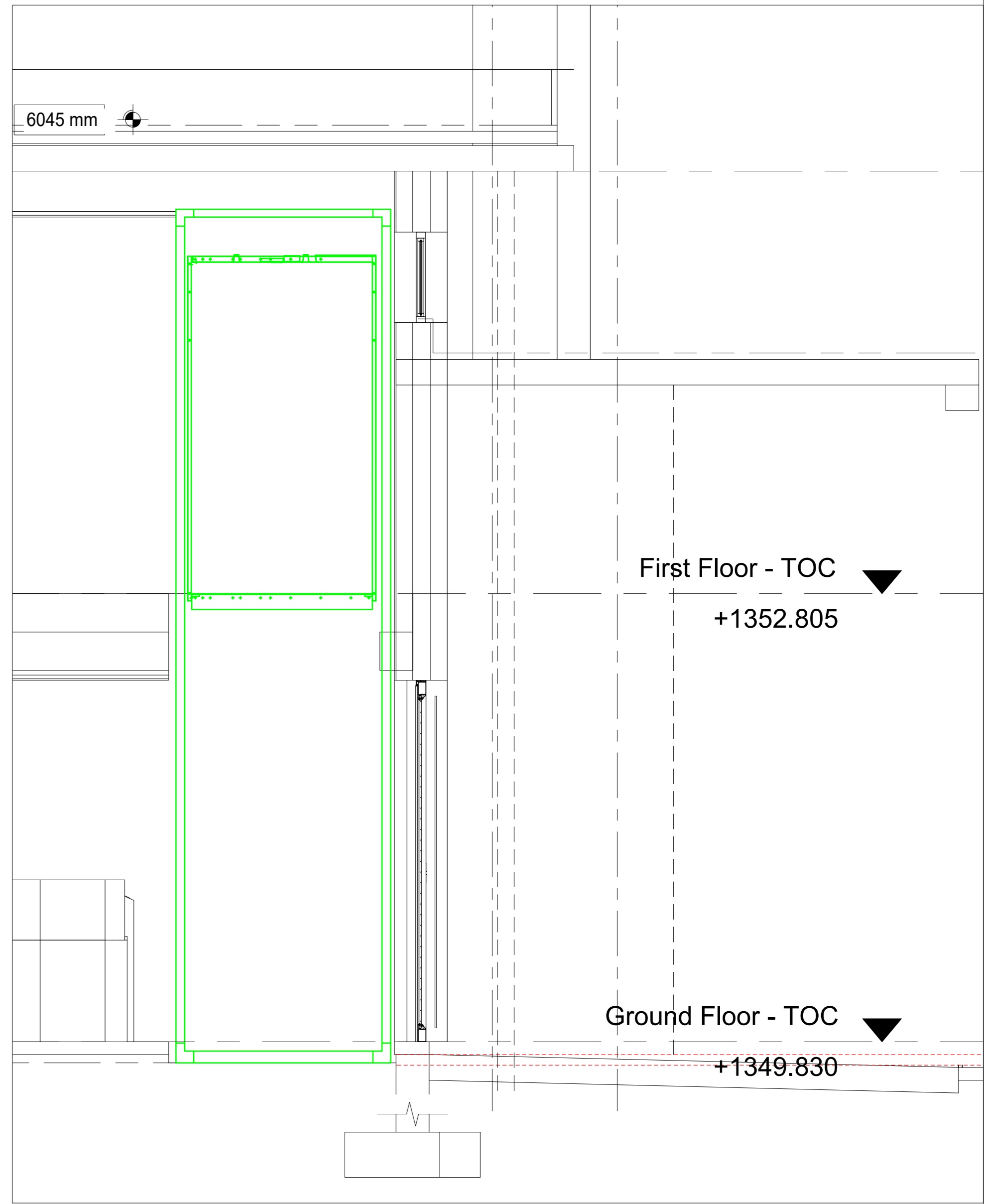
- INFRARED BARRIERS ON EACH SIDE ON ENTRY AND IN THE ABSENCE OF WALLS
- COMMUNICATION DEVICE WITH OUTSIDE THE CABIN (INTERCOM SYSTEM)
- OVER LOAD INDICATOR
- 50 x 50 mm BUTTONS WITH MECHANICAL SHUTTER AND INDICATION OF THE FLOOR IN ADDITION TO STANDARD BRAILLE
- ON BOARD CONTROLS HEIGHT MUST BE COMPLIANT TO EN81-41
- ILLUMINATED BUTTONS (WITH COLOR IDENTIFICATION OF THE FUNCTION)
- EMERGENCY BUTTON
- ENERGY SAVING LED LIGHTS
- ON BOARD PUSH-BUTTON PANEL WITH DEAD MANS CONTROLS - ALWAYS EQUIPPED WITH INFRARED PHOTOCELLS BARRIERS
- SINGLE TOUCH OPERATION (UNIVERSAL MANOEUVRE) WITH WALLS AND DOOR IN THE CABIN

LIFT CONFIGURATION: "VIMEC" - LIFT SUPPLIER

- CABIN TO BE STANDARD COLOR (COLOR TO BE CONFIRMED ON ORDER)
- PLATFORM STANDARD - RUBBER SERIES
- ON-BOARD AND ON THE FLOOR - 50mm BUTTONS WITH BRAILLE AND DISPLAY
- ENERGY SAVING LED LIGHTING
- PANORAMIC DOOR
- INFRARED SENSORS ALL AROUND FOR ENTRY AND EXIT FROM THE CABIN
- VOICE ANNOUNCER TO THE INCOMING FLOOR
- GONG TO THE INCOMING FLOOR
- HANDRAILS FITTED TO THE CABIN FOR ASSISTANCE TO PEOPLE WITH DISABILITIES
- POWER DOOR OPERATOR
- HORIZONTAL MIRROR ON REAR WALL OF CABIN
- STEEL SUPPORT STRUCTURE AND GLASS TO BE PROVIDED BY THE LIFT CONTRACTOR
- 2- SIDES OF SUPPORT STRUCTURE TO BE GLASS - SECTIONS TO BE SOLID AGAINST WALLS
- GLASS TO BE CLEAR



3 SECTION THROUGH SHAFT
1 : 25



4 SECTION THROUGH BUILDING
1 : 25

GENERAL NOTES:
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FOR TENDER

FIRST FL
9

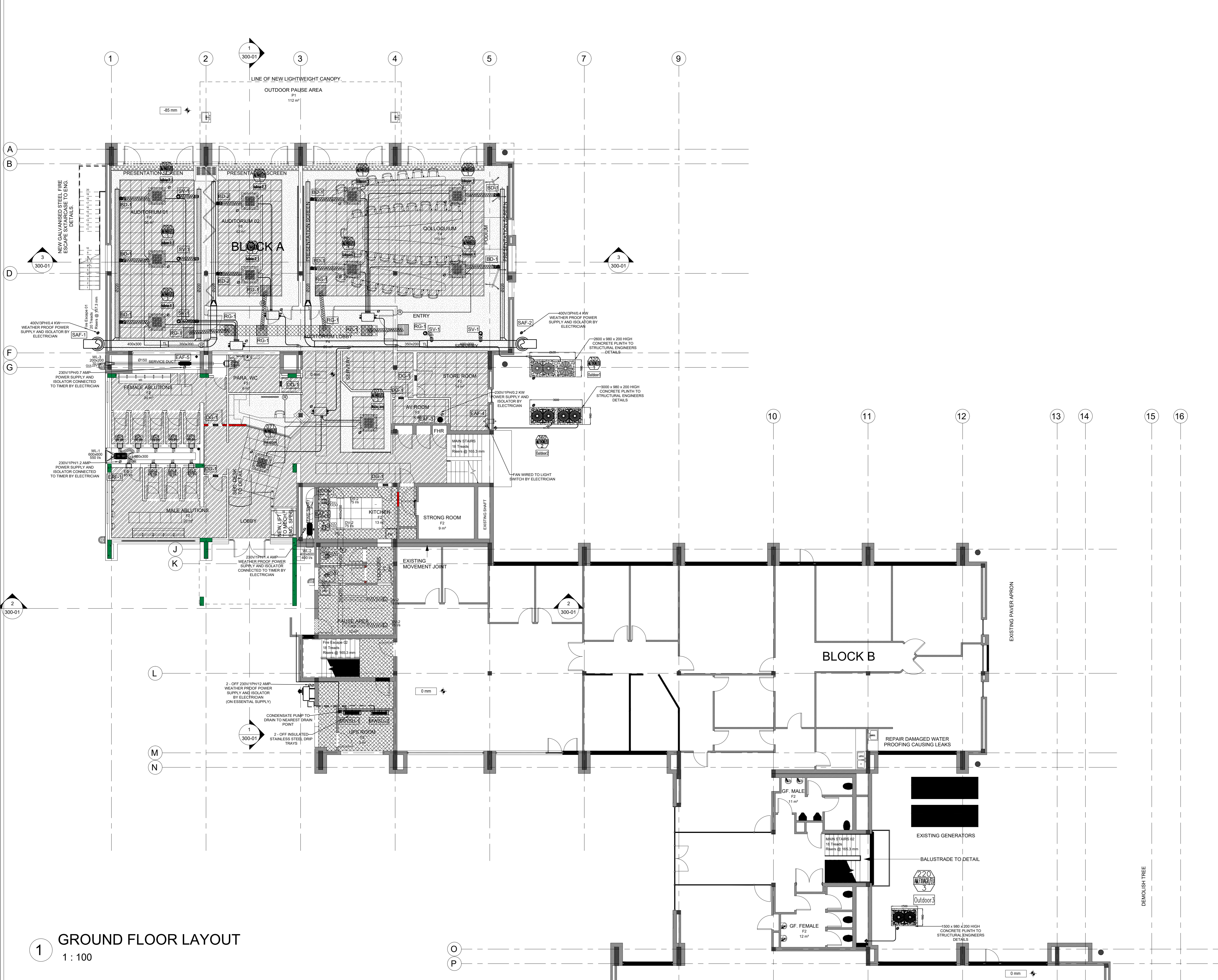
NO.	DATE	DESCRIPTION	REV BY:

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 MECH CONSULTANT: LSG CONSULTING ENGINEERS INC.
 Signature: _____ Date: _____

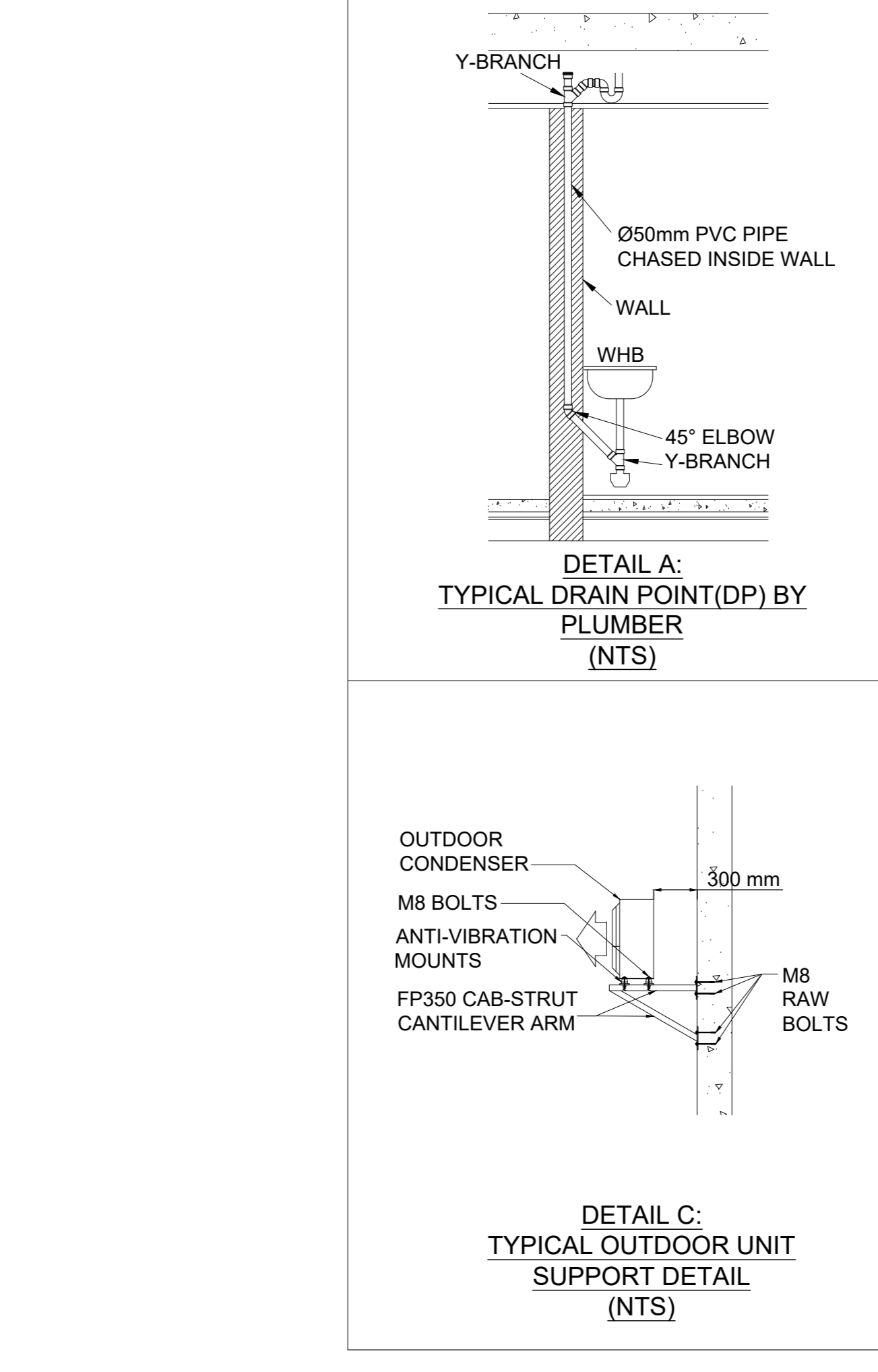


PROJECT:
 UMALUSI OFFICES ADDITIONS AND ALTERATIONS
 ADDRESS:
 37 GENL. VAN REYNVELD ST. BRUMMERIA, PRETORIA, 0020.

Building Classification: G1	Climatic Zone: Zone 2
Page Size: A0	Scale: AS SHOWN
Drawn: LM	Checked: GG
Date: 13/11/2019	REVISION: T00
PROJECT NO: LSG-GP-19-002	DRAWING NO: UTL-6000



1 GROUND FLOOR LAYOUT
1:100



SCHEDULE OF EQUIPMENT

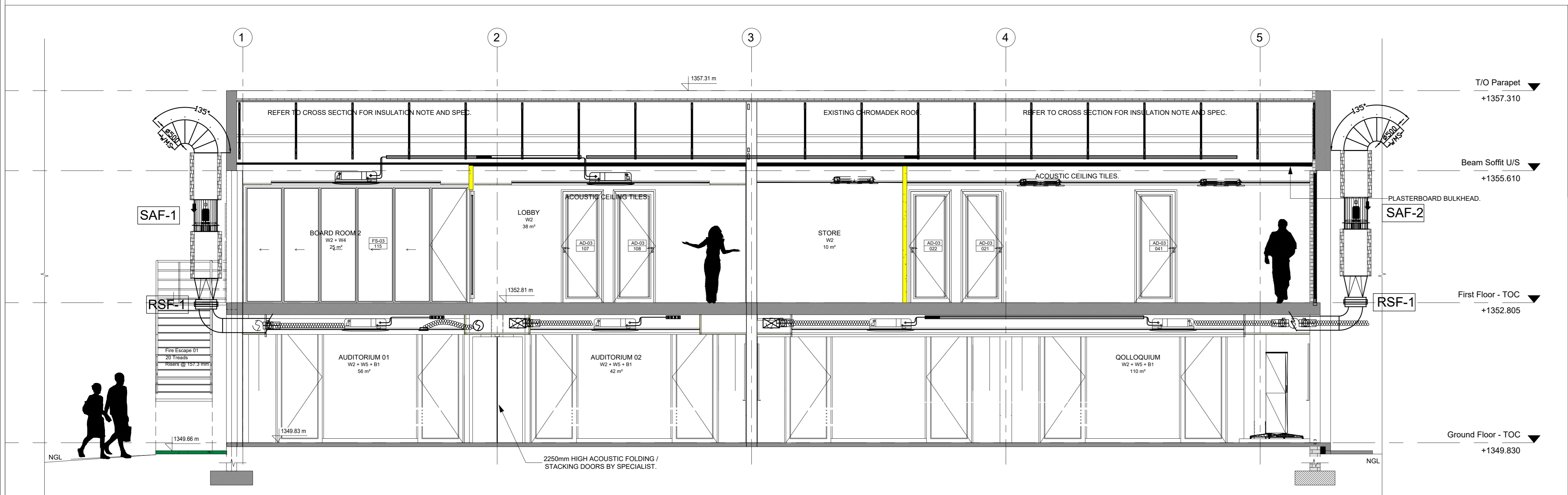
REF	NO OFF	DESCRIPTION	SIZE/TYPE	AIR QUANT.
SAF-1	1	SYSTEMAIR AXIAL FLOW FAN - 0.37KW @ 150Pa CW AVMS, CANVAS COLLARS & 2-OFF 3D SILENCERS	AXCP 500-611*4	600 l/s
SAF-2	1	SYSTEMAIR AXIAL FLOW FAN - 0.37KW @ 120Pa CW AVMS, CANVAS COLLARS & 2-OFF 3D SILENCERS	AXCP 315-636*4	400 l/s
EAF-1	1	SYSTEMAIR PRO SILENT FAN - 0.2 KW @ 120 Pa	PRIO SILENT 315EC	500 l/s
EAF-2	1	SYSTEMAIR PRO SILENT FAN - 0.15 KW @ 150 Pa CW 4-OFF LDC 250-900 SILENCER	PRIO SILENT 250EC-L	400 l/s
EAF-3	1	CEILING MOUNTED EXTRACT FAN	E300	-
EAF-4	1	SYSTEMAIR THROUGH WALL/ WINDOW FAN	BF/W 230A	120 l/s
EAF-5	1	SYSTEMAIR PRO SILENT FAN - 0.08 KW @ 100 Pa	PRIO SILENT 150EC	60 l/s

SCHEDULE OF GRILLES, DAMPERS & DIFFUSERS

REF	NO OFF	DESCRIPTION	SIZE/TYPE
RG1	6	ALUMINIUM FILTER FRAME GRILLE WITH PLENUM & Ø250 SPIGOT	600x600
WL1	1	ALUMINIUM WEATHER LOUVER C/W W.M.S	600x600
WL2	1	ALUMINIUM WEATHER LOUVER C/W W.M.S	600x400
WL3	1	ALUMINIUM WEATHER LOUVER C/W W.M.S	200x200
RFS1	2	REMOVABLE PLEATED SLIDE FILTER - 100mm THICK	400x200
BD-1	7	MANUAL BALANCING DAMPER - 75 l/s	Ø150
BD-2	2	MANUAL BALANCING DAMPER - 100 l/s	Ø150
SV1	5	CEILING MOUNTED SUPPLY AIR DISC VALVE c/w Ø150 BALANCING DAMPER ON SPIGOT - 50 l/s	Ø150
DV1	2	CEILING MOUNTED EXTRACT DISC VALVE - 50 l/s	Ø150
DV2	4	CEILING MOUNTED EXTRACT DISC VALVE - 75 l/s	Ø150
EG1	5	ALUMINIUM EXTRACT GRILLE - 50 l/s	300x200
EG2	5	ALUMINIUM EXTRACT GRILLE - 65 l/s	300x200
DG-1	6	ALUMINIUM DOUBLE SIDED DOOR GRILLE	600x300

SCHEDULE OF SPLIT TYPE AC UNITS

REF	NO OFF	DESCRIPTION	DUTY COOLING	POWER SUPPLY
MWSU-1	1	SAMSUNG MIDWALL SPLIT UNIT - INVERTER TYPE INDOOR - AC052MADKH / OUTDOOR - AC052MXADKH C/W INSULATED STAINLESS STEEL DRIP TRAY	5.6 KW	230V/1PH/12A
MWSU-2	1	SAMSUNG MIDWALL SPLIT UNIT - INVERTER TYPE INDOOR - AC052MADKH / OUTDOOR - AC052MXADKH C/W INSULATED STAINLESS STEEL DRIP TRAY	5.6 KW	230V/1PH/12A



2 SECTION C-C
1:50

Indoor Unit

Designation	Qty	Type	Model	Cooling Capacity (kW)	Heating Capacity (kW)	Power (kW)	Water Flow (l/s)	Water Temp (°C)	Water Pressure (bar)	Water Flow (l/s)	Water Temp (°C)	Water Pressure (bar)	Water Flow (l/s)	Water Temp (°C)	Water Pressure (bar)
SAF-1	2	MSY COOLTE PRO FRIE	MSY11MADV/VE	3.15	4.15	8.00	0.800	7.0/12.0	0.8	7.0/12.0	0.8	0.8	7.0/12.0	0.8	0.8
SAF-2	2	MSY COOLTE PRO FRIE	MSY09MADV/VE	2.25	2.95	5.00	0.600	7.0/12.0	0.8	7.0/12.0	0.8	0.8	7.0/12.0	0.8	0.8

Outdoor Unit

Designation	Qty	Type	Model	Cooling Capacity (kW)	Heating Capacity (kW)	Power (kW)	Water Flow (l/s)	Water Temp (°C)	Water Pressure (bar)	Water Flow (l/s)	Water Temp (°C)	Water Pressure (bar)	Water Flow (l/s)	Water Temp (°C)	Water Pressure (bar)
SAF-1	2	MSY COOLTE PRO FRIE	MSY11MADV/VE	3.15	4.15	8.00	0.800	7.0/12.0	0.8	7.0/12.0	0.8	0.8	7.0/12.0	0.8	0.8
SAF-2	2	MSY COOLTE PRO FRIE	MSY09MADV/VE	2.25	2.95	5.00	0.600	7.0/12.0	0.8	7.0/12.0	0.8	0.8	7.0/12.0	0.8	0.8

ACDB-1

Motor Size (kW)	INCOMING MAINS	SAF-1	SAF-2
Motor Size (kW)	✓	0.4	0.4
Voltmeter	✓	✓	✓
Ammeter	✓	✓	✓
Selector Switch	✓	✓	✓
Pilot light for Power on	✓	✓	✓
Fire Interlock	✓	✓	✓
Manual-Off-Auto Switch	✓	✓	✓
Run & Fault Lights	✓	✓	✓
Timer	✓	✓	✓

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FOR TENDER

REVISIONS

NO.	DATE	DESCRIPTION	REV BY:
A	10/04/2020	LAYOUTS & LIMITS REDESIGNED TO SUIT NEW ARCHITECTS LAYOUTS.	LM
B	14/05/2020	SAF-3 CHANGED TO A SINGLE PHASE FAN	LM

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MECH CONSULTANT: LSG CONSULTING ENGINEERS INC.
Signature: _____ Date: _____

LDM
Solutions For The Built Environment

PFTA Office: 239 Lange Street, Newa Makheke Street, Brooklyn, Gauteng 0180
Tel: (+27) 12 946 8876

Client: UMALUSI
Signature: _____ Date: _____

UMALUSI

PROJECT: UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS: 37 GENL. VAN REYNELD ST. BRUMMERIA, PRETORIA, 0020.

DRAWING TITLE: GROUND FLOOR AIR CONDITIONING AND VENTILATION LAYOUT

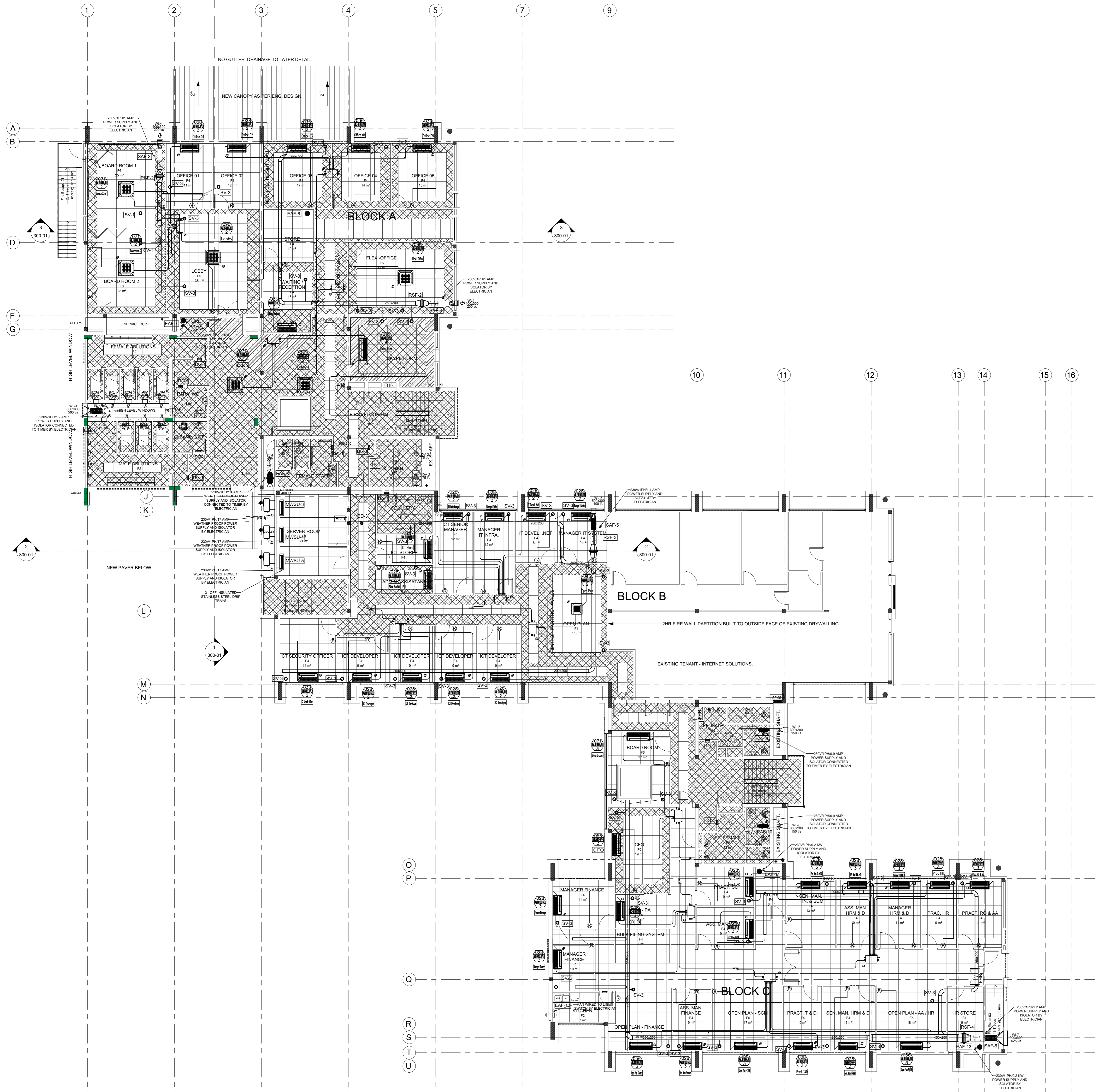
Block Classification: G1
Climate Zone: Zone 2
Zone 2

Sheet: A0
Scale: AS SHOWN

Drawn: LM
Checked: GG
Date: 13/11/2019
Revision:

PROJECT NO: LSG-GP-19-002
DRAWING NO: M-1000

T00



1 FIRST FLOOR LAYOUT
1:100

Designation	Qty	Unit	Type	Brand	Capacity	Notes	Remarks
ACB-2	2	Way COUETTE - INDO REE	ACB/MAD/DO	2.00	2.25	2.70	Outdoor Fan
ACB-3	3	Way COUETTE - INDO REE	ACB/MAD/DO	3.00	3.50	3.40	Outdoor Fan
ACB-4	4	Way COUETTE - INDO REE	ACB/MAD/DO	5.00	4.20	5.40	Outdoor Fan
ACB-5	2	Way COUETTE - INDO REE	ACB/MAD/DO	7.00	6.00	6.80	Outdoor Fan
ACB-6	4	Way COUETTE - INDO REE	ACB/MAD/DO	7.00	6.00	6.80	Outdoor Fan
ACB-7	2	Way COUETTE - INDO REE	ACB/MAD/DO	9.00	7.40	8.60	Outdoor Fan
ACB-8	1	Way COUETTE (DIAGONAL)	ACB/MAD/DO	4.50	3.80	5.00	Outdoor Fan

SCHEDULE OF EQUIPMENT

REF	NO OFF	DESCRIPTION	SIZE/TYPER	AIR QUANT.
SAF-3	1	SYSTEMAIR PRO SILENT FAN - 0.16 KW @ 120 Pa	PRO SILENT 200EC	200 l/s
SAF-4	1	SYSTEMAIR PRO SILENT FAN - 0.16 KW @ 130 Pa CW 1-OFF LDC 200-600 SILENCER	PRO SILENT 200EC	200 l/s
SAF-5	1	SYSTEMAIR PRO SILENT FAN - 0.16 KW @ 150 Pa CW 1-OFF LDC 250-800 SILENCER	PRO SILENT 250EC-L	400 l/s
SAF-6	1	SYSTEMAIR PRO SILENT FAN - 0.2 KW @ 150 Pa CW 1-OFF LDC 315-900 SILENCER	PRO SILENT 315EC	550 l/s
EAF-7	1	SYSTEMAIR PRO SILENT FAN - 0.2 KW @ 120 Pa	PRO SILENT 315EC	550 l/s
EAF-8	1	SYSTEMAIR PRO SILENT FAN - 0.16 KW @ 150 Pa CW 1-OFF LDC 250-800 SILENCER	PRO SILENT 250EC-L	400 l/s
EAF-9	1	SYSTEMAIR PRO SILENT FAN - 0.1 KW @ 100 Pa	PRO SILENT 150EC	150 l/s
EAF-10	1	SYSTEMAIR PRO SILENT FAN - 0.1 KW @ 100 Pa	PRO SILENT 150EC	150 l/s
EAF-11	1	CEILING MOUNTED EXTRACT FAN	Ø300	-
EAF-12	1	SYSTEMAIR THROUGH WALL WINDOW FAN	BF-W 250A	120 l/s
EAF-13	1	CEILING MOUNTED EXTRACT FAN	Ø300	-

SCHEDULE OF GRILLES, DAMPERS & DIFFUSERS

REF	NO OFF	DESCRIPTION	SIZE/TYPER
WL1	1	ALUMINUM WEATHER LOUVER CW W.M.S	600x600
WL2	1	ALUMINUM WEATHER LOUVER CW W.M.S	600x400
WL4	2	ALUMINUM WEATHER LOUVER CW W.M.S	400x300
WL5	1	ALUMINUM WEATHER LOUVER CW W.M.S	500x300
WL6	2	ALUMINUM WEATHER LOUVER CW W.M.S	300x200
WL7	1	ALUMINUM WEATHER LOUVER CW W.M.S	900x300
RF52	2	REMOVABLE PLEATED SLIDE FILTER - 100mm THICK	400x200
RF53	1	REMOVABLE PLEATED SLIDE FILTER - 100mm THICK	400x250
RF54	1	REMOVABLE PLEATED SLIDE FILTER - 100mm THICK	550x250
BD-3	1	MANUAL BALANCING DAMPER - 80 l/s	200x200
SV1	2	CEILING MOUNTED SUPPLY AIR DISC VALVE c/w Ø150 BALANCING DAMPER ON SPOGOT - 50 l/s	Ø150
SV3	46	CEILING MOUNTED SUPPLY AIR DISC VALVE c/w Ø100 BALANCING DAMPER ON SPOGOT - 25 l/s	Ø100
DV1	9	CEILING MOUNTED EXTRACT DISC VALVE - 50 l/s	Ø150
DV2	4	CEILING MOUNTED EXTRACT DISC VALVE - 75 l/s	Ø150
EG1	6	ALUMINUM EXTRACT GRILLE - 50 l/s	300x200
EG2	4	ALUMINUM EXTRACT GRILLE - 65 l/s	300x200
DG-1	10	ALUMINUM DOUBLE SIDED DOOR GRILLE	500x300
FD-1	1	MOTORIZED FIRE DAMPER	200x200

SCHEDULE OF SPLIT TYPE AC UNITS

REF	NO OFF	DESCRIPTION	DUTY COOLING	POWER SUPPLY
MWSU-3	1	SAMSUNG MIDWALL SPLIT UNIT - INVERTER TYPE INDOOR - AC07MADKH / OUTDOOR - AC07MADKH C/W INSULATED STAINLESS STEEL DRIP TRAY	8 KW	230V/1PH/1TA
MWSU-4	1	SAMSUNG MIDWALL SPLIT UNIT - INVERTER TYPE INDOOR - AC07MADKH / OUTDOOR - AC07MADKH C/W INSULATED STAINLESS STEEL DRIP TRAY	8 KW	230V/1PH/1TA
MWSU-5	1	SAMSUNG MIDWALL SPLIT UNIT - INVERTER TYPE INDOOR - AC07MADKH / OUTDOOR - AC07MADKH C/W INSULATED STAINLESS STEEL DRIP TRAY	8 KW	230V/1PH/1TA

ACDB-2

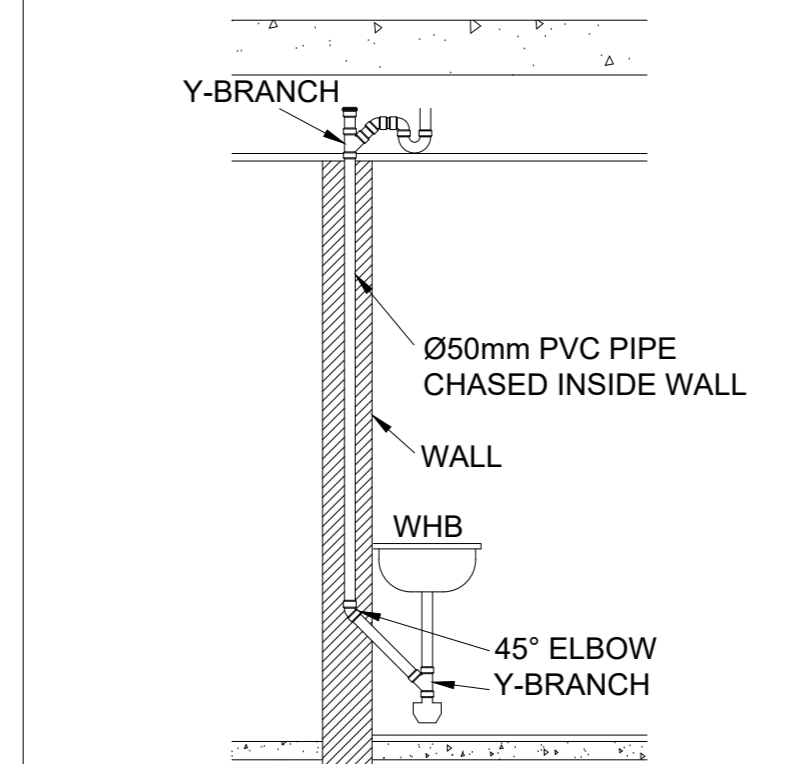
INCOMING MAINS	SAF-3	SAF-4
Motor Size (kW)	0.2	0.2
Voltmeter	✓	✓
Ammeter	✓	✓
Selector Switch	✓	✓
Pilot light for Power on	✓	✓
Fire Interlock	✓	✓
Manual-Off-Auto Switch	✓	✓
Run & Fault Lights	✓	✓
Timer	✓	✓

ACDB-3

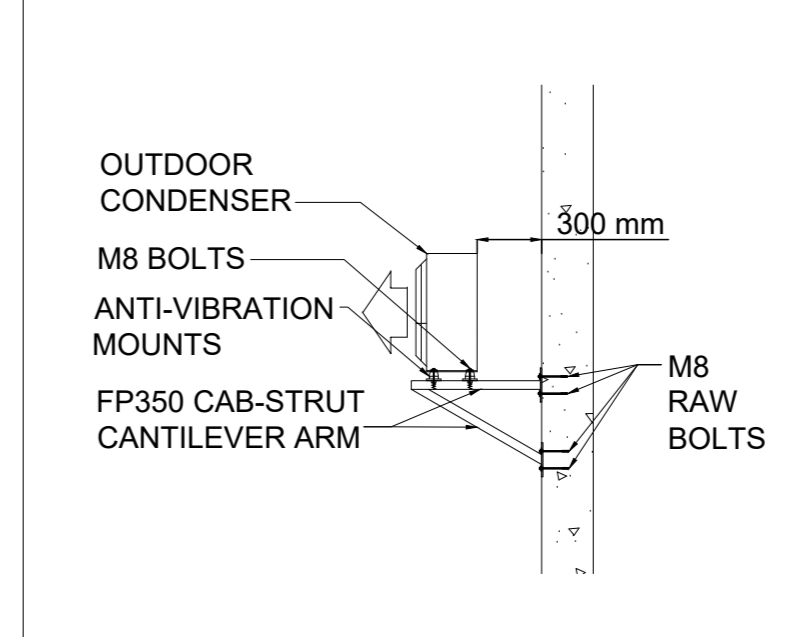
INCOMING MAINS	SAF-5
Motor Size (kW)	0.2
Voltmeter	✓
Ammeter	✓
Selector Switch	✓
Pilot light for Power on	✓
Fire Interlock	✓
Manual-Off-Auto Switch	✓
Run & Fault Lights	✓
Timer	✓
Motorised Dampers	✓

ACDB-6

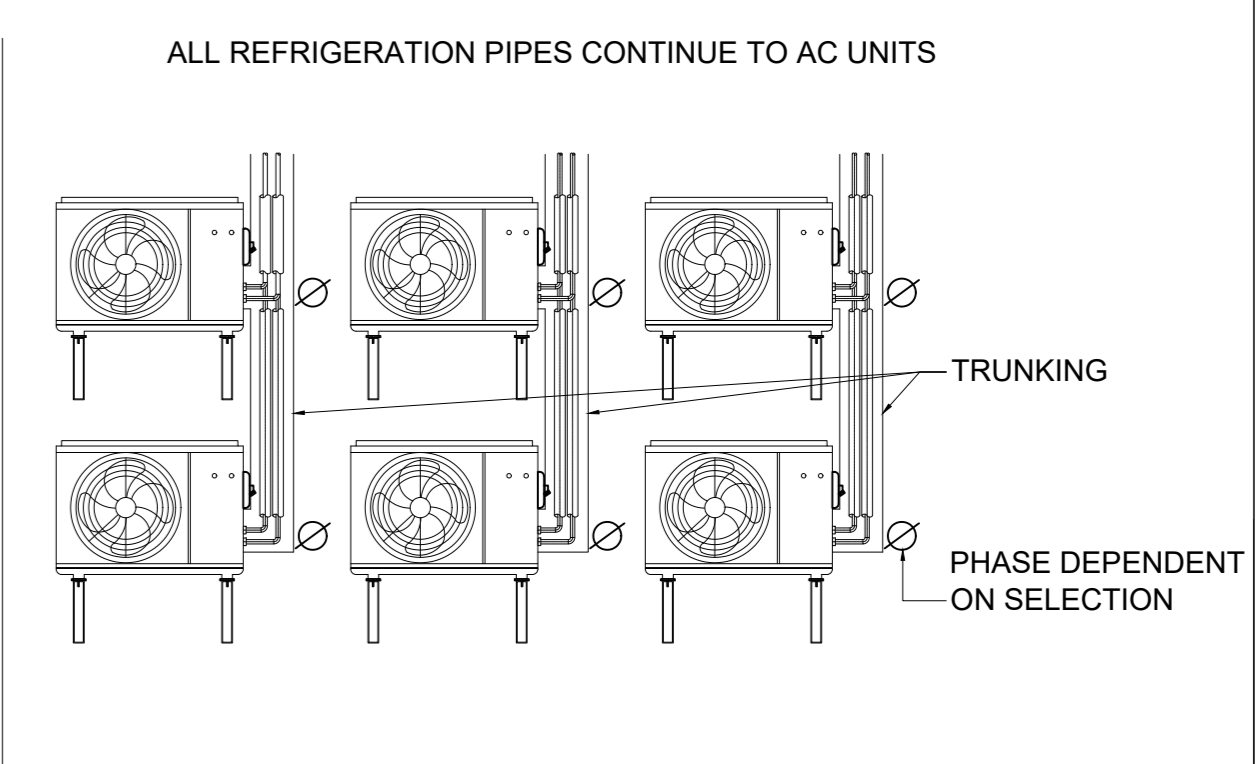
INCOMING MAINS	SAF-6
Motor Size (kW)	0.2
Voltmeter	✓
Ammeter	✓
Selector Switch	✓
Pilot light for Power on	✓
Fire Interlock	✓
Manual-Off-Auto Switch	✓
Run & Fault Lights	✓
Timer	✓



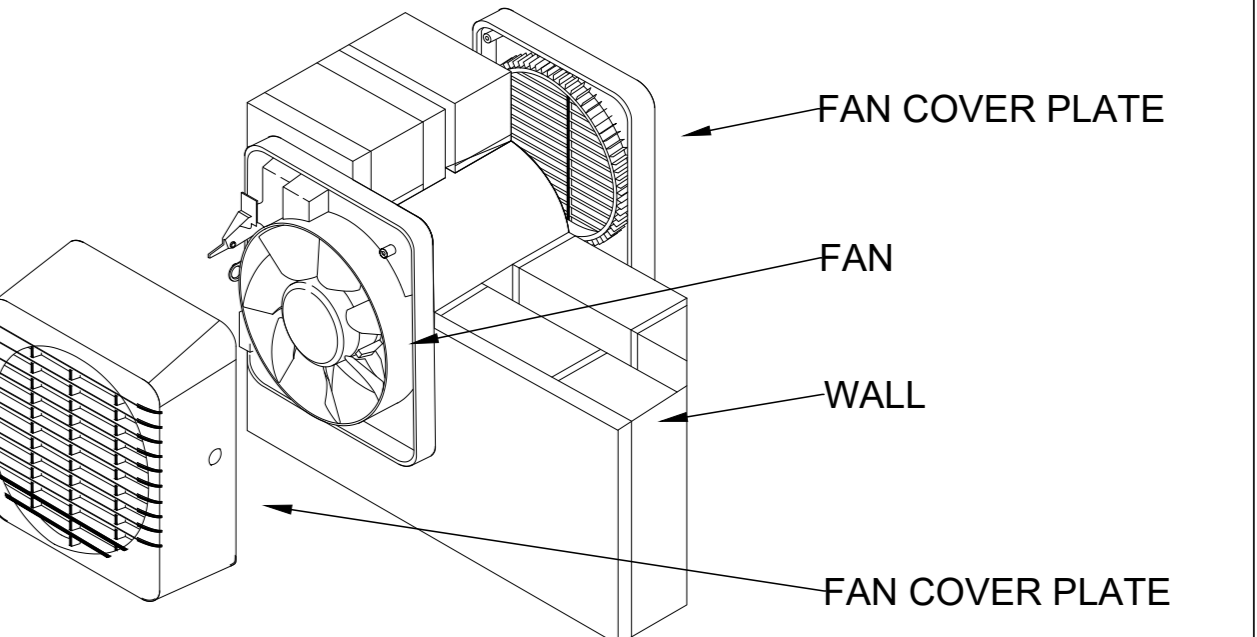
DETAIL A: TYPICAL DRAIN POINT (DP) BY PLUMBER (NTS)



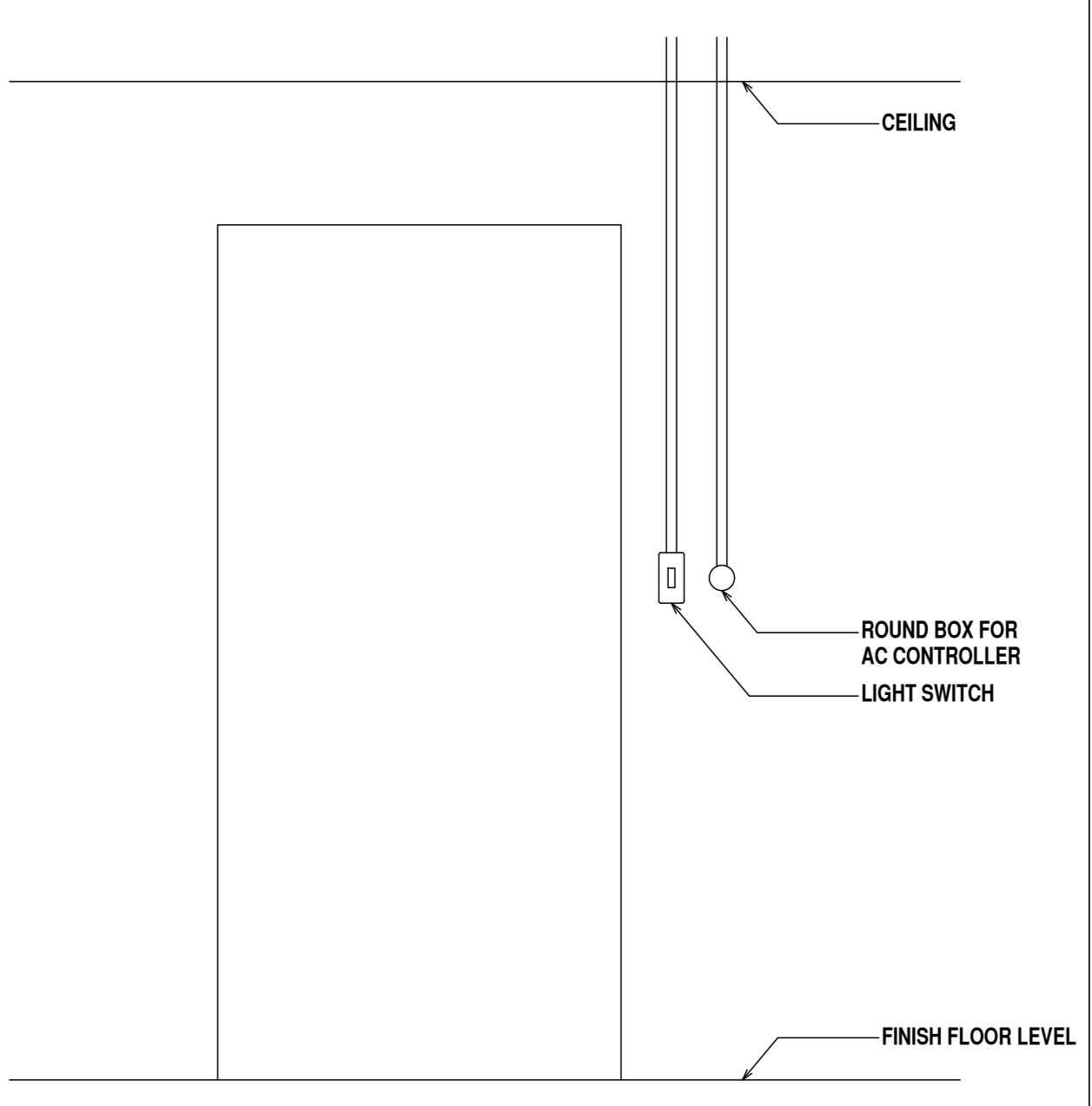
DETAIL C: TYPICAL OUTDOOR UNIT SUPPORT DETAIL (NTS)



DETAIL B: TYPICAL OUTDOOR UNIT STACKING DETAIL (NTS)



DETAIL D: TYPICAL WALL FAN INSTALLATION DETAIL



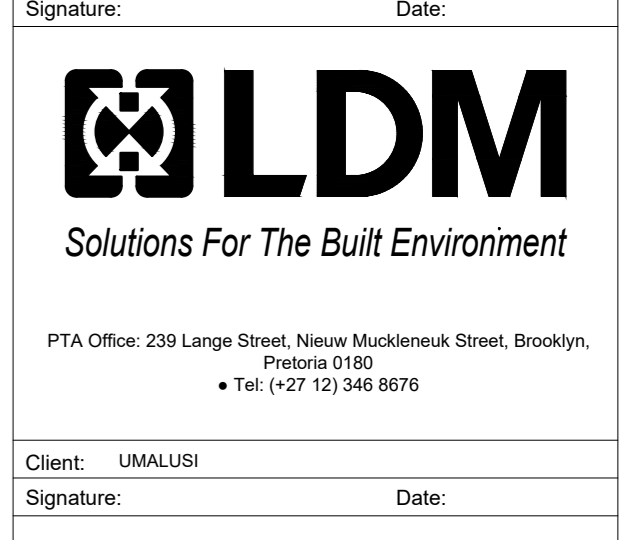
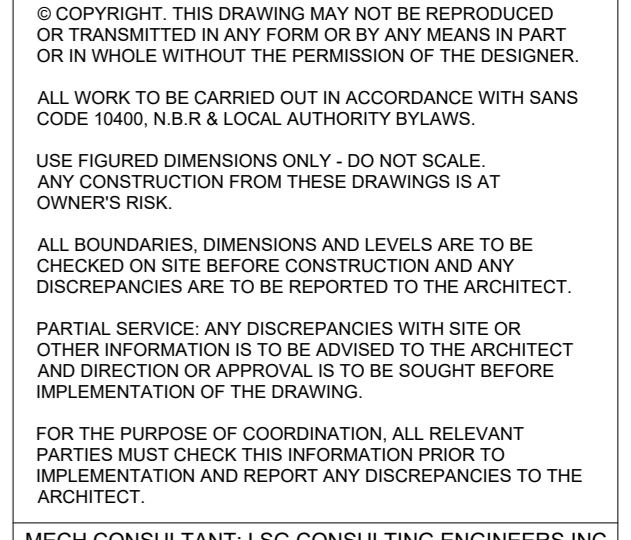
DETAIL E: CONDUIT FOR A/C CONTROLLER TO BE PROVIDED BY ELECTRICIAN / HEIGHT SAME AS LIGHT SWITCH (TYPICAL TO ALL A/C HARD WIRED CONTROLLER) (NTS)

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REVISIONS

NO.	DATE	DESCRIPTION	REV BY:
A	12/04/2020	LAYOUTS & LIMITS REDESIGNED TO SUIT NEW ARCHITECT'S LAYOUTS	LM
B	14/05/2020	SAF-6 CHANGED TO A SINGLE PHASE FAN	LM

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Signature: _____ Date: _____



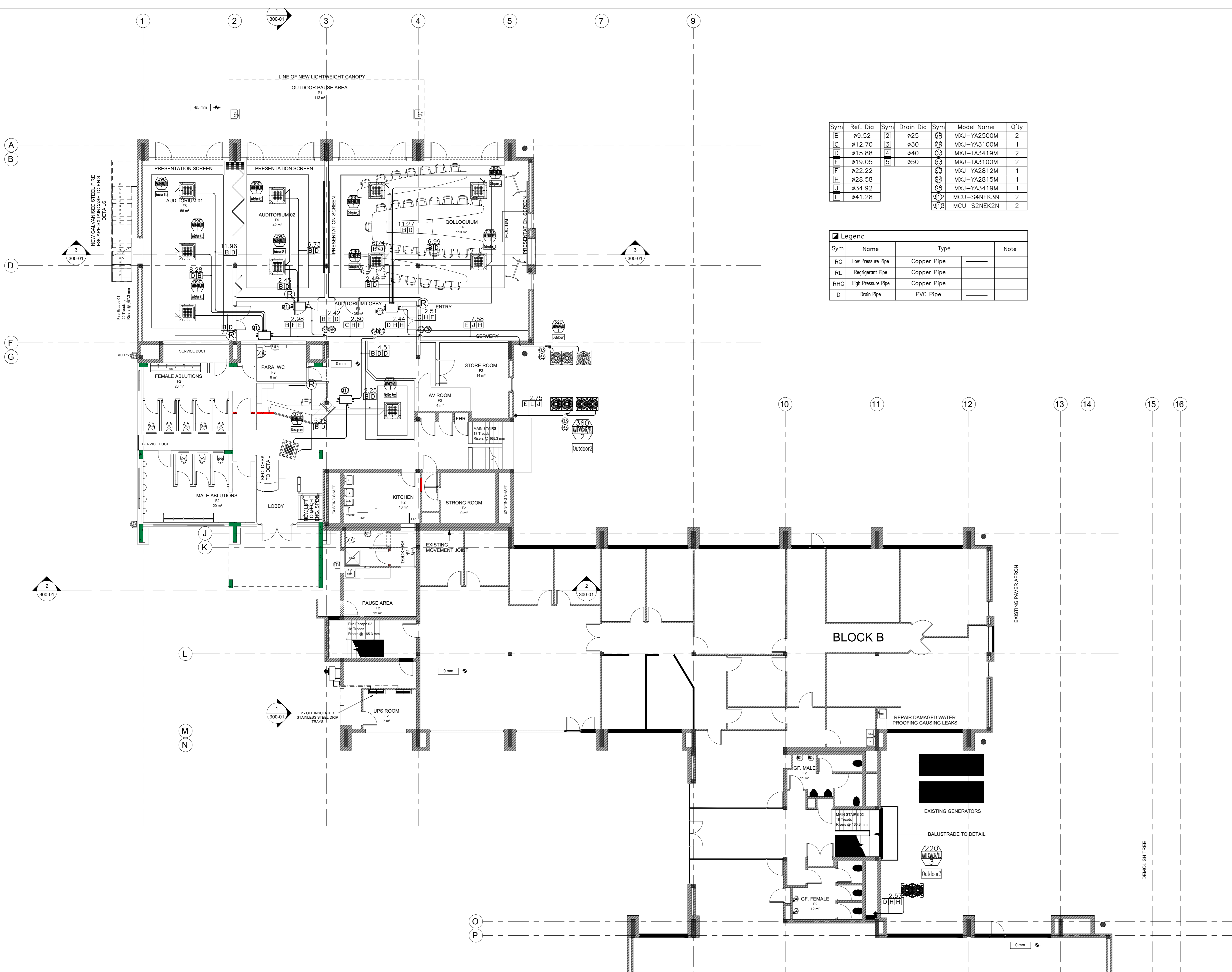
DRAWING TITLE:
FIRST FLOOR AIR CONDITIONING AND VENTILATION LAYOUT

Block Information:
Block: C1
Zone: Zone 2

Client Information:
Client: U MALUSI
Checked: GG
Date: 13/11/2019

Project Information:
Project No: LSG-GP-19-002
Drawing No: M-1001

Revision Information:
Revision: 0
Checked: LM
Date: 13/11/2019



Sym	Ref. Dia	Sym	Drain Dia	Sym	Model Name	Q'ty
B	ø9.52	2	ø25	69	MXJ-YA2500M	2
G	ø12.70	3	ø50	69	MXJ-YA3100M	1
D	ø15.88	4	ø40	69	MXJ-TA3419M	2
E	ø19.05	5	ø50	69	MXJ-TA3100M	2
F	ø22.22	6	ø50	69	MXJ-YA2812M	1
H	ø28.58	8	ø50	69	MXJ-YA2815M	1
J	ø34.92	9	ø50	69	MXJ-YA3419M	1
L	ø41.28	10	ø50	69	MXJ-YA3419M	1
M					MCU-SANEK3N	2
N					MCU-S2NEK2N	2

Sym	Name	Type	Note
RG	Low Pressure Pipe	Copper Pipe	
RL	Refrigerant Pipe	Copper Pipe	
RHG	High Pressure Pipe	Copper Pipe	
D	Drain Pipe	PVC Pipe	

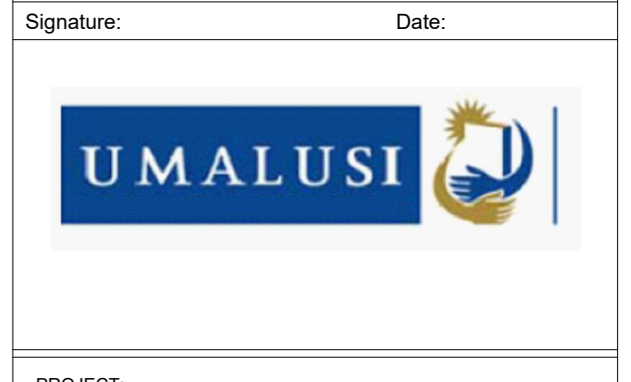
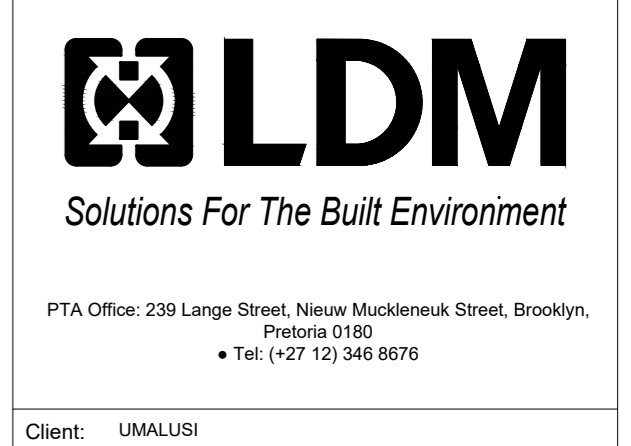
1 GROUND FLOOR LAYOUT
1:100

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FOR TENDER

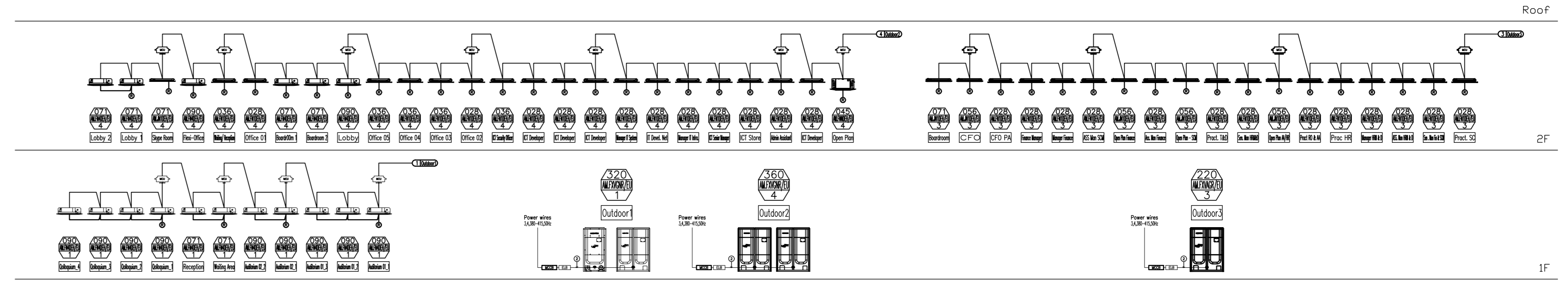
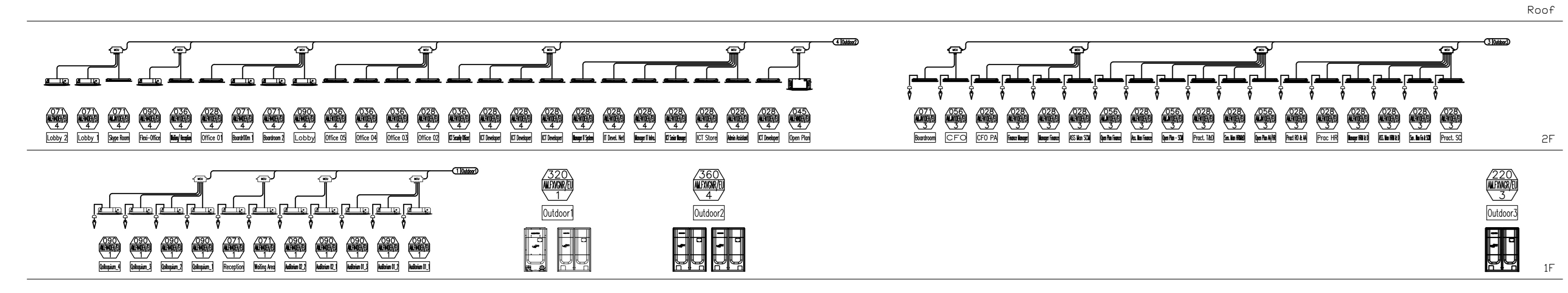
NO.	DATE	DESCRIPTION	REV BY:
A	12/04/2020	LAYOUTS & UNITS REDESIGNED TO SUIT NEW ARCHITECTS LAYOUTS	LM

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MECH CONSULTANT: LSG CONSULTING ENGINEERS INC.
Signature: _____ Date: _____



PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS:
37 GENL. VAN REYNELD ST. BRUMMERIA, PRETORIA, 0020.

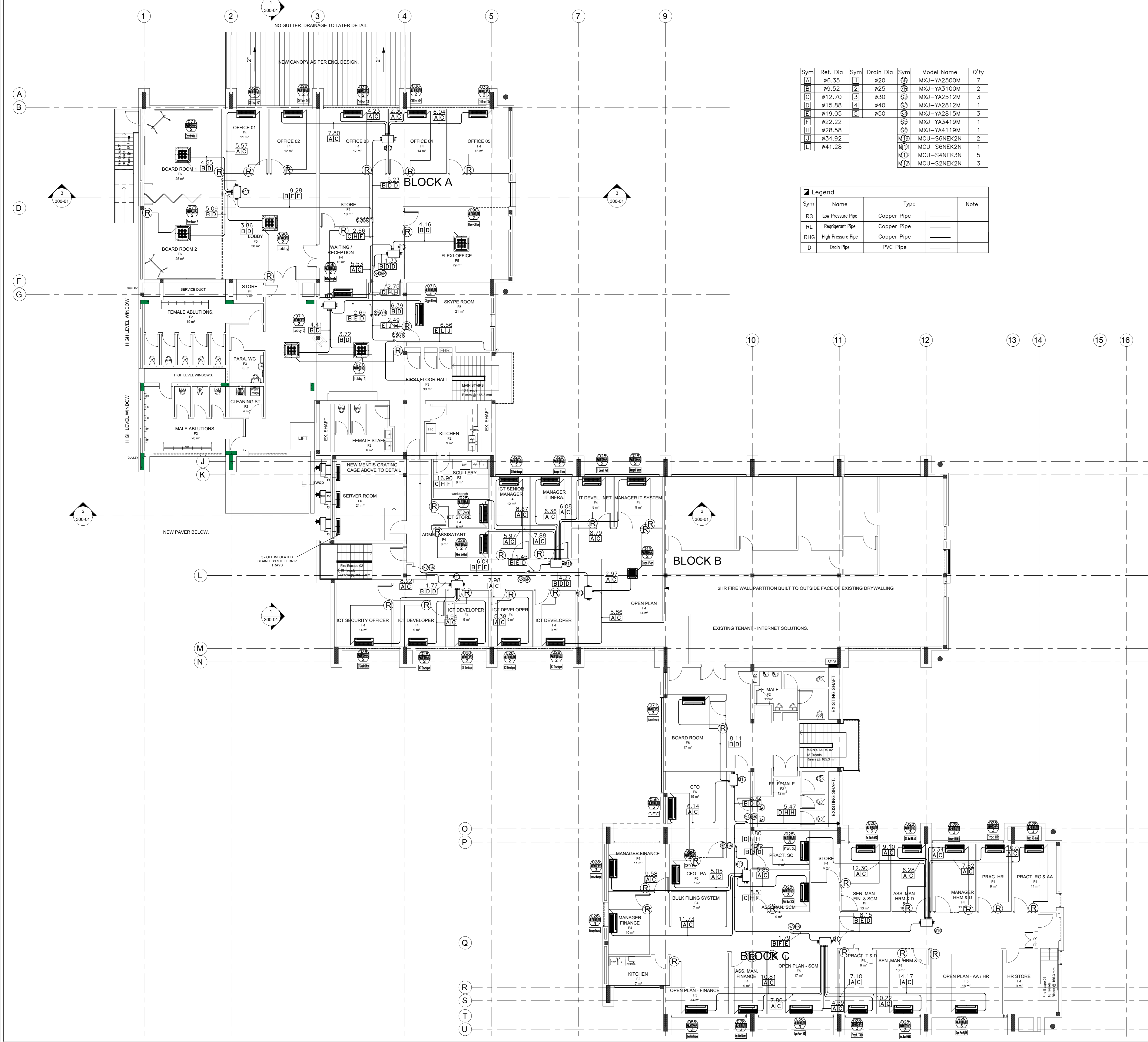
Client: UMALUSI	Date:
Signature: _____	Date: _____
PROJECT TITLE: GROUND FLOOR VRF REFRIG. PIPING LAYOUT	Zone 2
Blanking Classification: G1	Climatic Zone: Zone 2
Paper Size: A0	Scale: AS SHOWN
Drawn: LM	Checked: GG
Date: 13/11/2019	REVISION: T00
PROJECT NO: LSG-GP-19-002	DRAWING NO: M-1010



Sym	Name	Type	Note
RG	Low Pressure Pipe	Copper Pipe	
RL	Refrigerant Pipe	Copper Pipe	
RHG	High Pressure Pipe	Copper Pipe	
D	Drain Pipe	PVC Pipe	

Sym	Name	Type	Note
W	Water Control	KCF 15.50 / FC, GI, IBC	-
W.R	W.R. Control	KCF 15.50 / FC, GI, IBC	-
T	T. Cable	KCF 15.50 / FC, GI, IBC	-
F	F. Cable	Line of Equipment	-
T	T. Cable	KCF 15.50 / FC, GI, IBC	-

* When you design the power supply of outdoor unit, you have to apply the max. of power input.



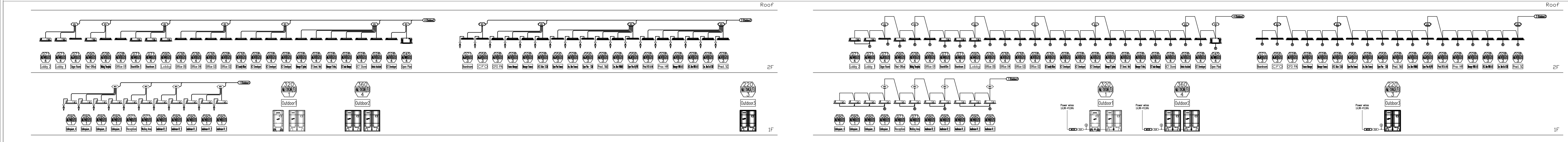
Sym	Ref. Dia	Sym	Drain Dia	Sym	Model Name	Qty
A	ø6.35	1	ø20	68	MXJ-YA2500M	7
B	ø9.52	2	ø25	79	MXJ-YA3100M	2
C	ø12.70	3	ø30	82	MXJ-YA2512M	3
D	ø15.88	4	ø40	83	MXJ-YA2812M	1
E	ø19.05	5	ø50	84	MXJ-YA2815M	3
F	ø22.22	6	ø60	85	MXJ-YA3419M	1
G	ø28.58	7	ø75	86	MXJ-YA4119M	1
H	ø34.92	8	ø90	87	MCU-S6NEK2N	2
I	ø41.28	9	ø105	88	MCU-S6NEK2N	1
J				89	MCU-S6NEK3N	5
K				90	MCU-S2NEK2N	3

Sym	Name	Type	Note
RC	Low Pressure Pipe	Copper Pipe	
RL	Refrigerant Pipe	Copper Pipe	
RHG	High Pressure Pipe	Copper Pipe	
D	Drain Pipe	PVC Pipe	

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FOR TENDER

1 FIRST FLOOR LAYOUT
 1 : 100

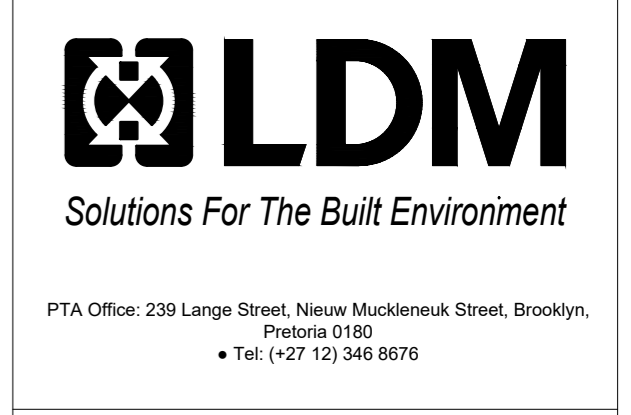


Sym	Name	Type	Note
CC	Central Controller	WF 13.52 / X, B, D, H, C	
WC	W.R. Control	WF 13.52 / X, B, D, H, C	
C	Cable	WF 13.52 / X, B, D, H, C	
P	P.Cable	LH of Equipment	
T	T.Cable	WF 13.52 / X, B, D, H, C	

* When you design the power supply of outdoor unit, you have to supply the main of power pipe.

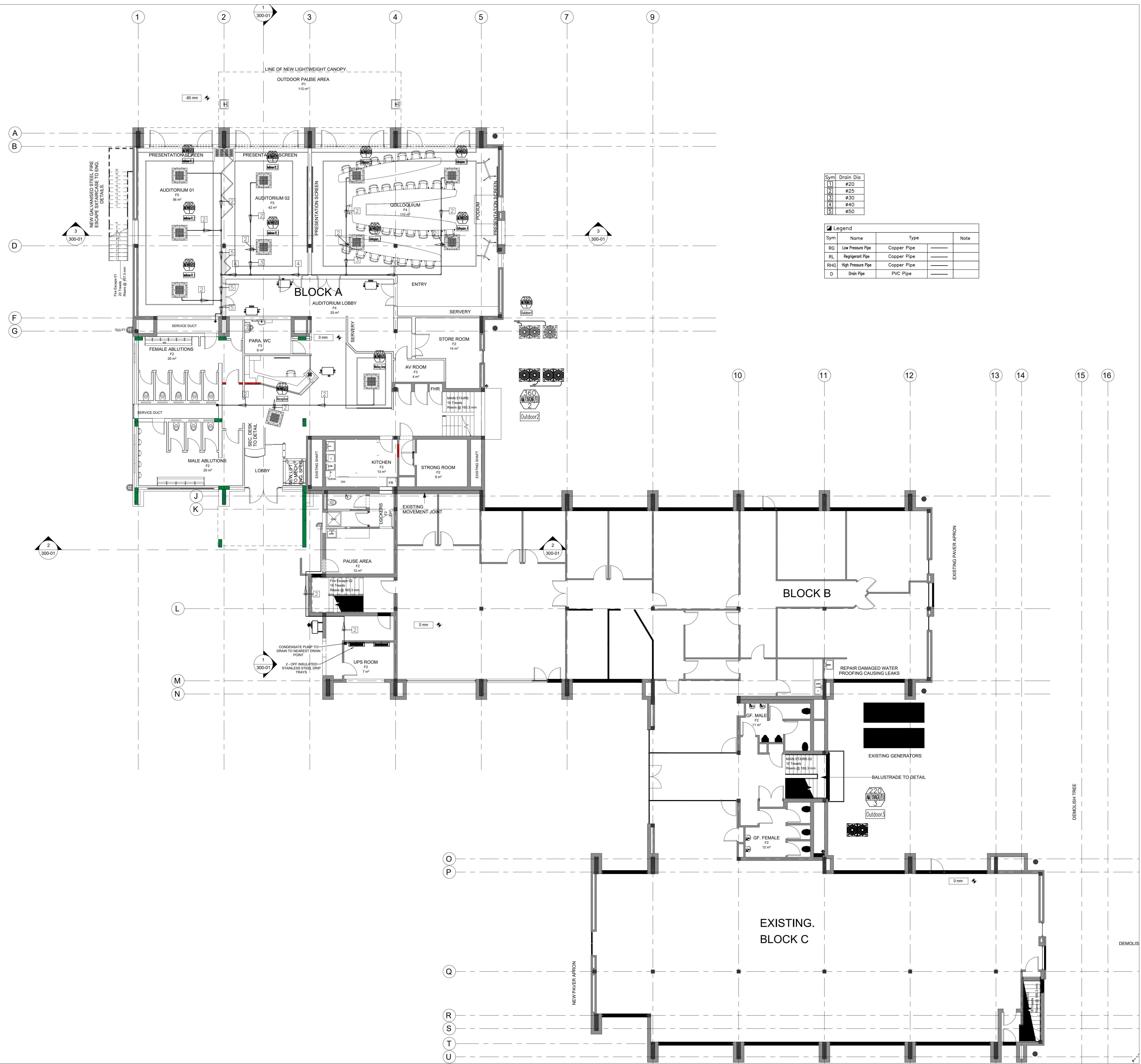
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 MECH CONSULTANT: LSG CONSULTING ENGINEERS INC.
 Signature: _____ Date: _____



PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
 ADDRESS:
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Drawing Title: FIRST FLOOR VRF REFRIG. PIPING LAYOUT	Client: UMALUSI
Blanking Classification: G1	Signature: _____
Zone: Zone 2	Date: _____
Scale: AS SHOWN	
Drawn: LM	Checked: GG
Date: 13/11/2019	
PROJECT NO: LSG-GP-19-002	REVISION:
DRAWING NO: M-1011	T00



Sym	Drain Dia
1	ø20
2	ø25
3	ø30
4	ø40
5	ø50

Sym	Name	Type	Note
RQ	Low Pressure Pipe	Copper Pipe	
RL	High Pressure Pipe	Copper Pipe	
RHC	High Pressure Pipe	Copper Pipe	
D	Drain Pipe	PVC Pipe	

1 GROUND FLOOR LAYOUT
1 : 100

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Signature: _____ Date: _____

LDM
Solutions For The Built Environment

PTA Office: 239 Lange Street, New Muckleneuk Street, Brooklyn, Pretoria 0180
Tel: (+27) 12 344 8676

Client: UMALUSI
Signature: _____ Date: _____

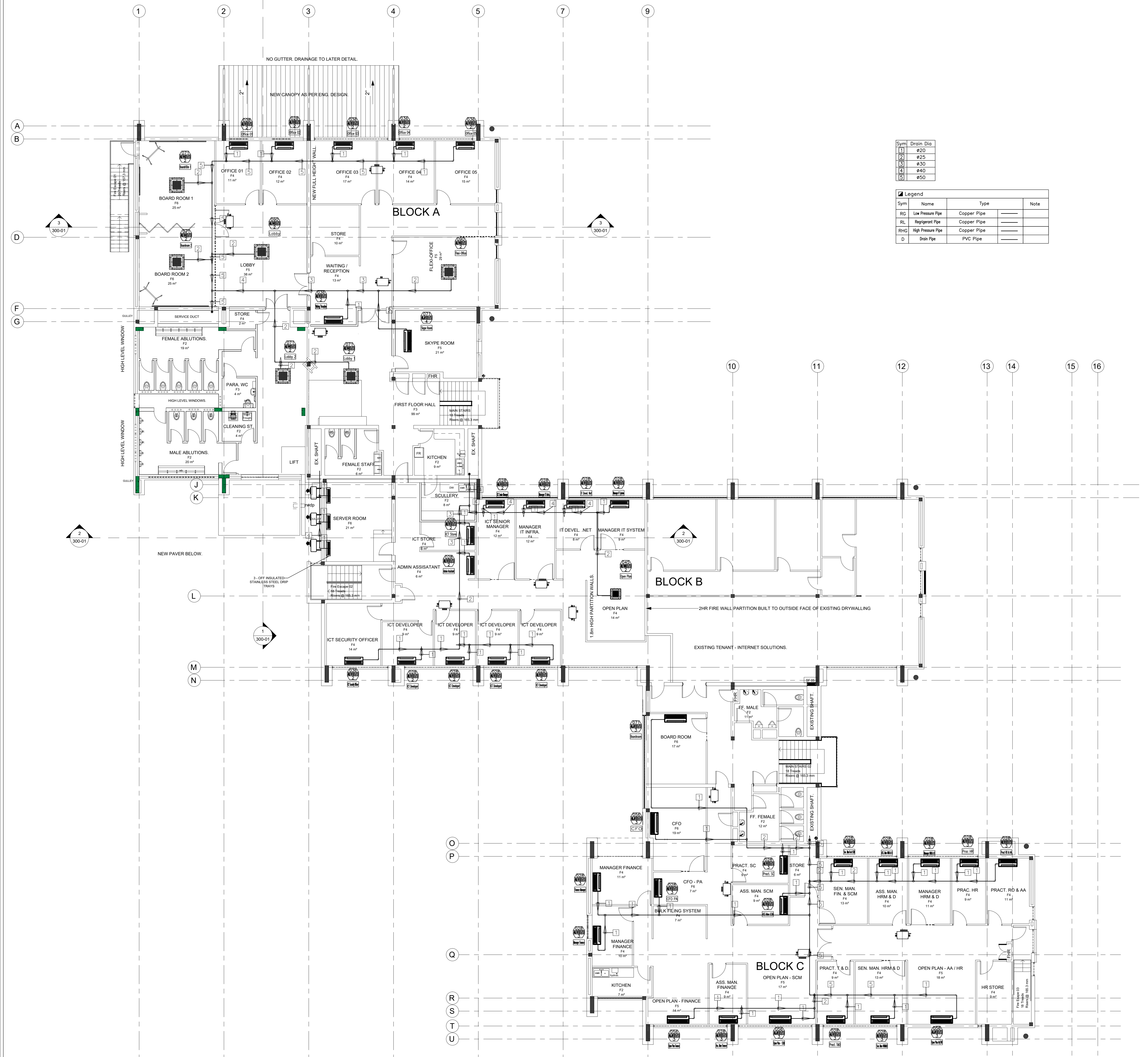
UMALUSI

PROJECT:
UMALUSI OFFICES ADDITIONS AND ALTERATIONS
ADDRESS:
37 GENL. VAN REYNVELD ST. BRUMMERIA, PRETORIA, 0020.

DRAWING TITLE:
GROUND FLOOR AIRCONDITIONING CONDENSATE DRAINAGE

Blanking Classification: G1	Climatic Zone: Zone 2
Paper Size: A0	Scale: AS SHOWN
Drawn: LM	Checked: GG
DATE: 13/11/2019	REVISION: T00

PROJECT No: LSG-GP-19-002
DRAWING No: M-1012



Sym	Drain Dis
1	Ø20
2	Ø25
3	Ø30
4	Ø40
5	Ø50

Sym	Name	Type	Note
RG	Low Pressure Pipe	Copper Pipe	
RL	High Pressure Pipe	Copper Pipe	
RHD	High Pressure Pipe	Copper Pipe	
D	Drain Pipe	PVC Pipe	

1 FIRST FLOOR LAYOUT
1 : 100

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 • Tel: (+27) 12 344 8676

Client: UMALUSI
 Signature: _____ Date: _____

UMALUSI

PROJECT:
 UMALUSI OFFICES ADDITIONS AND ALTERATIONS
 ADDRESS:
 37 GENL. VAN REYNVELD ST. BRUMMERIA, PRETORIA, 0020.

DRAWING TITLE: FIRST FLOOR AIRCONDITIONING CONDENSATE DRAINAGE	
Blanking Classification: G1	Climatic Zone: Zone 2
Paper Size: A0	Scale: AS SHOWN
Drawn: LM	Checked: GG
DATE: 13/11/2019	REVISION: T00
PROJECT No: LSG-GP-19-002	DRAWING No: M-1013