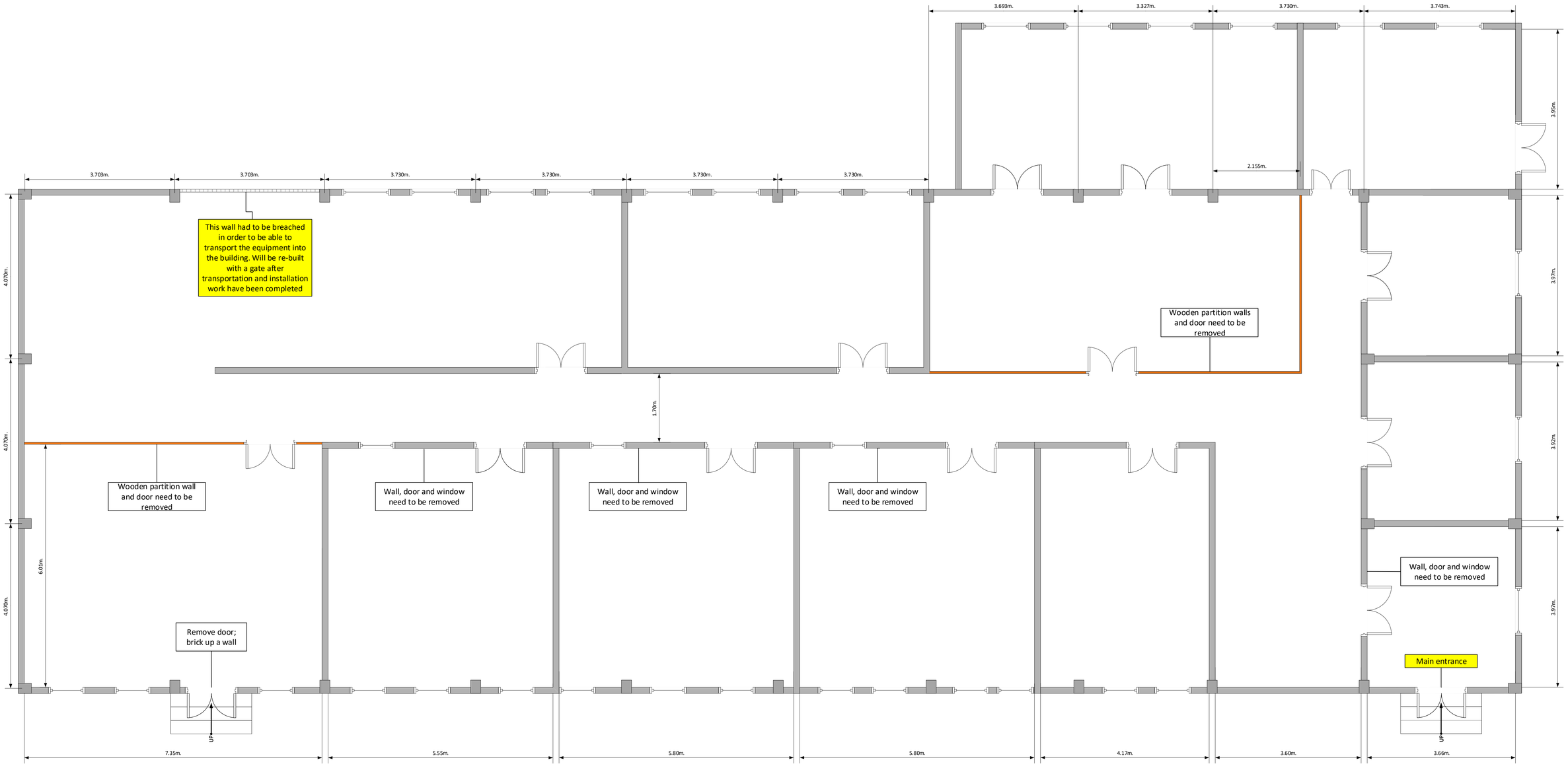
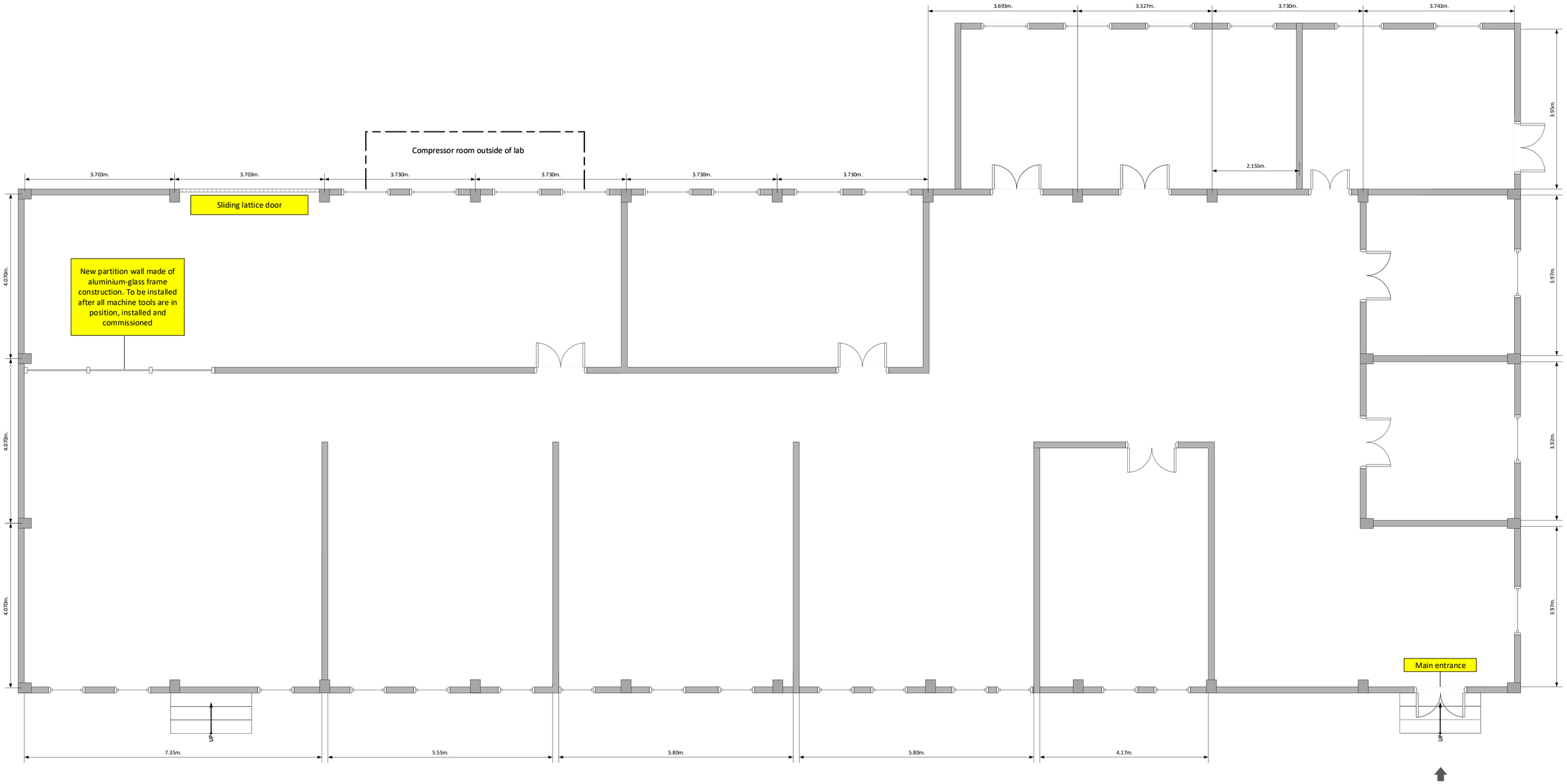
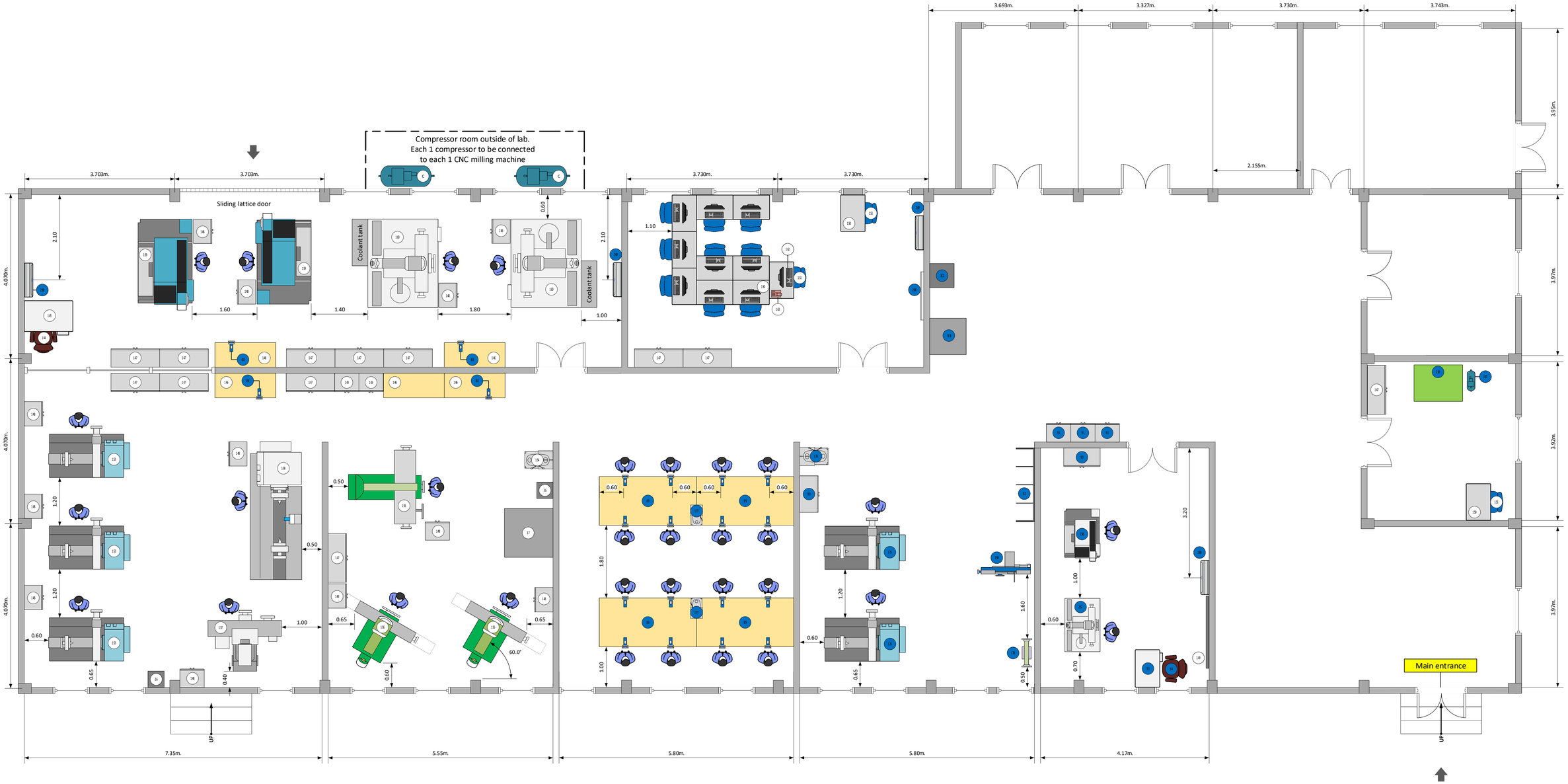


CRSP Bhopal	ITI Tura			
	ACTUAL WORKSHOP LAYOUT (as of June 2019) Operator Advanced Machine Tools Lab Fitter Lab			
Block 3	DATE 03-07-19	DRAWN BY Michael Wolf	DWG NO ITI TURA-1003-1	REV
	SCALE 1:50	APPR. BY: S. Sarse	SHEET 1 of 5	



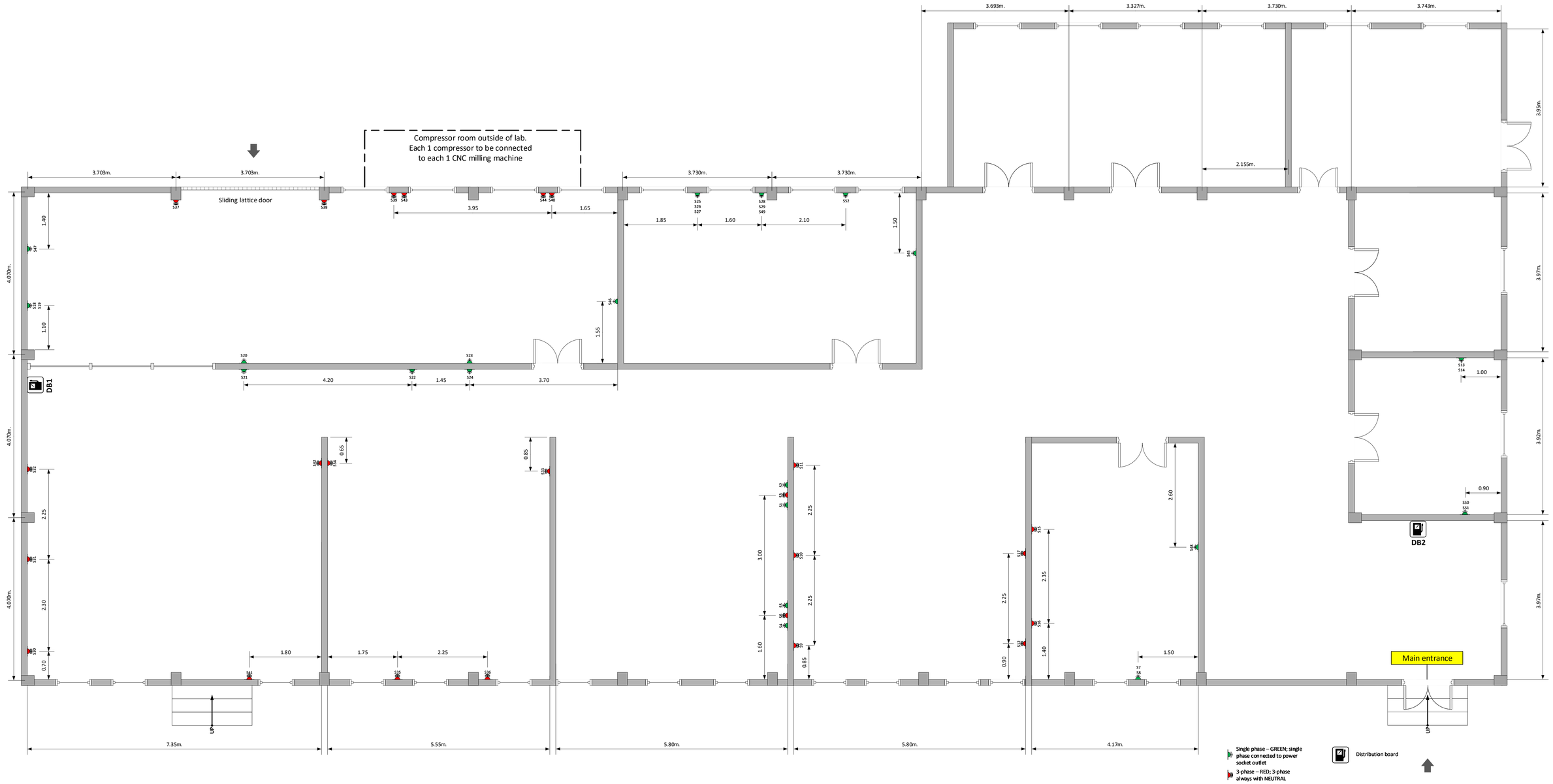
CRSP Bhopal	ITI Tura			
	WORKSHOP LAYOUT AFTER MODIFICATIONS Operator Advanced Machine Tools Lab Fitter Lab			
Block 3	DATE: 03-07-19	DRAWN BY: Michael Wolf	DWG NO: ITI TURA-1003-2	REV:
	SCALE: 1:50	APPR. BY: S. Sarse	SHEET: 2 of 5	



Item no.	FITTER Section	Quantity
32	Surface plate 600 * 600 mm, with stand	1
33	Marking off table 900 * 900 * 900 mm	3
88	Bench vise 150 mm	16
89	Workbench 2400 * 1200 * 900 mm, with drawer cabinet, on wheels	4
90	Almirah 1800 * 900 * 450 mm	2
91	Locker	3
92	Metal rack 1820 * 1820 * 450 mm	1
93	Instructor table	1
94	Instructor chair	1
147	Almirah 1800 * 1200 * 450 mm	1
149	Blackboard	1
150	Computer table	1
151	Computer chair	1
175	Lathe S.S. & S.C.	2
176	Pillar drilling machine	1
177	Bench drilling machine	2
178	Pedestal grinding machine	1
197	Compressor unit (for item no. 218)	1
218	Pneumatic workstation 1200 * 900 * 900 mm, with drawer unit, on wheels	1
256	CNC lathe	1
257	CNC milling machine	1
259	Power hacksaw	1
269	Split air conditioner 2 ton	1

	OAMT section	
36	Surface plate 400 * 400 mm, with stand	2
37	Marking off table 1200 * 1200 * 900 mm	1
88	Bench vise 150 mm	4
143	Locker	2
146	Workbench 1500 * 600 * 850 mm, with tool storage cabinet	5
147	Almirah 1800 * 1200 * 450 mm	11
148	Almirah 1200 * 600 * 450 mm	12
150	Computer table	11
151	Computer chair	11
153	Lathe S.S. & S.C.	3
154	Pillar drilling machine	1
155	Universal milling machine	1
156	Vertical milling machine	2
157	Surface grinding machine	1
158	Cylindrical grinder	1
159	CNC lathe	2
160	CNC milling machine	2
162	Desktop PC	10
163	LCD projector	1
268	Whiteboard	1
269	Split air conditioner 2 ton	3
C	Compressor (to be connected to CNC milling machine)	2

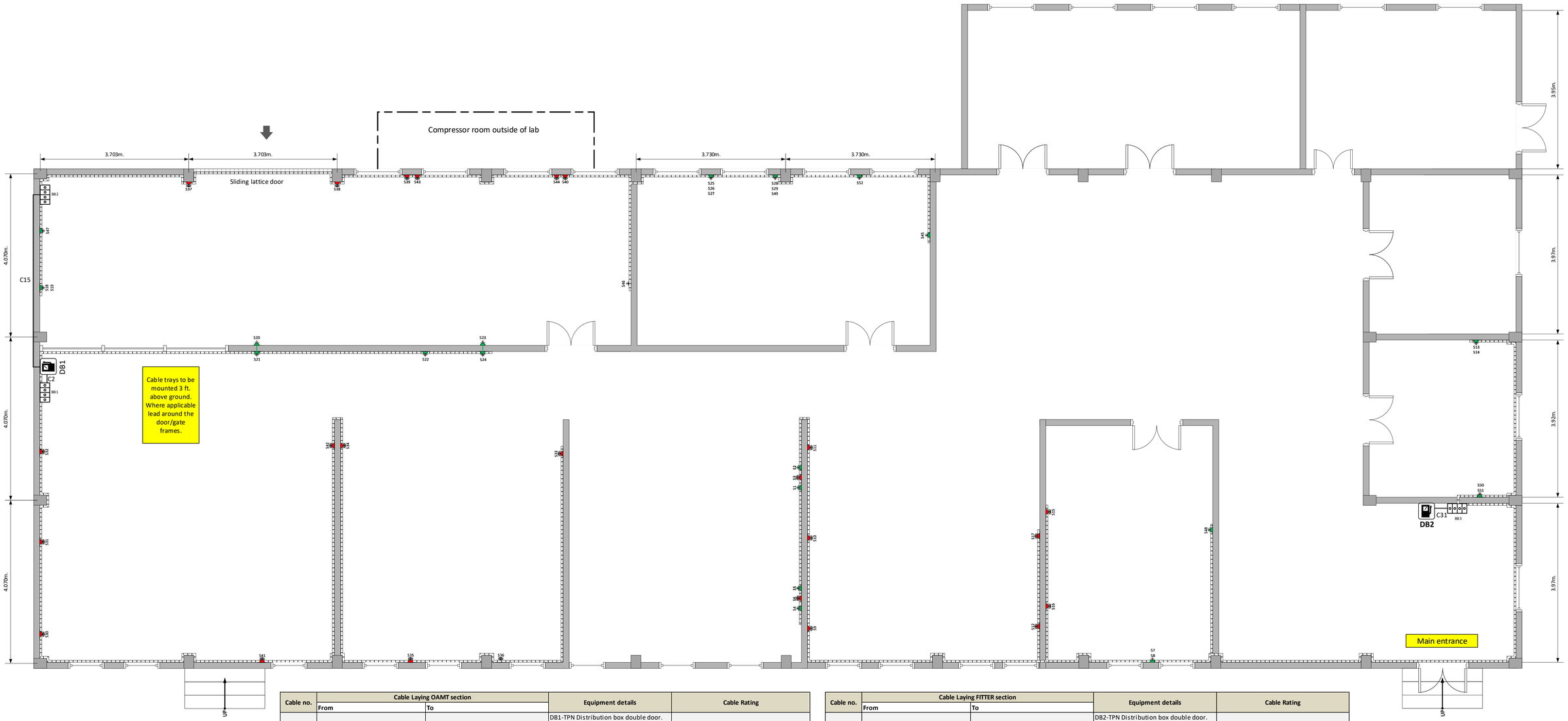
CRISP Bhopal	ITI Tura			
	EQUIPMENT LAYOUT Operator Advanced Machine Tools Lab Fitter Lab			
Block 3	DATE: 03-07-19	DRAWN BY: Michael Wolf	DWG NO: ITI TURA-1003-3	REV
	SCALE: 1:50	APPR. BY: S. Sarse	SHEET: 3 of 5	



Item no.	FITTER section	Quantity	Supply voltage [V]	Power [kW]	Current [A]	Socket no.	Power type/Phase	General remarks
89	Workbench 2400 * 1200 * 900 mm, with drawer cabinet and electrical sockets, on wheels	4	240V			S1, S2, S4, S5	1-phase	S1, S2, S4, S5 for incoming supply of workbench no. 89 (each workbench has 2 outlets - 1 outlet on each side)
93	Instructor table	1	240V		2A	S7, S8	1-phase	for computer and additional device
150	Computer table	1	240V		2A	S50, S51	1-phase	for computer and additional device
175	Lathe S.S. & S.C.	2	400V	1.5 kW	3.75A	S9, S10	3-phase	1 socket for each machine
176	Pillar drilling machine	1	400V	0.375 kW	1.7A	S11	3-phase	
177	Bench drilling machine	2	400V	0.375 kW	1.7A	S3, S6	3-phase	1 socket for each machine
178	Pedestal grinding machine	1	400V	1.5 kW	3.6A	S12	3-phase	
197	Compressor unit (for item 218)	1	240V		app. 2A	S13	1-phase	
218	Pneumatic workstation 1200 * 900 * 900 mm, with drawer	1	240V	1 kW	app. 2A	S14	1-phase	
256	CNC lathe	1	400V	6 kW	15A	S15	3-phase	
257	CNC milling machine	1	400V	8 kW	20A	S16	3-phase	
259	Power hacksaw	1	400V	1.12 kW	2.7A	S17	3-phase	
269	Air conditioner 2 ton	1	240V	2 kW	10A	S48	1-phase	
DB2	Distribution board	1	400V			DB2	3-phase	for Fitter lab supply including MCCB, ELCB, MCB

Item no.	OAMT section	Quantity	Supply voltage [V]	Power [kW]	Current [A]	Socket no.	Power type/Phase	General remarks
145	Instructor table	1	240V		2A	S18, S19	1-phase	for computer and additional device
146	Workbench 1500 * 600 * 850 mm, with tool storage cabinet	5	240V		app. 2A	S20, S21, S22, S23, S24	1-phase	for power tools and other devices
150 + 162	Computer table (11) + Desktop PC (10)	11 (10)	240V		app. 3A each	S25, S26, S27, S28, S29, S52	1-phase	1-phase supply point incorporating with modular board, 3 sockets + 3 switches
153	Lathe S.S. & S.C.	3	400V	1.5 kW	3.75A	S30, S31, S32	3-phase	1 socket for each machine
154	Pillar drilling machine	1	400V	0.375 kW	1.7A	S33	3-phase	
155	Universal milling machine	1	400V	6 kW	14.5A	S34	3-phase	
156	Vertical milling machine	2	400V	4.6 kW	11.2A	S35, S36	3-phase	1 socket for each machine
157	Surface grinding machine	1	400V	5.9 kW	14.2A	S41	3-phase	
158	Cylindrical grinder	1	400V	8 kW	19.6A	S42	3-phase	
159	CNC lathe	2	400V	6 kW	15A	S37, S38	3-phase	1 socket for each machine
160	CNC milling machine	2	400V	8 kW	20A	S39, S40	3-phase	1 socket for each machine
C	Compressor (for CNC milling machine)	2	400V	2.2 kW	6A	S43, S44	3-phase	1 socket for each compressor
163	LCD projector	1	240V	0.7 kW	3A	S49	1-phase	
269	Air conditioner 2 ton	3	240V	2 kW	10A	S45, S46, S47	1-phase	1 socket for each a/c
DB1	Distribution board	1	400V			DB1	3-phase	for OAMT lab supply including MCCB, ELCB, MCB

CRSP Bhopal	ITI Tura		
	ELECTRIFICATION LAYOUT – Socket outlets Operator Advanced Machine Tools Lab Fitter Lab		
Block 3	DATE 03-07-19	DRAWN BY Michael Wolf	DWG NO ITI TURA-1003-4 / REV
	SCALE 1:50	APPR. BY: V. Saxena	SHEET 4 of 5



Cable no.	Cable Laying OAMT section		Equipment details	Cable Rating
	From	To		
C1	From main distribution panel	Distribution board DB1 mounted next to CNC lab in OAMT section	DB1-TPN Distribution box double door. Main incomer-100 AMP MCCB FP and 63A, 100mA, 4P ELCB connected after MCCB. 1) Outgoing 40A TPN MCB - 02 Nos. 2) Outgoing SP MCB 10A - 03 Nos.	35 sqmm 4 core armed copper
C2	40A TPN DB (distribution board DB1)	63A, 4Pole, Bus Bar Panel (BB1)	-	PVC, 16 sqmm, 4 core flexible copper cable
C3	Bus bar BB1	Socket outlet S32; 16A TPN MCB box	No. 153 - Lathe S.S. & S.C.	PVC, 1.5 sqmm, 4 core flexible copper cable
C4	Bus bar BB1	Socket outlet S31; 16A TPN MCB box	No. 153 - Lathe S.S. & S.C.	PVC, 1.5 sqmm, 4 core flexible copper cable
C5	Bus bar BB1	Socket outlet S30; 16A TPN MCB box	No. 153 - Lathe S.S. & S.C.	PVC, 1.5 sqmm, 4 core flexible copper cable
C6	Bus bar BB1	Socket outlet S41; 20A TPN MCB box	No. 157 - Surface grinding machine	PVC, 2.5 sqmm, 4 core flexible copper cable
C7	Bus bar BB1	Socket outlet S42; 25A TPN MCB box	No. 158 - Cylindrical grinder	PVC, 4 sqmm, 4 core flexible copper cable
C8	Bus bar BB1	Socket outlet S34; 20A TPN MCB box	No. 155 - Universal milling machine	PVC, 2.5 sqmm, 4 core flexible copper cable
C9	Bus bar BB1	Socket outlet S35; 16A TPN MCB box	No. 156 - Vertical milling machine	PVC, 2.5 sqmm, 4 core flexible copper cable
C10	Bus bar BB1	Socket outlet S36; 16A TPN MCB box	No. 156 - Vertical milling machine	PVC, 2.5 sqmm, 4 core flexible copper cable
C11	Bus bar BB1	Socket outlet S33; 16A TPN MCB box	No. 154 - Pillar drilling machine	PVC, 1.5 sqmm, 4 core flexible copper cable
C12	Bus bar BB1	Socket outlet S20 + S21; 10A SP MCB box	No. 146 - Workbench (both S20 + S21)	PVC, 1.5 sqmm, 3 core flexible copper cable
C13	Bus bar BB1	Socket outlet S22; 6A SP MCB box	No. 146 - Workbench	PVC, 1.5 sqmm, 3 core flexible copper cable
C14	Bus bar BB1	Socket outlet S23 + S24; 10A SP MCB box	No. 146 - Workbench (both S23 + S24)	PVC, 1.5 sqmm, 3 core flexible copper cable
C15	40A TPN MCB (distribution board DB1)	63A, 4Pole, Bus Bar Panel (BB2)	-	PVC, 16 sqmm, 4 core flexible copper cable
C16	Bus bar BB2	Socket outlet S47; 20A SP MCB box	No. 269 - Air conditioner	PVC, 2.5 sqmm, 3 core flexible copper cable
C17	Bus bar BB1	Socket outlets S18 + S19; 10A SP MCB box	No. 145 - Instructor table	PVC, 1.5 sqmm, 3 core flexible copper cable
C18	Bus bar BB2	Socket outlet S37; 20A TPN MCB box	No. 159 - CNC lathe	PVC, 2.5 sqmm, 4 core flexible copper cable
C19	Bus bar BB2	Socket outlet S38; 16A TPN MCB box	No. 159 - CNC lathe	PVC, 2.5 sqmm, 4 core flexible copper cable
C20	Bus bar BB2	Socket outlet S39; 25A TPN MCB box	No. 160 - CNC milling machine	PVC, 4 sqmm, 4 core flexible copper cable
C21	Bus bar BB2	Socket outlet S43; 10A TPN MCB box	No. C - Compressor	PVC, 1.5 sqmm, 4 core flexible copper cable
C22	Bus bar BB2	Socket outlet S44; 10A TPN MCB box	No. C - Compressor	PVC, 1.5 sqmm, 4 core flexible copper cable
C23	Bus bar BB2	Socket outlet S40; 25A TPN MCB box	No. 160 - CNC milling machine	PVC, 4 sqmm, 4 core flexible copper cable
C24	Bus bar BB2	Socket outlet S46; 20A SP MCB box	No. 269 - Air conditioner	PVC, 2.5 sqmm, 3 core flexible copper cable
C25	10 Amp, SP, MCB mounted on DB1	Socket outlets S25 + S26 + S27; each outlet switch board incorporated with 3 Nos. 5A sockets + 3 Nos. 5A switches, 240 VAC	No. 150 + no. 162 - Computer table + Desktop PC	PVC, 1.5 sqmm, 3 core flexible copper cable
C26	10 Amp, SP, MCB mounted on DB1	Socket outlets S28+ S29; each outlet switch board incorporated with 3 Nos. 5A sockets + 3 Nos. 5A switches, 240 VAC	No. 150 + no. 162 - Computer table + Desktop PC	PVC, 1.5 sqmm, 3 core flexible copper cable
C27	Bus bar BB2	Socket outlet S49; 10A SP MCB box	No. 163 - LCD projector	PVC, 1.5 sqmm, 3 core flexible copper cable
C28	Bus bar BB2	Socket outlet S52; 6A SP MCB box	No. 150 - Computer table	PVC, 1.5 sqmm, 3 core flexible copper cable
C29	Bus bar BB2	Socket outlet S45; 20A SP MCB box	No. 269 - Air conditioner	PVC, 2.5 sqmm, 3 core flexible copper cable

Cable no.	Cable Laying FITTER section		Equipment details	Cable Rating
	From	To		
C30	From main distribution panel	Distribution board DB2 mounted opposite of main entrance	DB2-TPN Distribution box double door. Main incomer-100A MCCB FP and 63A, 100mA, 4P ELCB connected after MCCB. 1) Outgoing 40A TPN MCB - 02 Nos. 2) Outgoing SPN MCB 10A - 02 Nos. 3) Outgoing DP 20A MCB - 02 Nos.	35 sqmm 4 core armed copper
C31	40A TPN DB (distribution board DB2)	63A, 4Pole, Bus Bar Panel (BB3)	-	PVC, 16 sqmm, 4 core flexible copper cable
C32	Bus bar BB3	Socket outlets S50 + S51; 10A SP MCB box	No. 150 - Computer table	PVC, 1.5 sqmm, 3 core flexible copper cable
C33	Bus bar BB3	Socket outlet S13; 6A SP MCB box	No. 197 - Compressor unit for pneumatic workstation	PVC, 1.5 sqmm, 3 core flexible copper cable
C34	Bus bar BB3	Socket outlet S14; 6A SP MCB box	No. 218 - Pneumatic workstation	PVC, 1.5 sqmm, 3 core flexible copper cable
C35	Bus bar BB3	Socket outlets S7 + S8; 10A SP MCB box	No. 93 - Instructor table	PVC, 1.5 sqmm, 3 core flexible copper cable
C36	Bus bar BB3	Socket outlet S48; 20A SP MCB box	No. 269 - Air conditioner	PVC, 2.5 sqmm, 3 core flexible copper cable
C37	Bus bar BB3	Socket outlet S16; 25A TPN MCB box	No. 257 - CNC milling machine	PVC, 4 sqmm, 4 core flexible copper cable
C38	Bus bar BB3	Socket outlet S15; 20A TPN MCB box	No. 256 - CNC lathe	PVC, 2.5 sqmm, 4 core flexible copper cable
C39	Bus bar BB3	Socket outlet S12; 16A TPN MCB box	No. 178 - Pedestal grinding machine	PVC, 1.5 sqmm, 4 core flexible copper cable
C40	Bus bar BB3	Socket outlet S17; 16A TPN MCB box	No. 259 - Power hacksaw	PVC, 1.5 sqmm, 4 core flexible copper cable
C41	Bus bar BB3	Socket outlet S9; 16A TPN MCB box	No. 175 - Lathe S.S. & S.C.	PVC, 1.5 sqmm, 4 core flexible copper cable
C42	Bus bar BB3	Socket outlet S10; 16A TPN MCB box	No. 175 - Lathe S.S. & S.C.	PVC, 1.5 sqmm, 4 core flexible copper cable
C43	Bus bar BB3	Socket outlet S11; 16A TPN MCB box	No. 176 - Pillar drilling machine	PVC, 1.5 sqmm, 4 core flexible copper cable
C44	Bus bar BB3	Socket outlet S2; 6A SP MCB box	No. 89 - Workbench	PVC, 1.5 sqmm, 3 core flexible copper cable
C45	Bus bar BB3	Socket outlet S3; 16A TPN MCB box	No. 177 - Bench drilling machine	PVC, 1.5 sqmm, 4 core flexible copper cable
C46	Bus bar BB3	Socket outlet S1; 6A SP MCB box	No. 89 - Workbench	PVC, 1.5 sqmm, 3 core flexible copper cable
C47	Bus bar BB3	Socket outlet S5; 6A SP MCB box	No. 89 - Workbench	PVC, 1.5 sqmm, 3 core flexible copper cable
C48	Bus bar BB3	Socket outlet S6; 16A TPN MCB box	No. 177 - Bench drilling machine	PVC, 1.5 sqmm, 4 core flexible copper cable
C49	Bus bar BB3	Socket outlet S4; 6A SP MCB box	No. 89 - Workbench	PVC, 1.5 sqmm, 3 core flexible copper cable

Single phase – GREEN; single phase connected to power socket outlet

3-phase – RED; 3-phase always with NEUTRAL

Cable tray

Distribution board

Bus bar

CRISP Bhopal	ITI Tura		
	ELECTRIFICATION LAYOUT – Cables Operator Advanced Machine Tools Lab Fitter Lab		
Block 3	DATE: 03-07-19	DRAWN BY: Michael Wolf	DWG NO: ITI TURA-1003-5 / REV
	SCALE: 1:50	APPR. BY: V. Saxena	SHEET: 5 of 5

Michael Wolf