

CORRIGENDUM: ADDITIONAL DETAILS and CLARIFICATIONS

Tender No: IISc/Tender-IDS-BE-10/2023-24

For "Supply, Installation, Testing and Commissioning of laboratory furniture in the lower ground floor at the IDR Building in IISc, Bangalore

The following additional eligibility criteria is provided for the Tender No: **IISc/Tender-IDS-BE-10/2023-24** For "Supply, Installation, Testing and Commissioning of laboratory furniture in the lower ground floor at the IDR Building in IISc, Bangalore

1. Drawings of the following have been added in the corrigendum at the end of the document:

- (a). Lab furniture layout,
- (b). Lab furniture scope,
- (c). LGF-piping layout
- (d). P&ID -CO₂
- (e). P&ID -N₂
- (f). P&ID -Portable water
- (g). C-Frame -island table
- (h). C-Frame- wall bench with overhead cabinets
- (i). C-Frame- wall bench with sink
- (j). C-Frame -wall bench with spot extractor
- (h). Typical Fume hood, snorkel connection details.

2. Page 7, Section 2.18 "Tender validity", currently reads "Tenders shall remain valid for a period not less than **180 days** after the deadline date for tender submission. A tender valid for a shorter period shall be rejected by the IISc as non- responsive".

Please read it revised as follows: "The tender validity will be for a period of 180 days and vendor bid validity for 90 days after the deadline date for tender submission. A bid valid for a shorter period than 90 days will be rejected.

3. Page 4, regarding EMD and in Page 7, Section 2.19, Earnest money deposit (EMD) currently says "Earnest Money to be deposited with the tender Rs.8,00,000. The Bidder shall furnish, as part of his tender, earnest money deposit (EMD) of 800,000 (Rupees 8 lakhs only). **The Bidder has to pay the Earnest Money Deposit (EMD) in the form of Demand draft drawn on "The Registrar, IISc" payable at "Bangalore"**.

Please see the revised statement "The Bidder can pay the Earnest Money Deposit (EMD) in the form of bank guarantee to "The Registrar, IISc" payable at "Bangalore".

4. Section 2.39, Payment terms, currently reads:

- a) First 80% against the supply of material on prorata basis in 30 days.
- All material (electronic or otherwise) must be supplied within 140 days of the generation of

Purchase Order (PO).

- If the material is not supplied within 80 days, the bidder must provide a written explanation of the causes for delay.

Please consider the revised statement as:

a) First 80% against the supply of material on prorated basis in 30 days.

- All material (electronic or otherwise) must be supplied within 140 days of the generation of Purchase Order (PO).
- If the material is not supplied within **140 days**, the bidder must provide a written explanation of the causes for delay.

5. Page 5, Under 2.8 it currently reads "The rates quoted should reflect all taxes. The bid evaluation will be done inclusive of all Taxes / Cess. / Royalty etc. The statutory levies as per Govt. guidelines will be deducted. The IISc reserves the right to accept / reject any or all the tenders without assigning any reasons.

Clarification: Taxes and cess are applicable for this tender. The rates are as per Govt of India/State govt rules

6. Page 13, Declaration of Tenderer, currently reads "Name of Work: Supply, Installation, Testing and Commissioning of Audio-Visual Systems at the IDR Building in IISc, Bangalore"

Please consider the revised statement: "Name of work: Supply, Installation, Testing and Commissioning of laboratory furniture in the lower ground floor at the IDR Building in IISc, Bangalore

7. Page 114: We have now provided the make for auto sash for fume hood below:

Please consider - Tel and Schneider Electronic

8. Page 14, Eligibility criteria, currently it mentions:

"The bidder should have experience in having successfully completed "similar" works in CFTIs or government laboratories/institutes during the last five years ending with the date of submission of tenders; should have completed at least one similar work costing not less than 5 crores or two similar works each costing no less than 3 crores".

Please consider the revised statement:

"The bidder should have experience in having successfully completed "similar" works in CFTIs or government laboratories/institutes during the last five years ending with the date of submission of tenders; should have completed at least one similar work costing not less than **4 crores** or two similar works each costing no less than 3 crores".

9. Please consider the following specification in the BOQ for 1200mm (W) Fume hoods mentioned in the tender:

- Bench Top Constant Air Volume Fume Hoods
- Base Unit (600 W X 550 D X 900 H) with Vent Holes. Providing and supply of 2 door Double Skin Solvent storage cabinets of 90 minutes fire rating, UL labelled and specifically designed for the storage of flammable and combustible liquids. Construction shall be based upon the requirements listed by UL, UFC, OSHA, and NFPA No. 30 – 1993. The cabinet shall be labelled: “FLAMMABLE – KEEP FIRE AWAY”. One number adjustable shelf and two numbers of PP tray, for both bottom and intermediate shelf.
- Base Unit with (600 W X 550 D X 900 W) with Vent Holes. Providing and supply of 2 Door Fume hood Acid Storage Cabinet, having a one-piece liner insert made of linear low-density polyethylene. The liner insert shall form a 25mm high pan at the bottom to retain spillage. Each door will have a set of louvers at the top and bottom. The door shall be lined with a polyethylene sheet. Each cabinet shall be vented into the fume hood with a 38mm dia. Vent pipe providing a positive airflow directly into the fume hood exhaust system. One number adjustable shelf and two numbers of PP tray, for both bottom and intermediate shelf.

10. Please consider the following specification in the BOQ for 1500mm (W) Fume hoods mentioned in the tender:

- Bench Top Constant Air Volume Fume Hoods
- Base Unit (750 W X 550 D X 900 H) with Vent Holes. Providing and supply of 2 door Double Skin Solvent storage cabinets of 90 minutes fire rating, UL labelled and specifically designed for the storage of flammable and combustible liquids. Construction shall be based upon the requirements listed by UL, UFC, OSHA, and NFPA No. 30 – 1993. The cabinet shall be labelled: “FLAMMABLE – KEEP FIRE AWAY”. One number adjustable shelf and two numbers of PP tray, for both bottom and intermediate shelf.
- Base Unit with (750 W X 550 D X 900 W) with Vent Holes. Providing and supply of 2 Door Fume hood Acid Storage Cabinet, having a one-piece liner insert made of linear low-density polyethylene. The liner insert shall form a 25mm high pan at the bottom to retain spillage. Each door will have a set of louvers at the top and bottom. The door shall be lined with a polyethylene sheet. Each cabinet shall be vented into the fume hood with a 38mm dia. Vent pipe providing a positive airflow directly into the fume hood exhaust system. One number adjustable shelf and two numbers of PP tray, for both bottom and intermediate shelf.

11. Please consider the following specification in the BOQ for Chemical Cabinets mentioned in the tender:

Cabinets for powder storage and dry chemicals: Cabinet with outer skin material and inner material coated with chemical resistant material and epoxy or MS powder coated rack and self-closing doors, with five shelves of 500 mm depth. Dimensions: 1200mm (W) x 600 mm (D) x 2100 mm (H). The individual shelves should have holding capacity of 20 kgs.

12. Please consider the following specification in the BOQ for the Individually ventilated animal caging system as mentioned in the tender:

- IVC Ventilator as per technical specification: 1 No.
- IVC Cage rack suitable for cage loading : 2 No.s
from single side as per technical specification
- IVC Cages as per technical specification : 65 No.s

Please follow the below mentioned specification for IVC Ventilator, Racks, Cages;

a) Standalone type Ventilator (Air Handling Unit)

Standalone type IVC Ventilator unit shall be in 304-grade stainless steel construction. Unit shall consist of two separate modules for supply of clean air to animal cages and to evacuate contaminated air from the cages. Both the modules will individually consist of following;

- Suitable design silent operation blower to handle supply air / exhaust air.
- Pre filter & Hepa filter, grade H4 & H14 of suitable size
- Supply / Exhaust air fan with speed regulator
- Necessary electrical & controls to monitor various parameters such as Air Changes per hour, average cage temperature and humidity, working pressure mode.
- Programmable Logical Controller with TFT LCD, Touch screen type color Display to set and monitoring of above referred parameters as required. The controller should be capable for necessary logging of basic parameter data up to the period of 1 year.
- Run our counter with change filter notifications.
- Necessary audio visual alarm system (Local) to indicate the failure of maintenance of any of the parameters mentioned above.
- Housing & structure in SS 304 construction
- Castor wheels in special grade nylon construction with SS housing, 2 Nos. free moving & 2 Nos. with pad lock
- Supply & Exhaust air manifolds suitable to connect up to two double-sided racks or four single sided racks to each Ventilator.
- Ventilator shall be suitable for connecting 2 Nos. single sided racks on each side.
- Arrangement to adjust fan speed automatically as per the set value.
- Ventilator shall operate on 220 V, 50 Hz, single phase AC power supply.

b) Single Sided Cage Rack with air distribution system

Single sided Cage Rack suitable to mount cages from one side shall be in SS 304 construction and shall be suitable to house at least 30 Nos. of rat cages selected for the system:

The cage rack shall comprise of following;

- Frame structure with air distribution ducts, supply & exhaust air headers in SS 304 construction.
- Duct couplers, endcaps, supply air nozzles & exhaust air nozzles in special grade rubber construction suitable for autoclaving.
- Cage runners in special grade nylon construction suitable to withstand autoclave conditions.

- Suitable design castor wheels with SS 304 casing and special grade nylon wheels (2 nos. free moving & 2 Nos. with padlock arrangement).
- Wire reinforced hosepipes suitable to connect supply and exhaust air headers with ventilator.

c) Animal Cage assembly with water bottle suitable for Rat IVC system
IVC cage assembly shall consist of following;

- Cage bottom in polysulphone construction having floor area not less than 800 sq.cm. and cage effective height not less than 18 cm. The cage bottom will have suitable arrangement to properly house in cage rack at required position.
- Cage lid in polysulphone construction with supply air and exhaust airport & water bottle port with self-closing isolators, hepa grade breather filter with filter retainer ring & cage lid clamps
- Water bottle in Polysulphone construction with special grade rubber gasket and bottle cap with nozzle in SS 316 construction.
- Cage grill in SS 304 construction with nylon / silicon gasket.
- Cage card holder with hanger clip.

The system shall be supplied with necessary accessories such as flexible ducts to connect cage rack with the ventilator.



12. Please consider the following reference image for the height adjustable stainless steel revolving chair with backrest as mentioned in the tender:

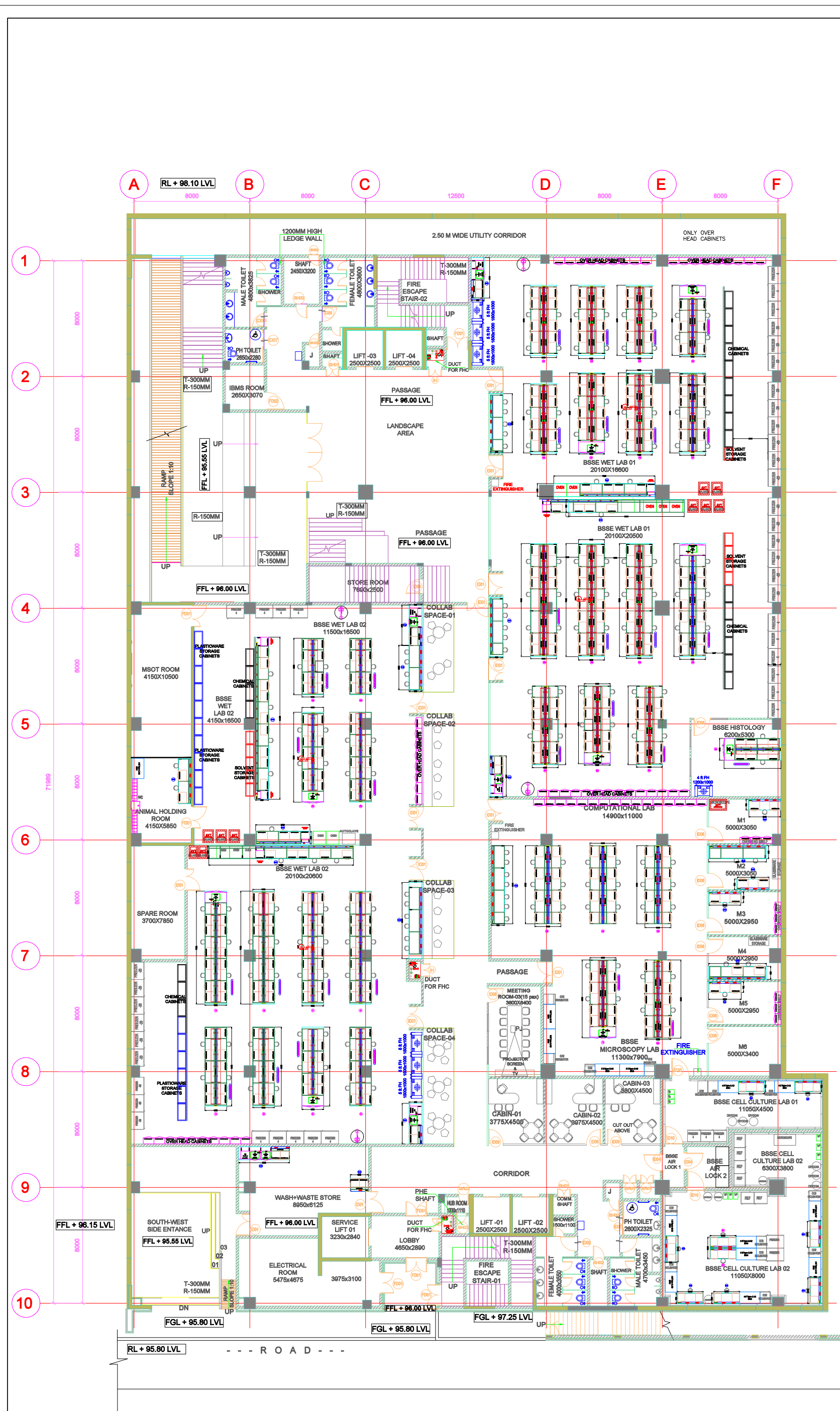


13. Please consider the following specification in the BOQ for Centrifugal Exhaust Blower & accessories, PP-FRP Ducting with accessories, PVC Braided Flexible Hose with necessary fixing clamps on both sides, PP Volume control damper, Constant air volume dampers – CAV for exhaust air:

SL. NO.	DESCRIPTION OF WORK	QTY	UNIT
	CENTRIFUGAL EXHAUST BLOWER & ACCESSORIES		
	<p>Supply, Installation, Testing & Commissioning of Spark Resistant Single Inlet Single Width (SISW) IMPORTED PP Exhaust Blowers direct driven by IE 4 Flame Proof Motor with the following capacity. Drive Motor shall be suitably rated & VFD compatible (VFD in Electrical Tender), TEFC Foot mounted, 3 phase, 50 Hz, 415 Volts, IP 55, Protection Class F & Class B Temperature rise. The blower & motor assembly shall be suitable for outdoor application with necessary anti vibration cushy foot mounting, Inlet & outlet transparent flexible hose with fixing clamps on both ends, suitable clamp adapter, Radium Sticker for blower tag number, Electro galvanized pedestal motor stand and fasteners like bolts, nuts and washers, base frame, motor protection guard & accessories.</p> <p>Blower & Motor capacity shall be selected (Costed) with a safety of at-least 10 % higher than rated capacity.</p> <p>Blower outlet velocity Not to Exceed 15 m/s.</p> <p>Please note the blower drive motor capacity has to be arrived on bases of actual SP loss calculation after the ducting layout is approved. The data provided is indicative & for the purpose of tender only.</p> <p>The blower shall be connected to the existing exhaust header with a suitably sized PP FRP damper & Flexible connections.</p> <p>The necessary cable end terminations / earthing on the blower motor has to be coordinated with the respective electrical vendor. The cost for the connection has to be included as part of the system.</p> <p>All accessories shall be of Flame Proof construction</p>		
	<p>BLOWER TAG NO : SCB - 1A (FLAME PROOF) - EXISTING</p> <p>BLOWER CAPACITY : 3000 CFM</p> <p>STATIC PRESSURE : 200 MM WG</p>		

	BLOWER TAG NO : SCB - 1B (FLAME PROOF) - REDUNDANCY BLOWER CAPACITY : 3000 CFM STATIC PRESSURE : 200 MM WG	1	Each
	Makes : Colasit, Venplast, Plastifier		
	PP-FRP DUCTING (SQMTR) WITH ACCESSORIES		
	Supply, Installation, Testing & Commissioning of PP-FRP / ducting with glass lined (GL) finish & PPH Pipes. FRP lining shall be of fire resistant Isophthalic resin. Duct pricing shall be inclusive of all necessary accessories like - Flanges, bends, entry branches, tapers, inspection door, PP FRP Suction hood, 5mm thk Neoprene gasket shall be used in between each flange joints, GI bolt & nuts, washers, Duct Supports, hanger threaded rods with anchor bolts for fixing in roof / wall. Rate shall be inclusive of 2 coats of enamel painting for duct surface. Mode of measurement shall be in sq mtr, measured as circumference of duct outer surface x running length. Extra will not be paid for accessories such as flanges, bends, elbows, Y piece, branch off, reducer, entry doors, inspection doors, gaskets, Radium Sticker showing blower number, scrubber number, airflow directions & future provision on the duct surface etc. Maximum Length of Duct not to Exceed 2500 mm.		
	Ducting Below 200 mm Dia - PPH Pipes	10	Each
	Ducting upto 500 mm Dia - wall thickness shall be 3 mm PP and 3 mm FRP	25	Each
	Ducting above 501 mm Dia - wall thickness shall be 4 mm PP and 4 mm FRP	RO	Each
NOTE:	DUCT / PIPE sizes OF 180mm OD (166mm ID) & Below are of PN 4 / SDR 26 PP / PPH PIPES (FACTORY FABRICATED)		
	DUCT / PIPE sizes above 200mm OD (188mm ID) ARE OF PP MATERIAL WITH FRP (FABRICATED DUCTS)		
	Thickness of PP Flange for Duct shall be 2 times of the specified Duct Thickness with FRP coating over & above		
	Maximum Main Duct Velocity Not to Exceed 3000 FPM / 15 m/s.		
	PVC BRAIDED FLEXIBLE HOSE (RMTR) WITH NECESSARY FIXING CLAMPS ON BOTH SIDE		
	Supply, Installation, Testing & commissioning of PVC Braided Flexible connecting hose with Necessary Hose Clamps on both the ends. (Each Flexible length Not exceeding 1M Length)		

	125 mm Dia	4	Each
	325 mm Dia	7	Each
	PP VOLUME CONTROL DAMPER (SQMTR)		
	<p>Supply, Installation, Testing & Commissioning of PP Circular Volume control damper shall be as follows outer casing 3mm PP + 3mm FRP, flanges with 6mm PP + 3mm FRP, Disc of 8 mm PP, centre shaft of 20 mm Dia PP with brass bush, lock & graduation arrangement with SS wing nut & blots for circular ducts.</p> <p>(Mode of Measurement = Cross sectional Area OR Internal face area of the damper).</p>	1	Each
	CONSTANT AIR VOLUME DAMPERS (Number) - CAV FOR EXHAUST AIR		
	<p>Supply, Installation, Testing & Commissioning of Circular Constant Air Volume Dampers to control Exhaust Air volume. CAV shall be made out of Chlorine - Plastic body (M1 fire resistance classification) housing the silicone regulating membrane with Rotative ring for calibrated air passage with Stainless Steel regulation spring. Elastomer double lip-seal for airtight connection with duct.</p> <p>The details to be read as CAV No & Capacity. All CAV quoted shall be suitable for 20% Variation in Airflow.</p>		
	SIZE : 100 DIA	4	Each
	SIZE : 300 DIA	7	Each



REVISION		
REV NO	DATE	DESCRIPTION
R0	21.12.2023	INITIAL ISSUE

LEGEND :

	SWIVEL CHAIR WITH BACK REST
	SERVICE DROPPER
	REAGENT SHELF
	ELECTRICAL RACEWAY
	BASE FRAME - C STRUCTURE
	BASE CABINET 750mm (W) x 550mm (D) x 900mm (H)
	BASE CABINET 500mm (W) x 550mm (D) x 900mm (H)
	OVERHEAD CABINET 750mm (W) x 400mm (D) x 700mm (H)

TECHNICAL CONSULTANTS :

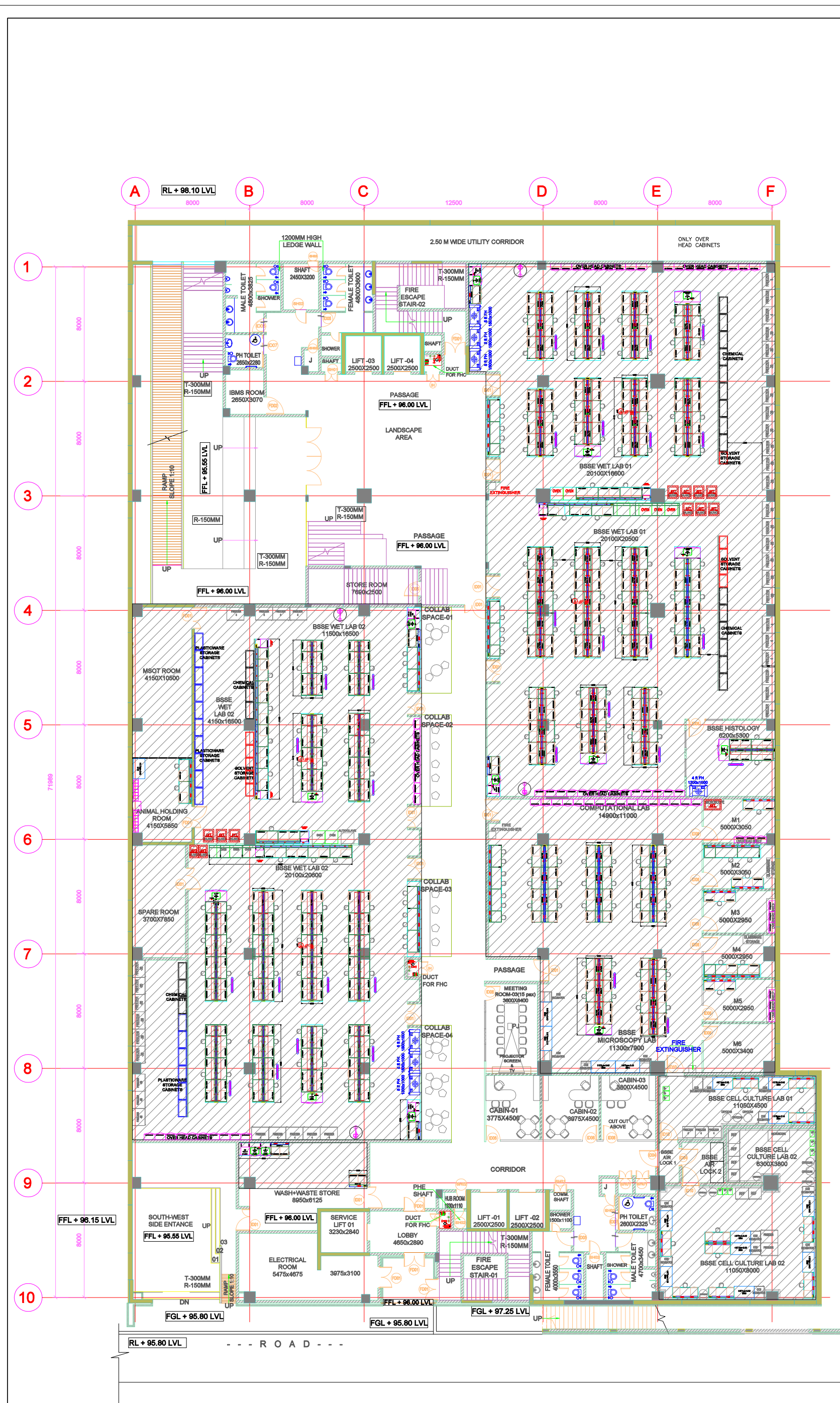
MJA PHARMATECH PRIVATE LIMITED
 #45, 1st Floor, 5th Cross, 8th Main Road,
 Vasanthanagar, Bangalore - 560 052.
 Tel: +91-80-2220 4636/222 84583 /41131518

CLIENT:
INDIAN INSTITUTE OF SCIENCE (IISc)
 BANGALORE


PROJECT:
INTER DISCIPLINARY RESEARCH (IDR)/TCS X HUB BUILDING AT IISc

DRAWING TITLE:
LOWER GROUND FLOOR LAB FURNITURE LAYOUT

DATE	05.01.2023	
DRAWN	PRANAV	
CHECKED	SJA	REVISION
APPROVED	SJA	R0
SCALE	NTS	PAGE - A0
PROJECT NO.	CODE	DRAWING NO.
MJ-482	LBF-DDR	3502



REVISION		
REV NO	DATE	DESCRIPTION
R0	21.12.2023	INITIAL ISSUE

TECHNICAL CONSULTANTS:

MJA PHARMATECH PRIVATE LIMITED
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 Vasanthanagar, Bangalore - 560 052.
 Tel: +91-80-2220 4636/222 84583 /41191518

CLIENT:
INDIAN INSTITUTE OF SCIENCE (IISc)
 BANGALORE

PROJECT:
INTER DISCIPLINARY RESEARCH (IDR)/TCS X HUB BUILDING AT IISc

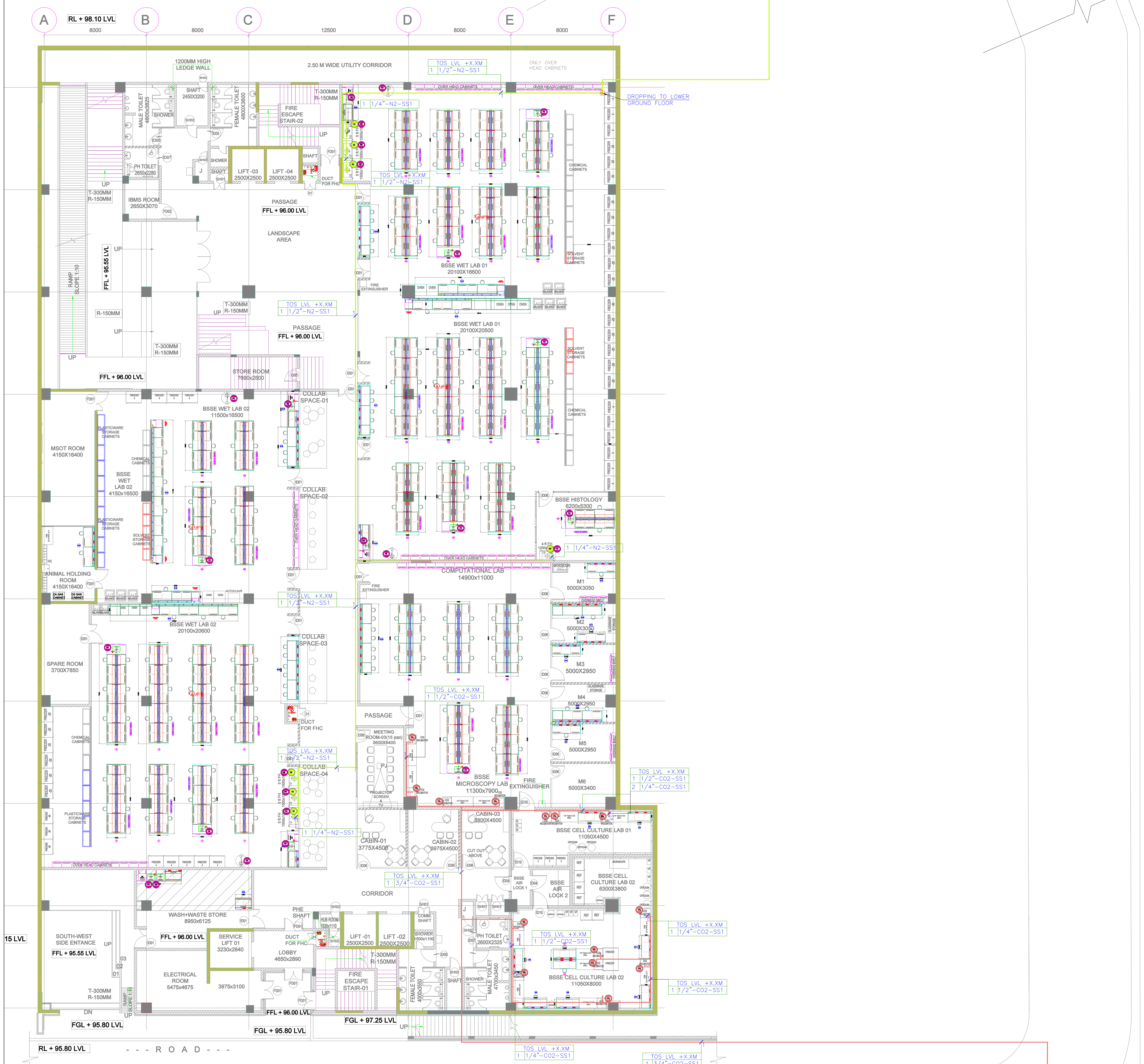
DRAWING TITLE:
LOWER GROUND FLOOR LAB FURNITURE LAYOUT - SCOPE OF WORK

DATE	05.01.2023	
DRAWN	PRANAV	
CHECKED	SJA	REVISION
APPROVED	SJA	R0
SCALE	NTS	PAGE - A0
PROJECT NO.	CODE	DRAWING NO.
MJ-482	LBF-DDR	3501



LEGEND:

1.		POTABLE WATER(PW)
2.		CARBON DIE-OXIDE(CO2)
3.		NITROGEN(N2)



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CLIENT:

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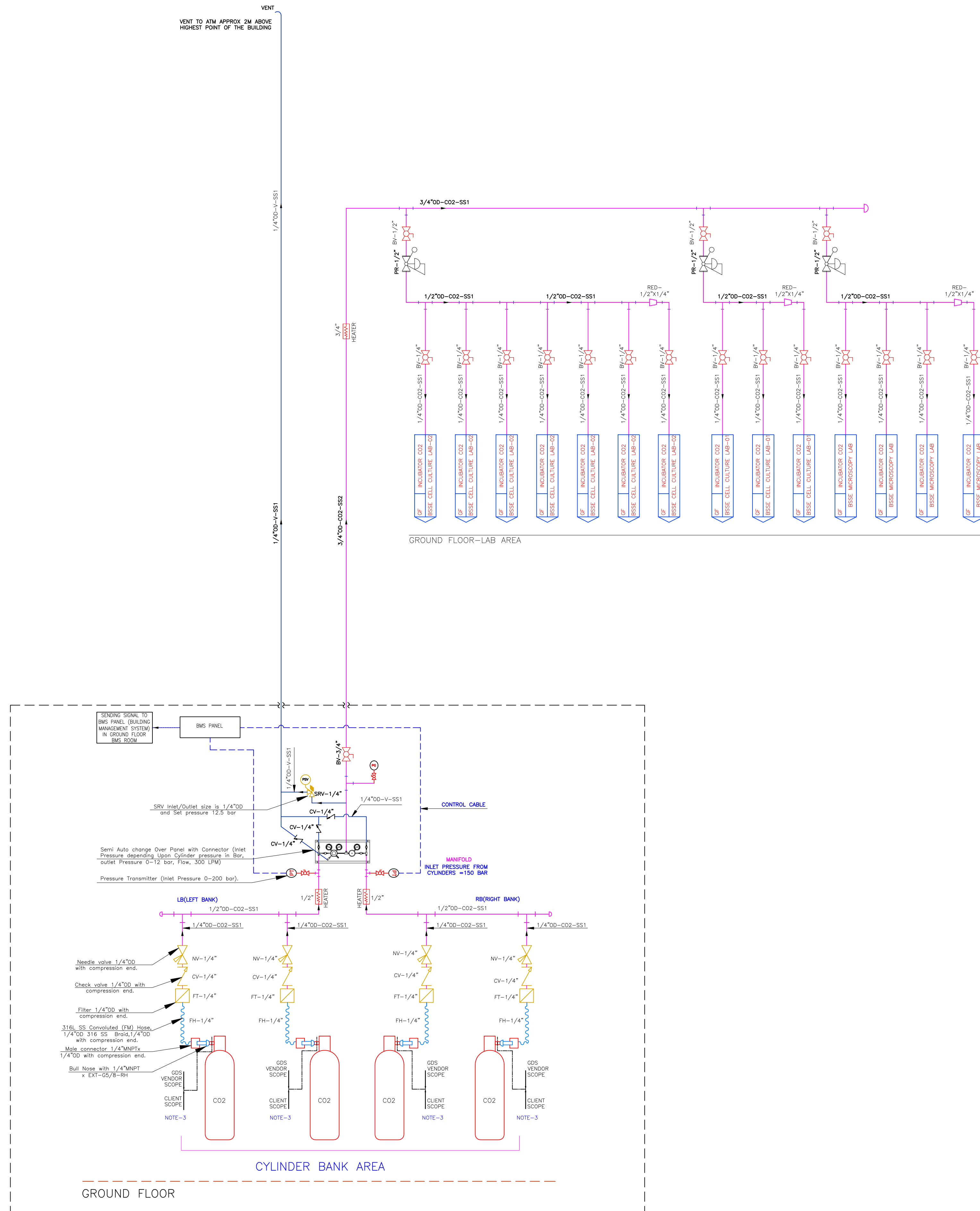
PROJECT :

**INTER DISCIPLINARY RESEARCH
 (IDR)/TCS X HUB BUILDING AT IISc**

DRAWING TITLE:

**LOWER GROUND FLOOR LAB
 PIPING LAYOUT**

DATE	19.01.2024	
DRAWN	MOTHILAL	
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APPROVED	DBS	RO
SCALE	NTS	PAGE - A0
PROJECT NO.	CODE	DRAWING NO.
MJ-482	EQPT-PIPE	2801



REVISION		
REV NO	DATE	DESCRIPTION

LEGEND:

CO2	CARBON DI-OXIDE (CO2)
SS1	SS316
	BALL VALVE (BV)
	PRESSURE TRANSMITTER (PT)
	PRESSURE GAUGE (PG)
	PRESSURE REGULATOR (PR)
	CHECK VALVE (CV)
	NEEDLE VALVE (NV)
	SAFETY RELIEF VALVE (SRV)
	REDUCER (RED)
	AIR VENT (AV)
	SS316 FLEXIBLE HOSE
	FILTER
	END CAP
	BULL NOSE (BN)
	CONTROL CABLE

LINE TAGGING:

3/4"OD-CO2-SS1

	MOC-SS316
	GAS NAME
	LINE DESIGNATION
	TUBE SIZE

NOTE:

1. CONSIDERED ORBITAL WELDING.
2. USER POINT IS NOT FINALIZED. SHOWN IN THE P&ID IS TENTATIVE LOCATION ONLY.
3. GAS CYLINDER WILL BE SUPPLIED BY OWNER, THE CONNECTION UP TO BULL NOSE AS PER LATEST IS SPEC AND THREADING WILL BE PROVIDED

TECHNICAL CONSULTANTS :

MJA PHARMATECH PRIVATE LIMITED
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CLIENT:

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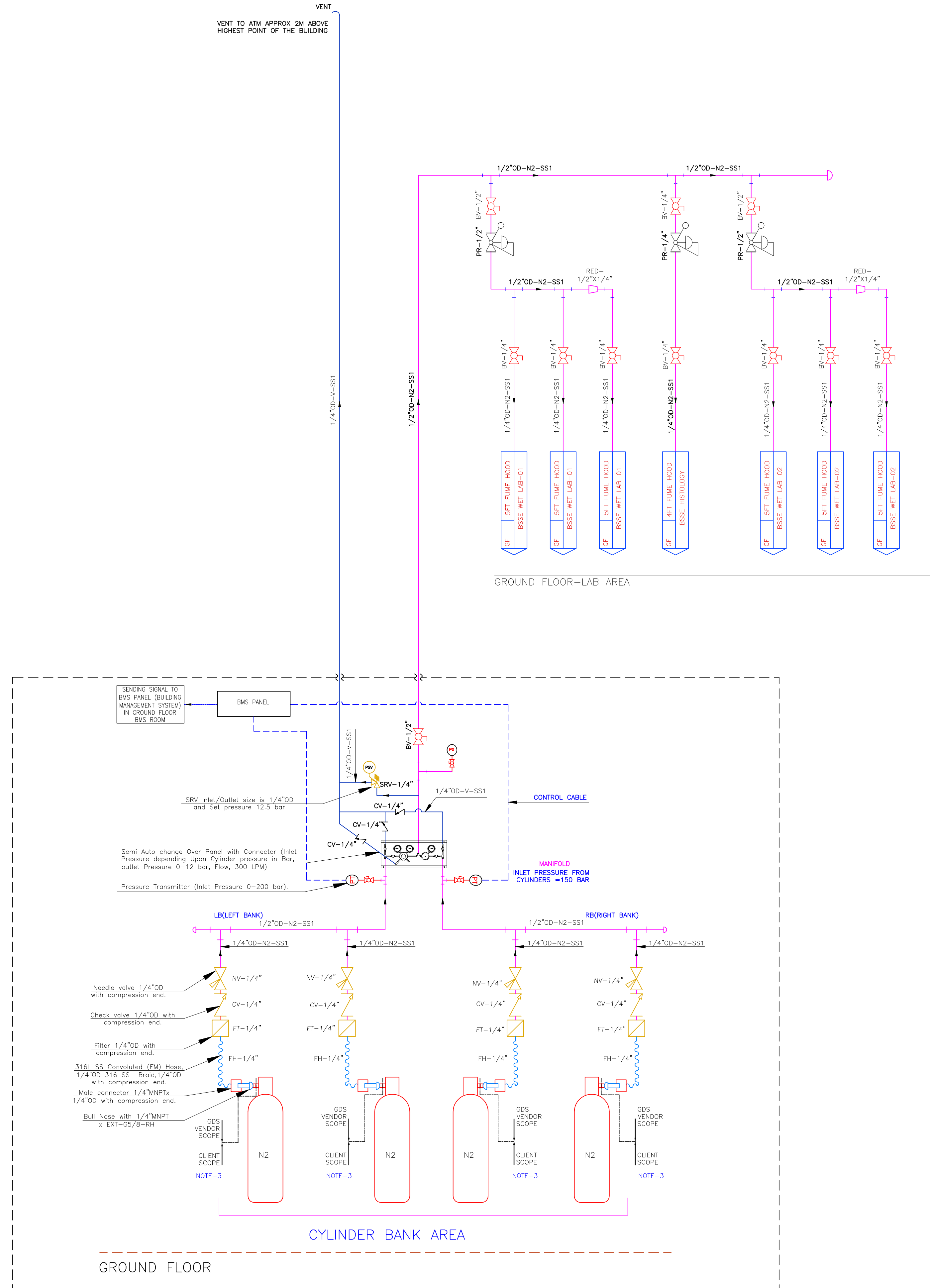
PROJECT :

INTER DISCIPLINARY RESEARCH (IDR)/TCS X HUB BUILDING AT IISc

DRAWING TITLE:

P&ID FOR CARBON DI-OXIDE (CO2)

DATE	19.01.2024	
DRAWN	MOTHILAL	
CHECKED	RAGHU	REVISION
APPROVED	BDS	R0
SCALE	NTS	PAGE - A0
PROJECT NO.	CODE	DRAWING NO.
MJ-482	PIPE-DR	2802



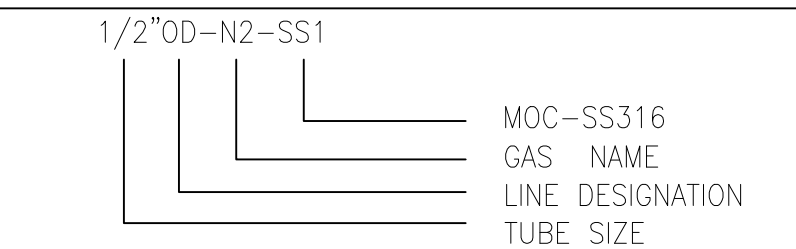
REVISION

REV NO	DATE	DESCRIPTION

LEGEND:

N2	NITROGEN GAS
SS1	SS316
	BALL VALVE (BV)
	PRESSURE TRANSMITTER (PT)
	PRESSURE GAUGE (PG)
	PRESSURE REGULATOR (PR)
	CHECK VALVE (CV)
	NEEDLE VALVE (NV)
	SAFETY RELIEF VALVE (SRV)
	REDUCER (RED)
	AIR VENT (AV)
	SS316 FLEXIBLE HOSE
	FILTER
	END CAP
	BULL NOSE (BN)
	CONTROL CABLE

LINE TAGGING:



NOTE:

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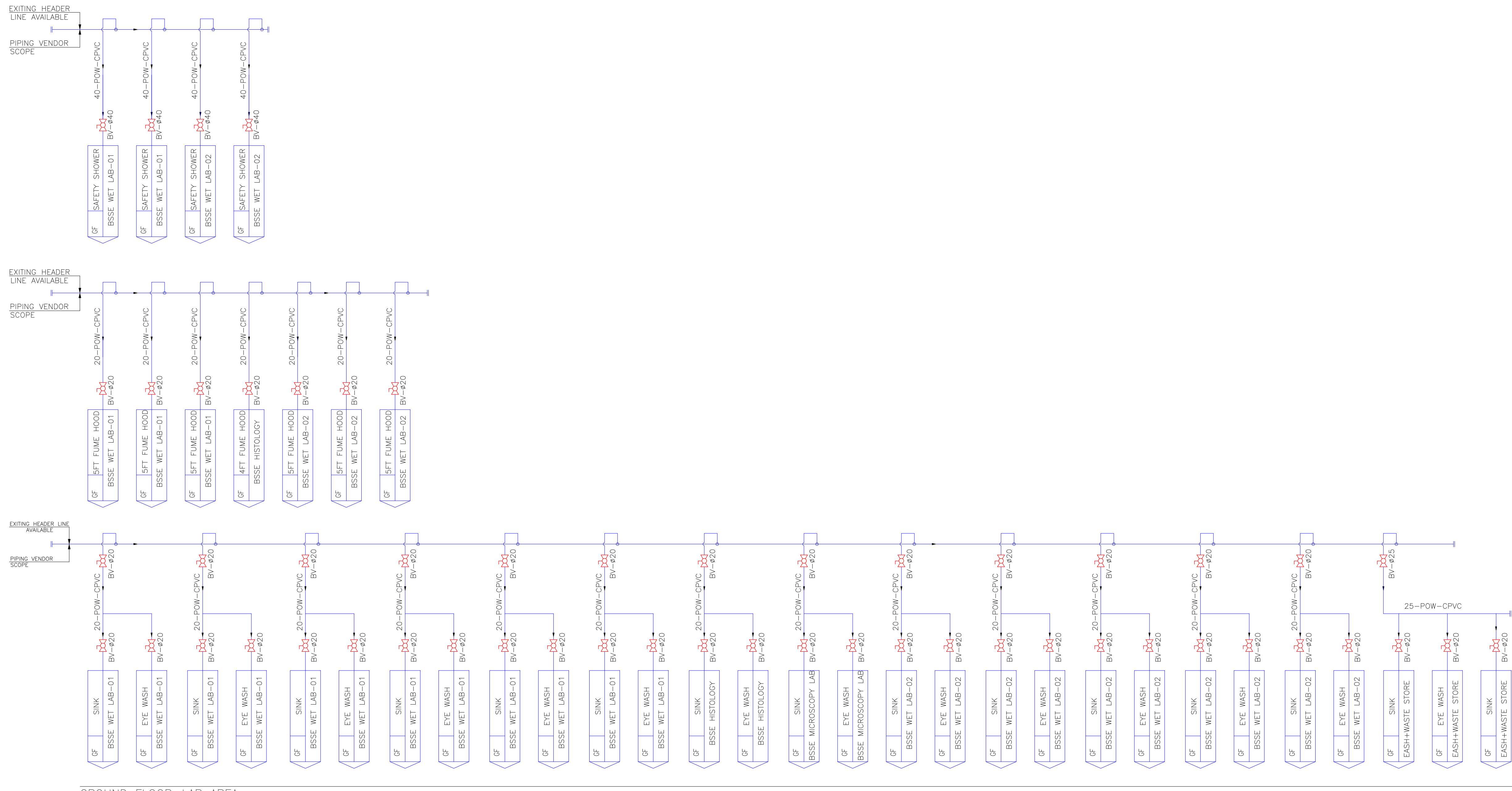
PROJECT :

INTER DISCIPLINARY RESEARCH (IDR)/TCS X HUB BUILDING AT IISc

DRAWING TITLE:

P&ID FOR NITROGEN (N2)

DATE	19.01.2024	
DRAWN	MOTHILAL	
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APPROVED	DBS	R0
SCALE	NTS	PAGE - A0
PROJECT NO.	CODE	DRAWING NO.
MJ-482	PIPE-DR	2801



REVISION		
REV NO	DATE	DESCRIPTION

LEGEND:

POW	POTABLE WATER
CPVC	CHLORINATED POLYVINYL CHLORIDE
	BALL VALVE (FLANGED END)-BVF
	BALL VALVE (SCREWED END)-BVS
AFC/BFC	ABOVE FALSE CEILING/BEFORE FALSE CEILING
	PRESSURE GAUGE

PIPE IDENTIFICATION:

PIPE SIZE(OD-mm) | SERVICE | PIPE MOC

Example: 40-POW-CPVC

VALVE IDENTIFICATION & SPECIFICATION:

VALVE TYPE | END CONNECTION | TAG NO

Example: BV S 01

- BW - BUTTERFLY VALVE
- BV - BALL VALVE
- NRV -NON RETURN VALVE
- CV - CONTROL VALVE
- BLV - BALANCING VALVE
- WT - WAFER TYPE
- ST -STRAINER
- S - SOCKET END
- F - FLANGED END

TYPICAL USER POINT DETAIL:

ROOM NO. EQUIPEMENT NAME
ROOM NAME
FLOW RATE

NPS - NOMINAL PIPE SIZE
DN - DIAMETER NOMINAL
OD - OUTER DIAMETER
PIPE SIZE AS PER
ISO 161-1 - PN 16

TECHNICAL CONSULTANTS :

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CLIENT:

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BANGALORE

PROJECT :

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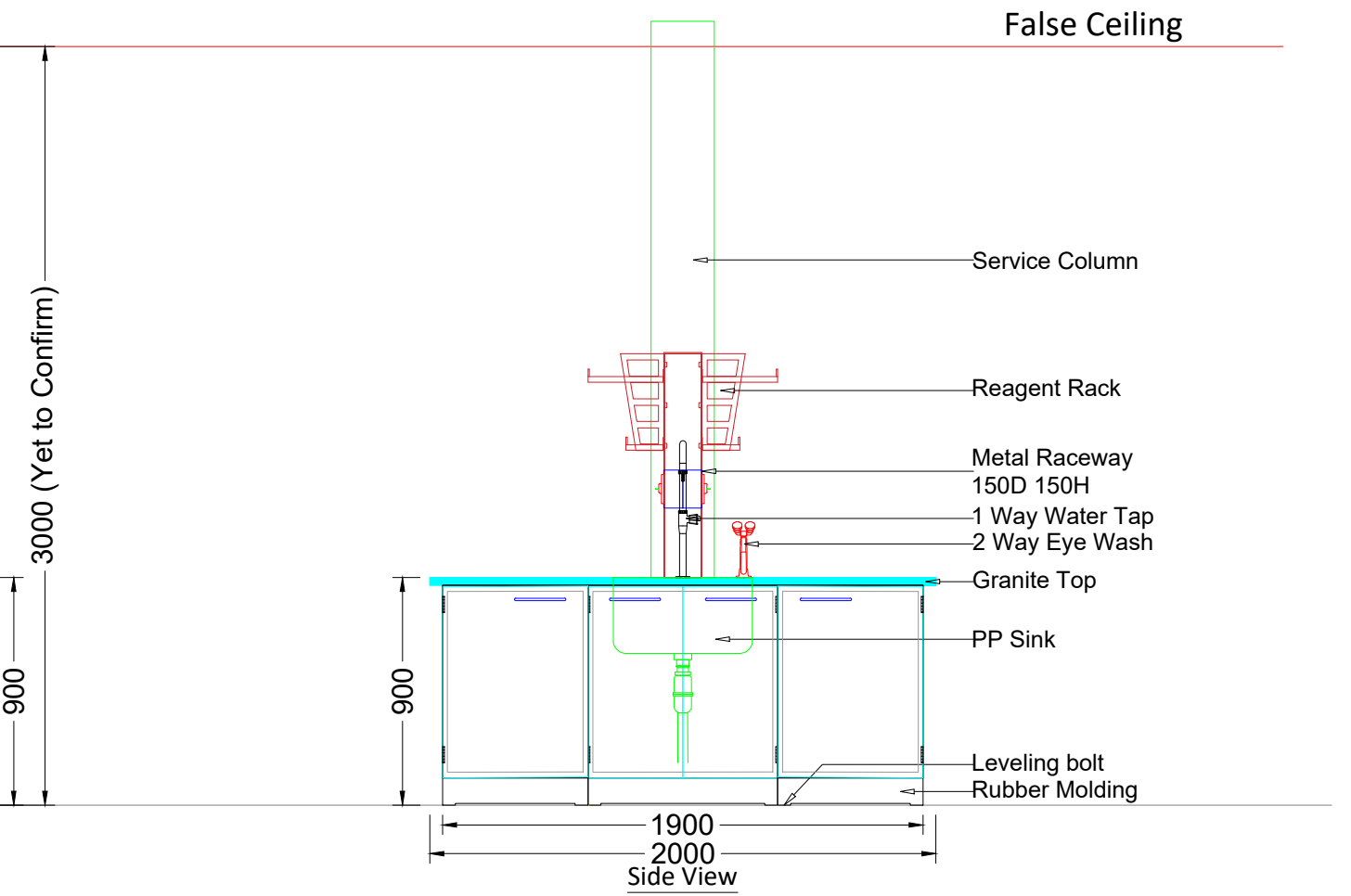
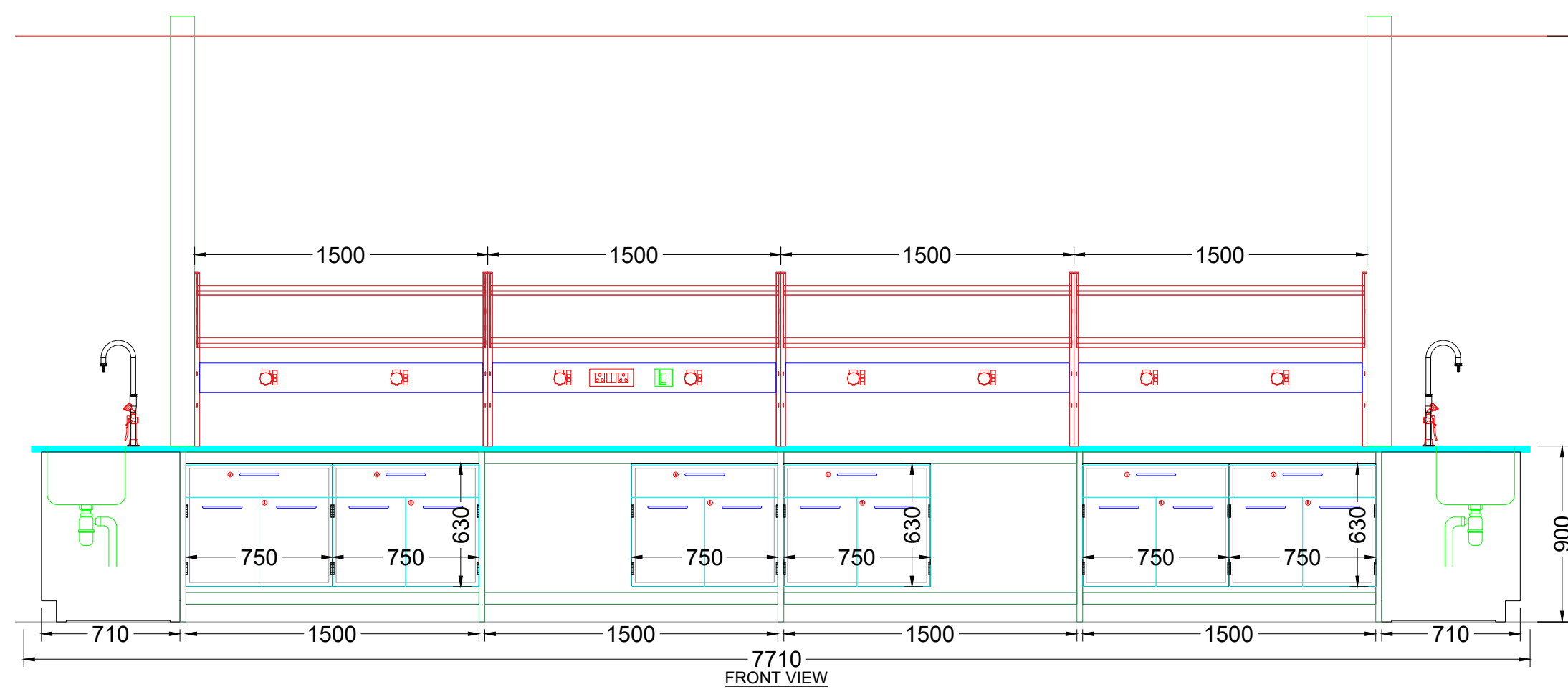
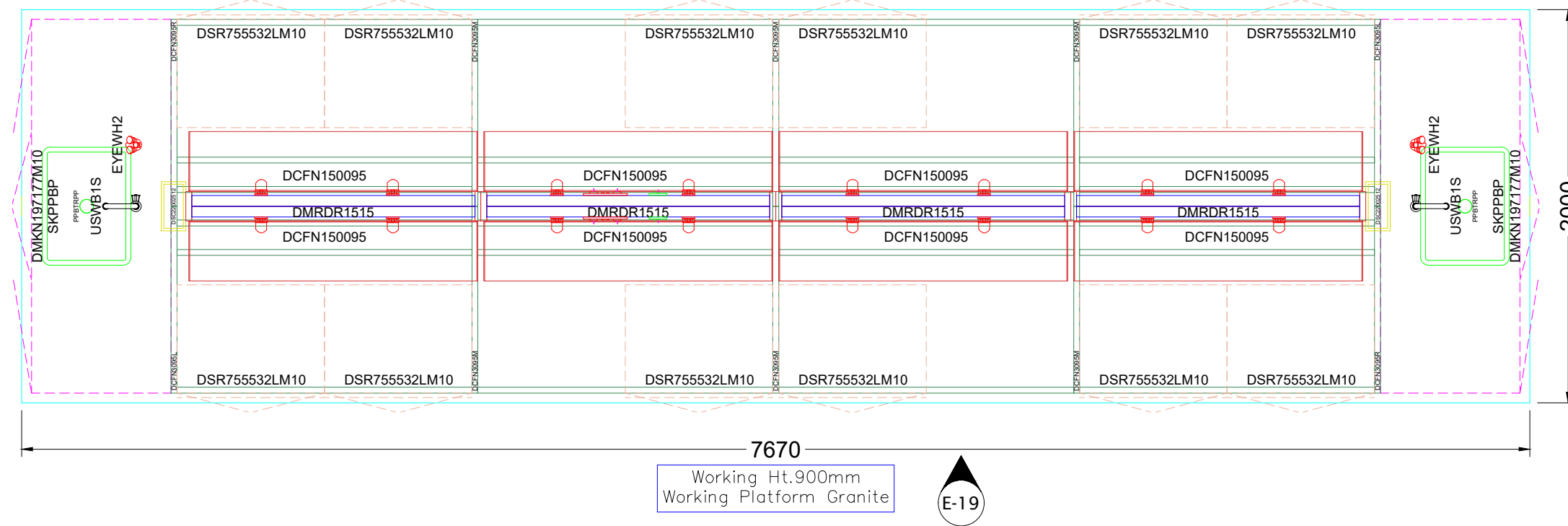
DRAWING TITLE:

P&ID FOR POTABLE WATER (POW) DISTRIBUTION

DATE	19.01.2024	
DRAWN	MOTHILAL	
CHECKED	RAGHU	REVISION
APPROVED	DBS	R0
SCALE	NTS	PAGE - A0
PROJECT NO.	CODE	DRAWING NO.
MJ-482	PIPE-DR	2803

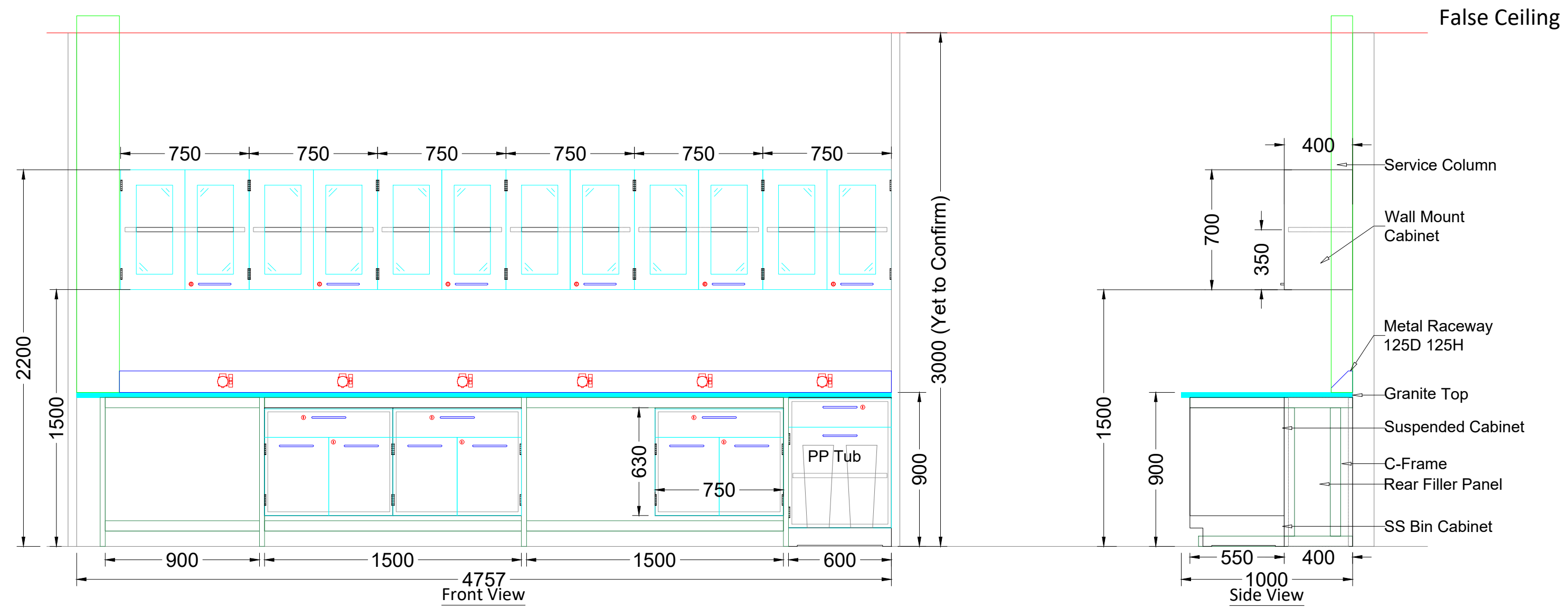
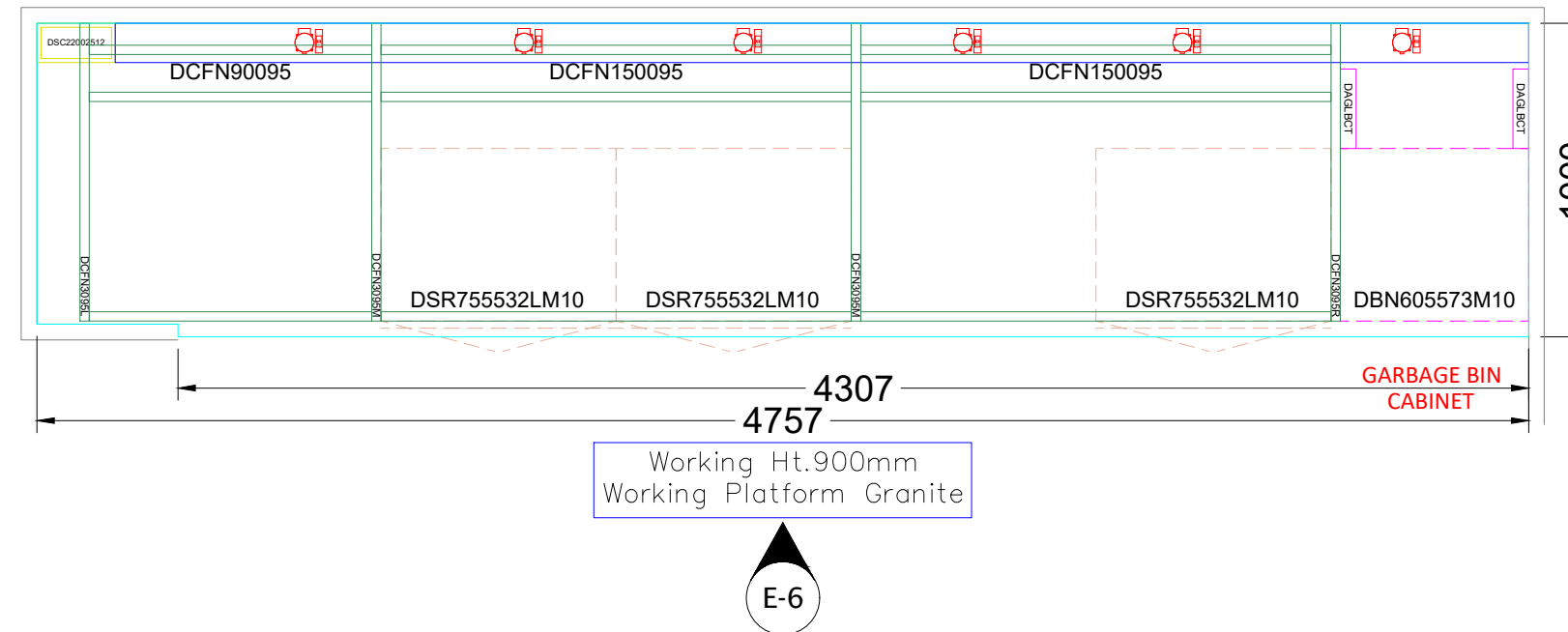
C-FRAME ISLAND BENCH

WITH REAGENT RACK

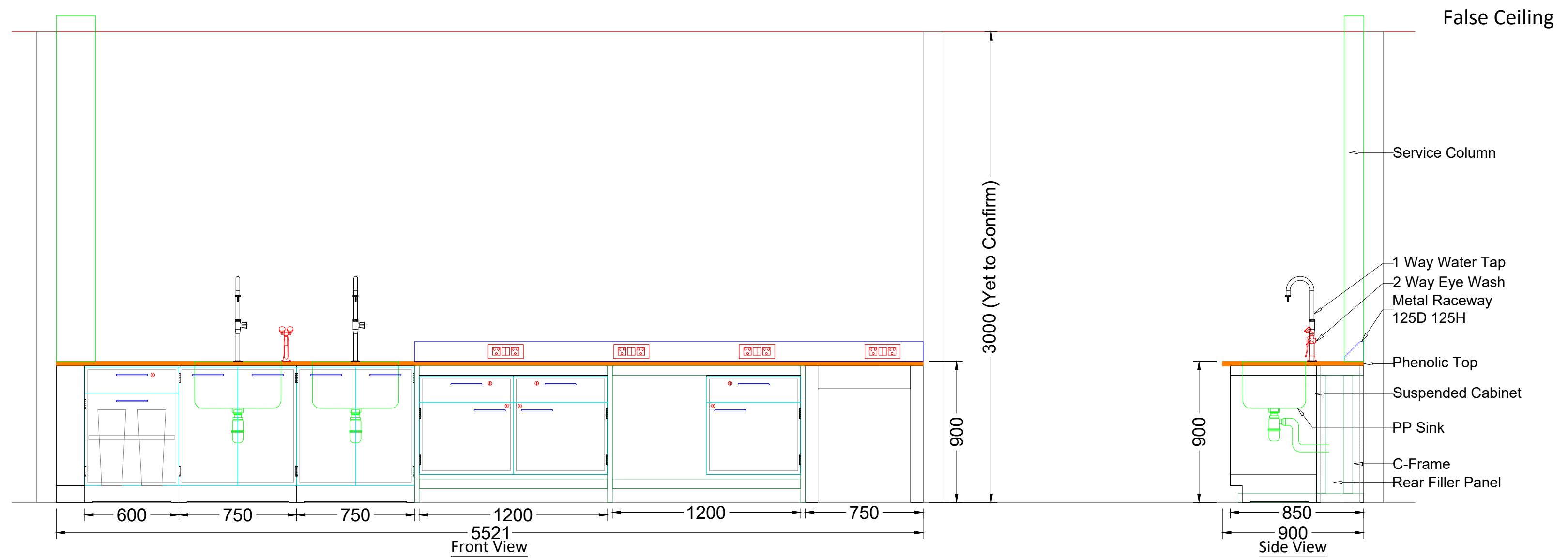
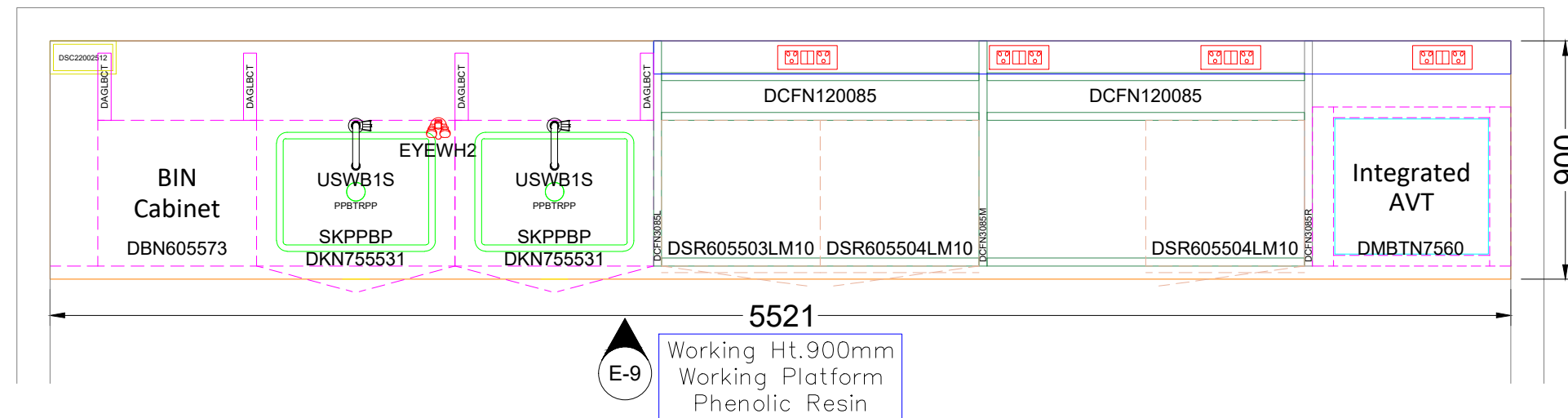


3000 (Yet to Confirm)

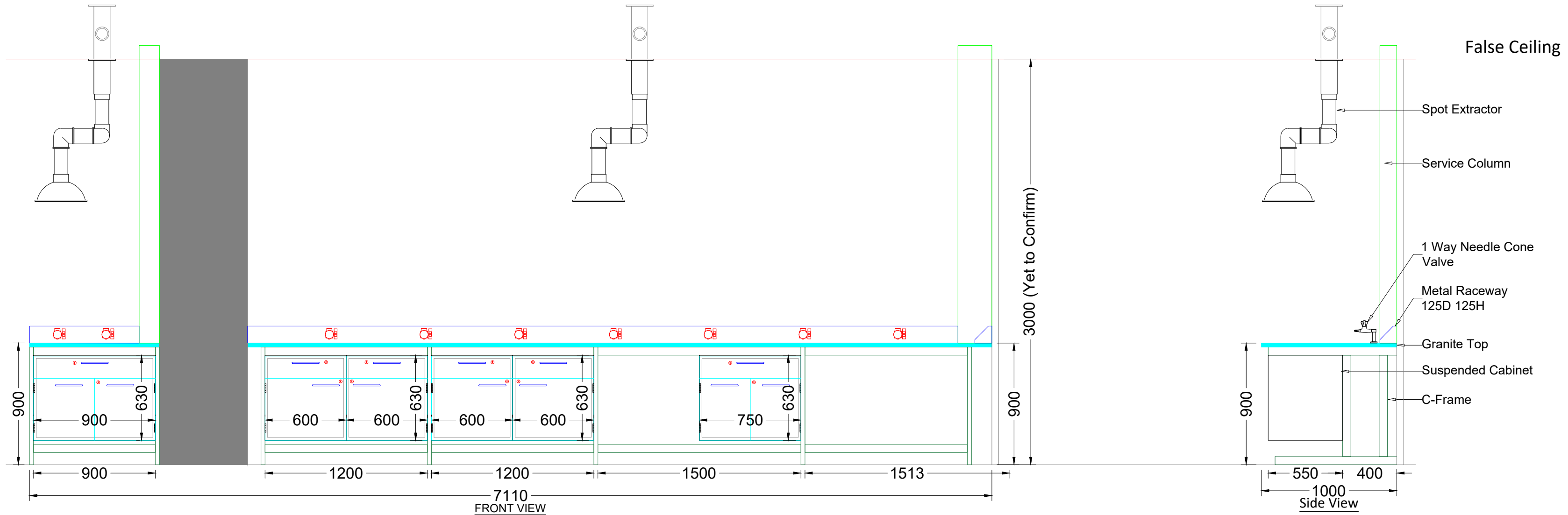
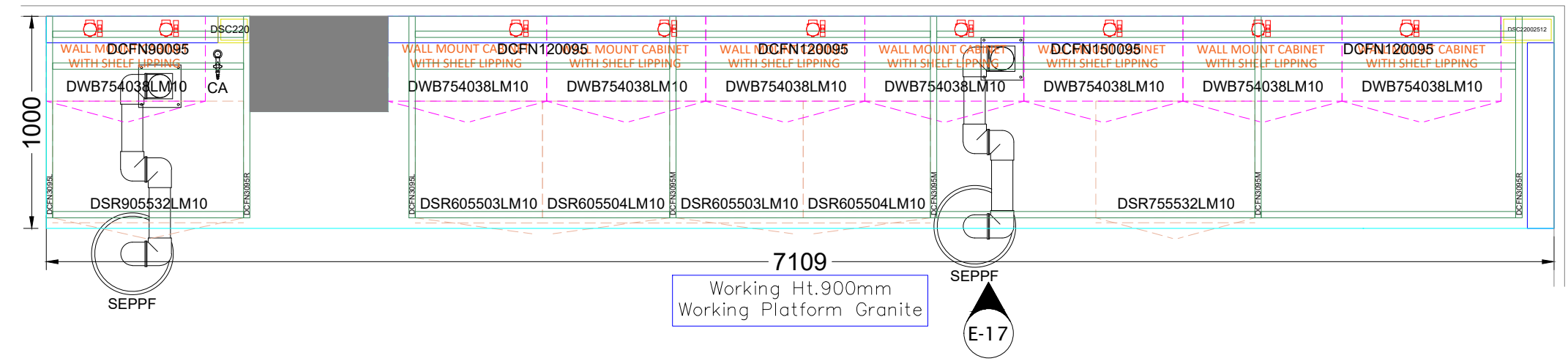
C-FRAME WALL BENCH WITH OVER HEAD CABINETS

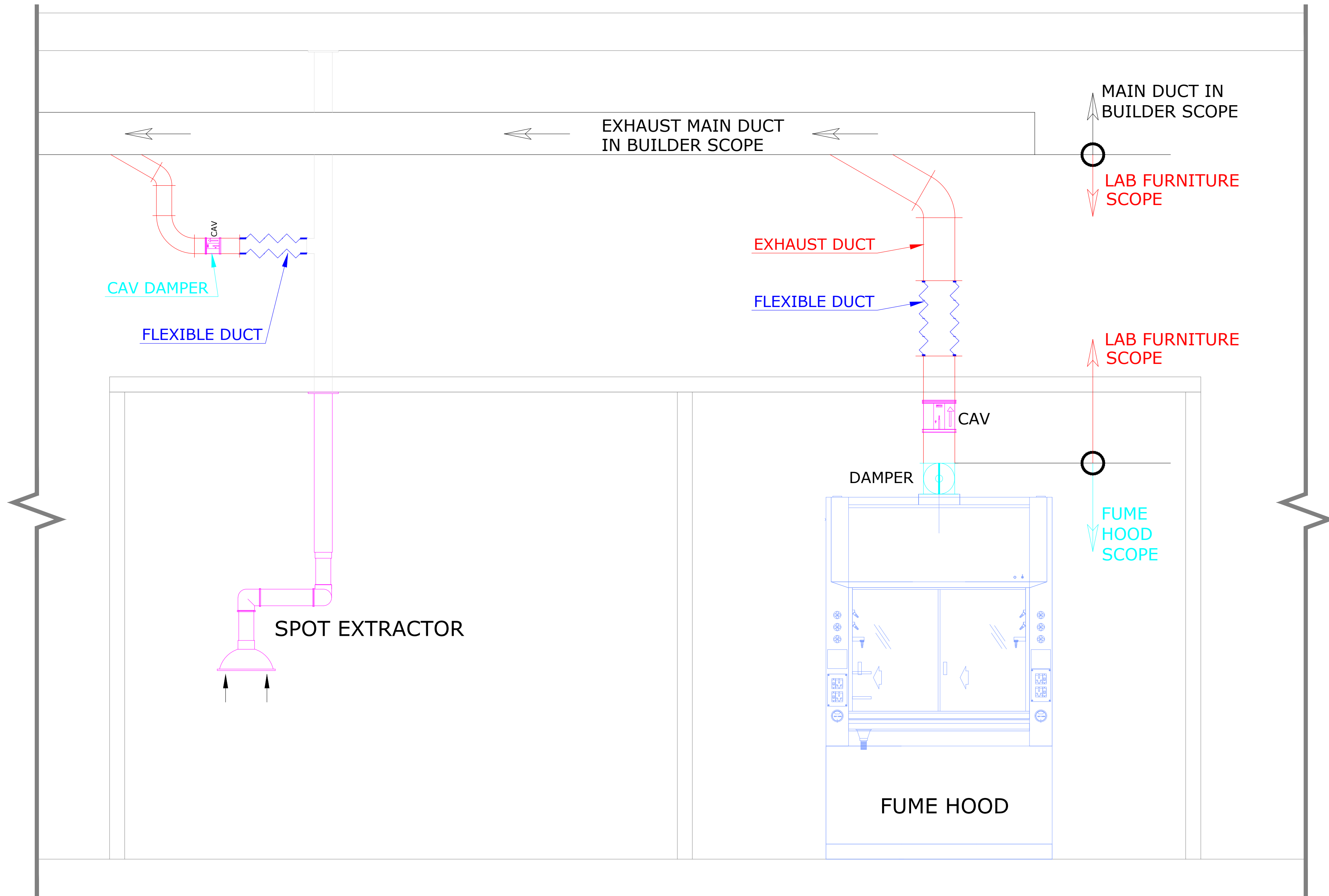


C-FRAME WALL BENCH WITH SINK



C-FRAME WALL BENCH WITH SPOT EXTRACTOR

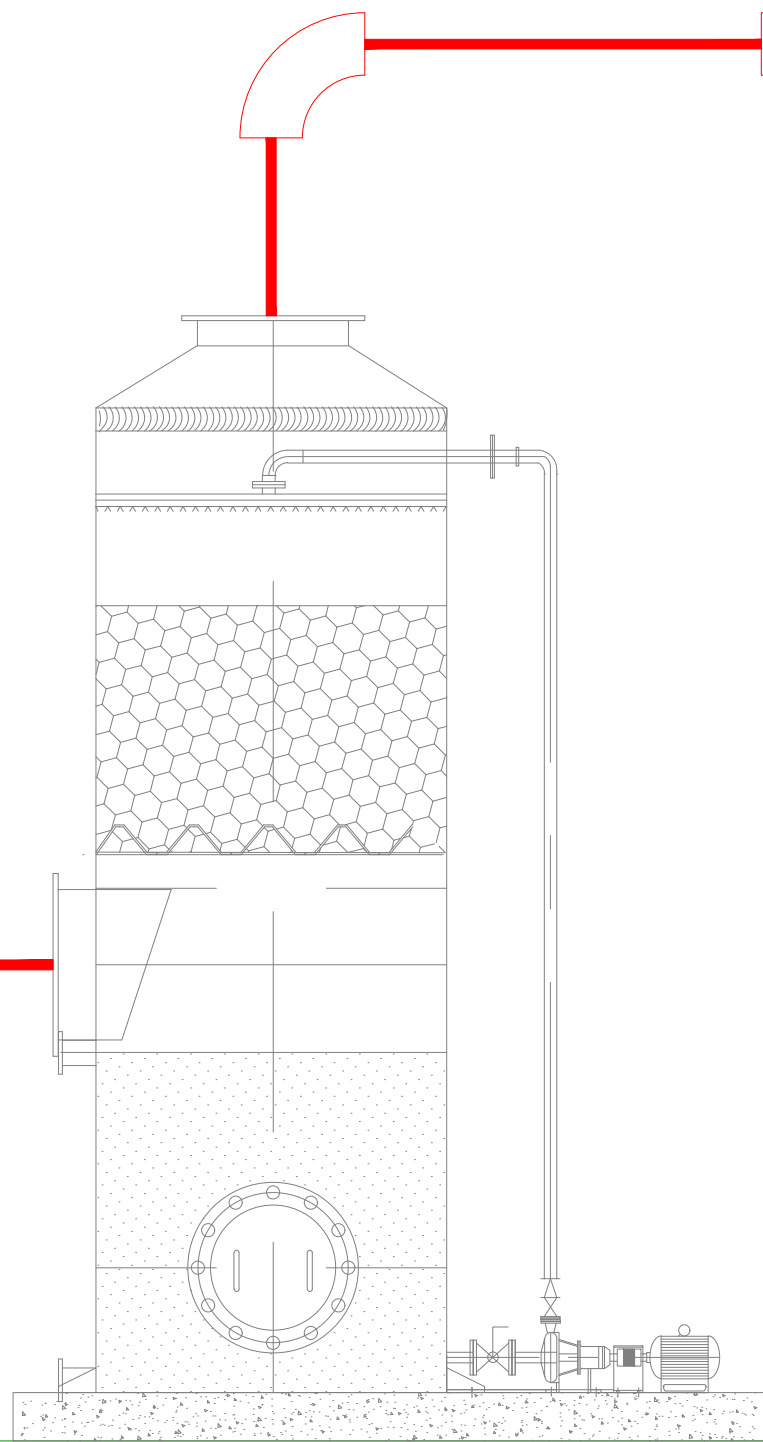




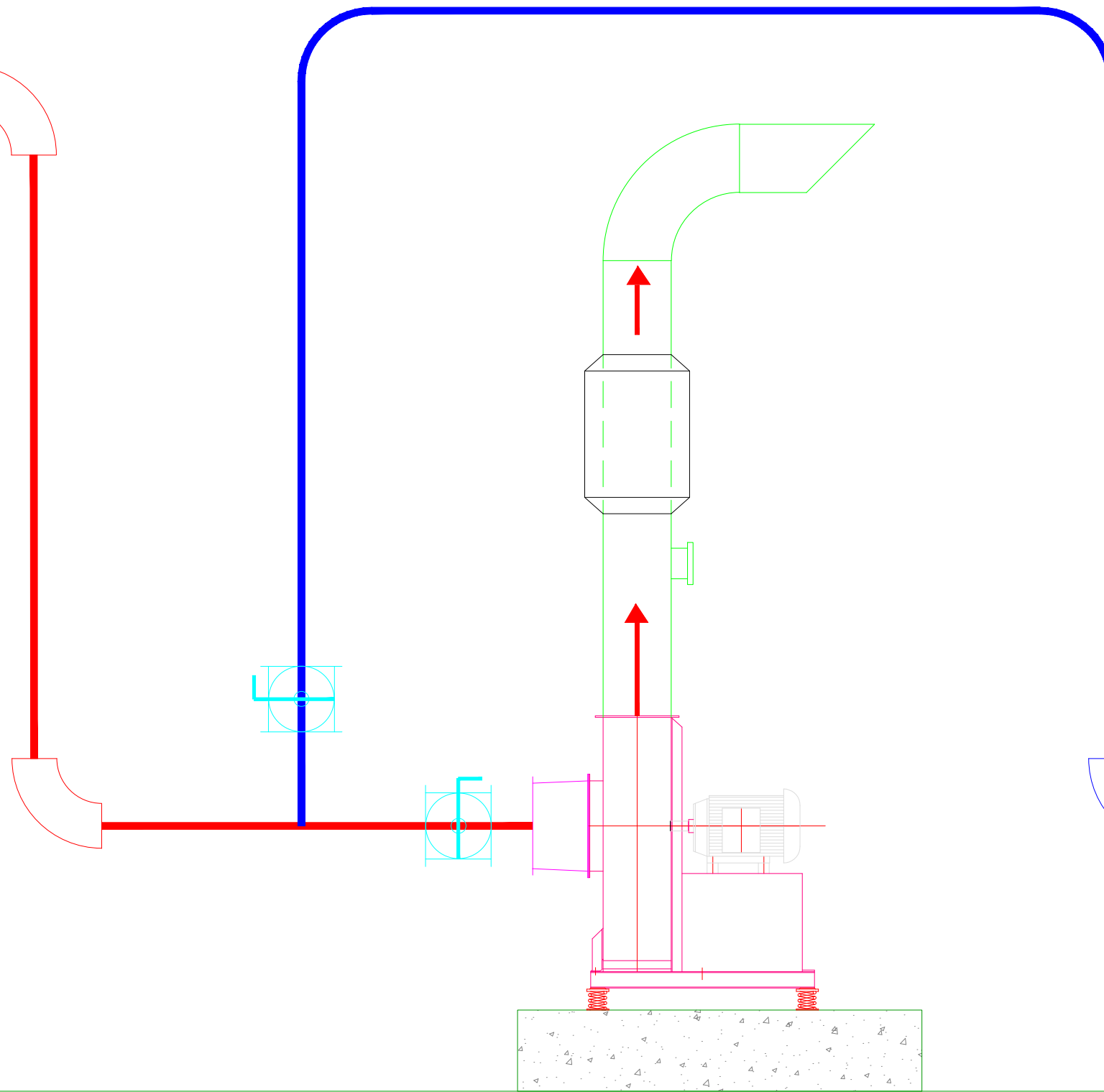
TYPICAL FUME HOOD & SNORKEL CONNECTION DETAILS

TERRACE

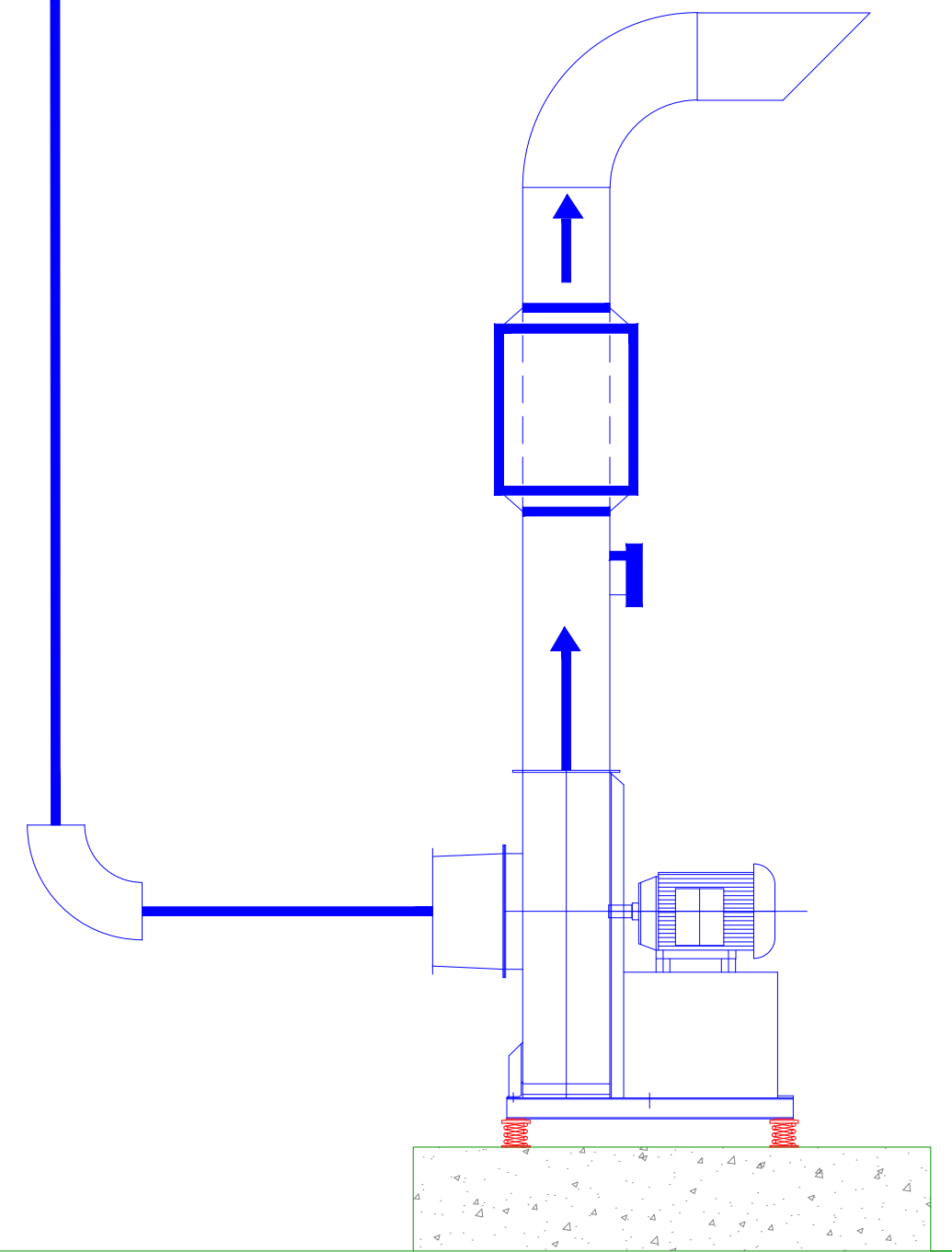
EXHAUST AIR



SCRUBBER





EXISTING EXHAUST BLOWER
(ALREADY INSTALLED BY MAIN BUILDER)



EXHAUST BLOWER
(REDUNDANCY)

TYPICAL DETAILS

	EXISTING DUCT
	PROPOSED DUCT