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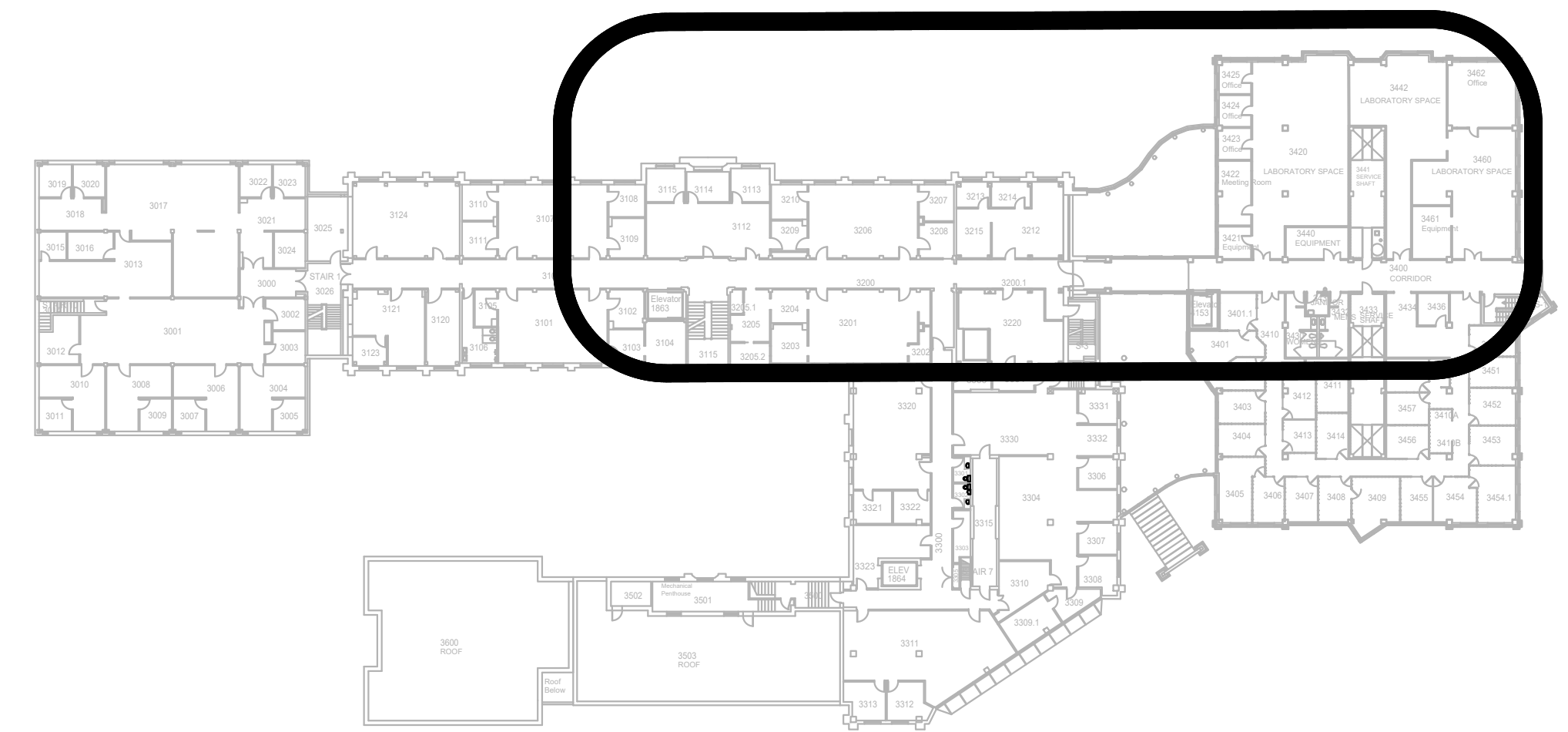
Conseil national
de recherches Canada

Real Property Planning
and Management Branch

Planification et gestion
des biens immobiliers

NRC - CNRC

COMPRESSED AIR SYSTEM FOR NITROGEN GENERATORS AT NRC LABORATORIES 110 GYMNASIUM PLACE, SASKATOON, SK CANADA



LIST OF DRAWINGS

E6000-M01: COMPRESSED AIR PIPING - OVERALL LAYOUT

E6000-M02: COMPRESSED AIR PIPING - ISOMETRIC DIAGRAM
AND BILL OF MATERIAL

E6000-M03: COMPRESSED AIR EQUIPMENT LAYOUT,
AVAILABLE SPACE, AND EQUIPMENT
INFO / PERFORMANCE SPECIFICATIONS

Canada 

GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS AND CLEARANCES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES AND/OR OMISSIONS TO DEPARTMENTAL REPRESENTATIVE.
- CONTRACTORS MUST VISIT THE SITE AND FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK PRIOR TO PROJECT COMMENCEMENT.
- ALL TRADES TO COORDINATE WORK ON SITE, WITH APPROVAL OF DEPARTMENTAL REPRESENTATIVE TO AVOID ANY CONFLICTS AND/OR INTERFERENCE.
- ANY AND ALL REQUIRED SHUTDOWNS SHALL BE COORDINATED WITH DEPARTMENTAL REPRESENTATIVE.
- INSTALLATION OF ALL SYSTEMS SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
- CONTRACTOR TO BE RESPONSIBLE FOR REINSTATEMENT AND REPAIR OF ANY DAMAGE CAUSED BY WORK.
- CONTRACTOR SHALL PREVENT THE SPREAD OF DUST AND DEBRIS BEYOND AREA OF WORK AND CLEAN ALL SURFACES AT COMPLETION.



Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
MekTek Consultants Inc.
 Number 46822
 Permission to Consult held by:
 Discipline Sk. Reg. No. Signature
MECHANICAL 13673 *Rafesh*

No.	Date	Revision	By
0	23 JUL 2021	ISSUED FOR TENDER	RS

Verify all dimensions and site conditions and be responsible for same
 Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité

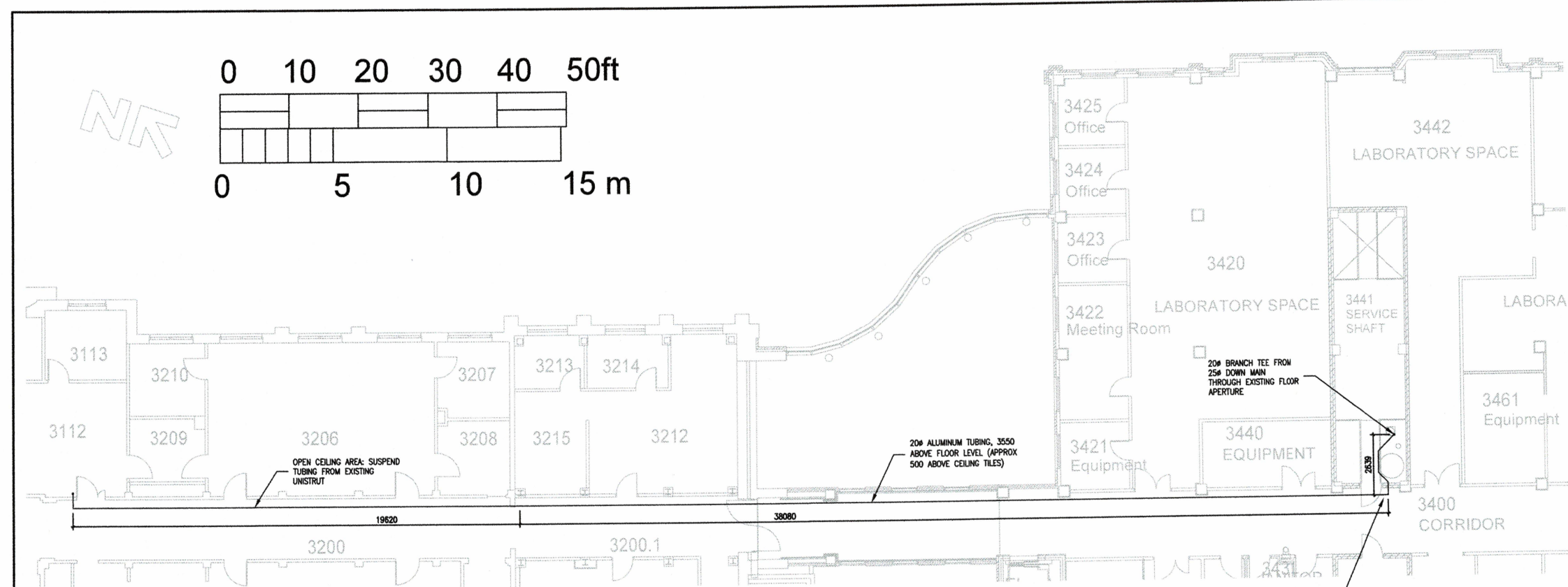
A	Detail no. / No. du détail	A
B	Location drawing no. / sur dessin no.	B/C
C	Drawing no. / dessin no.	

project
 COMPRESSED AIR SYSTEM FOR NITROGEN GENERATORS
 110 GYMNASIUM PLACE, SASKATOON SK

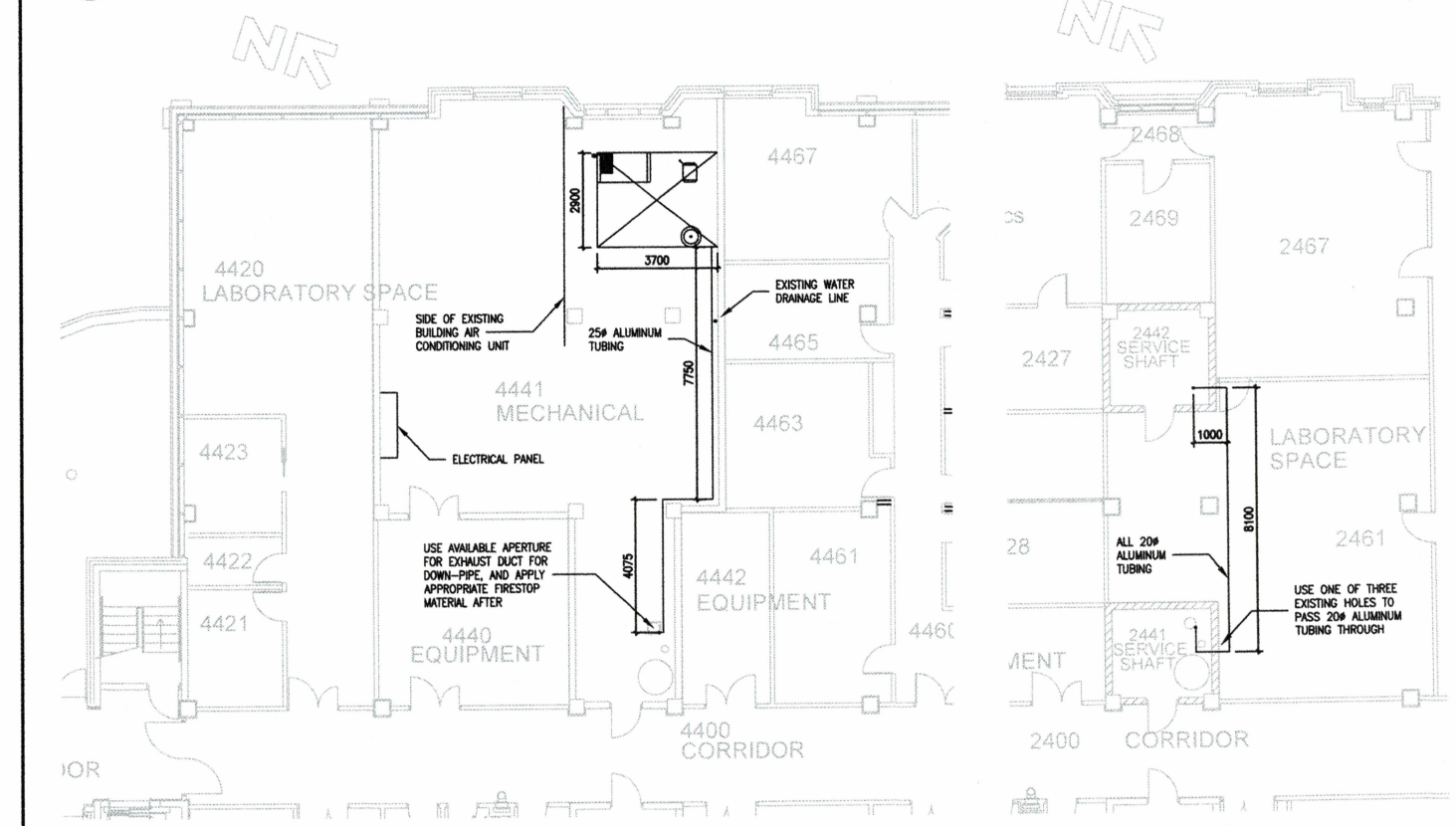
drawing
 COMPRESSED AIR PIPING - OVERALL LAYOUT

designed	RS/BL	conçu	date	JULY 2021
drawn	BL	dessiné	scale	1:100
checked	RS	vérifié	sheet	1 of 3
approved	RC (NRC)	approuvé	W.D.no.	6000

design no. / dessin no.
E6000-M01



A
MO1
 3RD FLOOR: COMPRESSED AIR PIPING PLAN
 SCALE = 1:100



B
MO1
 4TH FLOOR: COMPRESSOR ROOM PLAN
 SCALE = 1:100

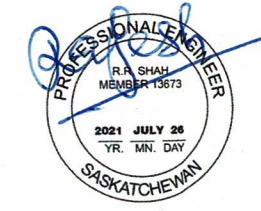
C
MO1
 2ND FLOOR: COMPRESSED AIR PIPING PLAN
 SCALE = 1:100

NEW WORK NOTES:

- THE DRAWINGS IN THIS ISSUE ARE TO DEFINE AN AVAILABLE AREA FOR THE COMPRESSOR AND EQUIPMENT NECESSARY TO SUPPLY THE AIR OF SPECIFIED QUALITY AND QUANTITY TO NITROGEN GENERATORS IN ROOMS 3312 AND 2442.
- CONFIGURATION, EQUIPMENT DIMENSIONS AND OTHER DETAILS SHOWN ARE CONSIDERING INGERSOLL RAND MAKE/MODEL AS EQUIPMENT REFERENCE. ACTUAL CONFIGURATION, DIMENSIONS, AND OTHER DETAILS MAY VARY BASED ON THE CHOSEN BIDDER (OR ACTUAL BIDDER).
- ACTUAL PIPING ROUTE MAY VARY SLIGHTLY, HENCE CONSIDER BOM QUANTITY +/- 10%.
- ALL DIMENSIONS ARE IN MILLIMETERS.

GENERAL NOTES

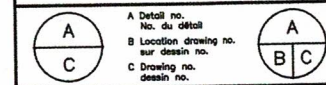
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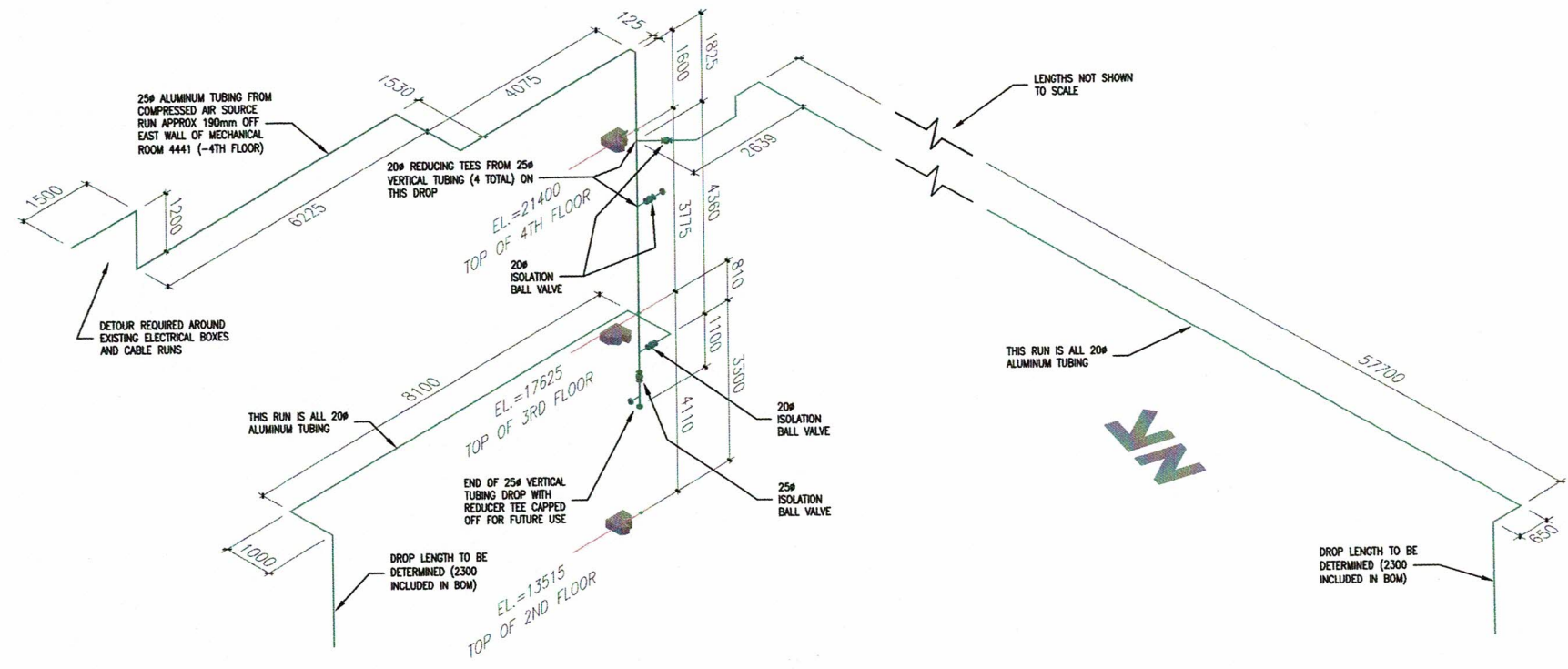
Date Printed: _____ Date Imprimée: _____
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project / projet
COMPRESSED AIR SYSTEM FOR NITROGEN GENERATORS
 110 GYMNASIUM PLACE, SASKATOON SK
 drawing / dessin
COMPRESSED AIR PIPING - ISOMETRIC DIAGRAM AND BILL OF MATERIAL

designed	conçu	date	date
RS/BL		JULY 2021	
drawn	dessiné	scale	échelle
BL		1:50	
checked	vérifié	sheet	feuille
RS		2 of 3	3
approved	approuvé	W.O.no.	D.T.no.
RC (NRC)		6000	

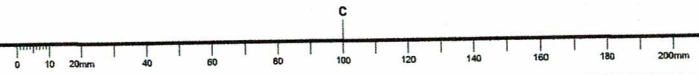
dep.no. / dessin no.
E6000-M02



A ENTIRE PIPING SYSTEM ISOMETRIC
 MO2 SCALE = 1:50

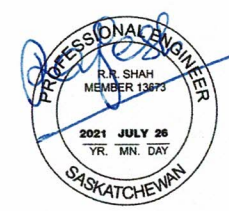
NEW WORK NOTES:

- LENGTH OF 25# ALUMINUM TUBING IS 21940.
- LENGTH OF 1ST RUN OF 20# ALUMINUM TUBING IS 63750.
- LENGTH OF 2ND RUN OF 20# ALUMINUM TUBING IS 13150.
- CONSIDER PIPING LENGTHS APPROXIMATE, AND WITHIN +/- 10%.
- CONSIDER HEIGHT OF FUTURE PIPING BRANCHES TO BE APPROX 2500 ABOVE FLOOR LEVEL.
- ALL DIMENSIONS ARE IN MILLIMETERS.
- PROVIDE FIRE-STOP MATERIAL WHERE THE COMPRESSED AIR PIPING PENETRATES A FLOOR SLAB OR SERVICE SHAFT WALL. REFER TO SPECIFICATION SECTION 00 10 00 FOR ACCEPTABLE FIRESTOP MATERIAL.



GENERAL NOTES

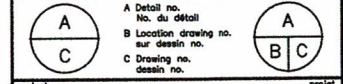
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 Discipline: Mechanical, St. Reg. No., Signature: R.R. Shah
MECHANICAL 13673

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No.	Date	Revision	Par.
Date Printed	Date Imprimée		

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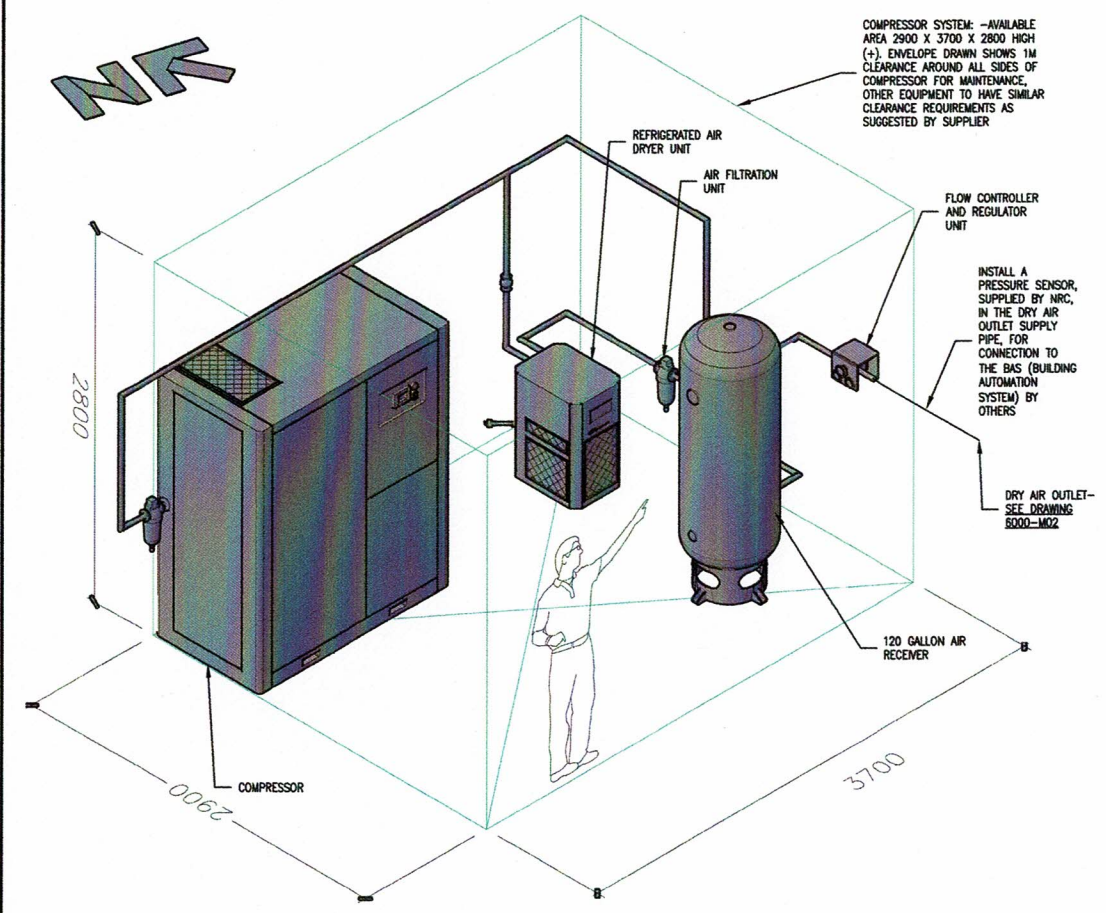


project: COMPRESSED AIR SYSTEM FOR NITROGEN GENERATORS

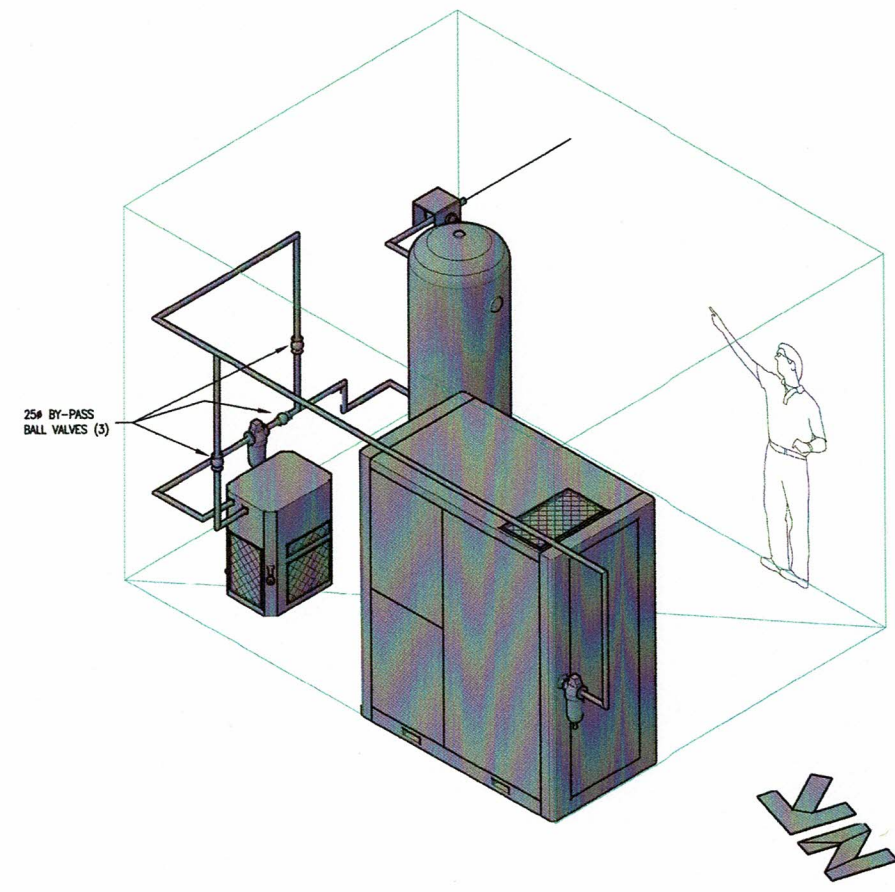
110 GYMNASIUM PLACE, SASKATOON SK
 drawing: COMPRESSED AIR EQUIPMENT LAYOUT, AVAILABLE SPACE, AND EQUIPMENT INFO / PERFORMANCE SPECIFICATIONS

designed	RS/BL	congru	date	JULY 2021	date
drawn	BL	designé	scale	1:20	échelle
checked	RS	vérifié	sheet	3 of/de 3	feuille
approved	RC (NRC)	approuvé	W.D.no.	6000	D.T.no.
dwg.no.	E6000-M03				

NRC



A AIR COMPRESSOR LAYOUT SOUTH WEST ISOMETRIC
 SCALE = 1:20



B AIR COMPRESSOR LAYOUT NORTH WEST ISOMETRIC
 SCALE = 1:20

Equipment	Manufacturer / Model	Description	Required Minimum Flow (CFM) *	Pressure (PSI) *	Air Quality required *	Electrical data HP	Remarks
Air Compressor	IR / WS22T-A14SE or approved alternate	Oil-free, Scroll compressor	60 min.	145	Class 1.4.1, as per ISO 8573-1:2010	30 max.	Air Cooled with HMI Sound level - Max 70 dBA
Air Dryer	IR / DA127ECA100 or approved alternate	Nirvana Cycle Refrigerated Dryer	-	-	Class 1.4.1, as per ISO 8573-1:2010	-	38° F dew point, Air Cooled With electric drain valve (EDV)
Air Filter	IR / FA 150 IH or approved alternate	Type - H	-	-	Class 1.4.1, as per ISO 8573-1:2010	-	With dual Pressure Differential Indicator, Automatic Drain
Air receiver	IR / Samuel or approved alternate	-	Capacity - 120 Gallons	Rated for 200 PSI	-	-	With PRV, Drain, and Pressure gauge
Flow Controller	PacE Flow controller or approved alternate	-	-	-	-	-	-

Note:
 a) Bidder may propose other equivalent makes/models in accordance with specification section 00 10 00.
 b) * This data is "System Performance" which shall be met and guaranteed.
 c) Configuration, equipment dimensions and other details shown on the drawing are considering IR make/model equipment as a reference. Actual configuration, dimensions and other details may vary based on the chosen bidder (or actual vendor).
 d) Bidder to provide required quantity and type of air filter(s) to achieve the desired air quality.
 e) Max. space available (L x W x H) for equipment mounting is approx. 2,900 X 3,700 X 2,800 mm.
 f) The mechanical room floor (where the equipment is going to be installed) is level, therefore no sub-base is required. Each equipment item shall be individually anchored to the floor.
 g) Mechanical room has 575/347V and 208/120V, 3 phase electrical panels for powering the air compressor and air dryer. A floor drain is also available to receive the condensate drain piping from the air compressor, dryer and other equipment.
 h) Piping will shall be "Purestream" or approved alternate. Refer to specification section 22 15 00 for further details.

ELECTRICAL WORK NOTES:

- PROVIDE ELECTRICAL POWER AS REQUIRED FOR THE COMPRESSED AIR SUPPLY EQUIPMENT IN ACCORDANCE WITH THE 2018 CANADIAN ELECTRICAL CODE AND SASKATCHEWAN INTERPRETATIONS EFFECTIVE JANUARY 1, 2019.
- COORDINATE WITH THE NRC FACILITIES MAINTENANCE DEPARTMENT TO SELECT THE FEED SOURCE AND CONDUIT RUN LOCATIONS.
- PROVIDE NEW CIRCUIT BREAKERS IN THE EXISTING ELECTRICAL PANEL AND RUN CONDUIT CONDUCTORS IN EXISTING CONDUIT.
- LABEL THE NEW CIRCUITS ACCORDING TO THE EXISTING STANDARD.

