

PART 1 - ADDENDUM

1.1 TITLE

- .1 This Addendum shall be known as:

Addendum 3
RFP-041-26 VAR-610-19: ARC FLASH CONSULTING SERVICES

- .2 The Date of the Addendum is Friday, August 21, 2026

1.2 PRECEDENCE

- .1 This amendment to the Request for Proposals (RFP) documents is effective immediately.
- .2 This Addendum shall form an integral part of the original RFP documents and is to be read in conjunction therewith.
- .3 The Addendum shall take precedence over previously issued RFP documents with which it may prove to be at variance.

1.3 GENERAL

- .1 The General Conditions shall govern all phases of the Work covered by this Addendum.
- .2 Acknowledge receipt of this addendum in **Appendix B - Submission Form**.

1.4 PURPOSE

- .1 The purpose of the Addendum is to inform proponents of the changes, deletions and additions to be added to the RFP documents.

1.5 CHANGES IN GENERAL

- .1 The tender deadline for receipt of tenders has changed. The new deadline is 3 p.m. on Thursday, September 3rd, 2026. Access code: 2772 379 7562
- .2 There will be a non-mandatory site visit on Thursday August 27th from 9:30am-4:00pm NST. Location: 14 Phelan Rd, St. John's, NL A1B 1T5, Facilities Management Building Room 2032.
- .3 A future addendum will be issued to provide further information on the buildings in Appendix A Section 4.1.

END OF ADDENDUM

PART 1 - ADDENDUM

1.1 TITLE

- .1 This Addendum shall be known as:

Addendum 2
RFP-041-26 VAR-610-19: ARC FLASH CONSULTING SERVICES

- .2 The Date of the Addendum is Thursday, August 20, 2026

1.2 PRECEDENCE

- .1 This amendment to the Request for Proposals (RFP) documents is effective immediately.
- .2 This Addendum shall form an integral part of the original RFP documents and is to be read in conjunction therewith.
- .3 The Addendum shall take precedence over previously issued RFP documents with which it may prove to be at variance.

1.3 GENERAL

- .1 The General Conditions shall govern all phases of the Work covered by this Addendum.
- .2 Acknowledge receipt of this addendum in **Appendix B - Submission Form**.

1.4 PURPOSE

- .1 The purpose of the Addendum is to inform proponents of the changes, deletions and additions to be added to the RFP documents.

1.5 CHANGES TO APPENDIX A

- .1 The following changes have been made to section 4.1
- .1 Revision to bus count FH: Field House (Estimated 120 Bus Count)
- .2 Revision to Bus count HSC/HV: Health Science complex 12.5kv distribution system (Estimated 50 bus count)
- .3 Added SN: Science Building (Estimated 250 Bus Count)
- .4 Added BT: Biotech Building (Estimated 150 Bus Count)
- .5 Added AQ: Aquarena Building (Estimated 120 Bus count)

August 20, 2026

.6 Estimated bus count is an estimated count of electrical equipment (Electrical panels, switchgear, transformers, disconnect switches, motor loads, etc) to be included in the system study.

.2 The following changes have been made to Table 1: Scope of Services Summary

.1 Section 3.1 General Principals to be included.

1.6 CHANGES TO APPENDIX M

.1 Science (SN) Building floor plans have been added.

.2 Biotech (BT) Building floor plans added have been added.

.3 Aquarena (AQ) Building floor plans added have been added.

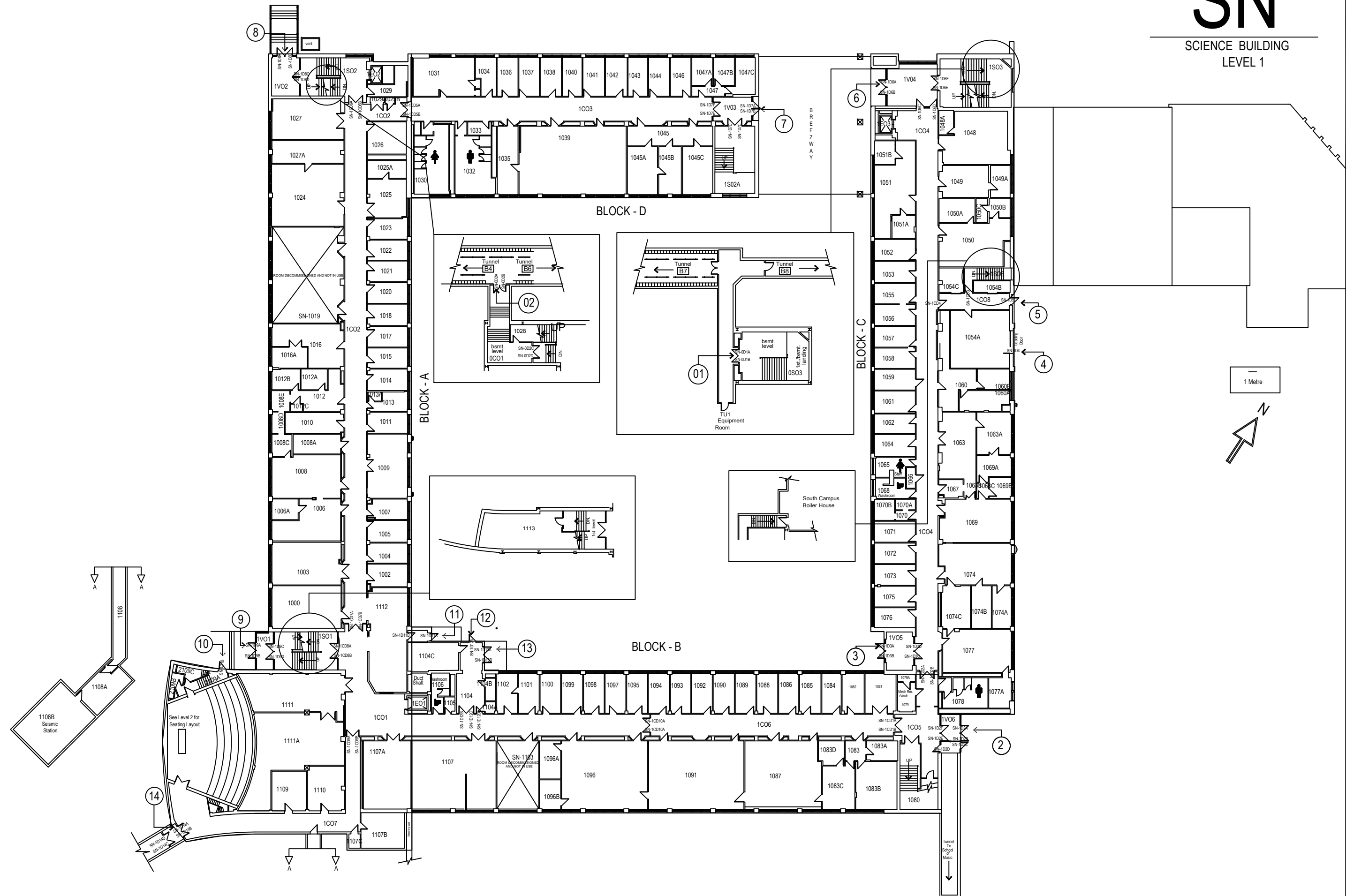
1.7 QUESTIONS AND RESPONSES

.1 **QUESTION: Are all reports to be stamped by a professional engineer?**

RESPONSE: Yes

END OF ADDENDUM

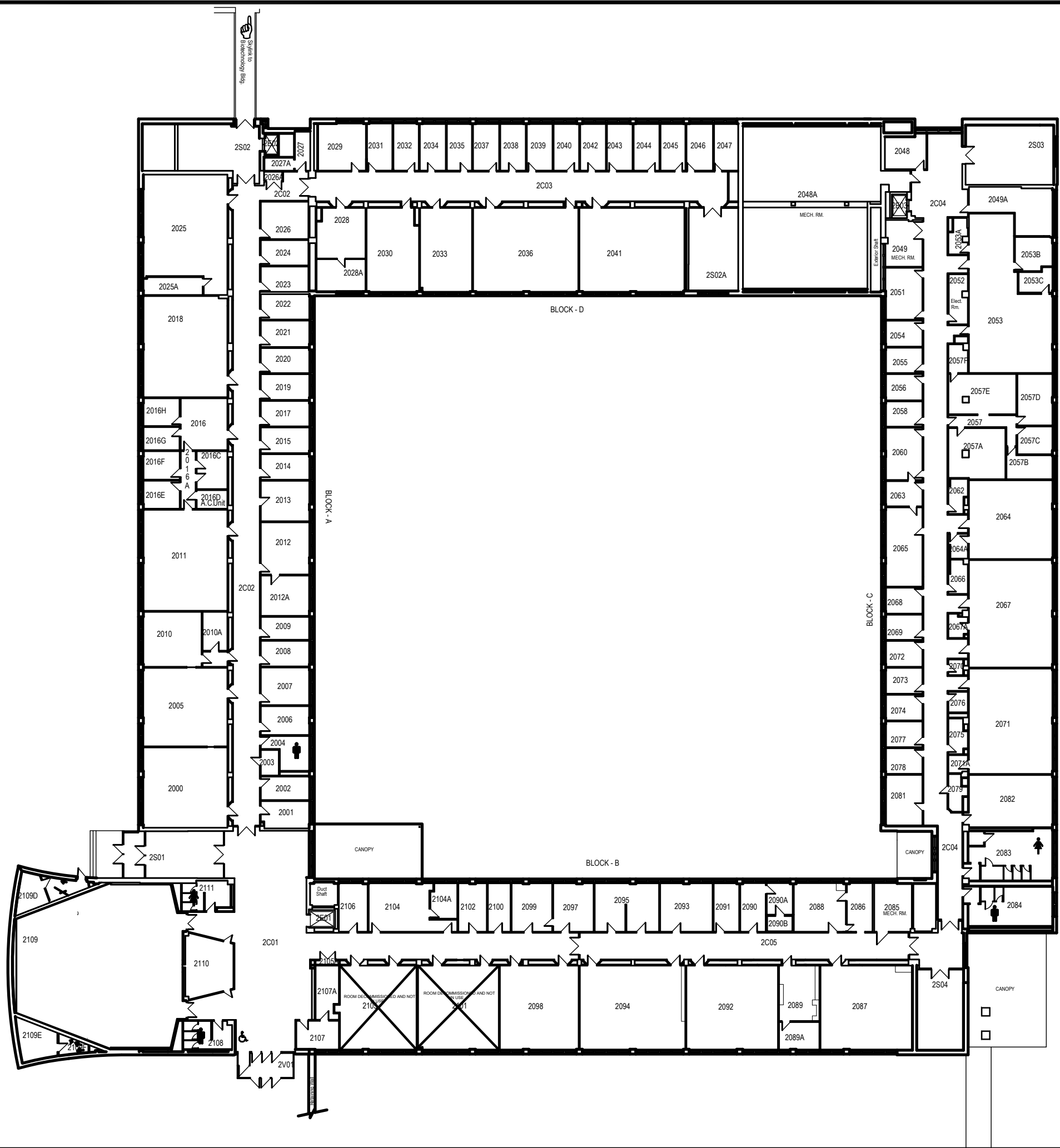
SCIENCE BUILDING
LEVEL 1



SN

SCIENCE BUILDING
LEVEL 2

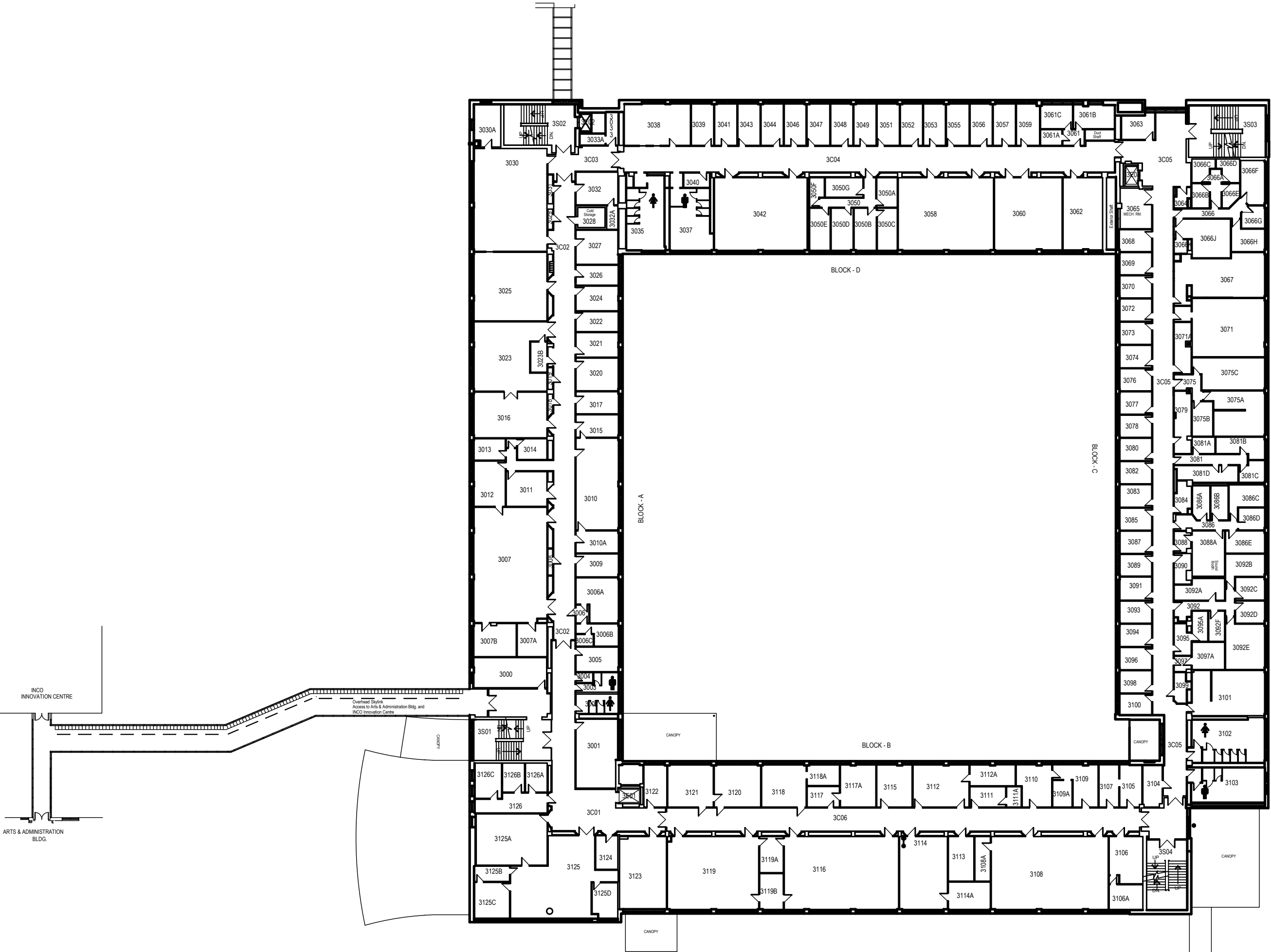
1 Metre



SN

SCIENCE BUILDING
LEVEL 3

1 Metre



SCIENCE BUILDING
LEVEL 4

BT

BIOTECHNOLOGY BUILDING
LEVEL 1

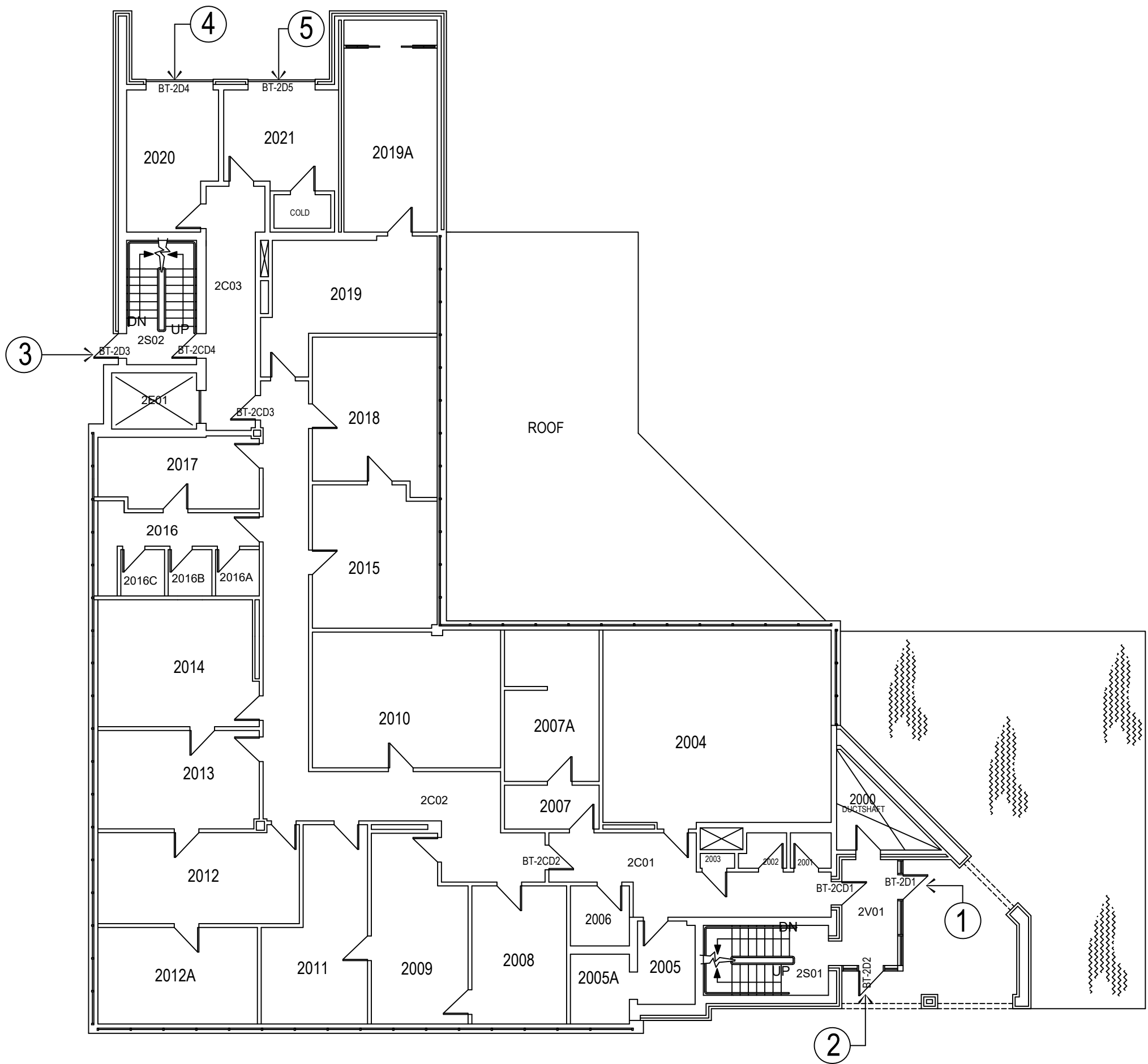
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BT

BIOTECHNOLOGY BUILDING
LEVEL 2

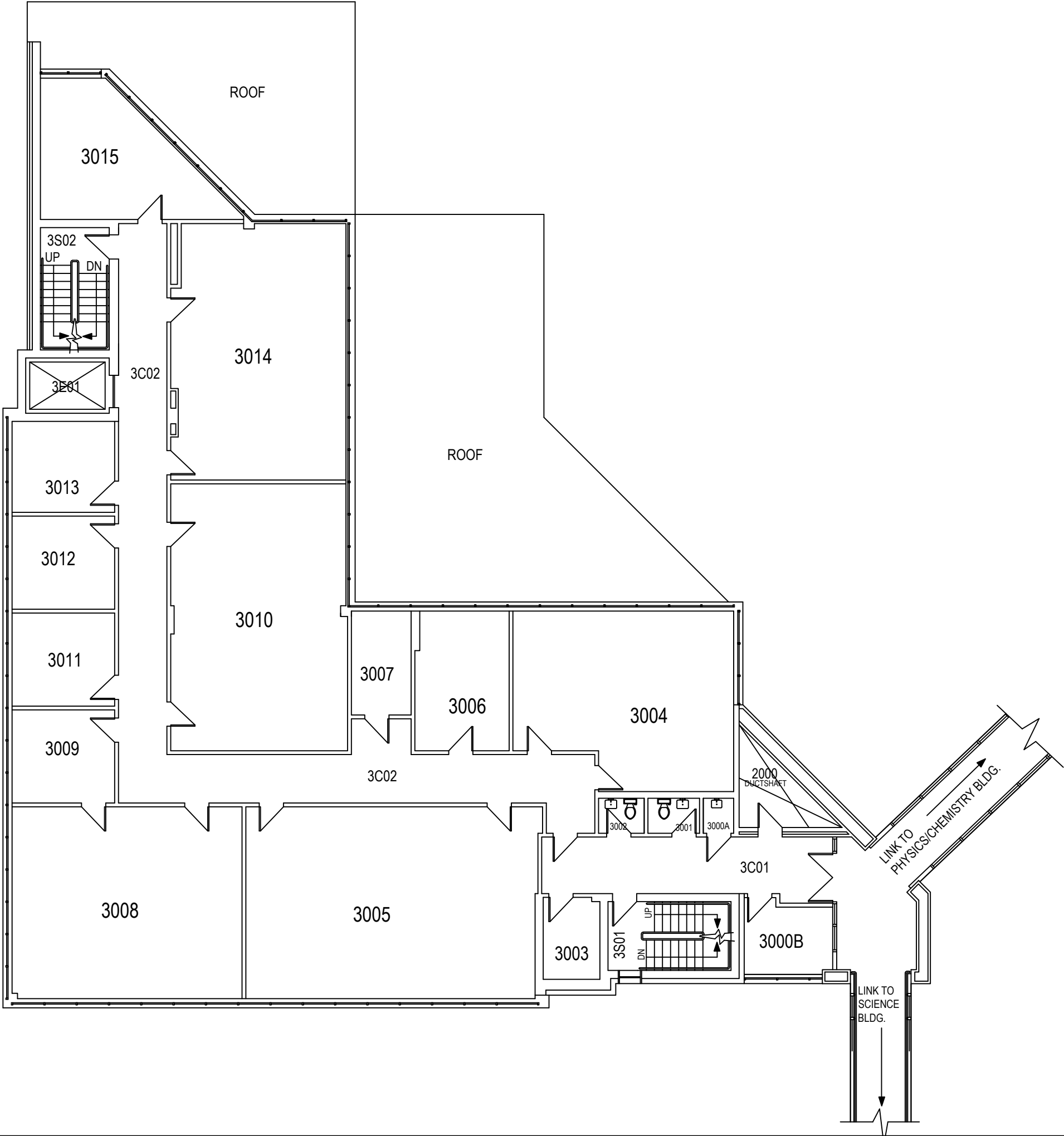
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BT

BIOTECHNOLOGY BUILDING
LEVEL 3

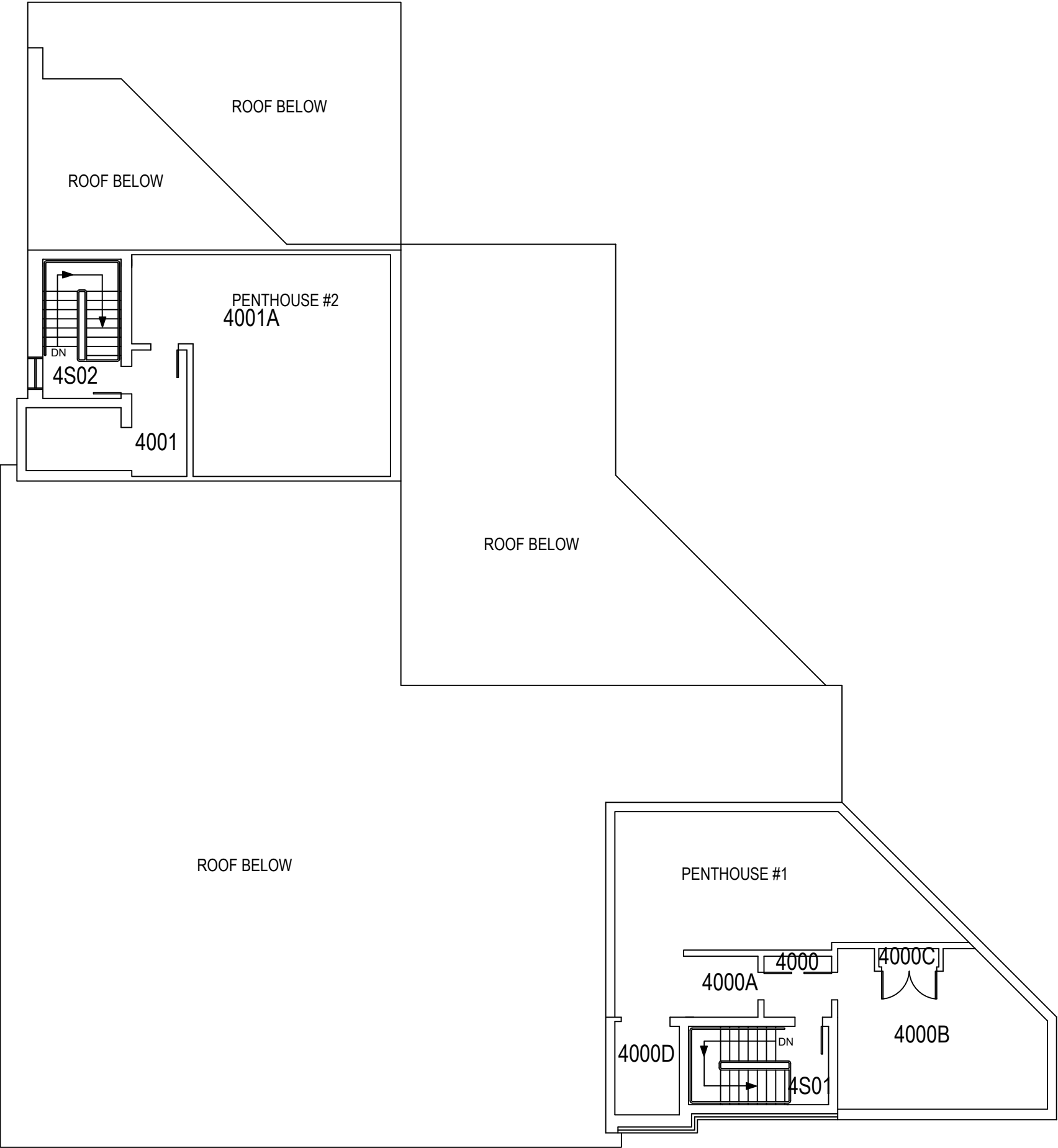
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BT

BIOTECHNOLOGY BUILDING
LEVEL 4

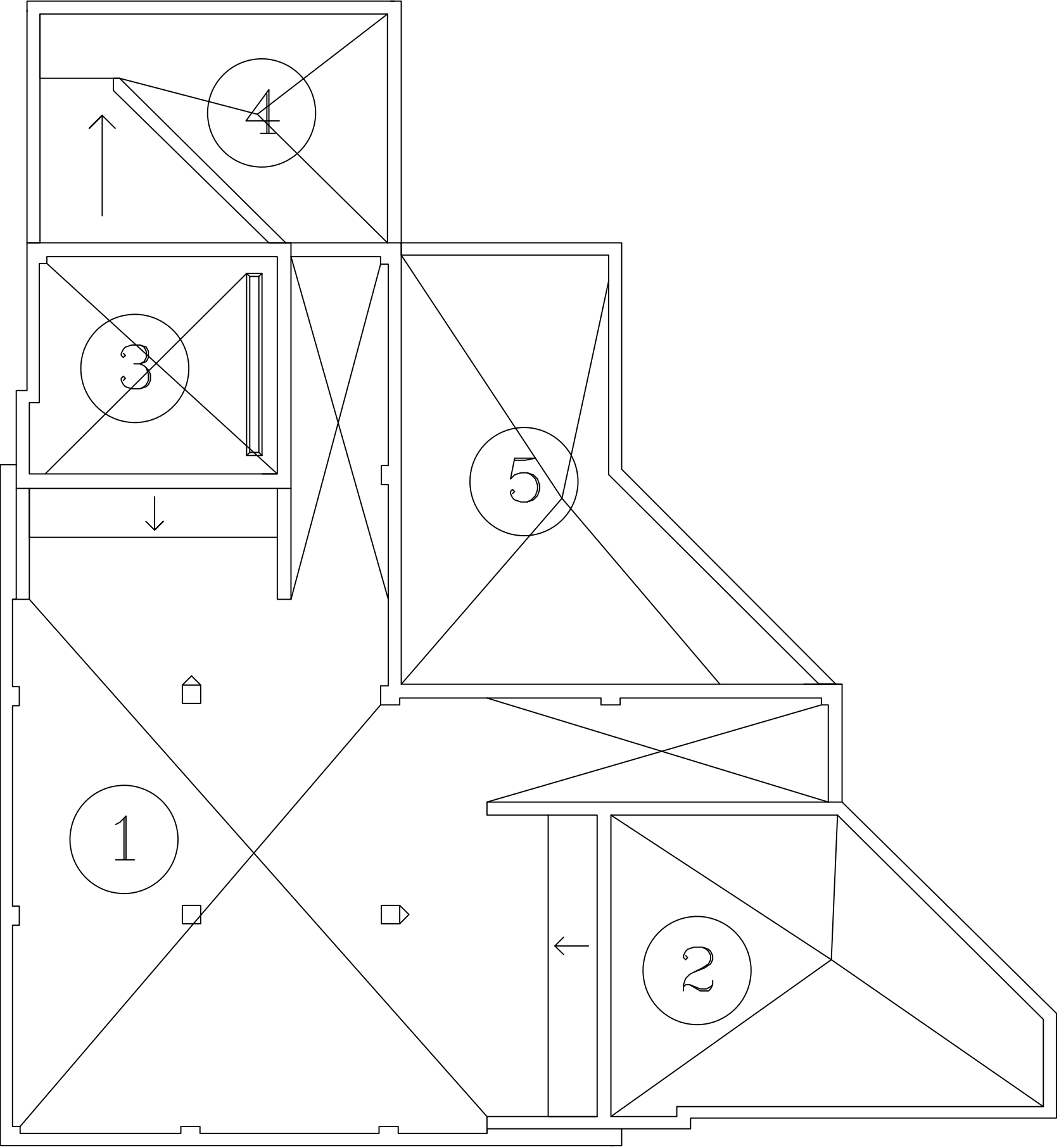
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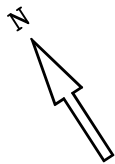
BT

BIOTECHNOLOGY BUILDING
LEVEL 1

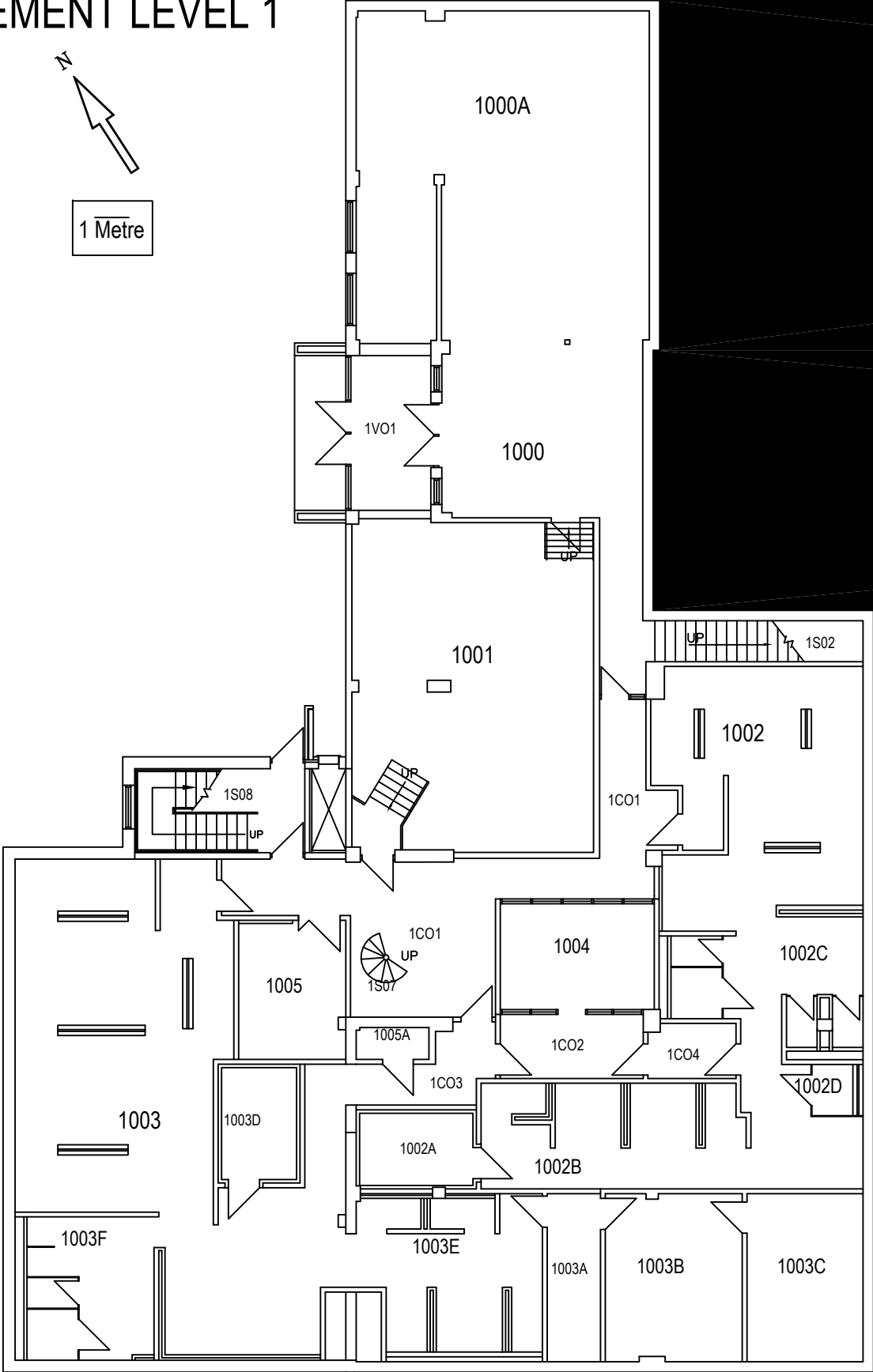
1 Metre



AQUARENA
BASEMENT LEVEL 1



1 Metre

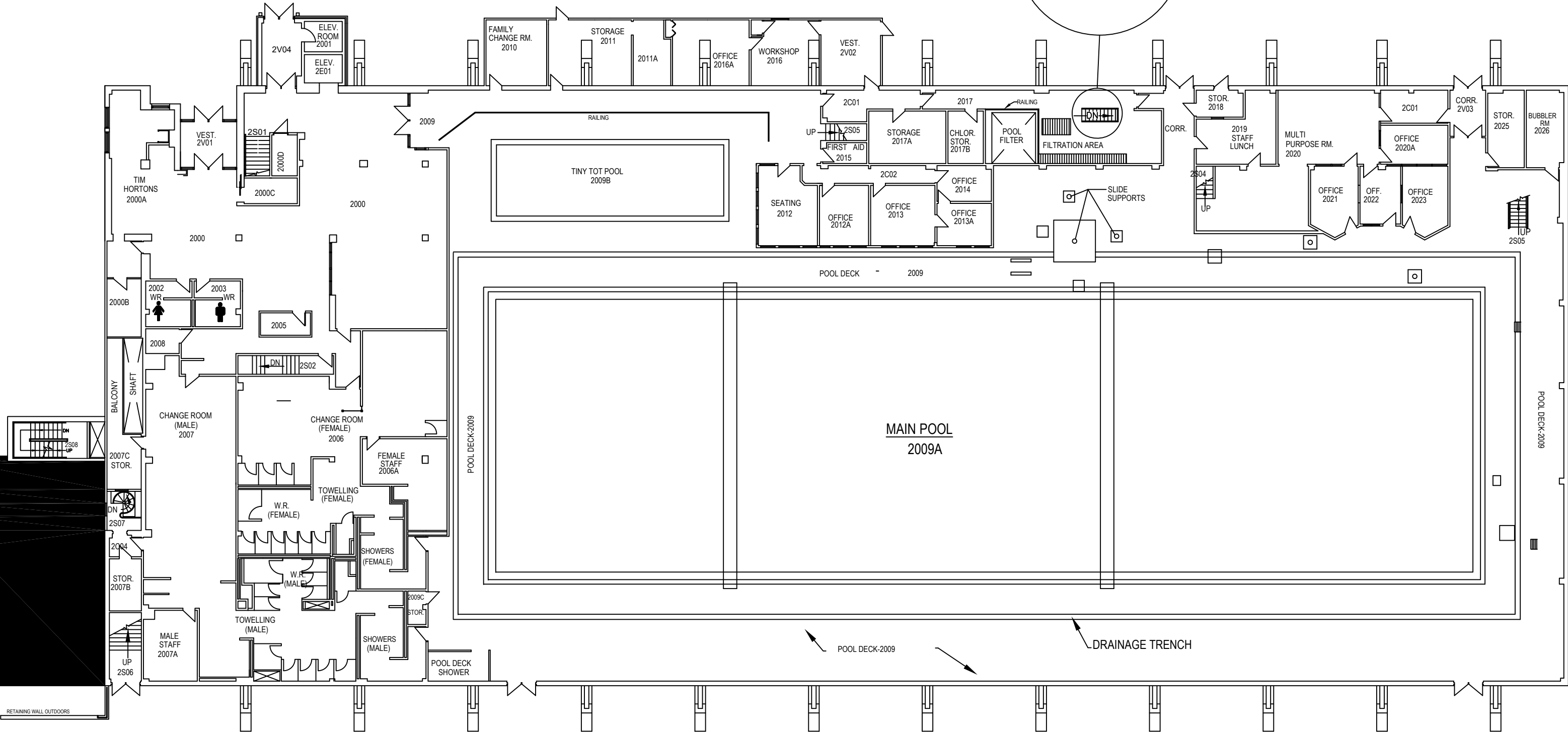
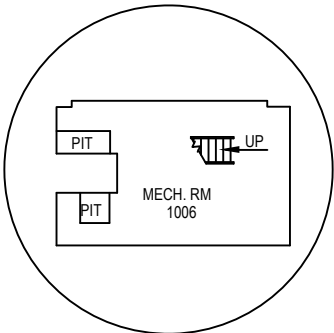
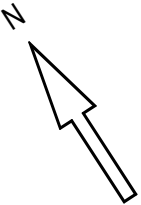


RETAINING WALL OUTDOORS

AQ

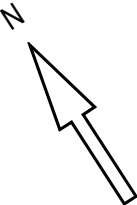
AQUARENA
LEVEL 2

1 Metre

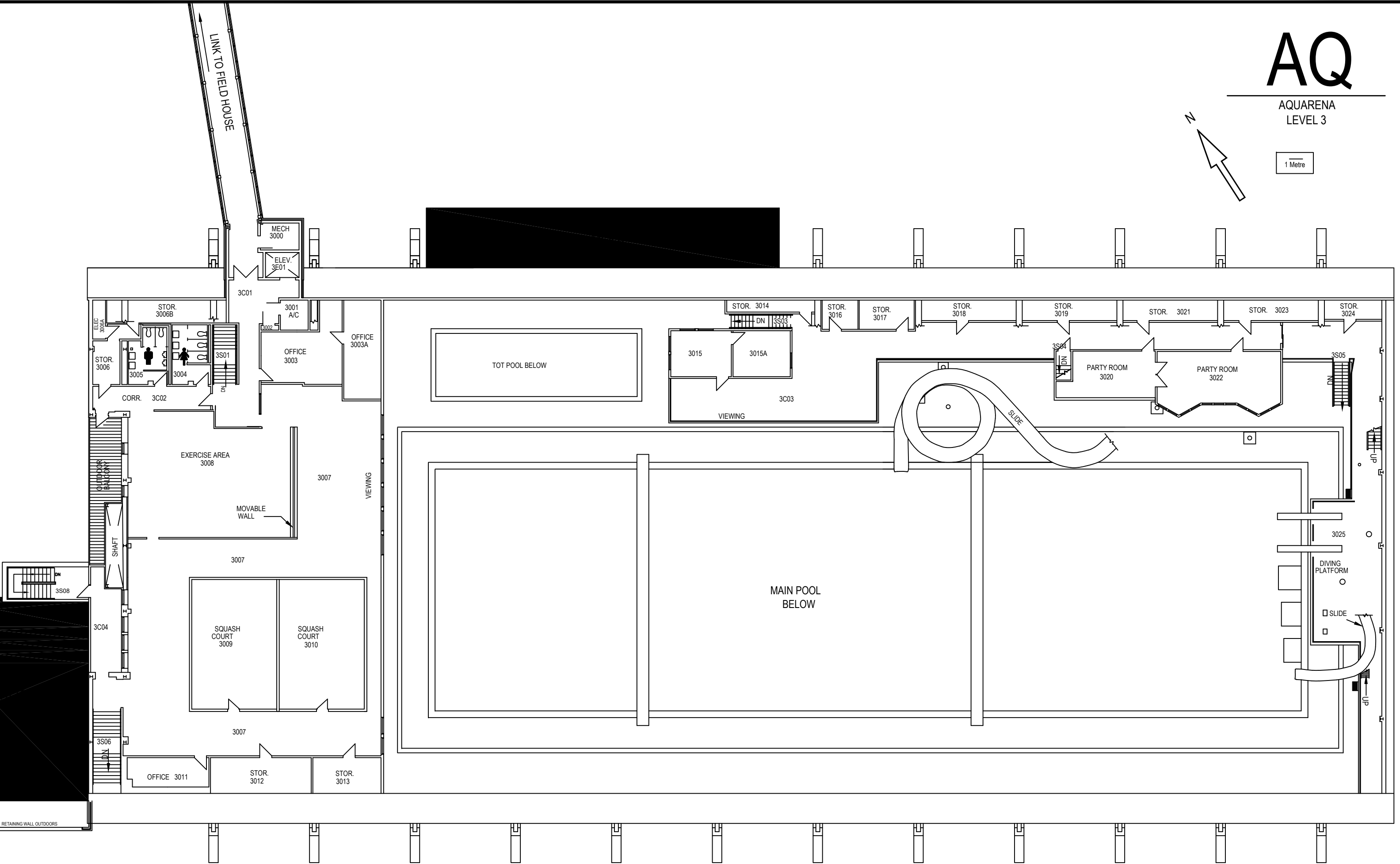


AQ

AQUARENA
LEVEL 3

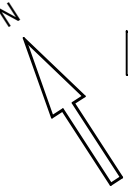


1 Metre

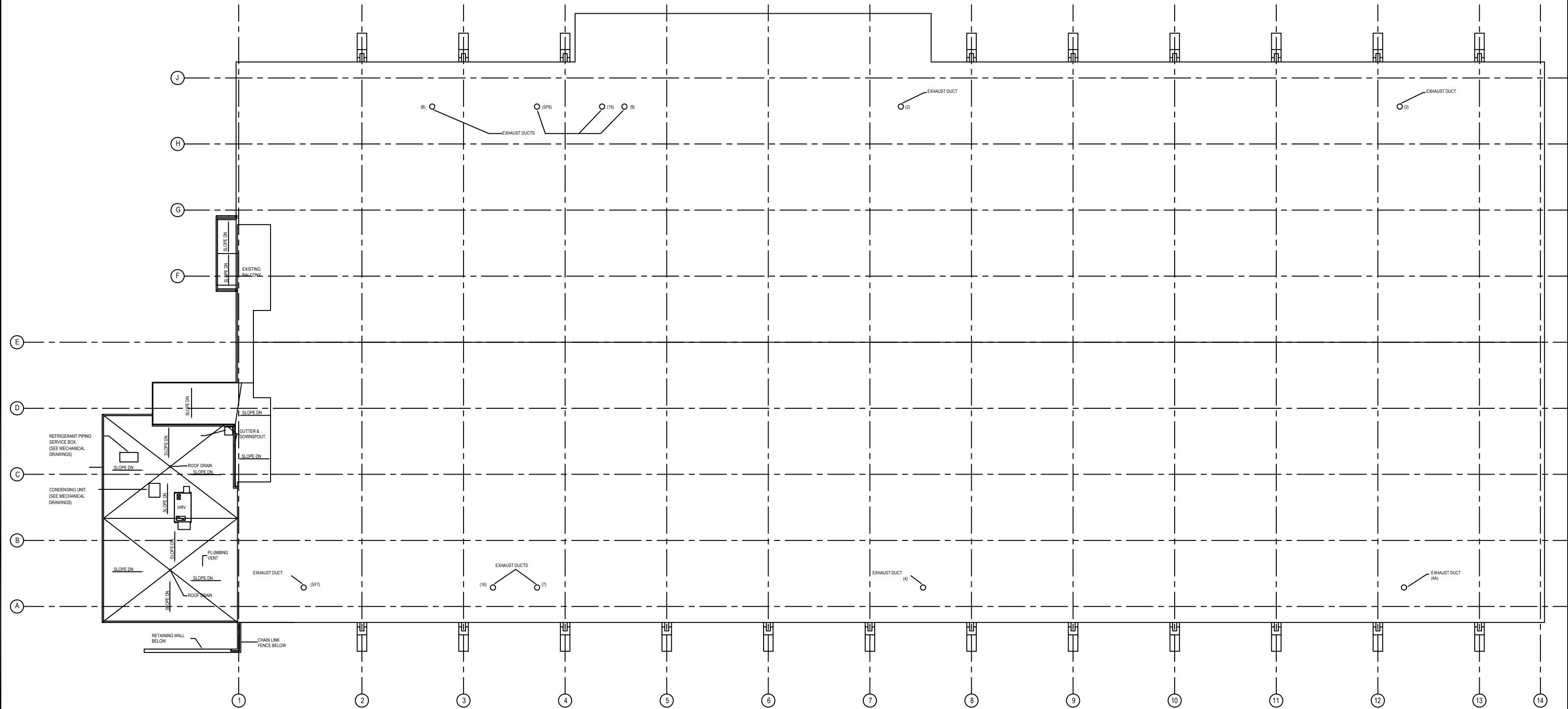


AQ

AQUARENA
ROOF

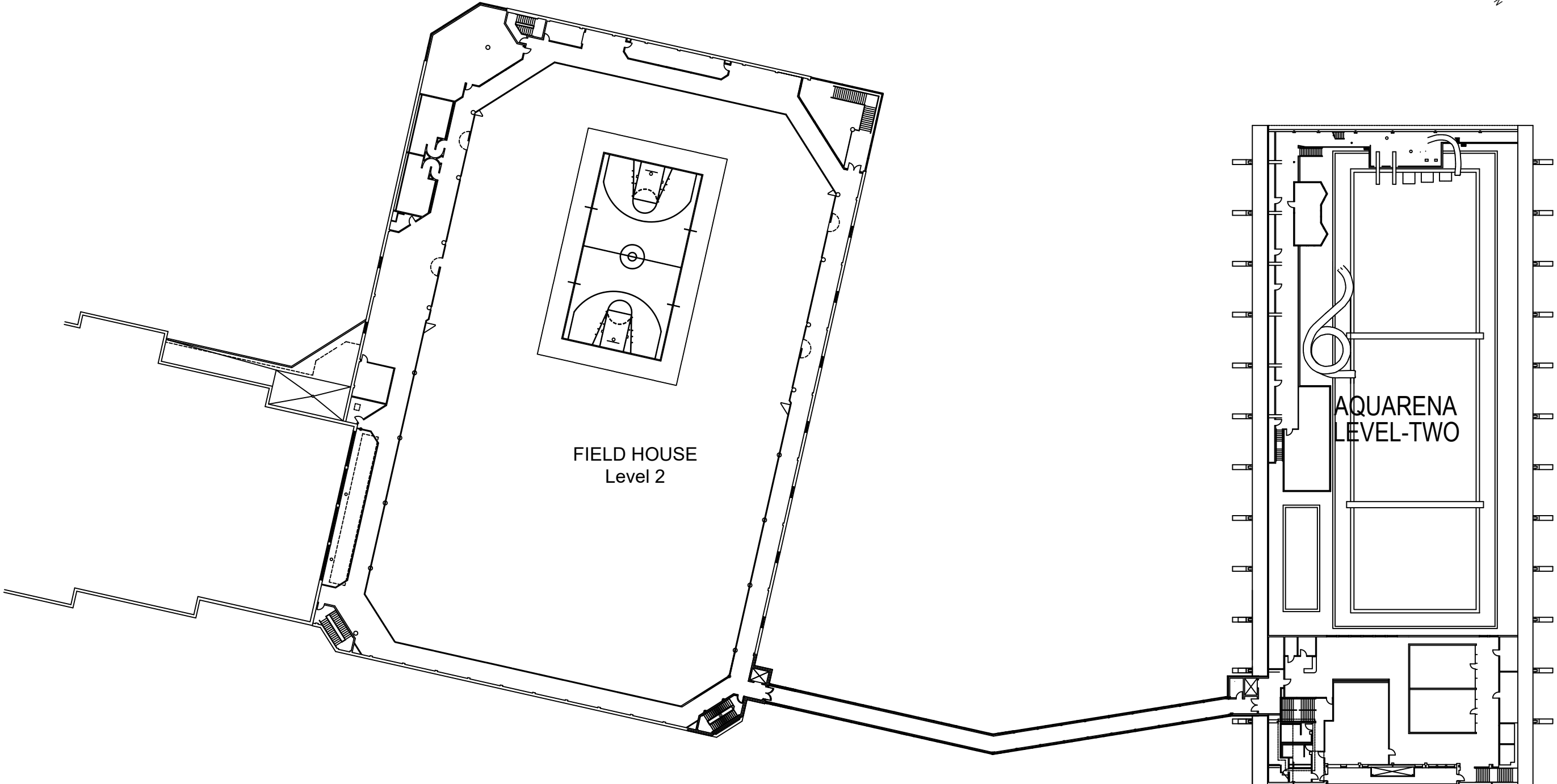


1 Metre



AQ

AQUARENA
SITE PLAN



PART 1 - ADDENDUM

1.1 TITLE

- .1 This Addendum shall be known as:

Addendum 1
RFP-041-26 VAR-610-19: ARC FLASH CONSULTING
SERVICES
- .2 The Date of the Addendum is Monday, August 17, 2026

1.2 PRECEDENCE

- .1 This amendment to the bid documents is effective immediately.
- .2 This Addendum shall form an integral part of the original bid documents and is to be read in conjunction therewith.
- .3 The Addendum shall take precedence over previously issued bid documents with which it may prove to be at variance.

1.3 GENERAL

- .1 The General Conditions shall govern all phases of the Work covered by this Addendum.
- .2 Acknowledge receipt of this addendum in the Tender and Acceptance form.

1.4 PURPOSE

- .1 The purpose of the Addendum is to inform bidders of the changes, deletions and additions to be added to the bid documents.

1.5 CHANGES IN GENERAL

- .1 The tender deadline for receipt of tenders has changed. The new deadline is 3 p.m. on Thursday, August 27, 2026. New access code: 2772 379 7562
- .2 Questions from Bidders
Q1: Does Memorial University have an arc flash report standard, electrical safety program document, or other similar document? Could this document please be provided to assist in the bidding process?

A1:

- All available documentation will be provided to the successful proponent upon award.
- Memorial does not have a standard report template, however the reports shall;
 - o Be compliant with all applicable codes and standards
 - o Follow industry standard guidelines/ requirements
 - o Outline report methodology

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- Table for Arc Flash Analysis results
- Section for Short Circuit Coordination results
- Executive summary
- Conclusions/ recommendations for system improvements or remediation

Q2: For the scope described in point 2.2 of Appendix A: Could more detail please be provided on which changes are being required to be made to the high voltage model that will make recalculation of these eight (8) models necessary? Are the changes mentioned here referring to the additions of the 26 models in section 2.1 to the master or are there other changes that may, for example, increase or decrease the available fault current?

A2: Changes have been made to the master ETAP model up stream of the building etap models in this section. These changes on the high voltage sections have not been reflected on the building reports.

Q3: Sections 2.3, 3.2, and 4.3 make reference to "recommendations for system improvements or remediation". Could MUN please clarify what is intended by that statement? Would these improvements required to be reported on be solely related to improving (lowering) arc flash energies, or is the scope intended to be wider than that?

A3: Lowering Arc Flash energies & short circuit/coordination issue improvements.

Q4: Please confirm single line update is not within the scope.

A4: The AutoCAD Single line updates will be completed by Memorial, ETAP models will be updated by the consultant.

Q5: The SN Building (Page 100) was shown in Appendix J but not found in the list of Appendix A Section 2/3/4/5. Do they need to be re-studied?

A5: The SN equipment on the referenced page is fed from the South campus boiler room (BR) and is to be updated as part of the BR report in section 2.1

1.6 CHANGES TO APPENDICES

.1 Appendix A to be removed and replaced in its entirety with Appendix A (R1)

.1 The following changes have been made to section 1

.1 Section 1.1;

"Memorial University will provide all required utility fault data where required.

Following the completion of the above-mentioned scope of work, the consultant shall prepare an updated arc flash/ short-circuit coordination report containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (See Appendix K)."

.2 The following changes have been made to section 2

.1 Section 2.1;

August 17, 2026

“BO: Bowater House”

- .2 Section 2.2;
“HERF: Harsh Environment Research Facility (ENX- Engineering Annex)”
- .3 Section 2.3;
“The scope of work outlined in sections 2.1 & 2.2 is available to start upon award. Following the completion of the above-mentioned scope of work, the Consultant shall prepare an updated arc flash/ short circuit coordination report per building containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (See Appendix K).”
- .4 Section 2.4;
“All required field data collection shall be completed by Memorial University.”
- .3 The following changes have been made to section 3
 - .1 Section 3.2
“This scope of work is available to start upon award. Following the completion of the above-mentioned scope of work, the consultant shall prepare an updated arc flash/ short circuit coordination report per building containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (See Appendix K).”
 - .2 Section 3.3
“All required field data collection shall be completed by Memorial University.”
- .4 The following changes have been made to section 4
 - .1 Section 4.3
“ Following the completion of the above-mentioned scope of work, the consultant shall prepare an updated arc flash/ short circuit coordination report per building containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (See Appendix K).”
 - .2 Section 4.4
“All required field data collection shall be completed by Memorial University.”
- .5 The following changes have been made to section 5
 - .1 Section 5.2;
“All required field data collection shall be completed by Memorial University.”
- .6 The following changes have been made to section 6
 - .1 Section 6.1;
“Training may be in person or remote”
- .2 Facilities Management ETAP Model to be added to Appendix J

END OF ADDENDUM

APPENDIX A (R1) – SPECIFICATIONS & SCOPE

Background

Memorial University is seeking a qualified Consultant for the development of short circuit and arc flash models and studies using the ETAP 20.0 software or later, for Memorial University buildings. It is estimated that a 3-year engagement will be required. Through this RFP process, a consultant will be engaged to provide the services identified herein.

The successful Proponent shall provide all engineering, modelling, analysis, reporting, training, and technical support services necessary to establish and maintain a comprehensive Master ETAP Model representing Memorial University's electrical distribution systems.

Scope of Project

The scope of work described below, which includes concurrent work by Memorial University, is based on planned/tentative dates.

The phases below reference a “master ETAP model”. Through this engagement, Memorial is also seeking the Consultant's input on the best approach for structuring the model (one file/model or linked files/models).

1. Master ETAP Model Development

1.1 The Consultant shall review all existing electrical system models provided by Memorial University and develop a comprehensive master ETAP model representing Memorial University's electrical distribution infrastructure. Memorial's existing high voltage ETAP model is to be the basis of the master ETAP model (**See Appendix I**), with all building/equipment models to be merged or linked. Updated Arc flash Labels are to be provided by the Consultant as additions to the master ETAP model are made throughout the engagement.

The Consultant shall evaluate and recommend the most appropriate model architecture, for example, whether the electrical system should be maintained as a single integrated model or as multiple linked models.

All re-issued, converted, and newly developed models shall be incorporated into the Master ETAP Model.

Memorial University will provide all required utility fault data where required.

Following the completion of the above-mentioned scope of work, the consultant shall prepare an updated arc flash/ short-circuit coordination report containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (**See Appendix K**).

Note: Mount Scio Road (MTS) & Marine Institute (MI) buildings will not be merged into the Master ETAP Model, as they are standalone systems.

2. Existing Systems to be Re-Studied

2.1 Existing models have incident energy values calculated at maximum fault-clearing time. These values would be required to be re-issued utilizing the IEEE standard 2 second rule where applicable. Once reissued, the ETAP models shall be merged into one master ETAP model by the consultant. **(See Appendix J):**

- HH: Henrietta Harvey
- ED: Education
- AA: Arts & Admin
- IIC: Inco Innovation exchange
- L: Library
- BR: South Campus Boiler Room
- MU: Music
- DO: Doyle House
- BA: Barnes House
- BO: Bowater House
- BL: Blackhall House
- HA: Hatcher House
- CU: Curtis House
- SQ: Squires House
- BU: Burke House
- DH: Dining Hall
- RO: Rothmere House
- SP: Spencer Hall
- QC: Queens College
- GH: Field Hall
- J: St Johns College
- BN: Business Building
- CF: Centrifuge Building
- K: C-Core Building
- EN: Engineering Building
- ER: Earth Science Building
- UC: University Centre

2.2 The following existing arc flash studies were completed utilizing the IEEE 2 Second rule, where applicable. It is anticipated that upstream changes made, following completion of these reports, to the high voltage model will result in changes to the building infrastructure values. The Consultant shall merge the following ETAP models into the master ETAP model **(See Appendix J):**

- GY: Guy Court
- GB: Gilbert Court
- CA: Cartier Court
- CT: Cabot Court
- BM: Baltimore Court
- PE: Physical Education
- FM: Facilities Management
- HERF: Harsh Environment Research Facility (ENX- Engineering Annex)

2.3 The scope of work outlined in sections 2.1 & 2.2 is available to start upon award. Following the completion of the above-mentioned scope of work, the Consultant shall prepare an updated arc flash/ short circuit coordination report per building containing all study information contained in it, as well as any recommendations for system

improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (**See Appendix K**).

2.4 All Required field data collection shall be completed by Memorial University.

3. Conversion of Arc Flash Studies from SKM & Easy Power

3.1 The following buildings have arc flash studies (**See Appendix L**) that are to be converted from SKM/EasyPower to ETAP and merged into the master ETAP Model:

- ARC: Animal Research Care building (SKM)
- MI: Holyrood Marine Base (EasyPower)
- CSF: Core Science Facility (SKM)
 - Estimated additional 250 buses to be added to modeling following data collection completion.

3.2 This scope of work is available to start upon award. Following the completion of the above-mentioned scope of work, the consultant shall prepare an updated arc flash/ short circuit coordination report per building containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (**See Appendix K**).

3.3 All Required field data collection shall be completed by Memorial University.

4. Arc Flash Studies

4.1 Consultant to complete ETAP Models & furnish an Arc Flash Study for the following buildings (SLD's to be provided to Consultant by MUN). MUN shall provide all information on the distribution equipment and transformers, exact size and lengths of the feeders & breaker model numbers for all feeders in Excel format upon completion of data collection. The information required for the buildings mentioned below shall be collected by MUN and available for the Consultant throughout the 3-year engagement. MUN will provide the short circuit information for the main incoming service to the building. MUN will provide all building floor plans in PDF Format (**See Appendix M**):

- CH: Child Care (Estimated 50 Bus count)
- EX: East Tower (Estimated 150 Bus count)
- WX: West Tower (Estimated 150 Bus count)
- GLC: Global Learning Centre (Estimated 75 Bus count)
- FH: Field House (Estimated 250 Bus count)
- CP: Chemistry Physics (Estimated 500 Bus Count)
- FOM: Faculty of Medicine (Estimated 250 Bus count)
- UA: Utilities annex building (Estimated 500 Bus Count)
- MTS: Vivarium (Estimated 75 Bus Count)
- MTS: Research Labs (Estimated 50 Bus Count)
- MTS: Incinerator Building (Estimated 50 Bus Count)
- MTS: Interpretative Centre (Estimated 50 Bus Count)
- MTS: Food Pilot (Estimated 50 Bus Count)
- MTS: Various (Caretakers, Greenhouses, Barn Carriage houses) (Estimated 50 Bus Count)
- MI: Fox trap base (Estimated 50 Bus Count)

4.2 Consultant to merge the above-noted ETAP models with the master ETAP Model.

4.3 Following the completion of the above-mentioned scope of work, the consultant shall prepare an updated arc flash/ short circuit coordination report per building containing all study information contained in it, as well as any recommendations for system improvements or remediation. Arc flash labels for all equipment shall be provided within the report as a PDF and XLS (**See Appendix K**).

4.4 All Required field data collection shall be completed by Memorial University.

5. Additional Modeling Allowance

5.1 The Consultant is to provide pricing for the modeling of 1000 additional Buses to be used at the owner's direction. This allowance is to be used if the actual bus count per building exceeds the estimated bus count per building, upon completion of data collection. This Allowance shall include all costs associated with integration with the associated model, including but not limited to:

- ETAP Modeling
- Arc Flash Calculations
- Short circuit coordination
- Request For Information (RFI)

5.2 All Required field data collection shall be completed by Memorial University.

6. ETAP Modeling Training & Support

6.1 Three (3) days of Baseline ETAP training for member's of Memorial's facilities management team. Training may be in person or remote. Training to include;

- General overview and usage of ETAP
- Integration of new buildings into the master ETAP model
- Integration of new electrical equipment (Small Model) into the Master ETAP model.
- Replacement of existing infrastructure to the master ETAP model.
- Additions of existing infrastructure to the master ETAP model.

6.2 Following the completion and implementation of the ETAP model, the Consultant is to allow for two remote follow-up calls with Memorial to address troubles or questions during the first 3 months of MUN using the model. An allowance of 3 hours per call should be anticipated.

Additional consulting and/or contract administration services may be required and will be provided on a per-diem basis. Please submit a schedule of rates with your proposal.

Form of Agreement

The form of agreement can be found in **Appendix G – Department of Facilities Management Consultants Services Agreement** of this document.

Prime Consultant's Summary of Services

Table 1: Scope of Services Summary summarizes and amends the Scope of Services for the engagement:

TABLE 1: SCOPE OF SERVICES SUMMARY

Section		Included
3.1	General Principles	☐
3.2	Additional Services	☒
3.3	Work Schedule	☒
3.4	Cost Control	☐
3.5	Sub-Consultants	☒
3.6	Functional Programming Development and Advisory Services	☒
3.7	Concept Design (Includes Schematics)	☐
3.8	Design Development	☒
3.9	Construction Contract Documents	☐
3.10	Bidding and Construction Contract Award	☐
3.11	Construction Contract Administration	☐
3.12	Resident Supervision (Additional Services)	☐
3.13	Insurance	☒
Conditions/Amendments		
3.8	Class C estimate to be removed from scope	

Deliverables

See *Table 4: Scope of Services Deliverables Acknowledgement* in **Appendix B – Submission Form**.

Concept Parameters

As described but not limited to the following:

1. Develop in accordance with current building design and code standards, including, but not limited to:
 - A. National Building Code
 - B. Barrier Free Access
 - C. Life Safety
 - D. Canadian Electrical Code
2. All existing Memorial University standards to be reviewed and incorporated into the design package where applicable, including but not limited to:
 - A. Memorial University Point Naming Conventions (Honeywell EBI)
 - B. Memorial University Electrical Panel Color Code Panels
 - C. Facilities Management Color Pallet Standard
 - D. Memorial University Title Blocks (AutoCAD)
 - E. Memorial University Interior Signage Manual 1.0
 - F. MUNet Specification (Communications)
 - G. Zero Energy Isolation Program

Above documents/templates will be made available to the successful Proponent after contract award, unless requested otherwise;

3. All existing reports to be reviewed and incorporated into the design where necessary, including but not limited to:
 - A. Existing building Arc Flash Studies
 - B. Memorial Electrical Safety Program
 - C. Memorial Zero Energy Isolation Program
4. If available, all existing as-built drawings (in .dwg format) will be made available to the successful Proponent upon request;



Arc Flash Report - IEEE 1584 Calculations Worst Case Based on All Scenarios



Bus Name	Equipment Type (Bus Gap (mm))	Upstream Protective Device Clearing Fault	Bolted Fault Current		Arcing Fault Current		Clearing Time (ms)	Arc Flash Hazard Analysis Results		
			@ Bus	Through Prot. Device	@ Bus	Through Prot. Device		FPB (mm)	WD (mm)	IE (cal/cm²)
12,500 Volt Busses										
FM-HVTR-01_Pri	Cable Bus (153)	CX-HVACB-08	12,955	12,955	11,646	11,646	295	3,124	914	9.32
480 Volt Busses										
FM_PP-13	Panelboard (25)	FM-DSW-14_FS	779	1,798	476	1,099	62	152	457	0.12
FM-ATS-01	Panelboard (25)	FM-DSW-14_FS	746	1,723	441	1,017	91	76	457	0.08
FM-DSW-15	Panelboard (25)	FM-DSW-14_FS	647	1,493	396	914	162	229	457	0.27
FM-DSW-18	Panelboard (25)	FM-DSW-14_FS	679	1,567	415	959	124	204	457	0.22
FM-DSW-19	Panelboard (25)	FM-PP-02_CB_TRAN-04	739	1,707	524	1,210	8	52	457	0.02
FM-DSW-30	Panelboard (25)	FM-DSW-14_FS	730	1,685	446	1,030	85	152	457	0.14
FM-DSW-31	Panelboard (25)	FM-DSW-14_FS	730	1,685	446	1,030	85	152	457	0.14
FM-SPL-1035_480V	Panelboard (25)	FM-DSW-14_FS	745	1,720	456	1,051	77	152	457	0.14
FM-TRAN-01_Sec	Cable Bus (25)	FM-DSW-14_FS	900	2,078	550	1,269	31	101	457	0.07
FM-TRAN-03_Pri	Cable Bus (25)	FM-DSW-14_FS	641	1,479	392	905	170	229	457	0.26
FM-TRAN-04_Sec	Cable Bus (25)	FM-PP-02_CB_TRAN-04	761	1,756	539	1,245	8	52	457	0.02
FM-TRAN-05_Pri	Cable Bus (25)	FM-DSW-14_FS	673	1,553	412	950	131	204	457	0.21
208 Volt Busses										
FM-DP-01	Panelboard (25)	FM-DSW-13_FS	10,050	10,050	4,246	4,246	2,000	2,490	457	37.17
FM-DSW-12	Panelboard (25)	FM-HVTR-01_FS_BON	12,109	202	5,165	86	2,000	2,667	457	43.22
FM-DSW-13	Panelboard (25)	FM-DSW-12_FS	11,958	11,958	5,097	5,097	2,000	2,667	457	43.17
FM-DSW-14	Panelboard (25)	FM-DSW-12_FS	11,365	11,365	4,833	4,833	2,000	2,667	457	43.49
FM-DSW-16	Panelboard (25)	FM-DSW-14_FS	925	925	369	369	2,000	661	457	2.50
FM-DSW-17	Panelboard (25)	FM-DSW-14_FS	925	925	369	369	2,000	661	457	2.50
FM-EMG-01	Panelboard (25)	FM-DSW-16_FS	916	916	308	308	183	204	457	0.23
FM-EMG-02	Panelboard (25)	FM-DSW-17_FS	710	710	284	284	2,000	610	457	2.23
FM-EMG-03	Panelboard (25)	FM-DSW-14_FS	869	869	347	347	2,000	686	457	2.72
FM-EMG-04	Panelboard (25)	FM-EMG-03_CB_FM-UPS-01	826	826	330	330	2,000	686	457	2.65



Arc Flash Report - IEEE 1584 Calculations Worst Case Based on All Scenarios



Bus Name	Equipment Type (Bus Gap (mm))	Upstream Protective Device Clearing Fault	Bolted Fault Current		Arcing Fault Current		Clearing Time (ms)	Arc Flash Hazard Analysis Results		
			@ Bus	Through Prot. Device	@ Bus	Through Prot. Device		FPB (mm)	WD (mm)	IE (cal/cm ²)
FM-EMG-05	Panelboard (25)	FM-EMG-03_CB_HH-EMG-05	724	724	289	289	2,000	610	457	2.25
FM-HTP-01	Panelboard (25)	FM-DP-01_CB_FM-HTP-01	5,007	5,007	2,040	2,040	2,000	1,701	457	17.30
FM-HVTR-01_Sec	Cable Bus (25)	FM-HVTR-01_FS_BON	17,223	287	7,415	123	2,000	3,200	610	34.64
FM-PP-02	Panelboard (25)	FM-DP-01_CB_FM-PP-02	7,234	7,234	3,000	3,000	2,000	2,082	457	25.88
FM-PP-03	Panelboard (25)	FM-DP-01_CB_FM-PP-03	4,155	4,155	1,681	1,681	2,000	1,548	457	14.31
FM-PP-04	Panelboard (25)	FM-DP-01_CB_FM-PP-04	5,828	5,828	2,391	2,391	2,000	1,853	457	20.41
FM-PP-05	Panelboard (25)	FM-DP-01_CB_FM-PP-05	5,106	5,106	2,082	2,082	2,000	1,728	457	17.67
FM-PP-06	Panelboard (25)	FM-DP-01_CB_FM-PP-06	5,165	5,165	2,107	2,107	16	152	457	0.14
FM-PP-07	Panelboard (25)	FM-DP-01_CB_FM-PP-07	6,845	6,845	2,830	2,830	2,000	2,006	457	24.35
FM-PP-08	Panelboard (25)	FM-DP-01_CB_FM-PP-08	8,273	8,273	2,914	2,914	2,000	2,057	457	25.13
FM-PP-09	Panelboard (25)	FM-DP-01_CB_FM-PP-09	8,175	8,175	2,878	2,878	2,000	2,033	457	24.80
FM-PP-10	Panelboard (25)	FM-DP-01_CB_FM-PP-10	6,639	6,639	2,741	2,741	15	177	457	0.17
FM-PP-11	Panelboard (25)	FM-DP-01_CB_FM-PP-11	4,471	4,471	1,813	1,813	16	152	457	0.13
FM-PP-12	Panelboard (25)	FM-DP-01_CB_FM-PP-12	7,398	7,398	2,590	2,590	2,000	1,929	457	22.22
FM-PP-14	Panelboard (25)	FM-PP-04_CB_PP-14	5,278	5,278	2,155	2,155	17	152	457	0.15
FM-PP-15	Panelboard (25)	FM-PP-06_CB_PP-15	2,648	2,648	892	892	509	558	457	1.86
FM-PP-16	Panelboard (25)	FM-DP-01_CB_FM-PP-16	5,282	5,282	2,157	2,157	16	152	457	0.15
FM-PP-17	Panelboard (25)	FM-DP-01_CB_FM-PP-17	4,652	4,652	1,889	1,889	16	152	457	0.13
FM-SPL-1034	Panelboard (25)	FM-DSW-12_FS	12,033	12,033	5,131	5,131	2,000	2,795	457	47.19
FM-SPL-1035_208V	Panelboard (25)	FM-DSW-14_FS	937	937	373	373	2,000	710	457	3.06
FM-TRAN-01_Pri	Cable Bus (25)	FM-DSW-14_FS	10,437	10,437	4,418	4,418	10	177	457	0.19
FM-TRAN-03_Sec	Cable Bus (25)	FM-DSW-14_FS	942	942	376	376	2,000	710	457	2.97
FM-TRAN-04_Pri	Cable Bus (25)	FM-PP-02_CB_TRAN-04	5,952	5,952	2,444	2,444	8	128	457	0.09
FM-TRAN-05_Sec	Cable Bus (25)	FM-DSW-14_FS	894	894	356	356	2,000	686	457	2.81
FM-UPS-01	Panelboard (25)	FM-EMG-03_CB_FM-UPS-01	847	847	314	314	2,000	457	457	1.26

