# COVID-19 Workspace Safety Plan – Lab Specific

This workspace safety plan will assist Principal Investigators who wish to continue or resume research activities in their lab. This plan will include a review of activities to be undertaken in the lab to ensure effective controls are in place to prevent the spread of COVID-19. Principal Investigators are responsible for ensuring this document reflects current government guidance and notices which can be found, along with information about UBC's response to the pandemic at https://covid19.ubc.ca/.

This plan must be reviewed by your Local Safety Team, and signed by your Unit Head/Director. Once complete, the plan can be submitted with your online application to return to research.

## Resources to Consult

The following guidance documents and resources were used in the development of this plan:

- ☒ Preventing Exposure
- ☒ Personal Protective Equipment
- ☒ Physical Distancing Guidelines
- ☒ Reporting COVID-19 Exposure
- ☒ Communications Resources
- ☒ UBC Research Resumption webpage
- ☒ WorksafeBC

## Section #1: Lab information

| | |
|---|---|
| Department | Electrical and Computer Engineering |
| Faculty | Applied Science |
| Building(s) | Wesbrook |
| Lab(s)/workspace(s) | 26, 28, 30, 32B, 148 |

## Introduction to Your Lab

The Radio Science Lab contributes to the development of **next-generation wireless and radar systems** that will help to transform

- land and marine transportation,
- urban systems,
- the natural resources sector, and,
- the national defence sector.

Our current research focuses on:

- Development of the ORCASAT CubeSat due for launch from the International Space Station in 2021 (*Canadian Space Agency*)
- Development of the ALTAIR Balloon-borne Calibrator (*Canadian Space Agency*)
- Development of the AURORA 2.0 Connected Vehicle Testbed (*Canada Foundation for Innovation*)
- 5G to Enhance Urban Mobility (*Rogers Communications*)
- mmWave and Sub-THz Systems and Channels for Smart Transportation (*Rogers Communications & Communications Research Centre*)

## Section #2 - Risk Assessment

| 1. Lab/workspace Occupancy (under proposed COVID-19 operations)<br>List the number of people that will be present in your lab/workspace at the same time. List this by every room/lab/workspace you occupy.<br><br>**Confirm that you have discussed each employee's comfort level** with returning to work and have addressed any concerns, or will require further assistance in doing so. ***Any worker (staff, students, faculty, post docs, research associates, technicians and other research personnel) who has concerns about returning to work on campus can request an exemption to his/her supervisor.*** |
|---|
| I am requesting that 3 people to return to the lab as required to access specialized equipment.<br><br>Rooms 28 (systems lab), 30 (offices) and 148 (propagation lab) are large rooms (13' x 30') that can each normally accommodate up to 9 people working comfortably spread across several desks or benches. We will limit occupancy to 3.<br><br>Rooms 26 (RF lab) and 32B (meeting area) are small rooms (13' x 12') that can each normally accommodate up to 9 people in close quarters or 3 people working comfortably spread across several desks or benches. We will limit occupancy to 1.<br><br>I am requesting access for 3 students for moderate use basis from June-September (1 Ph.D, 1 MASc, 1 co-op), to configure and prepare equipment for deployment as part of the AURORA testbed and Rogers 5G projects. Occasionally I will require access. The rest of the team will work remotely from home.<br><br>Please see the appendix which includes a drawing of the labs.<br><br>Please see section #7 for list of requested users.<br><br>I confirm that I have discussed the plan with the team and solicited their concerns. The main concerns were regarding PPE, especially masks. My group together developed our PPE plan contained herein (see section #6). |
| 2. Hazard Identification<br>Describe what hazards exist in your lab/workspace; both research- related (chemicals, heavy machinery) and COVID-19-related (areas that require closer personal interaction, equipment/instruments that cannot maintain social distancing i.e. that require >1 person to operate) |
| Hazards (non-COVID-19): none<br><br>Hazards (COVID-19): (1) Work surfaces, (2) Handling of tools, (3) buttons and knobs on equipment, (4) Physical distancing, (5) Room Ventilation.<br><br>Entering and exiting the lab will be coordinated. If someone exiting the room encounters someone coming in, the exiting person will go first. |

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|---|
| 3. Employee (HQP, research staff, other) Input/Involvement<br>Detail how you have involved frontline workers (HQP and research staff) and Joint Occupational Health and Safety Committees (JOHSC) and/or Local Safety Teams (LST) in identifying risks and protocols as part of this plan.<br><br>Describe how you will **publish** your plan (online, hardcopy) and otherwise communicate workplace health measures to employees. Guidelines from SRS are available here: https://srs.ubc.ca/covid-19/health-safety-covid-19/working-safely/ |
| In order to familiarize myself with the hazards and risks, I read the COVID-19 related guidelines published on the UBC website. I also attended the town hall meetings on research curtailment and resumption. To identify hazards, risks, and strategies to mitigate risks, I consulted with other professors and consulted every member of my research team.<br><br>After approval by our head, our plan will be published according to UBC directives, e.g., online on UBC's COVID-19 safety plan website. It will also be posted on my group's internal website. I will also review the plan with my team in person. |

## Section #3 – Hazard Elimination or Physical Distancing

The following general practices shall be applied:

- Where possible, workers (HQP, research staff, others) are instructed to work from home.
- Anybody who has travelled internationally, been in contact with a clinically confirmed case of COVID-19 or is experiencing "flu like" symptoms must stay at home.
- All employees are aware that they must maintain a physical distance of at least 2 meters from each other at all times
- Do not touch your eyes/nose/mouth with unwashed hands
- When you sneeze or cough, cover your mouth and nose with a disposable tissue or the crease of your elbow, and then wash your hands
- All employees are aware of proper handwashing and sanitizing procedures for their workspace
- Supervisors must ensure that all workers have access to dedicated onsite supervision at all times; via their own presence, members of safety committees, campus security or other. When working alone, HQP and staff must be aware of working alone procedures and how these have been adapted for COVID-19.
- All staff wearing non-medical masks are aware of the risks and limitations of the face covering they have chosen to wear or have been provided to protect against the transmission of COVID-19. See SRS website for further information.

## 4. Scheduling

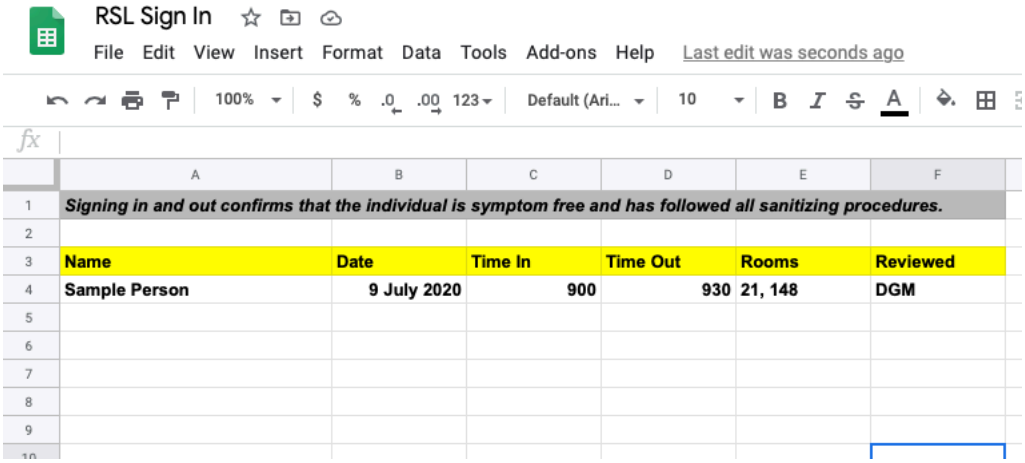
For those required or wanting to resume work at UBC, detail how you are rescheduling employees (e.g. shifted start/end times) in order to limit contact intensity at any given time at UBC.

Discuss your **working alone procedures** and how they will be adapted for this safety plan. Also describe how you will track those entering/leaving work i.e. sign in/sign out process

Tracking entering/exiting the workspace: Complete safety documents will be posted on the door of Rooms 26, 28, 30, 32B, and 148. Workers will sign in and out using a Google Sheet at

https://docs.google.com/spreadsheets/d/1e_TV0sKCybpdrDD0to_MzvFq_tEXJM35Sv672NiVr0Q/edit?usp=sharing

The PI will confirm that he has reviewed each entry. ECE Administration has advised that using Google Sheets for this purpose is acceptable if the faculty, staff and students who use it are comfortable with it.




| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | *Signing in and out confirms that the individual is symptom free and has followed all sanitizing procedures.* | | | | | |
| 2 | | | | | | |
| 3 | **Name** | **Date** | **Time In** | **Time Out** | **Rooms** | **Reviewed** |
| 4 | **Sample Person** | **9 July 2020** | **900** | **930** | **21, 148** | **DGM** |
| 5 | | | | | | |
| 6 | | | | | | |
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| 9 | | | | | | |

Scheduling: The individuals using the lab facilities will for the most part be pursuing independent tasks and only require access to lab a few times per week. No access will normally ne permitted after 5 pm in order to accommodate the cleaning staff.

Strict adherence to a virtual buddy system. We will use an SMS group chat that we will call "#work-alone" to ensure that information is shared and responded to promptly. The virtual buddy system has the following rules.

1. When someone wants to work alone, they designate in advance another team member as a "virtual buddy".
2. When someone enters the lab, they will send an "entry notification" in the form of a message on the "work-alone" SMS chat group, including which room they are in and how long they will be there.
3. Their virtual buddy replies with "ok" in the "work-alone" SMS group chat, and notes the duration of the work alone plan.
4. The individual working alone will check-in with the virtual buddy every two hours thereafter until they leave. In each case, their virtual buddy replies with "ok" in the "work-alone" SMS group chat
5. When the person exits the lab, they give us an "exit notification" in the "work-alone" SMS chat group.
6. Their virtual buddy replies with "ok" in the "work-alone" SMS chat group.
7. If the worker does not notify the virtual buddy with an exit notification at the end of their shift: a. The buddy tries to make contact with the worker by their mobile phone. b. The buddy tries to make contact with the worker by the laboratory telephone, once a telephone has been installed.

8. If the worker does not notify the buddy within 30 minutes, UBC campus security will be contacted at 604-822-2222.

All group members already have each other's cell phone numbers. The SMS group chat was used to coordinate discussions of a draft version of this plan.

## 5. Occupancy limits, floor space, and traffic flows

APSC recognizes that labs are dynamic environments and it may be challenging to adhere to physical distancing guidelines. Nonetheless, controls must be in place to keep personnel spaced at least 2m apart at all times. Clear communication of this to employees, monitoring of implementation, in addition to physical controls (signage) are needed.

As such: Using floor plans and/or photographs of your lab/workspace:

1) Identify and list the rooms and **maximum occupancy** for each workspace/area;
2) Illustrate a 2 metre radius circle around stationary workspaces/benches/instruments and common areas or equivalent approach to social distancing; and
3) Illustrate one-way directional traffic flows

Maximum occupancy:
Rooms 28 (systems lab), 30 (offices) and 148 (propagation lab) are large rooms (13' x 30') that can each normally accommodate up to 9 people working comfortably spread across several desks or benches. We will limit occupancy to 3.

Rooms 26 (RF lab) and 32B (meeting area) are small rooms (13' x 12') that can each normally accommodate up to 9 people in close quarters or 3 people working comfortably spread across several desks or benches. We will limit occupancy to 1.

Please see the appendix which includes drawings of each room.

One-way traffic flow: marked with yellow tape

Doors:

Room 148 has 2 doors for entrance/exit. One will be marked for entrance, one for exit. The doors will be cleaned and closed by the last person to leave. There are no doors within the room.

Rooms 26, 28, 30 and 32B have only 1 door each for entrance/exit which will be propped open by the first person arrived, and cleaned and closed by the last person to leave. There is a door between 30 and 32B.

There are no hand-washing sinks in the rooms. Workers will wash their hands in the building washrooms according to the building policy.

Separate incoming/outgoing workers: If there is a single door to the room and if there is a conflict and one person wishes to enter while another is exiting, the person exiting gets priority.

Shared equipment: Workstations will be set up to eliminate shared equipment.

## Section 4 – Engineering Controls

| 6. Cleaning and Hygiene<br>Detail the cleaning and hygiene regimen required to be completed by HQP, research staff and the PIs for common areas/surfaces (Custodial has limitations on cleaning frequency, etc.).<br><br>Outline specific cleaning processes and schedule for high-touch equipment, specialized/sensitive equipment or other unique circumstances to your lab/workspace. Detail how and what types of cleaning products and disposal options you will provide. If possible, include cleaning stations/infrastructure on your lab photos/plan. |
|---|
| Tools: During use, tools will be placed in a labelled “in use” zone on the desk. Tools will only be put away into the tool drawer once they are sanitized with isopropyl alcohol or with a disinfectant wipe. The drawer is the “ready for use” zone.<br><br>Workstation: Sanitized with disinfectant wipes. It will include the keyboard and mouse, the work surface, and instrument knobs and buttons. A checklist will be posted on the workstation of items in use, and that needs to be sanitized.<br><br>Measurement equipment high contact points: Sanitization of instrument knobs and buttons with disinfectant wipes after the work is completed in the bay.<br><br>Disinfectant wipes and hand sanitizer will be placed in dedicated spots near room entrances. Cleaning supplies will be disposed of in designated areas in the building. |
| 7. Equipment Removal/Sanitation<br>Detail your appropriate removal of unnecessary tools/equipment/access to areas and/or adequate sanitation for items that must be shared that may elevate risk of transmission, both research-related (i.e. instruments, tools) and general (i.e. coffee makers in break rooms) |
| Instruments and tools: Equipment will be individually assigned to individuals as much as possible. If a tool is shared, we will provide adequate sanitization for it in the lab. That is discussed in the answer to 6 above.<br><br>Large equipment that require >1 person to operate, Breakroom: None |
| 8. Safety Infrastructure Requests (Partitions, Plexiglass installation)<br>Describe any needs for safety infrastructure i.e. physical barriers, plexiglass installation required for your lab/workspace and if possible include them on your photos/room plan. |
| The workspaces are separated by > 3 metres, so partitions and plexiglass are not required. |

## Section 5 – Administrative Controls

**9. Communication & Training Strategy for Employees**

Describe how you (the PI) have or will communicate the risk of exposure to COVID-19 in the workplace to your HQP/research staff/other employees and the safety controls in place to reduce such risk.

Detail how you will ensure that all employees successfully complete the **Preventing COVID-19 Infection in the Workplace** online training and orientation to your specific safety plan

*Dissemination of the safety plan*: Once the plan is approved, it will be disseminated to my group.

*COVID-19 in the workplace training*: All students will be required to sign that they completed the training.

*Following the safety plan*: It will be the PI's responsibility to confirm that the team is following the safety plan. That will include: checking the posted photos of the sign-in and sign-out sheets, checking the "work-alone" channel that people follow the directions, and having students sign that they followed the posted sanitization processes when they sign out, and are not experiencing any symptoms of infection when they sign in and sign out.

*Mitigating training risks*: We will not be training lab members on new tasks in the lab that require in-person instruction to identify hazards, risks, and risk mitigation.

*Process documentation*: The sign-in and sign-out sheets and associated signatures will be photographed and posted to the SMS group chat by the last person to leave the lab. The work-alone policy is monitored on a SMS group chat.

**10. Signage**

Detail the type of signage you will utilize and how it will be placed (e.g., floor decals denoting one-way walkways and doors, 'cleanliness state' of equipment/instruments, hand-washing guidance). See WorksafeBC for signage guidelines and templates.

Cleanliness of tools: labelled "in use" and "ready to use" zones

Door: Signage with the schedule, a list of procedures for entering and exiting the room, and maximum occupancy. In particular, washing of hands before entry and after exit. Sign-in and sign-out procedures.

Floor tape: Entry and exit of workspace, clockwise direction of travel

**11. Emergency Procedures & Reporting**

PIs must ensure that all employees entering the lab should be aware of the Building Emergency Response Plan (ERPB) and have access to it. If applicable, detail your strategy to amend your lab's emergency response plan procedures during COVID-19.

See the SRS guidelines for handling potential COVID-19 incidents here: https://srs.ubc.ca/covid-19/health-safety-covid-19/reporting-covid-19-exposure/

### 12. Monitoring

Describe how you will monitor your workplace (supervisor, departmental safety representative, other) and update your plans as needed; detail how employees can raise safety concerns (e.g. via the JOHSC or Supervisor).

The PI is responsible for monitoring the workplace by ensuring compliance with work-alone and safe-work procedures, through periodic on-site visual inspection, and for communicating with nominated members of the group who will supplement PI's direct monitoring.

The PI will monitor the photographic records of the sign-in sheet to ensure they are filled out properly and signed. The PI will monitor the #work-alone SMS group chat and ensure it matches the sign-in sheet. The PI will engage in discussion with team members about the efficacy of the process.

In addition to the PI, the lab members will monitor the implementation of the process. The last lab member to leave the lab must take photos of the sign-in / sign-out sheet and send them to the PI.

Process documentation: The sign-in and sign-out sheets will be printed and archived weekly by the PI. The work-alone policy is monitored on an SMS group chat.

## Section #6 – Personal Protective Equipment (PPE)

### 13. Personal Protective Equipment

UBC has a central process for purchasing PPE. Describe what PPE you will require for your lab.

| # | Type of PPE | Activity and PPE Use Rationale |
|---|---|---|
| 6 | Nitrile Gloves Medium | Assuming 100 gloves per box, and what is needed until September. |
| 3 | Nitrile Gloves Large | Assuming 100 gloves per box, and what is needed until September. |
| 6 | Hand Sanitizer | Assuming 100 mL per bottle and 6 mL per use, and what is needed until September. Sanitization of hands |
| 6 | Disinfectant wipes | Assume 100 wipes per pack and what is needed until September. Sanitization of workspace, keyboard, mouse. |
| 24 | Non-medical masks | Total # masks requested is 12. Three masks per week, for a total of 12 masks per month, and 24 masks until September. |

Wearing a face mask when another person is in the same lab will be mandatory. This is an extra precaution that we have agreed to enforce, and is not meant to replace the physical distancing rule of 2 m.

Soiled PPE will be disposed of in designated areas of the building, once per day. There will be a bucket containing a bag to placed soiled PPE. Extra bags will be at the bottom of the bucket. The bucket can only be handled with gloves and needs to be sanitized after it is emptied each day.


| Name | Status | Email | Mobile Number |
|---|---|---|---|
| Hamed Noori | PhD Student | noori@ece.ubc.ca | 604 612-1380 |
| Aidan Hughes | MASc Student | aidan.hughes@alumni.ubc.ca | 403 561-1725 |
| Tim Wriglesworth | Co-op Student | t.wriglesworth@ece.ubc.ca | 604 223-7193 |
| David Michelson | Faculty | davem@ece.ubc.ca | 604 312-5136 |

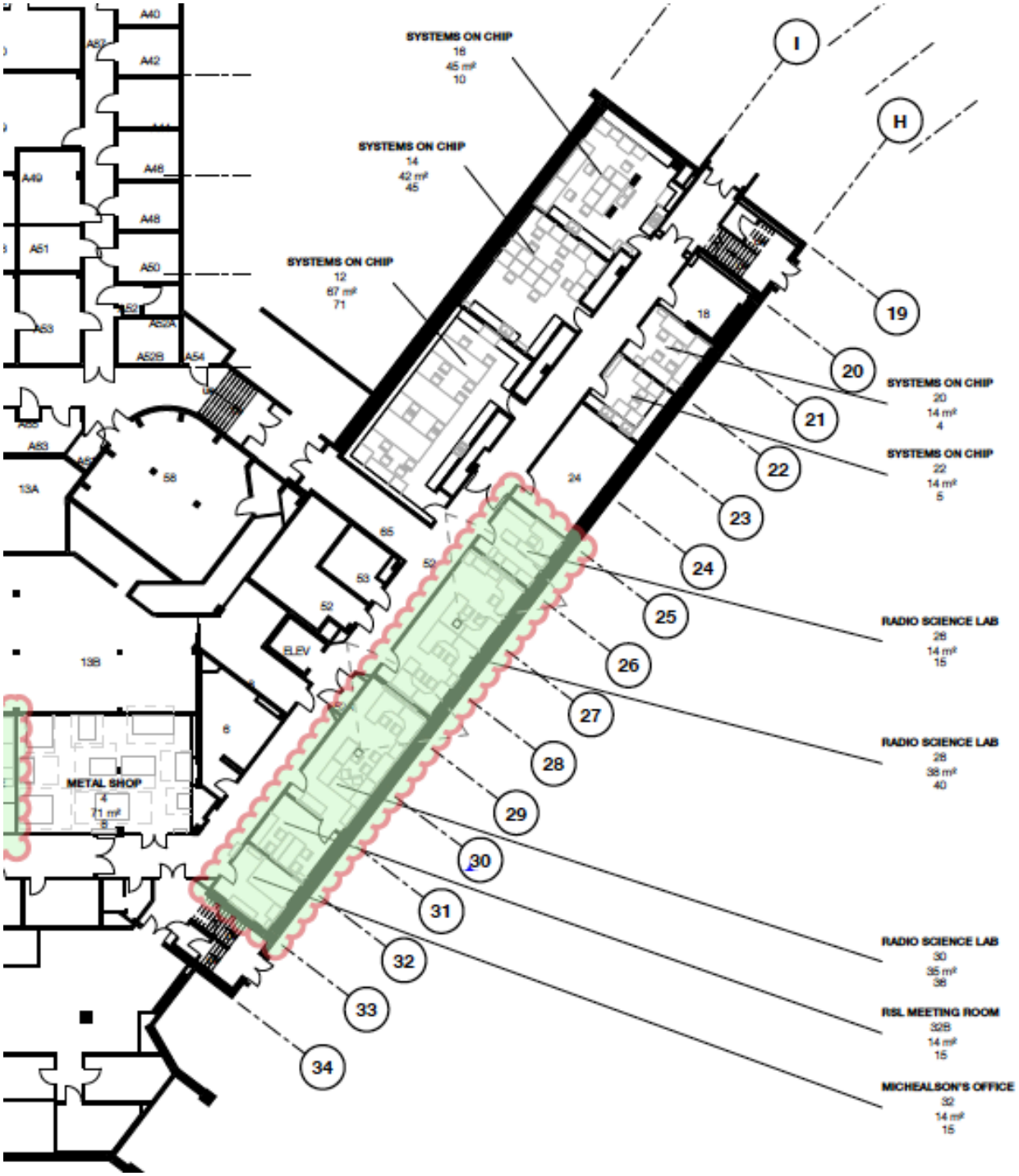
## Acknowledgement

I confirm that this Safety Plan has been shared with all workers (HQP, research personnel, etc.) who will be accessing this space both through email and will be made available as a shared document. Workers can either provide a signature or email confirmation that they have received, read and understood the contents of the plan.

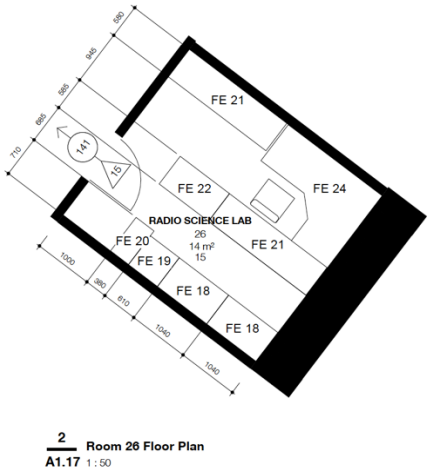
This plan was submitted and signed by the corresponding applicants and has been approved by the ECE Department Head Steve Wilton.

## Appendix

RSL rooms 26, 28, 30, 32B in the west wing of the Wesbrook building. Room 148 is on the next floor up.

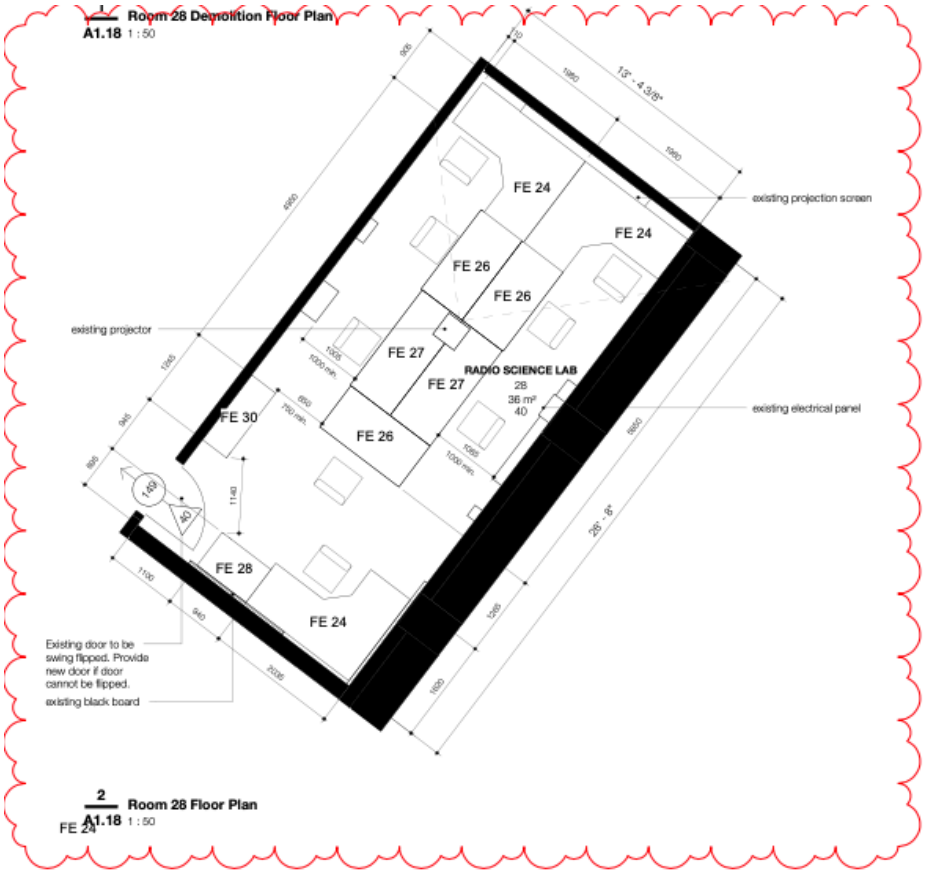


Room 26 – 13’ x 12’ – Max occupancy 1 person

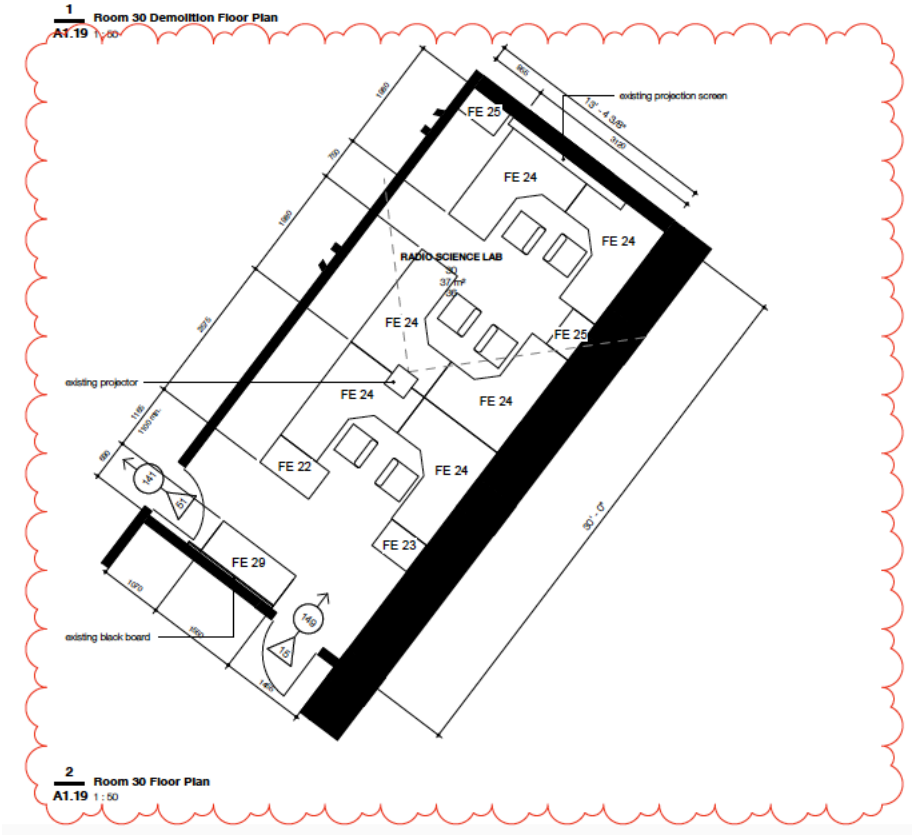



2 Room 26 Floor Plan
A1.17 1 : 50

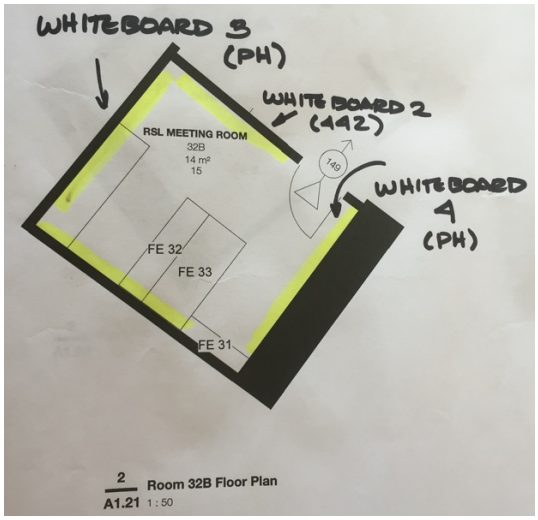
Room 28 – 13’ x 30’ – Max occupancy 3 people



Room 30 – 13’ x 30’ – Max occupancy 3 people




Room 32B – 13’ x 12’ – Max occupancy 1 person



Room 148 – 13’ x 30’ – Max occupancy 3 people