1. **INTRODUCTION**

1.1 This document sets out the arrangements to manage access to the service tunnels located underneath the South Kensington Campus. These tunnels carry a range of services between the various buildings on the campus including those located to the east of Exhibition Road.

1.2 Due to the location and nature of the tunnels, staff and contractors can be considered to be lone working and the environment can provide a range of hazards including confined space working.

1.3 It is therefore imperative that all persons entering the tunnels are fully familiar with the safe working protocols set out in this document.

2. **Imperial College Access Control System**

2.1 Tunnels are restricted areas and access is controlled substantially by a card reader system. Access will only be available to persons having a suitably coded ID card.

2.2 Certain staff e.g. College Maintenance personnel, Fire Officers, Security and SPIE Matthew Hall Shift Engineers will be granted unrestricted access via their College ID cards.

2.3 All other persons requiring access will need the prior approval by the Head of Maintenance or following application for a Permit to Work (PTW).
3. Safety Arrangements

**LONE WORKING IS NOT PERMITTED**

Items (i to iii) below are mandatory requirements for any person entering a service tunnel.

(i) Staff and contractors working in the service tunnels are required to attend an induction talk provided by the Head of Maintenance or his nominated representative. The induction talk will highlight the dangers of working in the tunnels and the precautions which must be taken. This must include advice regarding asbestos;

(ii) It is mandatory to wear safety footwear (with toe caps), bump caps, and high visibility jackets / vests at all times. High visibility jackets / vests must bear the company name;

(iii) All persons working in the tunnels must sign in and out at Security Control and must have the following equipment available at all times:

- Torch
- College Radio
- Swipe access card.
- Tunnel fire door (TFD) key
- Tunnel layout drawing

Where contractors do not have the required keys, College radio or tunnel layout drawings, they must be signed out from and returned to Security Control in Sherfield Building. These will not be given out unless the contractor has an approved permit to work;

(iv) A permit to work can be issued on a weekly basis for general areas of the tunnel complex and on a daily basis for those areas identified as being of a high risk.

A permit to work can be obtained by going to:

[http://www.imperial.ac.uk/estates-facilities/contractors/permit-to-work/](http://www.imperial.ac.uk/estates-facilities/contractors/permit-to-work/)

The contractor must provide, at the point of submitting a permit to work request, a method statement for the work he will be carrying out, prior to commencement on site. For planned works a minimum of 48 hours notice is required;

(v) A role call must be taken by the contractor’s representative on site at the beginning and end of each day and a written record maintained;

(vi) In the event of an emergency contractors must, in the first instance contact Imperial College Security on the internal radio provided and supply details as to the nature and location (indicated on the tunnel drawing) of the emergency. College Security Officers are fully trained first aiders and will attend, assess and intervene where appropriate;
(vii) All accidents, incidents and near misses are to be reported to Security Control who will log them and ensure the details are recorded on the College Accident Database - SALUS;

(ix) Any defects found or damage caused in the tunnels must be reported as soon as possible to the Estates Operations Customer Services Centre on extension 48000.

4. **Permits to Work**

4.1 Estates Operations operate a Permit to Work system which is designed to protect the health and safety of persons such as contractors, not issued with access rights via their College ID card, who are required to enter hazardous areas including roofs, plant rooms, risers and service tunnels to carry out a range of works including planned maintenance, project works and repair works to plant and services.

4.2 The Code of Practice describing the workings of the Estates Operations’ permit to work system is available from this web page. Those requiring a permit to work should follow the link on the above web page and submit a request.

4.3 Estates Operations require contractors to submit, at the point of applying for a PTW, a risk assessment and detailed method statements (RAMS) for ALL work to be undertaken in the hazardous areas. The Permit to Work Code of Practice defines what is required of a risk assessment / method statement for it to be deemed suitable and sufficient. It is essential that the risk assessment addresses the risk of needing to evacuate staff from the service tunnels in the event of an emergency as Imperial College is unable to provide this assistance.

4.4 Permits to Work will be approved by the Maintenance Team Leader responsible for the tunnel area or his Supervisor, where ‘hot works’ are involved the permit will additionally require the approval of the Fire Office.

4.5 *Please Note* – The approved permit to work is to be displayed by the contractor at the point of access to the tunnel and removed when ‘closed out’.

5 **Planned / Projects Works**

5.1 All works to be undertaken in service tunnels involving changes to the fabric of the tunnel or services housed within the tunnels must be approved in advance by the Head of Maintenance or his/her delegated representative. This includes works to be undertaken by contractors appointed by ICT (Information, Communications & Technology) All requests for work to be undertaken in service tunnels are to be submitted in writing to the Head of Maintenance not less than seven days prior to the work commencing.

5.2 These works will typically be originated by a Project Manager working for Capital Projects, Estates Operations or ICT and it will be the Project Manager’s
responsibility to ensure contractors are familiar with and work in compliance with this Code of Practice.

5.3 Following approval of the works by the Head of Maintenance or his/her delegated representative the contractor must submit a request for a permit to work, please refer to Section 4. Where the works span a time period of greater than five working days it will be necessary for the Project Manager to agree with the Head of Maintenance or his/her delegated representative how subsequent permits to work will be issued.

5.4 The flowchart at Appendix A, page 10 will assist in clarifying the process described above.

At the point of completing the works, the contractor is responsible for clearing and cleaning the work area. It is the Project Manager’s role to ensure this is carried out to an acceptable standard. It is also the Project Manager’s responsibility to ensure the Permit to Work is closed out.

6. Reactive and Emergency Works

6.1 Reactive and emergency works will typically originate from two sources, they will either be reported through the ‘College Defect Reporting System (Concept) or arise from the ICT Help Desk. The following sets out the requirements to be observed by Estates Operations staff, ICT Network Infrastructure staff and all contractors.

Selected Estates Operations staff and Shift Engineers will be granted, via their ID card, unrestricted access to service tunnels. ICT staff and contractors will have to request access to service tunnels and have their ID cards programmed accordingly.

6.2 For the purpose of this code of practice Core Hours are defined as 08.00 to 17.00 Monday to Friday. Out of Hours are defined as 17.00 to 08.00 Monday to Friday and weekend days.

6.3 Defect Reporting (Core Hours) – the Estates Operations Customer Service Centre is the recipient of all reported defects and will allocate the fault to the College Maintenance Team who will, in the majority of instances, provide the first response. Where Maintenance are unable to rectify the defect it will be passed to the Measured Term Contractor (MTC) or to a specialist contractor for resolution. (See the flowchart at Appendix B, page 11.)

6.3 Defect Reporting (Out of Hours) – Outside of core hours the ‘Shift Engineer’ (appointed by the MTC) will perform the function as described in 6.3 above in terms of carrying out an initial investigation of the defect. The Shift Engineer must conduct a 1 minute risk assessment prior to making an intervention / investigation requiring access to a service tunnel. Where the Shift Engineer is unable to resolve the defect and it is considered urgent he will have the option to request attendance by a specialist contractor. The Shift Engineer
6.4 *ICT Fault Reporting (Core Hours)* - all faults with data services are reported to the ICT Help Desk who will carry out an initial investigation / test to verify the location and nature of the fault. If Network Infrastructure staff need to enter a service tunnel to effect further investigations they must receive permission of the Maintenance Team Leader or his/her nominee. The Maintenance Team leader or nominee will advise the ID card office of the names of ICT staff needing to enter the tunnel(s) so their cards can be activated accordingly. Where it is necessary to bring in a contractor to resolve the fault, the procedure at 7. below will apply.

6.5 *ICT Fault Reporting (Out of Hours)* - the ICT Help Desk operates ‘out of hours’ and will perform an initial investigation as above. Where they are unable to rectify the fault and it is urgent they will contact the Estates Operations Shift Engineer to arrange access for their contractor to enter the service tunnels. The Shift Engineer will be required to carry out a 1 minute risk assessment to determine whether it is safe to allow a contractor to enter the service tunnel(s). The Shift Engineer will be required to accompany the contractor to the service tunnel and supervise their visit thereby negating the necessity for the contractor to have been tunnel inducted or have ID card access. Where contractors have not been inducted the Shift Engineer will provide a safety briefing.

7. **Contractor Tunnel Access (Reactive and Emergency Works)**

7.1 Permits to Work are granted to contractors to control their entry to hazardous or sensitive areas and ensure appropriate control measures are in place to maintain their safety. The contractor must provide all the necessary information required by the permit request form. The individual submitting the request must complete all fields marked with an * and enter any relevant information in the free text boxes which seek identification of hazards arising from the task, if hot works are involved and whether any safety critical plant could be affected. A risk assessment / method statement must be attached to the permit request.

7.2 During College core hours all contractors entering the service tunnels must use the Estates Operations’ Permit to Work system to gain access.

7.3 In the majority of cases the Measured Term Contractor (MTC) will request a contractor(s) attends to resolve a defect and will therefore originate the permit to work request and assume responsibility for overseeing the work and the contractor’s compliance with this Code of Practice. The MTC will be responsible for issuing the permit to work in accordance with College procedures and ensuring it is ‘closed out’ as appropriate.

7.4 In all other instances the Estates Operations Maintenance Team or ICT will request the attendance of a contractor to resolve a defect. As at 7.3
Maintenance / ICT will be responsible for ensuring the contractor submits a request for a permit to work and must oversee the contractor operations.

7.5 It is mandatory that all names of contractor staff entering the tunnel are listed in the box ‘Company name’ on the permit to work request form, this will enable the permit approver to have the individual ID cards coded up for tunnel access.

Please Note: No contractor staff will be allowed to enter the service tunnels unless they have attended the Estates Operations service tunnel induction talk.

7.6 Having been granted a permit to work contractors will ensure the following actions are taken:

- The permit is presented to the Security Control Centre who will provide tunnel drawings, fire door keys, and a College radio;
- Each contractor member of staff is to swipe in and out of the tunnels using their individual ID card.

7.7 If urgent tunnel access is required for contractors rendering it impracticable to use the Permit to Work procedure above the following will apply.

- The contractor must be on the College Approved List;
- Contractor staff must have attended the service tunnel induction talk;
- The relevant Maintenance Team Leader is contacted to ascertain whether it is safe for contractors to enter the tunnel. He/she is to note the names of contractors requiring tunnel access and check these against the schedule of those who have been inducted and, provide the names to the ID card office
- Consideration has been given by College Maintenance, the MTC or ICT to the risk associated with the task to be undertaken and control measures devised to sufficiently mitigate the risk (RAMS);
- Contractors report to Security Control to sign in and be provided with tunnel drawings, fire door keys and a College radio. On exiting the tunnel the contractor will return all equipment to Security Control and sign out;

In the event that a contractor requires urgent access and has not been tunnel inducted their entry into the tunnel and subsequent works must be supervised by either of College Maintenance, the MTC or ICT Network Infrastructure Group. (All other conditions above are to be met)

7.8 The flow-chart at Appendix B on page 11 will assist to clarify the process described above.

7.9 At the point of completing the works, the contractor is responsible for clearing and cleaning the work area. Responsibility rests with the permit to work authoriser to ensure this is carried out to an acceptable standard. It is also the permit authoriser’s responsibility to ensure the Permit to Work is closed out.
8. **Confined Spaces**

8.1 The service tunnels below the South Kensington campus are not categorised as confined spaces as defined in The Confined Spaces Regulations 1997.

8.2 The tunnels beneath Exhibition Road and SAF Building differ in their layout and structure such that they require additional precautions to be taken by staff and contractors who may need to access them. These two tunnel areas will only be accessed following the granting of a permit to work issued by Estates Operations.

**Contractors to Note** – Imperial College are unable to assist with the emergency evacuation of contractor staff from either of these tunnel areas and contractors will be required to incorporate this in to their risk assessment / method statement.

9 **Provision / Adaptation of Data Services**

9.1 The College ICT Network Infrastructure Team is responsible for the provision and maintenance of all data and communications services on the South Kensington campus many of which are located in service tunnels to network around the College. ICT and their appointed contractors will be required to comply with the safety arrangements as at point 3.1 in this Code of Practice when installing or refurbishing data cabling and equipment.

9.2 Where new services are being installed or re-fits undertaken it will be incumbent on ICT to nominate a member of staff to take on the role of Project Manager who will take responsibility for ensuring this Code of Practice is complied with.

10 **Induction of Employees / Contractors**

10.1 All College staff and approved contractors entering the service tunnels at South Kensington are to be inducted into the safe access of service tunnels, this induction will be provided by a member of the Maintenance Team and as nominated by the Head of Maintenance.

10.2 Every person attending the induction talk will have their name supplied to the CSC by the inductor, all names will be listed in a register held by the FM Customer Service Centre.

10.3 Where planned works are being undertaken it is the Project Manager’s responsibility to ensure all contractor staff have been inducted.

11 **Presence of Asbestos**
11.1 From surveys carried out by Imperial College it is known that asbestos containing materials (ACMs) are present in the service tunnels, particularly in the lagging materials around high pressure steam pipes.

11.2 Where ACMs are known to exist they are appropriately labelled and prior to commencing project or refurbishment works in the tunnels the appointed Project Manager will confirm the location of ACMs with the College Asbestos Manager. The PM must then make this information available to the contractor.

11.3 In addition to the measures above contractors must always proceed with caution when undertaking any form of works in tunnels as they may come into contact with ACMs not previously identified. Should this occur they should immediately stop work and contact the Customer Services Centre on 48000.

12 Tunnel Access for Planned Maintenance, Surveys & Investigations

12.1 There will be occasions when College staff, contractors and consultants will need to enter the tunnel complex for a variety of reasons other than undertaking planned or reactive works. The various possibilities are covered below:

12.2 Planned Maintenance – An amount of plant is located in service tunnels which requires regular / planned maintenance. All planned maintenance activities to take place in service tunnels will be notified to and approved by the appropriate Maintenance Team Leader and the attendant engineer must notify Security Control when entering / exiting the tunnel. All works are to be undertaken in accordance with approved risk assessments and method statements.

Planned maintenance is carried out principally by SPIE Matthew Hall and specific engineers e.g. Shift Engineers will be granted unrestricted access via their ID cards to service tunnels. Any other contractor requiring access to undertake planned maintenance must apply for a Permit to Work.

12.3 Surveys & Investigations – It will be necessary to facilitate access to service tunnels for surveys and investigations to be conducted by Estates Operations, ICT Network Infrastructure, Capital Projects, SPIE Mathew Hall, Adams Environmental, Consultant Engineers and others.

All such persons requiring access are required to attend the tunnel induction talk and comply with Safety Arrangements 3 (i to iii) in this document.

All access must be approved by the Maintenance Team Leader who will arrange for the visitors to be escorted by a member of his team. Where the visitor has a College ID his/her name must be notified to the Estates Operations Customer Service Centre, those without ID cards will be provided with a guest card.

12.4 Testing of Fire Alarm Systems – Fire Officers will have unrestricted access to service tunnels in their capacity as Emergency Response Officers.
When entering tunnels to undertake testing of the alarm system, the Fire Officer must notify the Maintenance Team Leader and Customer Service Centre.

13 Monitoring and Review

The service tunnels below South Kensington Campus are under the control of Estates Operations who have a duty to monitor compliance with this Code of Practice. The Director of Estates Operations has delegated responsibility for the operation of this Code of Practice to the Head of Maintenance who will ensure a system is in place to promote and actively monitor compliance with the code.
Access to Service Tunnels

1. Client \(\rightarrow\) Draft proposal to Head of Maintenance
   - Rejected / Agreed in principle

2. Project Manager appointed
   - Draws up scope of works

3. Survey by Contractor escorted by member of Maintenance team
   - Induction of Contractor

4. Final proposal to Head of Maintenance
   - Declined / Approved

5. Contractor appointed, submits:
   - Requests for Permit to Work (PTW)
   - Risk Assessment/ Method Statement (RA/MS)
   - Provides names of staff required to access tunnels.

6. Are hot works to be undertaken? Note on PTW request

7. Fire office to approve hot works

8. Maintenance Manager approves permit. Notifies ID Card Office of contractor names

9. Contractor goes to Security Control to book out radios, tunnel keys/drawings. Contractor Staff to sign in (Daily)

10. Contractor returns all radios, tunnel keys/drawings to Security Control. Contractor Staff to sign out (Daily)

11. On completion of works Contractor removes all materials and detritus. Project Manager to inspect work site and have PTW closed out.

ICL Maintenance

Contractor