

Sanford

Underground Research Facility



ENVIRONMENT, HEALTH, AND SAFETY

FACILITY ACCESS

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Version Control

Responsible Person	Document Control Number	Document Version	Publication Date	Description of Change
Various	EHSDoc-75	1-5	2011-2012	See previous versions.
Jim Hanhardt	Document-73189	6	7/02/2013	Changes to the trip approval and documentation requirements; Underground Access Restrictions Considerations to a separate (new) document.
Jim Hanhardt	Document-73189	7	09/03/13	Added Guide responsibility to ensure people have proper authorization to go underground.
Jim Hanhardt	Document-73189	8.1	03/10/15	Version 8 to be implemented in phases. Version 8.1 updated the title and is focused on changes to the perimeter of the property, and delivery persons / vendors.
Jim Hanhardt	Document-73189	8.2	04/21/15	Version 8.2 updated the terminology to "persons authorized for access", revised Section 5 to include a classification table, and updated the badging process.
Jim Hanhardt	Document-73189	8.3	06/16/15	Version 8.3 updated the requirements for Facility Guides, include the addition of the 'attendant' role.
Jim Hanhardt	Document-73189	8.4	07/14/15	Version 8.4 clarified requirements for researchers and standardized the Trip Plan process.

1.0 POLICY

It is the policy of the Sanford Underground Research Facility (SURF) to strictly control individual access to the laboratory in order to provide a safe and secure work place for all employees and visitors. Persons unauthorized for access will be excluded from SURF property by establishing and maintaining a property perimeter by means of signage, fences, guard and card controlled gates, and by establishing and maintaining carded access to facilities areas and buildings. Persons authorized for access will be allowed access only to areas for which they have either been trained/oriented or have been provided guides or attendants to escort them. Additionally, SURF will assure persons authorized for access are trained for the tasks they are to perform (reference [POLICY EHS Training](#)), and informed of and provided the proper PPE for the areas they will access or the tasks they will perform (reference [POLICY Personal Protective Equipment \(PPE\)](#)). This policy will consider the controls for access, which will interface with the policies on Training and PPE.

2.0 SCOPE

This policy applies to all personnel on SDSTA property. Facility Access deals with the interaction of humans and areas. Other than the activity of getting from one area to another or activities relating to access considerations, work activities are not within the scope of this policy.

3.0 RESPONSIBILITIES

3.1. Department Directors (Sponsoring Department)

- For areas under their control or jurisdiction, ensure persons authorized for access follow the access requirements of this policy.
- When necessary, appoint department sponsors for individuals visiting the Facility.
- Oversee the preparation of specific access requirements for long term projects that are taking place under their supervision or in areas under their control.
- Establish a surface and underground accountability procedure for persons authorized for access under their supervision that are not accounted for through the Trip Plan process.
- Know the work locations of persons authorized for access under their supervision on a daily basis.

3.2. Underground Access Director

- Review and approve/disapprove trips to access the underground for all activities that have been submitted through the Trip Plan process (see Section 5.6).
- If trips are to areas other than risk areas color coded green, EHS concurrence is sought (see 3.9).

3.3. Facility Infrastructure Director

- Review and approve/disapprove trips to access surface facilities for activities that are non-routine that have been submitted through the Trip Plan process (see Section 5.6).

- If trips are to areas other than risk areas color coded green, EHS concurrence is sought (see 3.9).

3.4. Science Director

- Review and approve/disapprove all trips submitted through the Trip Plan process associated with science, or visits to specific science areas.
- If a trip is planned for outside an established lab area, concurrence is sought from the applicable Director.

3.5. Administration Department

- Distribute permanent and temporary badges to authorized personnel.
- Maintain training records and waivers pertaining to trips.

3.6. Supervisors

- Ensure employees understand those areas they are allowed to access and those they are not allowed to access.
- Ensure employees receive proper site orientation and safety training to meet established access requirements for areas they access for work activities.
- Know the work locations of their employees.

3.7. Sponsors and Project Managers

- Ensure persons authorized for access under their supervision receive proper site orientation and safety training to meet established access requirements for areas they access for work activities.
- Ensure persons meet the physical requirements for access (reference Sec. 5.9.1.).
- Ensure persons authorized for access are equipped with proper Personal Protective Equipment (PPE).
- Clearly communicate to persons authorized for access those areas they are allowed to access and those they are not allowed to access.
- Enter Trip Plans on the [Trip Plan Calendar](#).
- Ensure approvals are complete prior to trip departure.
- Arrange for the appropriate number of Facility Guides and Attendants.

3.8. Security

- Police the facility, watch for unauthorized access, and deal with such occurrences appropriately.
- Report deficiencies in perimeter fencing and signage
- Man the Yates entrance guard shack
 - Acts as a 'gate keeper' to allow passage for personnel known to have authorized access and deters persons not known to have access
 - Presents an authoritative presence
 - Observes and reports activities/situations that present a threat
 - Informs Delivery Persons of PPE requirements and provides the PPE for them that they do not possess

3.9. EHS Department

- Manage the Trip Plan process (as discussed in Section 5.2).
- Establish site specific safety training requirements.
- Provide concurrence for plans to areas other than risk areas color coded green.
- Oversees the maintenance of property perimeter signage, fencing, gates, locks, and controls.
- Oversees Facility Security
- Provide threat awareness training to staff
- Provide training and support for Security Staff
- Maintain relations with Homeland Security to keep up to date on security issues

3.10. Executive Director

- Formally authorize the underground occupancy limits in writing by Executive Order.

3.11. Facility Guides

- Guide visitors on trips.
- Ensure provisions of this policy have been met before beginning a trip.
- If going underground, assure individuals in the group are authorized to go underground and communicate that to the Lead Infrastructure Technician (or designee) prior to boarding a shaft conveyance for descent.

3.12. Lead Infrastructure Technician (or designee)

- Ensure that only Sanford Laboratory employees, authorized underground contractors, and those individuals listed on the Trip Plan are allowed access to the underground.
- Ensure the occupancy limits for the cage are not exceeded.
- Monitor the brass tag boards to ensure that underground occupancy limits are not exceeded.
- **The lead Infrastructure Technician (or designee) is empowered to deny underground access to any individual.**

4.0 DEFINITIONS

Attendant (n.) – an individual who accompanies another person within an area for which that person is unfamiliar to give protection or as a courtesy. Attendants are similar to Guides but don't meet the certification, categorization, designation, and authorization criteria for a Guide. An Attendant is generally a knowledgeable Facility Worker trained in evacuation/emergency egress who may accompany either a novice (new, inexperienced) Facility Worker or a Guide escorting a Tour Trip.

Facility Guide: A person recognized by SURF as being knowledgeable of the facility areas, safety policies and procedures, and is designated to take the lead and direct the movements of those in their charge for a tour trip, or is designated to act as a resource (especially in an evacuation event) for a working trip. Requirements for guides are established in the [Facility Guides Policy](#).

Certification – Guides are **certified** to escort personnel and effect emergency egress. The EHS Director and other applicable Director/Manager certify a person to be a guide

when the person has received the training designated by the MATRIX Guide and has been deemed to have 'Sufficient Experience'.

Categorization – Guides are **categorized** by their area of operations and functions they provide. There are four categories of Guides determined by their area of operations and functions they provide. The category(s) is assigned by the EHS Director and other applicable Director/Manager.

Surface Guide (Tour Trip) - escorts Visitors within the above ground areas of the SURF facility; certified by the EHS Director and the Facilities Infrastructure Director.

Underground Guide (Tour Trip) - escorts Visitors within the underground areas of the SURF facility; certified by EHS Director and Underground Access Director.

Science Guide (Working Trip) - escorts Visitors within SURF designated laboratory spaces and research areas; escorts researchers to and from designated laboratory spaces and research areas, remains in the space/area while occupied by researchers who are not guides, and may facilitate the flow of personnel, materials, and information incident to research; certified by the EHS Director and the Science Director.

Construction Guide (Working Trip) - escorts Visitors within SURF designated construction spaces; escorts contractor personnel to and from designated construction spaces, remains in the space while occupied by contractor personnel who are not trained to MATRIX Underground Unescorted, and may facilitate the flow of personnel, materials, and information incident to construction; certified by EHS Director and Project Manager.

Designation – Guides are **designated** to act as a Guide within specific areas (demarcated geographical unit). Guides are designated by the EHS Director and other applicable Director/Manager to act as guides for areas in which they have received sufficient training. For each 'Area' Guides must have 'Learn One, Do One, Teach One' training: 3 separate trips with a Knowledgeable Person to qualify as a guide for that area.

Authorization – Guides are **authorized** to serve as a guide for a trip through the Trip Plan Process.

Guides are required to escort Friends and Family Underground Tours, Visitors (including Contractors – Minimal Scope), and Contractors – Standard Scope.

Visitor – SURF affiliated individual who has had insufficient time/training in an area of the facility to become familiarized with the hazards and mitigations and has no intent/purpose to become familiarized.

Novice - SURF affiliated individual who has had insufficient time/training in an area of the facility to become familiarized with the hazards and mitigations and has the intent or purpose to become familiarized.

Escort (v.) – for the purposes of SURF, escort means to accompany another person(s) within the range of direct observation and natural unassisted voice communications.

Accompany (v.) - for the purposes of SURF, accompany means to go somewhere with another person(s) as a companion but does not have the requirement to keep the person(s)

within the range of direct observation and natural unassisted voice communications. To accompany does require that the companions be in the same general area and know how to access each other should the need arise.

Sponsor: A SURF staff member who undertakes specific responsibilities to organize and support a Trip, serves as a point of contact for the individuals, groups, or agencies who are to attend the Trip, and initiates the administrative aspects (Trip Approval, Trip Action Plan, sign-ins/sign-outs, indemnifications, training/orientation, Guide arrangements, etc.).

Sponsoring Department: Department sponsoring a Trip.

Trip: an act of going to a place and returning; a journey or excursion. For the purposes of this POLICY, a trip is a pre-planned event to enable individuals or groups to safely access facility areas beyond Administration buildings/parking lots, of which there are two types:

Tour Trip: a brief trip through a place, as a building or a site, in order to view or inspect it. Tours are differentiated from Working Trips in that Tours are conducted to enable individuals/groups to become educated about the facility, and Working Trips enable SURF affiliated individuals/groups access to perform work.

Working Trip: A trip for the purpose of performing a defined scope of activities at a defined location(s) including the details of ingress and egress

Routine Trip: regular recurring trip

Established Lab Area: Location developed to support an experiment that has had the hazards mitigated.

5.0 PROCEDURES AND PLANS

Persons authorized for access are to be given training in accordance with their exposure to hazards.

5.1 Unescorted Access

Excepting for purposes of emergency egress, individuals are not to enter areas alone unless they have completed Area Specific Training for that area and have been orientated (previously traveled the area escorted / accompanied by an individual experienced with the area). Individuals may meet the requirements of this training and orientation by their demonstrated competence, knowledge, skills, and abilities in recognizing and addressing hazards qualifying them to travel unescorted within Facility areas for which training has not been developed which are not considered hazardous.

5.2. Site Specific Hazard Training

[Site Specific Hazard Training](#), covering general hazards of general areas, is to be given to all persons authorized for access, excepting individuals performing only deminimus activities, and Delivery Persons accessing only loading/unloading areas.

5.3. Area Orientation

Persons performing work within a designated area will be trained to the hazards and evacuation procedures of the area. Each area (demarcated geographical unit) will be designated as a training course/item with a documented portion (Area Specific Training) and a

practical portion (Area Orientation). The documented portion will consist of an area specific map with the following annotations: 1) recognized hazards/safety precautions; 2) ventilation; 3) primary & secondary egress; 4) communication equipment / supplies; 5) emergency equipment / supplies. The practical portion will consist of a walkthrough/drive through of the area with the individual/student accompanied by an Attendant/Guide familiar with the area who will point out the features.

5.4 Authorized Persons Classifications

For the purposes of this Policy, persons authorized for access will be classified according to the following table:

Authorized Persons Classifications Summary

Class	Class Definition	Scope	Function / Activity	Accountability				
				SURF Liaison	Reports to	Badge	Documentation	
Guest	Non-SURF affiliated individual attending an event or taking a Visitor Center Tour on SURF property	General Public	Neutrino Day	E & O Personnel	Visitor Center	None	NA	
			Visitor Center Tours	Visitor Center Guide				
		Friends / family of Facility Workers	4 th of July Fireworks	Facility Worker	Facility Worker			E & O Building
			Friends & Family Underground Tours					
Visitor NOTE: Visitors must have a valid driver's license or other government-issued photo identification. Non-U.S. citizens must present a Permanent Resident Card or a valid passport	SURF affiliated individual who has had insufficient time/training in an area of the facility to become familiarized with the hazards and mitigations and has no intent/purpose to become familiarized. • Performs only Deminimus activities (no "hands on" work);	Admin only	Does not travel beyond administration buildings	E & O Personnel SURF 'Sponsor' SURF Project Manager	Reception	Visitor	Visitor log/sign-in	
		Surface	Remains above ground and is escorted ¹ whenever outside of the Administration or E&O buildings/parking lots.		Reception		Visitor log/sign-in Trip Plan	
		Underground	Takes an escorted / guided trip underground		Guide / Sponsor		Visitor log/sign-in Waiver & Risk Acknowledgement Trip Plan	
Delivery Person	Individual who is on the SURF property for the sole purpose of delivering or picking up items to/from areas that present no uncommon hazards. Examples: FedEx, UPS, truckers delivering freight					Visitor Badge if in Admin building, otherwise none	Security Log or Visitor log/sign-in or Check-in at Ross warehouse	
Vendor	Individual working for or as a person, partnership, corporation, subsidiary of a corporation, firm, association or other organization that provides services at or materials to the Sanford Laboratory property. Vendors have defined scopes of services, defined deliverable products or services, and defined durations of agreements. Examples: Servall, A&B Business, Matheson Gas, Southside Service, M&M Sanitation, True North, Black Hills Pure Water, Rushmore Vending			SURF Procurement	Security or Reception			

Deminimus activities: Activities that are performed entirely within the Administration building, are primarily intellectual, and are performed in a manner and to the extent commonly performed by the general public. Examples include reading; writing; attending meetings, seminars, and presentations; and other similar activities.

NOTE: foot travel between the Administration building and a vehicle parked in the adjacent parking lot is included in “de minimus activity”.

¹Escort is not required when an individual travels on foot directly between the Sanford Underground Lab administration building and a vehicle parked in the adjacent parking lot.

Class	Class Definition	Scope	Function / Activity	SURF Liaison	Reports to	Badge	Documentation
Contractor	Individual working for or as a person, partnership, corporation, subsidiary of a corporation, firm, association or other organization that contracts to perform construction at the Sanford Laboratory property. As used in this policy, this term includes employees, all tiers of sub-contractors, and employees of all tiers of sub-contractors of Contractors.	Minimal	Small defined area(s), usually less than 40 hours, SDSTA owns the project. For contractor workers whose scope of work is limited to a small defined area and has had insufficient time/training in an area of the facility to become familiarized with the hazards and mitigations and has no intent/purpose to become familiarized, a Facility Guide or Attendant trained in hazards and evacuations specific to the work area will escort them at all times	SURF Project Manager	Reception	Visitor	Visitor log/sign-in <i>IF going underground:</i> Waiver & Risk Acknowledgement Trip Plan
		Standard (Construction and Service Contracts)	Defined area(s), generally more than 40 hours, contractor owns the project. For contractor workers whose scope of work is limited in area but who are to work generally more than 40 hours, the contractor will provide a person(s) who will act as a guide who will be trained in work site hazards and evacuation procedures who will accompany contractor workers at all times. This person may be the Contractor On-Site Health and Safety Representative		Contractor Supervisor who turns in Contractor’s Sign –In Sheet to reception	Temporary	Tool Box Talk Form <i>IF going underground:</i> Waiver & Risk Acknowledgement Trip Plan
		Independent	Area(s) undefined, generally more than 40 hours, SDSTA owns the project(s). For contractor workers who perform as long term laborers for SDSTA, each individual is trained to worksite hazards and evacuation procedures for their work areas. Additionally, each individual will receive SDSTA training on SDSTA work procedures they are expected to perform		SURF Project Manager / Supervisor	Temporary	Tool Box Talk Form 5-Point Card <i>IF going underground:</i> Waiver & Risk Acknowledgement Trip Plan

Class	Class Definition	Scope	Function / Activity	SURF Liaison	Reports to	Badge	Documentation
Researcher	Individual who is on the SURF property and is affiliated with an institution performing research at the Sanford Laboratory.		person performing investigations of a scientific nature	SURF Supervisor	SURF Supervisor	Employee Photo ID Badge 'Permanent'	Waiver & Risk Acknowledgement Trip Plan Shift Report (as applicable)
Facility Worker	Individual who is on the SURF property and is receiving compensation from: 1) the South Dakota Science and Technology Authority, an institution participating in SURF projects (e.g., "Employee"), or 2) an institution collaborating with the Sanford Laboratory.	Inspector / Reviewer	person performing inspections or reviews	SURF Supervisor	SURF Supervisor	Temporary	Waiver & Risk Acknowledgement Trip Plan (if going underground)
		Consultant	person contracted to perform primarily intellectual services that may include hands-on work				Waiver & Risk Acknowledgement Trip Plan (if going underground)
		Intern	a student or trainee who works, sometimes without pay, at a trade or occupation in order to gain work experience			'Permanent'	Waiver & Risk Acknowledgement Tool Box Talk Form 5-Point Card Trip Plan (if going underground)
		E & O Personnel	Persons employed by BHSU				
		SDSTA Employee	person employed by SDSTA to perform work at the Facility on an hourly or salary basis				

5.5. Requirements for Individual Access

5.5.1. Guests

- Must be escorted.

5.5.2. Visitors

- Must report to the Administration Building and obtain a visitor badge (see Section 5.7).
- If trips beyond the Administration Building are involved, individuals must work with a Sponsor through the Trip Plan Process (see Section 5.6).
- Must be escorted by a Facility Guide or Attendant for all activities outside of the Administration Building and parking areas.

5.5.3. Delivery Persons

- Delivery persons must meet PPE requirements for the area they access.

5.5.4. Vendors

- Vendors required to access areas with recognized hazards will receive site specific training for those areas.

5.5.5. Contractors – the duration of the job and the familiarity of the contractor with the facility will determine access requirements.

- Prior to a contract being awarded or work commencing, contractors are considered as “Visitors”.
- Once work commences, all contractors are required to sign in at the reception desk or provide a daily attendance roster to the receptionist.
- Badge requirements (see Section 5.7) and the need for Facility Guides will be determined by the Sponsor/Project Manager during the work planning process and reviewed by site EHS.

5.5.5.1. Contractor Employee Access

Depending on the scope of the contracted work, contractor employees are subject to differing levels of access restrictions. The access restrictions are to ensure contractor personnel are not exposed to hazards for which they have not received training, and will be able to safely evacuate their work area should the need arise.

5.5.5.1.1 Minimal Scope - small defined area(s), usually less than 40 hours, SDSTA owns the project. For contractor workers whose scope of work is limited to a small defined area and has had insufficient time/training in an area of the facility to become familiarized with the hazards and mitigations and has no intent/purpose to become familiarized, a Facility Guide or Attendant trained in hazards and evacuations specific to the work area will accompany them at all times.

5.5.5.1.2. Standard Scope - defined area(s), generally more than 40 hours, contractor oversees the project. For contractor workers whose scope of work is limited in area but who are to work generally more than 40 hours, the contractor will provide a person(s) who will act as a guide who will be trained in work site hazards and evacuation procedures who will accompany contractor workers at all times. This person may be the Contractor On-Site Health and Safety Representative (reference POLICY Contractor Safety, Section 2.3).

5.5.5.1.3. Independent Scope - area(s) undefined, generally more than 40 hours, SDSTA owns the project(s). For contractor workers who perform as long term laborers for SDSTA, each individual is trained to worksite hazards and evacuation procedures for their work areas. Additionally, each individual will receive SDSTA training on SDSTA work procedures they are expected to perform.

5.5.6. Researcher

- Access to the surface and underground facilities will be determined by the researcher's supervisor and will be based upon the completion of necessary training requirements.

5.5.7. Facility Workers

- Access to the surface and underground facilities will be determined by the facility worker’s supervisor and will be based upon the completion of necessary training requirements. If a facility worker has not received Area Orientation for a given area, they must be accompanied by an attendant or guide who has received Area Orientation for that area.

5.6. Trip Plan Process

Trip Plans state the Who, What, Where, and When of a planned trip. Trip Plans that are approved: 1) provide authorization for the trip to designated areas within the Facility; 2) document the expected locations in time of personnel on a trip; 3) serve to notify Facility personnel of activities; and 4) serve to help manage established occupancy limits. There are two types of Trips: Tour Trips and Working Trips.

Trip Plans are required for all Surface Tour Trips. Trip Plans are required for Surface Working Trips for Visitors, Contractors: Standard Scope, and Researchers. Facility Workers and Contractors: Independent Scope whose normal work area is on the surface are excluded from the Trip Plan.

Trip Plans are required for all Underground Trips excluding Shaft Personnel that confine themselves to the shaft and shaft stations and Facility Workers performing maintenance tasks that need to be accomplished in an expedited time frame (priority 3 or above; the Trip Action Plan totals for Underground generally carry a buffer of 5 to accommodate unplanned trips for priority maintenance without compromising occupancy limits).

Trip Plans Table

Category	Type	Persons Authorized for Access	Trip Plan Required	Guide Required
Surface	Tour Trip	Visitors	X	X
	Working Trip	Visitors	X	X
		Contractors: Standard Scope, Researchers	X	
		Facility Workers, Contractors: Independent Scope in their normal work area	exempt	
Underground	Tour Trip	Guests: Friends & Family Underground Tours, Visitors	X	X
	Working Trip	Visitors, Contractors: Standard Scope, Researchers	X	X
		Facility Workers /Contractor: Independent Scope.	X	

		Does not include Shaft Personnel that confine themselves to the shaft and shaft stations		
		Shaft Personnel that confine themselves to the shaft and shaft stations	exempt	
		Facility Workers performing maintenance tasks that need to be accomplished in an expedited time frame (priority 3 or above).	exempt	

The person requesting a trip must first identify and contact a sponsoring department who will assign a department sponsor. The sponsor will then initiate the Trip Plan process. This process requires receiving approval for the trip, which is initiated by entering the information on the [Trip Plan Calendar](#).

Trip Plan Procedure for tour trips: A Trip Plan and guide(s) are required for all tour trips, underground or surface.

1. The requestor must first identify and contact a sponsoring department who will assign a sponsor.
2. The sponsor will enter a Trip Plan **14 days** in advance of the trip and submit the Trip Plan for required approval/concurrence. The Sponsor will post the trip information (date & time, location, number of visitors, etc.) to the [Trip Plan Calendar](#).
3. The sponsor will arrange for the appropriate number of guides/attendants.
4. **IF** names were not submitted in the original plan the sponsor will enter the names of guides/attendants and members of the group at least **3 days** in advance of the planned trip.
5. The sponsor will ensure visitors under their supervision receive the proper site orientation and safety training.
6. A Trip Plan must be carried by the guide. An additional copy must be posted on the Brass Tag Board when underground.
7. The Sponsor will enter any changes to the [Trip Plan Calendar](#) and will relay the changes to EHS in advance of the trip.

Trip Plan Procedure for working trips: Surface working trips for Visitors, Contractors: Standard Scope, and Researchers require a Trip Plan. All underground working trips require a Trip Plan; also required for underground Visitors, Contractors: Standard Scope, and Researchers are guides indicated on the Trip Plan. Exempted from the Underground Trip Plan are Shaft personnel that confine themselves to the shaft and shaft stations and Facility Workers performing maintenance tasks that need to be accomplished in an expedited time frame (priority 3 or above).

1. The sponsor enters Trip Plan for required approvals at least **3 days** in advance of planned trip including names of guides/attendants and members of the group.
2. The Sponsor will enter the trip information (date & time, location, number of visitors, etc.) to the [Trip Plan Calendar](#).
3. The sponsor will ensure visitors under their supervision receive the proper site orientation and safety training.

4. A Trip Plan must be carried by the guide. An additional copy must be posted on the Brass Tag Board when underground.
5. The Sponsor will enter any changes to the Trip Plan on the [Trip Plan Calendar](#) and will relay the changes to EHS in advance of the trip.

5.7. Identification Badges

All persons authorized for access, other than Delivery Persons & Vendors who do not check in with the receptionist and Guests, are required to have in their possession an identification badge at all times while on the laboratory premises.

5.7.1. Three types of badges are issued - visitor, temporary, and permanent:

- **Visitor badges** do not have an embedded integrated circuit that enables the card to perform functions (like unlocking doors or raising gates to provide access). Visitor badges have printed upon them "VISITOR" and a unique ID number. When issued (usually by the receptionist) the badge number is recorded with the individual's name on a log (Lobby Track™).
- **Temporary badges** are [contactless smart cards](#) having an embedded integrated circuit that enables the card to perform functions (like unlocking doors or raising gates to provide access). Temporary badges have printed upon them "TEMPORARY" and a unique ID number. They are generally issued to Project Managers to be distributed to contractor personnel. Temporary Badges are issued by Human Resources, and are managed (coded and tracked) by Security.
- **Permanent badges** are [contactless smart cards](#) having an embedded integrated circuit that enables the card to perform functions (like unlocking doors or raising gates to provide access). Permanent badges are issued to Facility Workers by Human Resources and are managed (coded and tracked) by Security. The badge has printed upon it the individual's photograph, name, and SURF affiliation.

5.8. Surface Access and Accountability

Department directors, supervisors, and project managers are responsible for knowing the locations of the persons authorized for access under their supervision on a daily basis.

Visitors, Contractors: Standard Scope, and Researchers at the surface facility are tracked through the Trip Plan process.

5.9. Underground Access and Accountability

Underground Occupancy Limits: The underground occupancy limit is based upon the ability for individuals to access a safe location in an emergency situation in a 1-hour time period. The underground in this case includes all underground sites with the exception of the 300L and Tramway. Due to the availability of secondary egress routes that lead directly to the surface, individuals in these areas do not count toward occupancy levels.

The occupancy limits are authorized in writing by the SDSTA Executive Director by Executive Order. The current underground allocations can be found at [Lab Access Executive Order](#).

In order to accommodate the needs of all facility users (Operations, Science, EHS, Engineering, etc), the Laboratory Director or designee may elect to define allocations of the total underground occupancy to specific groups when occupancy numbers near the limit.

5.9.1. Physical Requirements for Underground Access

Persons requesting access underground must be able to perform the following:

- Recognize and respond to emergency signals (visual, auditory, and olfactory).
- Travel to egress points, unassisted, and under their own power.
- Operate communications equipment.
- Don and use a W65 Self Rescuer.
- If accessing a laboratory with Oxygen Deficiency Hazard, don and use a self-contained (supplied oxygen) self-rescuer.
- Don and use a fall arrest harness.

5.9.2. Underground Access Restrictions

Access to the underground will be restricted to essential personnel during conditions that represent a safety concern ([Underground Access Restrictions Considerations](#)).

5.9.3. Underground Access Control: In addition to those items discussed in Section 5.5.2, the following controls are in place with respect to underground access:

- When required, the completed Trip Plan shall be posted on the appropriate brass tag boards. This requirement can be waived for routine trips to a single destination.
- The Lead Guide will carry a copy of the approved Trip Plan during the tour. This requirement can be waived for routine trips to a single destination.
- Pump Room Access: Under normal working conditions, access to the Ross Shaft Pump Rooms (1250L, 2450L, 2600L, 3650L, and 5000L) is limited. Details concerning these restrictions can be found in [SOP 0001 – Personnel to the Pump Room Levels](#). Deviations from these restrictions must be approved in advance by the Underground Access Director and the Director of EHS, or their appointed designees.

5.9.4. Underground Accountability:

- All individuals who will be traveling underground must first complete the Sanford Laboratory indemnification forms.
- All individuals going underground for any purpose must utilize the brass-in brass-out procedure. Persons authorized for access without personalized brass tags will be assigned a numbered visitors brass tag, which is recorded on log sheet located at the Yates and Ross brass tag boards, respectively. It is the Guides responsibility to ensure all individuals in his care have followed the brass-in brass-out procedure.

- **Failure To Brass-Out** - If it is noticed that an individual has not brassed-out when the expectation is that the individual should not presently be underground, the person noting the exception is to inform the staff technicians and supervisors. The cause for a failure to brass-out may vary from may-have-just-forgotten-to-brass-out to still-underground-maybe-lost-and/or-hurt. Depending on the circumstances and information available, the following actions are initiated:
 - 1.) Effort to communicate with the individual to determine the individual's location and condition.
 - 2.) Converse with persons who may have knowledge of the individual's last known location/condition.
 - 3.) Utilizing the available information to focus the efforts, initiate a search for the individual.

If a search and rescue is initiated, normal Operations resources will be redirected to support that effort. Department directors, supervisors, and sponsors/project managers are responsible for knowing the locations of the persons authorized for access under their supervision on a daily basis.

- The Lead Infrastructure Technician (or his designee) will:
 - Ensure the occupancy limits for the cage are not exceeded.
 - Monitor the brass tag boards to ensure that underground occupancy limits are not exceeded.
 - **The lead Infrastructure Technician (or designee) is empowered to deny underground access to any individual.**

6.0 REFERENCE AND RELATED DOCUMENTS

6.1. Related Documents

- [Facility Guides Policy](#)
- [SOP 0001 – Personnel to the Pump Room Levels](#)
- [Underground Access Restrictions Considerations](#)
- [Trip Plan Calendar](#) (interactive form/calendar)
- [Lab Access Executive Order](#)
- [Contractor Safety Policy](#)
- [Construction EHS Manual](#)