



Orientation for Contractors and Contract Workers

Hamilton Health Sciences

Table of Contents

- Introduction..... 1**
- 1. Workplace Overview 2**
 - 1.1 Parking..... 2
 - 1.2 Access..... 2
 - 1.2.1 Personnel **Error! Bookmark not defined.**
 - 1.2.2 Materials **Error! Bookmark not defined.**
 - 1.2.3 Equipment..... 3
 - 1.2.4 Truck Routes 3
 - 1.2.5 Receiving Dock 3
 - 1.2.6 Entrances, corridors, stairwells, exterior storage 4
 - 1.3 Use of Facilities 5
 - 1.3.1 Washrooms 5
 - 1.3.2 Cafeteria and Retail Outlets 5
 - 1.3.3 Accessible Customer Service Policy 5
 - 1.4 Prohibitions 5
 - 1.4.1 Personal conduct..... 5
 - 1.4.2 Cellular phones 6
 - 1.4.3 Smoking..... 6
 - 1.4.4 Alcohol, drugs, fire arms 6
 - 1.4.5 Latex materials 6
 - 1.4.6 Use of Hospital utilities 6
 - 1.4.7 Dress Code 6
 - 1.5 Contractor Compliance 6
- 2. Departments, Locations, Contacts..... 6**
 - 2.1 Engineering 7
 - 2.2 Capital Development..... 7
 - 2.3 Security..... 8
 - 2.3.1 Identification badges..... 8
 - 2.3.2 Signing in 9
 - 2.3.3 Key requests and lock box access..... 9
 - 2.3.4 Enforcement and penalties 9
 - 2.3.5 Theft Policy..... 9
 - 2.4 Accidents, Incidents and First Aid, Occupational Health and Safety 10
 - 2.4.1 Injuries 10
 - 2.4.2 Critical Injuries..... 10
 - 2.4.3 Man Down Procedure 11
- 3. Working in a Health Care Facility 12**
 - 3.1 Infection Control 12
 - 3.2 Emergency Codes and Preparedness..... 12

4. Material Handling	13
4.1 Hazardous Materials, Designated Substances	13
4.2 Paints and solvents	13
4.3 Compressed Gas Cylinders	14
4.4 WHMIS and Chemicals	14
4.5 Waste Disposal	15
4.5.1 Asbestos waste	16
4.5.2 Biomedical waste	16
4.5.3 Chemical waste disposal	16
4.5.4 Asbestos	17
5. Building Systems.....	17
5.1 Mechanical	17
5.1.1 Shutdown procedures - Ventilation systems	17
5.1.2 Water	17
5.1.3 Medical gas systems.....	18
5.1.4 Controls, BAS.....	18
5.1.5 Sprinkler Systems	18
5.2 Electrical	18
5.2.1 Electrical - General (300v - less than 750v)	18
5.2.2 Electrical - High Voltage (over 750v)	19
5.2.3 Electrical shut down procedures, requirements	20
5.2.4 Lock-out, tag-out.....	20
5.2.5 Existing panels, circuits, equipment	20
5.2.6 Fire Alarm System (FAS), magnetic lock system.....	20
5.2.7 ICT, IT closets.....	21
5.2.8 Telecom.....	21
5.2.9 CCTV, Security Systems, Card Readers	21
5.2.10 Nurse Call, Code Blue systems	21
5.2.11 Ringmaster systems	22
5.2.12 CATV, Entertainment systems.....	22
6. Construction Sites - Interior	22
6.1 O.H.S.A. Regulations.....	22
6.2 Personal Protective Equipment	22
6.3 Warning signage, caution tape, pylons	23
6.4 Hoardings	23
6.5 Floor openings, window openings	23
6.6 FAS bypass requests, smoke detectors and devices	24
6.7 Welding, Cutting, Grinding, Open flame	24
6.7.1 Permits and Approvals	25
6.8 Tools and Equipment	25
6.8.1 Internal combustion equipment	25
6.8.2 Lifts.....	25
6.8.3 Tools.....	25
6.8.4 Ladders.....	25

6.9 Housekeeping.....	26
6.10 Confined space.....	26
6.11 Overhead work.....	27
7. Working in Interstitial Spaces.....	28
7.1 HHS Man Down policy and HHS Emergency Codes	28
7.2 Pre-inspection	28
7.3 Job site signage	28
7.4 Access.....	29
7.5 Encasement precautions.....	29
7.6 Encasement product for use in making repairs	30
7.7 Gypsum Wall Board Barrier.....	30
7.8 Maintenance & Inspections	30
7.9 Housekeeping.....	31
7.10 Warnings	31
7.11 Post-inspections and sign-off.....	31
7.12 Work on 5M and 6M levels.....	32
7.13 Radiation	32
7.14 Lighting.....	32
7.15 Green Card Training	32
7.16 Interim inspections	33
7.17 Non-compliance	33
7.18 Closing.....	33
8. Construction Sites – Exterior.....	34
8.1 Roof access, roof areas	34
8.2 Cranes and Hoists.....	34
8.3 Helicopter hoisting.....	34
9. Referenced items	35

Introduction

Hamilton Health Sciences believes that occupational health and safety are important components of every work activity. All contract work performed for HHS or on HHS premises must comply with all municipal, provincial and federal laws and regulations; HHS' occupational health and safety policies and procedures; and the guidelines outlined in this publication. Contractors are solely responsible for all of their workers and their subcontractors, and for ensuring that they know, understand and follow the above. Failure to comply with these requirements will constitute a breach of contract and the immediate stoppage of work on any contracts underway.

This booklet is not all-inclusive. It is intended to provide minimum guidelines. Any questions regarding the occupational health and safety aspects of our contract should be directed to the Project Designate assigned as the contact person for your project. As HHS continuously develops and revises its corporate safety policies, this contact person will be able to provide you with the most current information.

McMaster University Medical Centre (MUMC) Site Only:

This document also applies to all work carried out under the direction of McMaster University within MUMC. In these cases the contractor will be assigned a McMaster University Project Manager and this person will be their contact in place of the HHS Project Designate.

In cases where McMaster H & S policies and procedures are in conflict with HHS policies, the contractor should review the conflict with the Project Manager/Designate prior to commencement of work. At the direction of the Project Manager/Designate, HHS policies shall be given precedence involving Asbestos Management and Infection Control procedures.

Parking for University projects is arranged via the Parking and Security office in the Clark Centre and not as described below.

Please refer to the “Front End Document/Documents for Contractor Tenders” website below under “Documents for All HHS Sites” to access “**Hamilton Health Sciences Mission, Vision and Values**”;

<https://www.hamiltonhealthsciences.ca/about-us/vendor-information/forcontractors/>

1. Workplace Overview

1.1 Parking

Contractor vehicles shall be parked in designated parking areas only and at the contractor's expense. Parking in reserved spaces, patios, walkways, sidewalks or roadways or receiving areas is prohibited. Improperly parked vehicles will be ticketed or towed at the vehicle owner's expense. Contractor representatives must arrange parking for workers to be employed on a project with the consent of the Project Designate.

- Parking in receiving dock lanes and areas is strictly prohibited.
- HHS reserves the right to manage facilities and property as needed to minimize interruption to hospital core business. Failure of contractors to follow the above requirements will include, ticketing, vehicle tow and or suspension of access to hospital property.
- Paid parking can be arranged through the Parking Office.

MUMC Site only:

Parking in the underground garage is extremely limited and there is no guarantee that transponders will be made available at a monthly rate for supervisors or any worker. Off-site parking is generally available at the Ward Avenue lot. Transponders for access to the Ward Ave. lot are available from the MUMC parking office at the south entrance to the underground parking at the applicable monthly contractor rate. Written authorization from the Project Designate is required prior to any worker applying for a transponder.

Very limited parking is available near the receiving area on a first-come, first-served basis and is reserved for oversized vehicles only. Permits for parking in these spaces must be obtained from the Logistics Manager in advance.

1.2 Access

1.2.1 Personnel

Entrance to an area, other than the contractor's work area, is prohibited unless authorized by the Project Designate. Building emergency exits are to be used only in the event of an emergency or with prior consent of the Project Designate. All exterior entrances are to be directly monitored against unauthorized intruders or otherwise kept locked. Secure areas, such as interstitial spaces, must not be left propped open, unlocked or unattended.

Contractors are responsible for all deliveries related to their contracted work, and are responsible for the proper instruction and conduct of delivery persons who may require entry to the facility, use of the receiving area, entrances, and elevators.

Regular hours of work are between 7:00am and 5:00pm, Monday through Friday, excluding statutory holidays. Any workers needing to work other than these hours must notify the Project Designate of their intentions so that Security may be alerted to such activities. Contact names and phone numbers are required for crews or individuals who wish to work outside of regular

daytime hours. Contractors are responsible for ensuring that competent supervision, as defined by the O.H.S.A and Regulations for Construction Projects, is provided for such activities.

1.2.2 Materials

Materials, tools and equipment must be transported by way of suitable conveyances that do not cause undue noise or vibration within the building. Specific routes to and from work areas established by contract documents or the Project Designate are to be strictly followed by all workers. At all HHS Sites, long construction materials can be transported using service elevators in which access is to be coordinated with Project Designate. Loading of materials and equipment via the front entrance is strictly prohibited. Caution is to be exercised at all times to ensure the safety of staff, patients and visitors. All loads are to be covered with clean opaque tarpaulins or poly coverings. Material longer than 8'-0" is to be carried by two persons. Contractors are responsible for all deliveries to their work areas and the conduct of third parties who may be moving materials within the facility.

No new materials used in the construction process shall contain any ACM or other Designated Substances without the prior approval of the Project Designate.

1.2.3 Equipment

Equipment required for projects is subject to the same regulation as materials. Tools and machinery is to be moved about the building in closed job boxes or covered with opaque tarpaulins. Protective measures are required to avoid damage to metal foot grills, flooring finishes, doorways, at entrances. Oversized objects that must be moved into the building require coordination with the Project Designate to determine acceptable route and timing.

1.2.4 Truck Routes

Truck Route issues should be arranged with the Project Designate at each site.

Truck Routes (MUMC only)

A map indicating approved truck access and egress to the receiving area at MUMC will be provided by the Project Designate during the Pre-construction meeting. Generally, no truck traffic is permitted via adjacent residential areas to the east of the facility. Operations requiring staging along Forsyth Avenue or other locations around the building require coordination with the Project Designate.

1.2.5 Receiving Dock

Use of the HHS receiving dock for moving tools, equipment and materials to and from the building is permitted, however under strict guidelines as follows: HHS receiving area may be used for unloading and loading at the discretion of HHS to ensure that core hospital business is not interrupted. At all the sites, limited receiving bays are available prior to 8:00am and after 1:00pm, however traffic varies and access is not guaranteed. At all other HHS Sites, access times are to be confirmed with the Project Designate. Hospital deliveries must always take precedence over construction deliveries. The following conditions apply at all times concerning use of the receiving lanes:

- Notification that access to the Receiving Dock is required for major deliveries of construction materials, furnishings or equipment, is to be provided to the Project Designate. The Project Designate will provide advanced written communication/request (e-mail) of the project need to use the receiving facilities to the Logistics Manager or his appointed representative as soon as possible (minimum three business days). This communication is to include the following information:
 - HHS Project Manager/Designate identification to include contact information.
 - Project Details such as location, duration, contractor identification and any other relevant details.
- Contractors must contact Receiving Staff prior to unloading and obtain parking instructions.
- Contractors violating the instructions of the receiving manager will be subject to the following: vehicles being ticketed, towed and or that company being prohibited from use of the receiving area.
- Contractor vehicles are never to be left unattended or idling at any time.
- Contractors must provide identification and contact information as well as maintain contact with Receiving Staff.
- Contractors are to follow all instructions/directions of Receiving staff upon their arrival until departure.
- Contractors are also required to remove/clean any and all debris they may generate as a result of their activity in the Receiving area, including packaging, skids, pallets, etc.
- HHS staff do not receive items that arrive at the receiving dock whether arriving as parcels or deliveries. If contractors are expecting arrival of shipments of this nature, arrangements must be made in advance with receiving staff to receive and remove such items promptly from the receiving area.
- The receiving facility parking lot is restricted to the use of authorized activity only. Authorization means parking permit issued by Logistics with the only exception being short term parking by couriers under contract to the hospital. This area is under surveillance 24/7.

Note: It is the responsibility of the Project Manager/Delegate to review these requirements with each project contractor in advance.

1.2.6 Entrances, corridors, stairwells, exterior storage

Entrances must not be left unsecured or unsupervised at any time, or blocked with equipment or materials. Corridors may not be used to store materials at any time. Shaft and other doors must never be blocked, even temporarily.

Storage space within the facility is extremely limited and consists only of space within construction areas or specifically designated rooms. Construction materials and equipment must be delivered to the site on an as needed basis to avoid storage problems. Arrangements to store or stage materials outside the building must be made in advance with the Project Designate. 40 yard bins are strictly prohibited unless coordinated with HHS Safety Specialist, Security and project Designate.

Only elevators that are identified for contractor use may be used for transporting tools materials within the building. At MUMC, freight elevators 22 (Yellow quad), and 24 (Red quad) can be used by contractor to move material. Since the Staff elevator 11 (Red quadrant) accommodates large items and goes to level 6, it can be used by the contractors occasionally when required and after receiving approval from the Project Designate.

At HGH, Freight elevator #7 requires permission from project designate as this elevator provides access to the helipad and is required for emergencies. At other sites, service elevators are to be used in areas where they are available, but must be coordinated with project designate. Other elevators are designated for use by staff, patients or public visitors and are strictly forbidden for utility use. Contractors are responsible for maintaining cleanliness of elevators when used for transport of materials.

1.3 Use of Facilities

Workers must ensure that clothing and footwear is dust-free when exiting work areas to access public area of the hospital.

1.3.1 Washrooms

Public washrooms occur throughout the facility and may be used by workers. This does not include patient washrooms within wards or patient areas. Washrooms that are local to a construction area are preferred as these generally receive increased maintenance during the construction period.

1.3.2 Cafeteria and Retail Outlets

Workers may use the retail food services at all HHS sites, subject to the conditions noted above. Retail outlets such as the gift shop and pharmacy may also be used.

1.3.3 Accessible Customer Service Policy

Hamilton Health Sciences is committed to providing exceptional and accessible service for its customers. In keeping with our philosophy of Patient and Family Centered Care, goods and services will be provided in a manner that respects the dignity and independence to all customers. The provision of services to persons with disabilities will be integrated wherever possible. Persons with disabilities will be given an opportunity equal to that given to others, to obtain, use or benefit from the goods and services provided by and on behalf of the organization. Every attempt will be made to accommodate accessibility needs as they are identified. When access to resources impedes accommodation an alternate measure will be taken to provide the service, in consultation with relevant parties. HHS expect Contractors and Trades to respect and apply these premises.

1.4 Prohibitions

1.4.1 Personal conduct

All persons working at HHS facilities are expected to conduct themselves in a professional manner befitting a health care institution. Rude, disrespectful or offensive language, behaviour,

or apparel will not be tolerated on hospital property. Boisterous, loud or inappropriate conduct that is contrary to an environment that is meant to be caring and sympathetic to compromised patients and their visitors is unacceptable.

1.4.2 Cellular phones

Cellular phones are used widely throughout the facility, however are prohibited from use in certain areas. Observe restricted areas whenever posted or otherwise indicated.

1.4.3 Smoking

Smoking is strictly forbidden on hospital property, including parking areas, outdoor areas, utility and roof areas. Violators of this policy may find themselves permanently banned from the site.

1.4.4 Alcohol, drugs, fire arms

Possession of alcoholic beverages, prescription drugs used for non-medical purpose, illegal drugs and their consumption are prohibited on hospital property. Persons suspected to be impaired in any way from such substances will be required to leave the property with the possibility of future prohibitions.

Firearms, ammunition or any other material considered a weapon of any description have no place on hospital property, whether carried on the individual or within a vehicle. Discovery of same will result in penalties.

1.4.5 Latex materials

A latex policy is in effect for the health and safety of staff, visitors and patients. Gloves or other articles made of latex are expressly forbidden on the property due to the extreme allergic reaction that some patients or individuals may have to this material.

If a contractor requires the use of gloves the articles must have labeling identifying that they are not latex containing. Latex balloons are prohibited from HHS sites. Any materials to be used for installation that may contain latex must be reviewed by the Project Designate or HHS consultants prior to purchase.

1.4.6 Use of Hospital utilities

Use of hospital utilities, including emergency or normal electrical power receptacles, compressed gas outlets, janitor's closets and equipment, medical gas outlets, etc. is expressly forbidden without prior review with and authorization by the Project Designate. Where power sources are required the task must be evaluated to determine suitability of local outlets.

1.4.7 Dress Code

- No cut off shirts
- Crude comments on shirts are not allowed
- Workers and trades are expected to change dirty clothing prior to use Hospital facilities such as cafeteria, washrooms, pharmacy, gift shops, etc.
- ID badges shall be visible at all times.

1.5 Contractor Compliance

Contractors are required to register with Contractor Compliance, prior to entering into any Agreement with HHS for the provision of the deliverables as outlined in the Front End Documents.. All costs, if any, associated with registering with Contractor Compliance shall be at the Contractor's expense.

2. Departments, Locations, Contacts

2.1 Engineering (Facilities Management – FM)

It is important to understand the organizational structure of the Engineering department so that should communication be received from these individuals, their clear authority and responsibility is understood. Generally, however, such communication would occur via the Project Designate for a particular project.

The Engineering Department is responsible for the maintenance and condition of the physical plant. The HHSC **Director of Facilities Management** is responsible for all HHS Sites, and each site is the responsibility of a **Facilities Site Manager**. In addition to the Facility Manager, other managers include the **Mechanical Supervisor, Electrical Supervisor** and **Powerhouse Chief**. As well, an Engineering **Project Manager/Designate or Project Supervisor** deals with specific projects the Engineering Department may be undertaking.

The role of the **Hazardous Materials Specialist** is self-explanatory and is an additional function of the Engineering (FM) Department. This individual participates in the general management of hazardous materials including asbestos- related issues throughout the facility, maintains the building survey database, and participates in the monitoring of projects for compliance with HHS policies.

The **Fire Safety Marshall** is responsible for coordination of inspections at HHS buildings to ensure compliance with all fire safety legislation, including planning and implementation stages of construction projects.

2.2 Capital Development

The Capital Development Department is responsible for all aspects of project development including liaising with health care professionals and design consultants, other hospital departments, managing document preparation, and all aspects of construction projects within the facility.

Responsibilities within this department include: The Director of Capital Development who responsible for oversight of all Capital and Renovation Construction Projects. Each project is assigned a **Project Manager/Designate** who are typically responsible for overseeing a project from its inception to its completion. The Project Designate is responsible, in particular, for connecting with the hospital managers who will eventually take possession of the facility being

developed, developing the contents of the project and any possible revisions of same, and budgetary matters.

Larger projects also are assigned a **Construction Manager/Designate** with the responsibility for daily project activities and serves as the primary contact between contractors and the hospital. The construction manager interacts directly with contractor representatives to coordinate activities and movement within the facility, arrange for utility shut downs, address construction-related issues as they may arise, and ensure that contractors and workers act in compliance with hospital policies and procedures.

Capital Development also employs **Planners** who undertake smaller projects and arrange, in particular, for relocation of persons and departments within the facility.

Any of the individuals holding these positions may be assigned the primary role of “**Project Designate**” for a given project. This is a term that is used to identify the individual who serves as the prime contact between the hospital and contracted workers. It is important to understand the respective responsibilities of these individuals when approaching or being approached by HHS representatives.

2.3 Security

2.3.1 Identification badges

All persons working at HHS must display at all times an identification badge that is issued by the HHS Security for the project on which they are employed. The Security Department issue what are known as “Photo I.D. badges”. These badges can be activate to allow access to the HHS key lock box, and card readers located through the building.

A form authorizing Security to issue a Photo I.D. will be provided to the worker. The Photo I.D. is then obtained by presenting the authorization form to HHS Security at the main office as indicated below. The fee for a photo I.D. badge must be covered by the contractor and is non-refundable.

General:

Primary – Room 2-34B Level 2 located at the main entrance

Juravinski:

Section G Level 0– Located in the central core

MUMC:

Room 2L10 adjacent to the main entrance on Level 2

St. Peter’s:

Security Desk located in the Main Lobby

Contractor Badges and Photo I.D. Badges are paid for by the contractors and become contractor’s property.

2.3.2 Signing in

All workers entering HHS facilities must report to the Engineering and Capital Development offices prior to starting any work and sign in on the Engineering Project Board. Engineering Project Board is located adjacent to Engineering Shops at each site. The Project Manager/Designate responsible for the project or task must be notified of the worker's intended activity for the day or shift. Persons requiring entry to interstitial spaces must sign-in at the Engineering office in the binder provided for this purpose. Ensure that all required information is provided.

Workers who are reporting to projects that are managed by General Contractors under contract to HHS/McMaster are not required to report to the Engineering and Capital offices each day.

At MUMC, any worker accessing interstitial or mechanical spaces is required to sign-in on the contractor's interstitial sign-in sheet daily. Contractors are to submit interstitial sign in sheets at the end of each work week to their Project Designate.

At HGH, any workers must sign into the main desk at Facilities Management on Level 0

At JHCC, any worker must sign into the contractors sign in board located at level 0 - H wing corridor

At St. Peter's, any workers must sign into the contractors sign in board located in the Shipping and Receiving corridor.

At WLMH, any workers must sign into the Facility Management office in the Basement Level

2.3.3 Key requests and lock box access

Utility and shaft keys are required to access utility elevators, shafts, mechanical spaces and interstitial spaces. Keys are stored in secure lock boxes outside the Engineering offices and are borrowed by using a Photo I.D. badge that has been programmed to access the lock box. Authorization to obtain access to the lock box is obtained by applying to the Project Designate. The form is then submitted to Security by the Project Designate and the worker to obtain card access to the box. Keys borrowed each day must be returned to the lock box at the end of each shift. Failure to do so will result in access privileges being terminated.

2.3.4 Enforcement and penalties

Workers who do not comply with HHSC policies and procedures may be disciplined in a number of ways up to and including permanent prohibition from MUMC property. Instructions and orders received from Security personnel and agents of HHSC such as the Project Manager/Delignate department managers and supervisors must be complied with without reservation.

2.3.5 Theft Policy

All employees, affiliates (including contractors), and all Professional Staff are obliged to preserve and safeguard Hospital property by strict adherence to the rules included in the "HR

– Theft-Security of Property Policy”. Please refer to the “Front End Document/Documents for Contractor Tenders” website below under “Documents for All HHS Sites” to access “Theft Policy”;

<https://www.hamiltonhealthsciences.ca/about-us/vendor-information/forcontractors/>

2.4 Accidents, Incidents and First Aid, Occupational Health and Safety

2.4.1 Injuries

All accidents and incidents occurring on HHS premises, involving a contractor's workers, must be promptly investigated by the contractor and a copy of the investigation report submitted to the Project Designate immediately following the investigation. An accident or incident that involves a contractor and a patient or visitor must immediately be reported to Protection Services who will notify and provide a copy of the investigation report to Risk Management.

The contractor is responsible for providing first aid to their workers as per Regulation 1101 First Aid Requirements (Under the Workplace Safety and Insurance Act, 1997).

Contractors working at HHSC are expected to comply with provisions of the most current edition of the Occupational Health and Safety Act of Ontario and Regulations for Construction Projects. This includes provisions for properly equipped First Aid Kits within proximity of work areas and as determined by the number of workers employed. Construction supervisors are expected to have current First Aid certificates as required by regulation. Not all sites have adult Emergency Departments and it is essential that all aspects of construction safety are practiced at all times by each contractor.

Adult care may be obtained at the following facilities:

Urgent Care Centre at 690 Main St. West
Juravinski Hospital Emergency Department
Hamilton General Hospital Emergency Department

It must be understood that the HHSC Code Blue team and Emergency responders will not enter mechanical spaces, interstitial spaces or construction sites. Should serious injuries occur in these areas, the Worker Down procedure must be followed to obtain medical aid.

2.4.2 Critical Injuries

ONTARIO REGULATION 420/21, made under the O.H.S.A. Ontario, “critically injured” means an injury of a serious nature that,

- (a) places life in jeopardy,
- (b) produces unconsciousness,
- (c) results in substantial loss of blood,
- (d) involves the fracture of a leg or arm but not a finger or toe,
- (e) involves the amputation of a leg, arm, hand or foot but not a finger or toe,
- (f) consists of burns to a major portion of the body, or

(g) causes the loss of sight in an eye

When a critical injury occurs, as defined above, the Contractor must **immediately** contact the Ministry of Labour and the HHS Project Designate. A copy of the contractor's investigation report is to be submitted to the Project Designate as soon as possible, following the proscribed investigation.

2.4.3 Man Down Procedure

HHS Man Down procedure is available on the Front End Documents website and specifically governs procedures to be followed should a worker need to work in restricted areas, confined space and interstitial spaces in particular.

3. Working in a Health Care Facility

3.1 Infection Control

It is the responsibility of every worker to observe all policies and procedures related to infection control to prevent exposure of patients, staff and other workers to harmful bacteria that may be associated with construction activities. The primary source of organisms that may be hazardous to immune-compromised persons is dust, water sources which may contain legionella and/or other harmful bacteria. It is therefore incumbent upon all workers to take measures to ensure that sources of dust are contained within work areas and that migration of dust particles from construction spaces does not occur.

Contractors responsible for work sites must maintain tack mats, damp mats, HEPA vacuums or other means at exit points from construction spaces to provide workers with a means to clean clothing and footwear as they leave said areas. It is the responsibility of each worker to avail himself of these means to ensure dusts and debris remain within the contained work area.

Infection control practices and procedures are further explained in the policy available on the Front End Documents website. Specific infection control training is required of all workers employed at HHS sites with forms completed per policy and procedure with copies made available to the Project Designate.

Infection Control practitioners perform routine inspections of the construction sites. Non-compliance of the Infection Control policies and procedures can result on a Stop Work order (see page 28 of the HHS – Infection Control guidelines).

3.2 Emergency Codes and Preparedness

Workers at HHS sites must familiarize themselves with the Emergency Preparedness Program that is in effect at all hospitals. The Emergency Procedures that are applicable to contractors or other non-HHS personnel are described in the Emergency Code document available on the Front End Documents website. It is the contractor's responsibility to ensure that every worker is aware of his responsibilities related to each code, where to report when emergency codes are announced, and what to do in his work area. Workers are to respond appropriately to codes whether the announced code is a practice exercise or an actual emergency event. Code exercises occur monthly at all HHS sites.

4. Material Handling

4.1 Hazardous Materials, Designated Substances

Designated Substances, as defined under regulation made under the OHSA, such as asbestos, lead, mercury and isocyanates, occur on the premises of HHS. Where it is likely that a contractor may come into contact with or work near a Designated Substance, the Project Designate will provide this information to the contractor by way of the contract documents. While working at HHS, the contractor will comply with the Designated Substance Regulation and all pertinent policies and procedures, as established by HHS.

Work that must be undertaken in any HazMat storage area cannot be undertaken without first notifying the Project Designate who will then arrange a pre-construction review with the Logistics Manager and an HHS Safety Specialist. These storage areas are located as follows:

General (all located in the shipping receiving area 15 wing level 0):

- Solvent and Chemical Waste Room 1-198
- Solvent Storage Room 1-197
- Non-flammable compressed Gases Room 1-196

Juravinski (in H-wing):

- Flammable Storage Room OS(15)-61
- Solvent and Chemical Waste Room OS(15)-61
- Radio-Isotope Waste OS(15)-616

MUMC:

- Level 1, rooms 1TC8 to 1T13

4.2 Paints and solvents

Refer to sections on "Chemicals" and "Chemical Waste Disposal" for other applicable requirements with respect to paints and solvents.

Adequate ventilation must be maintained at all times when paints or solvents are used. Contractor personnel must use proper respiratory protection and protective clothing when required.

Flammable solvents and materials must be used with extreme caution when exposure to ignition sources is possible. Contractor's flammable paints and solvents are not to be stored on HHS premises. Flammable liquids must be dispensed in safety cans with flash arrestors bearing a Factory Mutual or Underwriters approval and must be grounded and bonded. Where dispensing is required, contractors will determine a suitable location in collaboration with the Project Designate. The contents of containers must be clearly identified on a clearly marked WHMIS label. Flammable liquids and acids must never be stored together.

Only products that are in compliance with contract documents are permitted for use at HHS sites.

4.3 Compressed Gas Cylinders

If a contractor needs to store compressed gases on HHS property, prior approval of the Project Designate must be first be obtained by the contractor.

All compressed gas cylinders shall be legibly marked with the description of the material contained, including a proper WHMIS label. All compressed gas cylinders will be secured (roped or chained) in a vertical position during transportation storage or use. They must never be rolled, slid or dropped. If a compressed gas cylinder contains acetylene, it must always be in an upright position.

Cylinders shall be stored in a well-ventilated area, away from any source of ignition or heat. Compressed gas cylinders containing flammable gasses are to be stored at least six meters from any cylinder containing oxygen or with a barrier of non-combustible material at least 1.5 meters high, having a fire resistance rating of at least one-half hour separating it from any cylinder containing oxygen. Cylinders shall not be placed where they can come into contact with an electrical outlet.

Cylinder valve protection caps shall be firmly installed (hand tight) when compressed gas cylinders (empty or full) are transported or stored. The correct regulators, in proper working order, shall be used for each type of gas. Regulators or regulator connection will not be modified in any way. Cylinder valves shall be closed when work is finished and when cylinders are empty or being moved.

4.4 WHMIS and

Contractors must submit copies of Safety Data Sheets (SDS) to the Project Designate for any chemicals they plan to use on t HHS property as a part of the contract work. All MSD's must be submitted and approved for use prior to contractor starting work; **no exceptions.** Chemicals include, but are not limited to:

- acids, bases
- adhesives, glues, cements, epoxies
- bleaches, cleaners, detergents
- compressed and liquefied gas
- core solder (acid, resin)
- fluxes
- greases, oils
- paints, dyes, pigments, fillers
- pesticides, herbicides
- solvents, thinners

All chemicals used will be in the original container with the original supplier labels. The labels must include the specified information, as determined in the WHMIS Regulation. Where it is necessary to decant a product into another container, or where the original supplier label has been damaged or removed, the contractor is responsible to ensure that a WHMIS workplace label is affixed to the product, with the three pieces of information required by the WHMIS regulation.

Contractors are responsible for providing their workers with WHMIS Generic and WHMIS Specific education. Documentation of such education is to be kept available, on the jobsite.

All chemicals for the contract will be purchased and supplied by the contractor, unless the contract specifically states otherwise. Where special precautions are required, the Project Designate will inform the contractor regarding hazardous chemical used at HHS.

Contractors are responsible for instructing their employees in emergency procedures in the event of a personal injury or spill of a chemical (refer to section on Emergency Preparedness). The contractor will make known the location of emergency showers and eyewash stations to their employees. All spills are to be reported immediately to the Project Designate, who will determine whether or not a Code Brown is to be initiated.

The contractor will bring on site only those chemicals that are designated for use at HHS. Contractors will not store any chemicals on HHS property, including overnight storage, unless prior written approval is obtained from the Project Designate.

4.5 Waste Disposal

Contractors are responsible for proper disposal of all waste and recycling associated with their on-site activities. This includes asbestos waste, chemical waste (including paints), general construction waste, cardboard, scrap metal, furniture, equipment, etc.

Contractors must arrange for their own waste and recycling bins which shall be placed at the hospital site in a location approved by the Project Designate and the HHS Waste Management Coordinator and Logistics Manager.

Construction/general waste shall be transported in carts covered with tarps or 6 mil polyethylene and secured with a bungee. The exterior side of the carts including the wheels and the cover must be clean when leaving the construction site. The carts are to remain covered at all times and until the contents are disposed in the contractor's waste bin(s). Contractors are allowed to transport construction waste on Tuesdays and Thursdays after 1:00pm only. If contractors are using trucks to dispose their construction waste, the trucks must be parked outside the canopy area in Shipping and Receiving. Loading construction waste within the Shipping and Receiving premises and loading docks is strictly prohibited.

Disposal companies utilized by contractors shall be approved by the Ontario Ministry of Environment and carry a Certificate of Approval for a Waste Management System. Contractor waste must be disposed at a licensed waste management facility.

The following waste materials are prohibited from disposal as general waste and must be managed according to the applicable waste management regulations:

- Asbestos waste
- Propane tanks and other compressed gas tanks
- Batteries

- Fluorescent tubes
- Liquid waste (non-hazardous and hazardous)
- Biomedical waste and Pharmaceutical waste
- Radioactive waste

Liquid waste (hazardous or non-hazardous, e.g. paint, grout), is prohibited from entering any sink, drain or sewer.

Contractors are strictly forbidden from utilizing HHS waste bins, waste compactors, or cardboard balers for disposal of waste generated from their on-site activities.

Contractors must manage their general waste and recycling in accordance with the HHS General Waste and Recycling Protocols. All packaging materials including wood pallets, skids, crates, cardboard, etc. must be removed from the hospital site.

Any questions regarding HHS policies concerning waste disposal are to be directed to the HHS Waste Coordinator via the Project Designate.

4.5.1 Asbestos waste

Contractors must dispose of asbestos waste in accordance with the HHS Asbestos Management Plan and Ontario Reg. 278/05.

4.5.2 Biomedical waste

Biomedical waste must be managed on site as per the HHS Biomedical Waste Disposal Protocol. If this type of waste is encountered during the course of activities provided by the contractor on site, contact the Project Designate for direction.

4.5.3 Chemical waste disposal

The contractor shall not dispose of any chemical waste on HHS property. Chemical waste includes, but is not limited to:

- acids, bases
- adhesives
- bleaches, cleaners, detergents
- compressed and liquefied gas
- core solder (acid, resin)
- fluxes
- greases, oils
- paints, dyes, pigments, fillers
- pesticides, herbicides
- solvents, thinners
- fluorescent tubes
- PCBs
- empty containers that once contained any chemicals
- empty aerosol cans
- flammable waste
- toxic waste

Chemical waste shall be contained, stored, transported and disposed of by the contractor in compliance with applicable municipal, provincial, and federal laws, including but not limited to Ontario Reg. 347, transportation of Dangerous Goods Regulations and WHMIS.

Where it has been determined that a contractor is not in compliance with these requirements, termination of their contract will be seriously considered by the Project Designate and the Safety Specialist.

4.5.4 Asbestos

Asbestos is present at all HHS sites. It is the responsibility of the HHS Project Designate to provide contractors with a copy of the most recent Asbestos Management Plan and Building Survey applicable to the site of the work. This information is to be included with contract documents. Contractors are required to complete any work that has the potential to disturb asbestos containing materials in compliance with HHS policies, asbestos management plans, and with the Occupational Health and Safety Act and its Regulations. It is the responsibility of contractors and individual workers to ensure they are thoroughly familiar with the contents of these documents.

5. Building Systems

5.1 Mechanical

5.1.1 Shutdown procedures - Ventilation systems

Work on the ventilation systems typically requires shutting down and isolation of portions of the system. To accomplish this the contractor must submit to the Project Designate a Utility shut down request a minimum of five business days prior to the requested shutdown date. The request form is available on the Front End Documents website. Complete information must be provided, including air handlers or volume boxes along with their identification. This information is required to enable HHS staff to determine the impacts of the ventilation interruption on staff and patients and to coordinate the work in advance. As MUMC is a building with asbestos fireproofing, working on ventilation systems is required to be in compliance with the respective HHS Asbestos Management Plans and O. Reg. 278/05. Lock out – tag out procedures are to be observed whenever shutting-down mechanical equipment.

5.1.2 Water

Work on plumbing services similarly require a Utility Shut Down Request to be submitted five days in advance. Considerations prior to a water shut down include the condition of existing valves, which may be in poor condition, and departments that may be affected. Freezing of existing lines may be required to achieve the shutdown. Consultation with HHS Infection Control may be required when water service is resumed to determine if flush or hypo chlorination of water of the water lines is required. Any treatment need to follow CSA Z317.13 (Infection control in construction, renovation, maintenance and repair of health care facilities) and CSA Z317.1 (Special requirements for plumbing installations in health care facilities) and Infection Control direction.

5.1.3 Medical gas systems

Work on medical gas systems is strictly governed by building codes and CSAZ7396.1. Any interference with medical gas services must be preceded by submission of a Medical Gas Shutdown Request available on the Front End Documents website. Contractors must be prepared to determine what may be affected by interruption of said services in advance of such requests. Lockout of medical gas valves will require that locks on affected valves be placed both by HHS and the contractor, similar to electrical lock-out procedures. Considerable coordination that will likely be required with affected departments make early notification of proposed shut downs imperative.

5.1.4 Controls, BAS

Careless removal of devices and equipment from the BAS may result in unnecessary alarms and unintended results. No alteration of the Building Automation System, including removal of thermostats or other devices is permitted, therefore, without first notifying the Project Designate. Pneumatic lines disturbed by such removals must be properly and permanently capped and sealed.

5.1.5 Sprinkler Systems

Work on sprinkler systems must be preceded by a Utility Shutdown Request that specifies which sprinkler zones may be affected. Systems must be re-filled at the end of each shift and re-activated. Failing this, the contractor must be prepared to implement a fire watch that meets HHS requirements. All areas of the building must be protected by either fire detection devices, the sprinkler system or a fire watch.

5.2 Electrical

5.2.1 Electrical - General (300v - less than 750v)

All electrical work performed at HHS sites shall comply with the Ontario Occupational Health and Safety Act, Ontario Reg. 67/93 (Health Care and Residential Facility Regulation) and Ontario Reg. 213/91 (Construction Regulations). As per the Construction regulations, all work shall comply with the Electrical Utility Safety Rules and ESA (Electrical Safety Authority).

All work performed on electrical equipment shall be performed by a licensed electrician or apprentice as outlined in the Ontario Trades Qualification and Apprenticeship Act.

The contractor will not perform any work on energized panels, distribution boards, busways or other electrical devices that may expose personnel to accidental contact with energized parts. If it is not practicable to disconnect electrical installations, the contractor must receive approval from the Project Designate prior to proceeding and follow a lock-out, tag-out procedure. Approval will only be granted providing all regulatory requirements are met.

Ground fault circuit interrupt (GFCI) devices shall be used on power circuits serving outlets in damp, wet, or outdoor locations and any other areas where personnel using electrical equipment may be exposed to hazardous voltages. The GFCI requirement is in addition to the requirement for ground or double insulated tools and appliances.

All non-current-carrying metal parts of fixed, portable or plug-connected equipment shall be grounded. Portable tools and appliances protected by and approved system of double insulation need not be grounded.

Extension cords shall be the three-wire type for grounded tools (two wire is acceptable for double insulated tools) and will be protected from damage; do not fasten with staples or extend across an aisle way or walkway. Worn or frayed cords shall not be used. Cords must not be run through doorways where the door could cut or damage the cord. Extension cords are to be used only on a temporary basis.

The contractor will install approved factory-made closures for any potentially energized electrical parts prior to the part being energized.

No work shall be performed on any alarm system (fire, security, card system, CCTV, timers or door buzzers) without prior approval from the Project Designate.

Exposed bulbs on temporary lights shall be guarded to prevent accidental contact, except where bulbs are deeply recessed in the reflector. Temporary lights will not be suspended by their electrical cords unless designed for this use.

Receptacles for attachment plugs shall be approved, concealed, contact type. Where different voltages, frequencies or types of current are supplied, receptacles shall be of such design that attachment plugs are not interchangeable. In patient-care areas, only hospital-approved outlets may be installed.

5.2.2 Electrical - High Voltage (over 750v)

The contractor shall not perform any work on energized electrical panels, distribution boards, busways or other electrical devices that may expose personnel to accidental contact with energized parts. Even insulated high voltage cables must be avoided and shall be treated the same as "bare" conductors. Work on high-voltage equipment shall be accomplished only after the equipment has been de-energized and properly grounded out and follow lock-out, tag-out procedures. In addition to any HHS grounding, the contractor is responsible for providing all necessary grounding before working on the equipment. If it is not practicable to disconnect electrical installations, etc., the contractor must receive approval from the Project Designate prior to proceeding. Approval will only be granted providing all regulatory requirements are met.

Equipment covers or panels will not be removed or opened on any high voltage compartment win which there are exposed, energized, high voltage connections, unless specifically approved by the contractor supervisor, the Project Designate, and the Engineering Department.

Strict written operating procedures must be prepared and adhered to when working on high voltage circuits and equipment. All contractor personnel involved must be thoroughly informed on:

- Sequence of operation
- Specific instructions for each assignment
- Test equipment and personnel protective equipment to be used

- Potential hazards and consequences of not following the procedure to the letter

All elements and question of the job must be reviewed and resolved before the work proceeds, regardless of the qualification or experience of the personnel; where applicable arc flash training and PPE is required.

5.2.3 Electrical shut down procedures, requirements

Utility shut down request forms available on the Front End Documents website, shall be properly completed with all required information and submitted to the Project Designate any time an interruption to hospital electrical circuits is required. A minimum of five-day advanced notice is required for routine shut downs, and considerably longer advanced notice for power interruptions that may affect large or critical care areas of the hospital as sufficient time must be provided to the Project Designate to coordinate such work with a number of departments and HHS Engineering (FM) Services.

5.2.4 Lock-out, tag-out

Any time a piece of electrically powered equipment (fan, motor, switch, etc.) is serviced, repaired, installed or worked on, the line disconnect switch or circuit breaker supplying the power must be tagged and locked in the “OFF” position. The lock key is to be kept by the person performing the job and only this person is authorized to unlock the switch and remove the tag upon completion of the job. When more than one person is working on the line, each must place a lock on the switch and retain his own key.

Lockout tags will identify the contractor’s company name, the worker’s name, the date and the name of the Project Designate. Lockout tags should be approved by the Project Designate prior to usage. Please refer to HHS – Lock-out / Tag-out Policy included within the Front-End documents.

5.2.5 Existing panels, circuits, equipment

It is not unusual for legends in existing hospital lighting and distribution panels to be out of date, which may make it difficult for electrical contractors to reliably interrupt or disconnect circuits that may affect areas beyond the construction area. When such circumstances arise, the contractor must contact the Project Designate who will arrange a review with HHS engineering services to attempt to determine what may be powered by the circuits in question.

Once a review has been conducted, the contractor must advise the Project Designate of his intentions to “ring-out” or explore such circuits so that affected departments may be notified at least one day in advance of this activity. Such activities are typically scheduled for brief periods prior to 8:00am.

5.2.6 Fire Alarm System (FAS), magnetic lock system

Construction projects often require alteration of the fire alarm system by way of relocating smoke or heat detectors, speakers, pull stations, etc. Notification by way of a submitted Utility Shut Down request must precede any interruption of the fire alarm system. It is not necessary to maintain FAS coverage of a construction area as long as the sprinkler system coverage is not interrupted. Either FAS, sprinkler coverage, or a fire watch must be in place at all times for all

areas of the facility. HHS also has a Red Tag Permit System that must be used as it provides a clear understanding of the process to manage sprinkler systems impairments when they are taken out of service. The procedure will allow the MRP to follow steps to ensure safe shutdown. This process was developed by FM Global and is used as a method to monitor and retain records of impairments and inform FM Global when impairments occur. If FAS or any life safety system is taken out of service, fire watch must be provided for the duration of the shutdown.

The magnetic lock system must never be interrupted as may be required for system verifications without written notification, in advance, to the Project Designate. Certain areas of the building are dependent upon the security of the magnetic lock system (Child and Youth Mental Health Unit, Animal Facility, Intensive Care Units, Operating Rooms and Recovery areas, etc.) and cannot tolerate breaches in security, even for brief periods. HHS Security must always participate in any release of the mag lock system and require advanced notification of such activities to enable suitable coordination. Bell testing must always be preceded by notification to the Project Designate and appropriate announcements whether by the FAS operator or HHS Switchboard.

5.2.7 ICT, IT closets

Contractor access to any IT closet or hub that is required to complete a project must be preceded by a review meeting with ICT representatives and the Project Designate. Numerous stake holders access IT closets and responsibility for the condition of the closets and their infrastructure must be established at the outset. IT closets house systems that are critical to patient care and careless or inadvertent disturbance of such systems may result in dire consequences. Only workers with a clear understanding of the equipment and systems and are thoroughly familiar with HHS ICT Specifications and Procedures (HHS Infrastructure Specifications for Data / Voice Communications Rev. Oct 2020 V1.14) are permitted to work within these rooms.

Sealing openings into interstitial spaces above closets and control of possible dusts is imperative in these environments. Use of electrical receptacles within closets for any purpose other than operation of HHS equipment is prohibited.

5.2.8 Telecom

No work is permitted on HHS telecommunications equipment without first securing permission from the department with the assistance of the Project Designate.

5.2.9 CCTV, Security Systems, Card Readers

Work on HHS CCTV and related systems is strictly prohibited without first notifying the Project Designate. Specific standards and procedures are applicable to these systems and no interference with these is permitted without first meeting with HHS Security supervisors.

5.2.10 Nurse Call, Code Blue systems

Disturbance of nurse call circuits can result in alarms which may result in the unnecessary deployment of hospital Code Blue personnel. No demolition or work is permitted on HHS Nurse Call/Code Blue systems without first consulting with Engineering Department technicians with the assistance of the Project Designate.

5.2.11 Ringmaster systems

The Ringmaster system currently in use at several HHS Sites is not robust and is easily damaged by inappropriate activity. This system is generally maintained by Hamilton Video and Sound and Engineering Services. Contractors must first meet with the Project Designate and related persons to ensure familiarity with this system.

5.2.12 CATV, Entertainment systems

No work is permitted on HHS CATV or entertainment systems without first securing permission for the Engineering Department with the assistance of the Project Designate

5.2.12 Demolition

Any areas of demolition are to be reviewed with the Project Designate prior to any demolition occurring to identify items for handover to Owner.

6. Construction Sites - Interior

6.1 O.H.S.A. Regulations

All projects conducted on HHS property are governed by the current Occupational Health and Safety Act of Ontario and Regulations for Construction Projects. This includes comprehensive legislation, statues, practices and procedures that are meant to ensure a safe and responsible manner to execute construction projects. The following items interpret how said practices are to apply to work undertaken at HHS building sites.

Within the context of the O.H.S.A, work sites are the jurisdiction of the General Contractor who is responsible for compliance by all workers and visitors with these regulations. This includes HHS personnel and their vendors who may be required to access work areas. It is incumbent upon HHS personnel and vendors to properly contact the contractor supervisor prior to entering any site, the only exception being a dire emergency.

6.2 Personal Protective Equipment

Hard hats and Class 1 safety footwear are required at all times, as well as supplementary equipment such as safety eyewear and appropriate protective clothing and any specialized PPE required to complete the task safely. Short pants are not permissible apparel on HHS jobsites. No exception to the minimum requirements is permitted without the express consent of the contractor supervisor under specific conditions, including HHS staff that may require access to jobsites.

6.3 Warning signage, caution tape, pylons

A sign is available on the Front End Document website which is approved by HHS for the purpose of identifying contractor work areas and is to be filled in with project title, estimated duration dates, contractor supervisor names, phone numbers, HHS Project Designate name and contact info in the spaces indicated. Further signage warning of construction conditions and hazards are to be provided to supplement the approved signage.

No construction activity is permitted outside of hard or soft hoarded areas without the written permission of the Project Designate and HHS Infection Control. Minor work may require the use of caution tape, traffic pylons, signage and other methods of ensuring the safety of HHS patients, visitors and staff.

Contractor workers are expected to observe and obey HHS warning, safety and security signs and barriers that are posted for their protection.

6.4 Hoardings

When required by HHS, hard hoardings consisting of metal stud and gypsum board partitions (GWB both sides) and including sound attenuating insulation and 2 layer polyethylene seals shall be constructed to contain all construction work that may cause the generation of dusts. Alternate forms of hoarding may be approved by the Multi Disciplinary Team. Tops of partitions are to seal to the underside of the GWB fire barrier, not ceiling tiles. Doors used for entry to these areas are to be of hollow metal construction, are to be equipped with gasket seals at the perimeter, and an operating door closer and functional lockset equipped with a keypad mechanism. Keypad combinations must be provided to the Project Designate, HHS Security, and HHS Engineering. Doors must not swing into the paths of corridors. Entry points are to be equipped with, as a minimum, tack mats or other means of dust control.

Soft hoardings consisting of securely supported tarpaulins or 6 mil polyethylene and equipped with overlapping or zippered entry points are permitted only with the written consent of the Project Designate and HHS Infection Control.

Tapes that are used to seal hoarding edges must not damage existing surfaces upon removal. Surfaces damaged by hoarding installation must be made good at the expense of the contractor.

HEPA exhaust equipment must be ducted in a manner approved by the Project Designate to the exterior of the building unless specifically exempted from this requirement by HHS Infection Control.

6.5 Floor openings, window openings

Floor and window openings shall be guarded by substantial barriers, railings, and/or covering material and substantial enough to sustain twice the load of pedestrian or vehicular traffic. Barriers and appropriate signage shall be supplied and installed by the contractor for his contract

work. Coverings for openings shall be cleated, bolted or otherwise installed to prevent movement from the floor or roof openings.

Elevated floor and window areas must be provided with guard rails where a danger of falling exists for workers. The contractor shall provide toe boards in accordance with O.H.S.A practice where there exists the possibility of objects falling striking workers or other persons.

6.6 FAS bypass requests, smoke detectors and devices

Contractors are cautioned that the fire alarm system utilizes smoke detectors throughout the facility which are sensitive to products of combustion, dust, and other airborne particles that can either hamper proper operation of the detectors or cause alarms to occur. The contractor must evaluate conditions that may result from his activities and any condition that may produce smoke, dust flying or other airborne particles, and must duly submit a fire alarm bypass request to the Project Designate for coordination with HHS Engineering Services. Such submissions must occur five days in advance of the required bypass and must be submitted weekly if the condition warrants until all work is completed and FAS coverage fully restored.

Detection devices are to be protected with purpose-made protective covers or "bagged" with polyethylene protection carefully taped to the device. All covers are to be removed by the contractor at the end of each shift unless sprinkler system protection is provided.

6.7 Welding, Cutting, Grinding, Open flame

Any welding, cutting, grinding, soldering or open flame work, either inside or outside the building, on HHS property, must be approved by the Project Designate prior to the activity starting. Such work must be performed in strict compliance with HHS procedures and CSA standard W117.2. Any persons undertaking hot work as noted above must have an HHS Hot Work Permit (instruction available on the Front End Documents website). The hard copy of the Hot Work Permit should be completed and submitted to the Project Designate for his or her signature and who will retain one copy. The contractor shall submit the duplicate copy to the Engineering receptionist and post the third copy at the location of the work.

The contractor shall continue the hot work only so long as the conditions remain safe. When working near smoke detectors or patient-care areas, special consideration shall be provided for the control of fumes and detector activation. Refer to item 6.6 - FAS bypass procedures.

The contractor is responsible for seeing that a fire watch is maintained throughout the operation. The fire watch is responsible for taking appropriate action to prevent a fire, to extinguish incipient fires, and to summon assistance by dialing 5555 to report a Code Red if any fire is noticed or extinguished. Contractors are required to provide fire extinguishers appropriate to the task prior to the work being undertaken.

Non-combustible or flame-proof shields or screens must be used by the contractor where applicable.

Upon completion of welding or open flame work, the contractor shall inspect the area and remain in the area until it is determined that no smoldering or previously unnoticed fires exist or as determined by authority having jurisdiction or HHS. The contractor will sign and return the third copy to the Project Designate first time in the morning of the next working day.

6.7.1 Permits and Approvals

When a contractor is required to undertake one of the following activities:

- Work within 10'-0" (3 meters) of an unprotected roof edge,
- All welding, torch cutting, soldering and open flame work,
- Work on High Voltage equipment or systems (Approved switching orders are required),
- Work with powder-actuated tools,
- Partial or full impairment of automatic sprinkler or other fixed fire protection systems,
- Work in confined or restricted spaces

The contractor shall ensure that those individuals doing the work are aware of the potential hazards, have the proper tools, testing equipment, personal protective equipment, and emergency control equipment.

Prior to commencing such work, the Project Designate must be notified.

6.8 Tools and Equipment

6.8.1 Internal combustion equipment

Any petroleum-powered equipment must be operated outside the building, away from any air intake openings and building entrances. Cables and hoses are to be safely brought into the building with routing determined by the Project Designate and/or Engineering (FM) staff.

6.8.2 Lifts

Man lifts are permissible within the building for use by certified and qualified personnel with Fall Arrest Certificate of Training. Use must first be reviewed with the Project Designate prior to moving such equipment into the facility. Any damage caused by the use of such equipment must be made good to HHS satisfaction at the contractor's expense.

6.8.3 Tools

Hand and power tools shall be kept in safe operating condition. Contractors are solely responsible to have tools, extension cords, etc. clean and free of dust when transporting to and from the work area. All power tools must be grounded. The contractor is reminded that they are responsible for providing all tools required to perform their work. Tools will not be provided or loaned by HHS. Contractors are solely responsible for the security of their tools which should never be left unattended in public areas.

Should contractor tool theft occur, it is to be reported to HHS Security and the Project Designate.

6.8.4 Ladders

All contractors are required to provide their own ladders, with company identification clearly visible. In no case shall contractors utilize HHS ladders for their use.

The use of ladders with broken or missing steps, broken side rails or other faulty or defective construction is prohibited. Ladders shall not be placed adjacent to a door unless the door is locked or guarded. Metal ladders shall not be used for working on any electrical systems. The contractor shall not use any ladders in an unsafe manner, including but not limited to standing on the top step. Ladders are not to be set-up and left unattended. Ladders not in use must be stored in a secure manner. Ladders shall be equipped with non-slip rubber feet.

When using a ladder in aisles, lobbies, cafeterias or any other area than has open access to workers or the public, and is not designated as a “construction area”, the area around the ladder is to be identified with barricades, ropes, cones, caution tape or another contractor employee to direct workers and visitor around the ladder work area.

6.9 Housekeeping

All materials shall be carefully stacked and located so as not to block aisles, doors, fire extinguishers, fire hose cabinets, eyewash stations, first aid stations, fixed ladders, electrical equipment, and stairways. Concrete forms, scrap lumber and all other debris shall be kept clear of work areas. Nails protruding from boards must be removed. Combustible scrap, waste materials and debris shall be removed from the building on a daily basis, preferably at the time of strip out. Overhead storage of debris, tools, equipment, pipes, ductwork, etc. is prohibited. No loose material shall be left in the area above suspended ceiling panels. Interior construction areas shall be kept clean, swept, mopped or HEPA vacuumed and all trash removed at the end of each work day. The work area shall be kept free from any potential tripping hazards. All ceiling tiles removed by the contractor shall be replaced immediately after the work is completed, in an undamaged condition. At all sites, no ceiling tile can be moved unless the Project Designate is notified and the HHS ceiling tile procedure, as outlined in the Asbestos Management Plan is followed. All adjacent areas and corridors shall be kept clean as per indicated in the HHS Infection Control guidelines.

6.10 Confined space

Before any confined space entry work, as defined by the Occupational Health and Safety Act and Regulations for Construction Projects and confined space regulations is performed, the Project Designate must be notified. All required safety equipment shall be provided by the contractor and shall be inspected and maintained by the contractor. The contractor is required to provide a written copy of their Confined Space Procedure, training certificates and space specific plan to the Project Designate prior to commencing confined space work. Before work or related work in the confined space is performed by workers of more than one employer, the lead employer shall prepare a coordination document to ensure that the program and space specific plan has been provided to each employer of the workers.

6.11 Overhead work

No overhead work shall be performed when, as a result of that work, the possibility of a falling object injuring any person exists. Relocation of staff, patients and visitors shall be accomplished prior to and maintained throughout the overhead work period. The contractor shall make this relocation to the Project Designate.

Contractor personnel are not permitted to crawl along duct work, cable trays, piping or other building structures, unless prior approval has been obtained by the Contractor Designate.

7. Working in Interstitial Spaces (MUMC Specific)

Due to the unique characteristics of the interstitial work environment at the M.U.M.C site, HHS has developed this information to augment and to clarify other HHS policy such as the HHS Contractor Safety Policy. The interstitial space contains both equipment and building services essential to the operation of the hospital and encapsulated asbestos-containing fireproofing. Strict adherence to safety protocols, work site conditions and asbestos management are required to prevent unplanned service disruptions in staff and patient care areas.

It is the expectation of HHS that all contractors undertaking work on HHS premises do so in full compliance with the Occupational Health and Safety Act and Regulations and HHS Policies and procedures.

7.1 HHS Man Down policy and Emergency Codes

Any worker entering or performing work in the interstitial spaces must be thoroughly familiar with the Man Down procedure and Emergency Codes that are available on the Front End Documents website.

7.2 Pre-inspection

Prior to commencement of any work, the contractor is to examine all areas and aspects of the proposed interstitial work areas and submit to the HHS Project Designate a record of findings including photographs, descriptions and locations of noted items for confirmation. To be noted are damages to sprayed fireproofing or encapsulation, holes or openings in fire separations, asbestos containing debris, lighting, water leaks, debris, missing decking, open electrical boxes, crushed or damaged ductwork, damaged insulation, faulty doors and hardware, etc. Damaged fireproofing locations are to be marked with orange flagging tape to enable follow-up repair. Should any of the noted damages be discovered during the course of the project, the HHS MRP or Project Designate shall be immediately notified so that appropriate corrective action can be determined.

7.3 Job site signage

Interstitial spaces that form part of a construction area must be posted and flagged to indicate that the area is out-of-bounds to persons who are not specifically authorized to enter this area. Such work areas are subject to O.H.S.A. Regulations for Construction Projects. A sign (available on the Front End Documents website) approved for this purpose is appended to this document and is to be filled in with project title, estimated dates, contractor contact names, phone numbers, HHS Project Designate name and contact info in the spaces indicated. The boundaries of the I.S. work areas above and/or below the primary footprint of the project are to be delineated with caution tape with approved signage with the approved sign attached at minimal intervals of 30'0 along the perimeter. Signage must be also posted at any shaft that might be used to access the construction area. Signage and tape is to be installed prior to commencement of any work in

interstitial or mechanical spaces and kept in place and maintained until the project is fully completed and accepted as such by HHS (see **Post inspections and sign-off**).

7.4 Access

Entrances/exits to or from the I.S. must not be blocked by construction debris or materials. Shaft spaces and entry points are limited in space and must be maintained for ready access in case of emergency. Where access is from a stair shaft, stairwells must not be blocked with materials or debris. Stair shafts are used by HHS staff and serve as building fire exits and must be maintained broom clean as a minimum. Doors to shafts serve as fire barriers and are meant to keep the I.S. secure and are to be kept locked or monitored at all times. The Contractor may, if desired, place their own locks or cores on shaft doors that are dedicated to the project at hand. Duplicate keys, or combination if a combination lock is used, must be provided to the HHS Project Designate, HHS Security and HHS Engineering. Shaft doors that have had contractor cores installed must be identified with a self-adhesive tag above the cylinder with the contractor's name. Contractors anticipating regular use of a shaft entry on an ongoing basis are to maintain tack mats at these locations. Workers are prohibited from entering interstitial and mechanical areas unrelated to the project to which they are assigned. All workers requiring entry to the interstitial space must have valid Green Card Training (See. Section 7.14).

7.5 Encasement precautions

Sprayed fireproofing that has been applied to the building structure contains asbestos fibres and has received a treatment of encasement paint to bind the fibrous material and prevent it from becoming airborne. This encasement material may be damaged during activity in the I.S. and must be immediately repaired and new encasement material applied to ensure the space does not become contaminated with airborne fibres. (Please see the AMP available on the Front End Documents website). Workers who are active in the I.S. are expected to make or arrange for such repairs when they occur and to be vigilant regarding the condition of the protective encasement. Measure to carefully wrap portions of the structure that may be subject to frequent exposure during a project with cardboard or other suitable material is recommended.

The encasement was applied decades after the initial installation of the asbestos containing fireproofing. As a result, there may be areas which have not been encased due to their location and accessibility. For example, the underside surfaces of trusses are not considered to be fully treated with encasement product and, as well, may have suffered damage due to previous installation of electrical conduit or careless installation of cable. Such activities may have resulted in fireproofing material being damaged in such areas with particles left to lie upon the gypsum barrier below it or possibly finding its way through any openings that may be discovered in this barrier. For this reason, and because the GWB layer also serves as a fire barrier, particular attention must be paid to the condition of the gypsum barrier and any holes or openings immediately covered and sealed with poly, tape or GWB (gypsum wall board).

Not all areas of the building have had the fireproofing encased: Shaft Nos. 36, 42, 45, 48, 56, and 68 are not encased. Also, Levels 5 and 6 in the building have not had fireproofing encased. Access to these areas requires, as a minimum, Type 2 PPE and related precautions.

7.6 Encasement product for use in making repairs

Encasement product for use in making repairs shall be provided by the contractor employed to do work on the premises. No alternate products such as duct tape, poly, cardboard or other wraps are acceptable. It will be the responsibility of the contractor supply and manage encasement product so as to ensure continuous availability for the life of the project. The specification and source are as follows:

Fibretech Encasement Sealer (F51), available from Environmental Coatings

Lag-Kote II Asbestos Lagging Encapsulante, Mfg. by Fiberlock Technologies, 800-342-3755

7.7 Gypsum Wall Board Barrier

As the GWB barrier is constructed of two layers of 5/8" GWB, a permanent repair must consist of an overlay of two layers of GWB of the same thickness. Holes that may occur during the course of demolition or new construction must, as a minimum, be promptly covered with poly and tape and kept sealed until a permanent repair can be made. It must be understood that these measures would be put into place only until permanent repairs can be made at the earliest opportunity. Large openings in the GWB barrier must be curtained or tarped so that the possibility of fireproofing particles migrating from the I.S. to other areas of the hospital is prevented. Pre-fabricated GWB inserts shall be used when removing existing ventilation outlets that penetrate the barrier.

The GWB barrier is not meant to be walked upon or to support heavy loads as underlying support may not be present. A worker's foot penetrating the gypsum board may result in injury to the worker and persons below.

7.8 Maintenance & Inspections

The contractor is expected to implement and submit to the Project Designate a formal plan for regular maintenance of the condition of the fireproofing encasement and the condition of the GWB barrier on an ongoing basis during construction activity. The plan must indicate the dates and frequency of inspections, records of any deficiencies discovered, who is completing the inspections, and who are doing repairs.

The contractor is expected to implement and submit to the Project Designate **weekly** reports for regular maintenance of the condition of the interstitial spaces, fireproofing encasement and the condition of the GWB barrier on an ongoing basis during construction activity. The Project Designate will provide the GC with a template for the weekly reports which indicate the date of the inspection, records of any deficiencies discovered, and who is completing the inspection. When the project duration exceeds more than 30 days, **monthly** inspections shall be completed. These inspections will be performed by the GC, the HHS Hazardous Materials Specialist and the Project Designate using the same template provided for the weekly inspections to complete the

report.

7.9 Housekeeping

As with any construction site, good housekeeping practices in the interstitial work areas are expected to be followed including regular clean-up and removal of construction debris and surplus materials, new materials kept organized, and pathways kept clear of obstruction and tripping hazards. Where metal decking must be removed, loose material must be stacked away from pathways and screws collected for re-installation. Metal decking must never be laid loosely over openings. In the event that access openings must be created through the GWB separation, openings must have barriers and ladders provided and secured to O.H.S.A. standards. The GWB barrier is not meant for pedestrian traffic and will not bear a worker's weight. Should a mishap occur and the GWB barrier becomes damaged in any way, supervisors must be notified immediately and a prompt repair must be undertaken. Such occurrences may cause injury to persons in the occupied level below. It must be emphasized that only HEPA equipped vacuums are permitted for use in the hospital, including within jobsites.

7.10 Warnings

Signage and caution tape that warn of asbestos activity must never be crossed by unqualified or unprotected workers, or removed by persons other than those who have placed them. Such signage is mandatory for asbestos operations such as work on the ventilation system or removal of fireproofing. When in doubt concerning the presence of such warnings, workers must leave the space and determine the reason for their presence. Persons who direct the installation of asbestos activity warning signage must ensure that each sign identifies the purpose and dates of the proposed activity and remove signage and caution tape immediately upon completion of the work and any air clearance that may be required. Signage approved by HHS is to be used for this purpose and is appended to this document.

7.11 Post-inspections and sign-off

Upon completion of all work within an interstitial space, HHS is to be notified of readiness for inspection prior to corrugated metal decking being replaced. Cleanliness, fire stopping, repairs to the GWB barrier, junction box covers in place and a general completion of all work will be reviewed. Decking may be secured in place only after HHS has inspected all areas below the decked walking surface and confirmed to the contractor that the area is defect-free. A final inspection will be arranged once the contractor has notified HHS that they have replaced all decking and all work completed.

As per the Contractor Management Guidelines, HHS will perform a final review of the interstitial area at the completion of the project. The review will consist of ensuring cleanliness of the site, checking that no damage to the asbestos encasement is present and that no other health and safety concerns are present. The inspection will be conducted by a member of Engineering, the Project Designate, and if available, a member of the joint Health and Safety Committee. The Contractor will be given a list of deficiencies to repair. If necessary, a second inspection will occur to ensure that the necessary items have been addressed. If, upon the second

visit, further items are noticed or repairs have not been made, a third inspection of the Contractor's work will not be performed by HHS. At this time HHS will contract a third party to remediate the remaining items at the expense of the Contractor.

7.12 Work on 5M and 6M levels

HHS must be notified of any work that must be undertaken on levels 5M and 6M prior to start of such work. Sprayed fireproofing on these levels has not been encased and additional personal protection and procedures are required to ensure that workers are protected and that contaminants do not migrate to lower levels of the building and do not contaminate patient care or staff areas elsewhere in the building. Proposed activity must be reviewed with the project MRP at least 5 working days in advance and approval to proceed secured. Please use the Asbestos Activity Notification form that is appended to this document to communicate intentions to the HHS MRP.

7.13 Radiation

The Diagnostic Imaging department on level 2 employs equipment that emits x-rays. Workers may become concerned when working in the interstitial areas directly above this equipment. Surveys of the interstitial space with detection equipment have indicated that radiation levels are very low and inconsequential. Workers having concerns may pursue this matter with their Project Designate for additional information. Lead shielding above the CT scanner rooms must not be disturbed.

7.14 Lighting

Lighting in interstitial spaces remains turned off unless requested to be turned on by a worker with Green Card Training who has submitted a request to Engineering for a specific area. In cases where a project area has been identified and lighting is turned on daily at 6:00am, Monday through Friday, lighting in the I.S. and shafts is programmed to turn off at 6:00pm nightly and on weekends to conserve energy. In the event that evening or weekend work is planned, the HHS MRP (most responsible person) or Project Designate for the project must be notified to make arrangements to have the lighting kept on in the work area.

7.15 Green Card Training

Any worker or person whose duties require them to enter the interstitial spaces, shafts or mechanical spaces must first attend the Green Card Training offered by Pinchin Environmental. Dates and times are available by contacting Pinchin's office at 875 Main St. W., Unit 11, Hamilton, Ont. L8S 4R9, 905-577-6206. The Green Card that is issued to a worker upon completion of the course is valid for two years, at which time a refresher course is required to maintain status. No person is permitted to enter the interstitial spaces without first receiving the Green Card Training course. The card must be carried at all times by the worker.

7.16 Interim inspections

HHS reserves the right to review the construction area at any time to ensure that applicable HHS policies and OSHA requirements are being followed. Inspections will also be conducted to verify that construction methods meet the HHS engineering department requirements. In accordance with O.H.S.A. Regulations for construction projects, the Supervisor responsible for the jobsite will be contacted by HHS personnel prior to entering the area.

7.17 Non-compliance

All work performed within areas designated by HHS as requiring conformance to HHS Asbestos Management Procedures shall be subject to penalty for non-compliance. Penalties shall be assigned to the General Contractor for non-compliance by the General Contractor and/or any of the General Contractor's Sub-Contractors. HHS will record in writing, photograph or video the instance of non-compliance and issue a "Notice of Asbestos Management Non-Compliance" stating the time, date, location and nature of the non-compliance.

The first instance of non-compliance shall result in a fine in the amount of \$1,000.00 being payable by the General Contractor to Hamilton Health Sciences. The second instance of non-compliance shall result in a fine in the amount of \$2,500.00 being payable by the General Contractor to HHS. The third, and any subsequent instances of non-compliance shall result in a fine in the amount of \$5,000.00 being payable by the General contractor to HHS per instance. Each penalty amount shall be levied against the next monthly draw, or subtracted from the balance of the holdback.

In addition, individuals who are found to be in violation of the HHS Asbestos Management Plan, HHS Policies or O. Reg. 278/05 will have their Green Card revoked, and will not be allowed to enter or work in the interstitial spaces until the worker attends an additional Green Card course and successfully obtains a new card.

7.18 Closing

The information included here is meant to supplement the procedures and practices outlined in provisions and documentation related to construction projects at the M.U.M.C. site, and in no manner increase nor diminish the force and effect of other applicable HHS policies. Documents specifically referenced include current versions of:

HHS Asbestos Management Plan - M.U.M. C. Site, Part "A" and Part "B"

Current M.U.M.C. Building Survey

Ontario Occupational Health and Safety Act and Regulations for Construction Projects, 2006

Regulations respecting Asbestos on Construction Projects and in Buildings and Repair

Operations 278/05 – made under the O.H.S.A

Occupational Health and Safety Act and Regulations for Health Care and Residential Facilities, July 2010

8. Construction Sites – Exterior

8.1 Roof access, roof areas

Large rock ballast and numerous openings throughout roof areas at the MUMC facility make roof top work particularly hazardous. Great care must be taken by workers requiring access to roof areas for their own safety, and Fall Arrest Training is required of any person entering these areas. Note that the permanent roof anchors install on the roof areas are no longer certified as fall arrest anchors. Testing can be carried out on select anchor points at the request and expense of the contractor, if required.

Protection of roof surfaces is also a serious concern, and any work planned to take place on roof surfaces must take into account a plan for protecting the waterproof membrane.

8.2 Cranes and Hoists

All contractor cranes and hoists used at HHS must meet government and other regulatory requirements and have current certificates available for examination as required. Cranes and hoists must be rated for the load to be lifted or moved. Safe working loads (rated capacity) shall be prominently displayed on both sides of the crane or hoist. Hoisting devices such as slings, chains, spreaders, grabs, etc., used in conjunction with hoists or cranes must be designed and fabricated to meet the job requirements. Swivel-type, self-catching safety hooks shall be used for the load hook.

All contractor personnel who are authorized to operate cranes or hoists are to be provided with annual training, by the contractor, and documentation of such training must be made available at the work site.

Contractors shall not be permitted to use HHS hoists or power apparatus.

Mobile cranes, including portable crane derricks, power shovels or similar equipment should not be operated within the distance as outlined in the regulations of overhead electrical power lines.

Crane lifts shall not be attempted over or adjacent to any occupied areas. Depending on the required hoisting activity, occupied areas may require evacuation of all occupants within the lift area prior to the proposed activity. If such work is necessary, it shall be coordinated with the Project Designate a minimum of 10 working days prior to the expected lift.

At MUMC, the use of hoisting equipment on the Emergency Ambulance deck structure is strictly forbidden. This structure is rated for a maxim gross vehicle weight of 9000 kg.

8.3 Helicopter hoisting

Any proposed use of helicopters to hoist, set, install or move equipment or materials must have prior approval from the Project Designate and HHS Security.

9. Referenced Documents are all available at the Front End Document website:

<https://www.hamiltonhealthsciences.ca/about-us/vendor-information/forcontractors/>