SFC / SOUTHCORE FINANCIAL CENTRE

Table of Contents

1.0 Purpose & Basic Requirements

The purpose of this document is to provide information on the requirements and procedures that the Tenant will adopt in undertaking their Leasehold Improvement works. Tenants and their appointed Design and Construction team, are required to give due attention to this Manual. The contents must be carefully noted and fully complied with to ensure the satisfactory completion of the Tenants Leasehold Improvement Works.

It should be noted that this document is intended to provide practical guidance to the Tenant, and that in all instances the terms of any Lease and Agreement to Lease will take precedence. Tenants should note that any contravention of the provisions in this Manual may constitute a breach of the Tenant's commitments under the Agreement to Lease and the Landlord or its Property Manager is entitled to exercise its rights accordingly.

Southcore Financial Centre (The Building) has been designed and certified to a LEED Gold (Core & Shell) standard. The Tenant is requested to undertake their Leasehold Improvement design and installation works in accordance with and in the spirit of, the high sustainability standards that LEED Gold certification requires.

For clarity, the Tenant is not required to achieve a LEED Gold certification for their Leasehold Improvement works, although a sustainable perspective is encouraged. However the Tenant is required not to impact the Landlords base buildings systems or areas in a manner that is contrary to the existing building LEED Gold (Core & Shell) Certification.

Further the Tenant is required to ensure and demonstrate that their Design and Leasehold Improvement Works do not in any way undermine or jeopardize the performance of the Base Building systems or other Tenants systems.

2.0 Definitions & Contact information

In the Tenant Leasehold Improvement Manual the following definitions shall apply:

2.1 "Demised Premises" shall refer to all that parcel of commercial/business premises in the Building which is to be or for the time being is tenanted to the Tenant, and which parcel is more particularly described in the relevant Lease Agreement, or any renewal thereof, entered into between the Landlord and the Tenant.

2.2 "The Building or Complex" shall refer to (a) the entire 26-storey, 671,000 square foot office tower known as 18 York Street and (b) the entire 31-storey, 710,000 square foot office tower known as 120 Bremner Boulevard comprising the Southcore Financial Centre located in Toronto, Ontario, Canada.

2.3 "Works" shall refer to any manner or form of the tenant Leasehold Improvement Works to be carried out during the Tenants Leasehold Improvement Period or at any time during the term of the Tenant's tenancy, whether by way of addition, variation or alteration to the Demised Premises or any part thereof or to the Landlord's fixtures and or fittings therein, and shall include electrical and mechanical works and or other related works for the purpose of such renovations, to be executed in or at the Demised Premises, and where use of external facilities is required, outside the Demised Premises with the approval of the Property Manager.

2.4 "Property Manager" shall refer to QuadReal who are duly authorized by the Landlord to manage the building.

BASE BUILDING CONSULTANTS	
Base Building Architect – Lavoie Inc	Tel: 416-875-2177
Base Building M&P Engineer – The Mitchell Partnership Ltd	Tel: 416-499-8000
Base Building Electrical Engineer – Mulvey & Banani International Inc	Tel: 416-751-2520
Base Building Electrical Engineer – Smith & Andersen	Tel: 416 848 2671
Stephenson Engineering Ltd - Structural	Tel: 416-635-9970

The contact details of the Building Property Management team are as follows:

Property Management Contacts:

General Contact Number Business Hours: 8:30 a.m. – 5:00 p.m.	Tel: 416-861-0322
Emergency Phone Number	**Tel: 416-861-9188**
QuadReal – Senior Property Manager	***Chris Tiessen*** Tel: 647-875-8499
QuadReal – Assistant Property Manager	***Shannique Cyrus*** Tel: 647-875-8493
QuadReal – Building Operations Manager	***Paul Giannou*** Tel: 416-673-7641
QuadReal – Operational Supervisor	***Jeff Pollard*** Tel: 647-875-8490
QuadReal – Property Administrator	***Emma Messum*** Tel: 647-875-8497
QuadReal Connect	Tel: 1-877-977-2262 Web: QuadRealCONNECT.Com Email:Service@quadrealconnect.com

3.0 Reservations

3.1 The Landlord and Property Manager reserves the right to modify, amend or add to this Tenant Leasehold Improvement Manual from time to time as the Landlord or Property Manager deems necessary or appropriate.

3.2 Any approval given by the Landlord shall not be construed as approvals by and for purposes of complying with the requirements or stipulations of the Appropriate Authorities. The Tenant is solely responsible to submit all necessary applications to the Appropriate Authorities for approvals and the Landlord cannot be held responsible for any claims, damages or demands which may arise from such submissions, approvals or the lack thereof.

3.3 Any approval given by the Landlord or their appointed representatives is based on good property management practice and is not to be construed as confirmation, certification or acceptance of the correctness, integrity and soundness of the structural, architectural, mechanical or electrical works of the fit-out or reinstatement works. The Tenant is required to engage appropriate consultants to ensure the correctness, integrity and soundness of the structural, architectural, mechanical or electrical works of the Leasehold Improvement or Reinstatement Works.

3.4 The Landlord and Property Manager reserve the right to fine ($1,400.00 per occurrence as of January 1, 2020) the Tenants Contractor and recover any consequential costs due to any failure to obtain the proper authorizations, or take the required precautions resulting in a false fire alarm being activated. It should be noted that City Authorities may issue false fire alarm fines. Further it should be noted that there may be a delay of up to or more than six (6) months for the City Authorities to issue a fine. The Landlord and Property Manager reserves the right to pass on these fines without time limitation.

3.5 The Landlord and Property Manager reserves the right to back charge the Tenants Contractor for failing in their duties as laid out within this document to maintain Landlords standards of housekeeping and cleanliness.

3.6 The Landlord and Property Manager reserves the right to request any work involving noise levels that are sufficient to result in the disruption of surrounding Tenants quiet enjoyment of their leased premises be immediately stopped and rescheduled to after hours.

3.7 All Works must comply with the approved design drawings and specifications. The Landlord reserves the right to, at the tenant's full cost, have the Base Building Consultants visit and review the Works at appropriate milestones during the project to ensure the Works are consistent with the approved design. It shall be the Tenant's responsibility to correct any work found not in compliance with the approved design. No deviation from plans and specifications will be allowed unless written approval is first obtained from the Landlord.

4.0 Leasehold Improvement & Reinstatement Requirements

4.1 Pre-requisites for Leasehold Improvement & Reinstatement Works

4.1.1 Prior to the commencement of Leasehold Improvement Works, the Tenant shall have:

a) Made payment to the Landlord for an agreed Leasehold Improvement Deposit or mutually agreed Bond;
b) Submitted to the Landlord approved indemnity and insurance policies;
c) Obtained from the Landlord all approvals of the Tenant's submissions as detailed in section 6.0 of the Tenants Leasehold Improvement Manual; d) Obtained from the Appropriate Authorities and submit to the Landlord a copy of all required approvals.
d) Accepted the handover of the Demised Premises

4.2 Leasehold Improvement & Reinstatement Works Logistics

4.2.1 Prior to the commencement of Leasehold Improvement Works, the Tenant is required to submit to the Landlord's Property Manager:

a) Requirements for delivery, unloading of materials and equipment
b) Methods of transporting the materials and equipment from the designated unloading area to the Demised Premises;

4.3 Hand Over of Demised Premises

4.4.1 Joint inspection of the Demised Premises will be carried out by authorized representatives from the Landlord and Tenant for handing over Demised Premises to the Tenant.

4.4.2 Upon the completion of the satisfactory inspection of the Demised Premises, the Landlord will provide a letter of acknowledgement to confirm acceptance by the Tenant of the Demised Premises for Leasehold Improvement or Reinstatement Works by the Landlord.

5.0 Design Guidelines

The Tenant is required to follow the general Design Guidelines within this section and the specific building systems related design guides for the specialist systems contained within Appendix A of this document.

Specialist building systems guidelines:

a) Mechanical & HVAC Systems
b) Electrical Systems
c) Electronic Security Management System (SMS)
d) Telecommunications Infrastructure
e) Under Floor Air Distribution (UFAD) System
f) Window Shade System

5.1 Architectural / Interior Design / Demising Wall

5.1.1 Office Entrance and Back Doors: The Tenant is to provide its own office Entrance doors within the Demised Premises to secure the Demised Premises at the Tenant's own cost and expense. The Landlord's fire doors (if any) are not allowed to be used as the Tenant's main door.

New Demising Wall between Tenants Suites:
2 layers of 5/8" drywall with 3 5/8" metal studs at 16" C/C with batt insulation from top of raised floor to underside of slab. Partition to be continuous below raised access floor to top of slab. Contractor to build an air grille on full length of partition to maintain air transfer. Detail to match existing demising wall on opposite side from Tenant to Tenant. This applies only for new demising partition up to public corridor.

New Demising Wall at Public Corridor with new door:
2 layers of 5/8" drywall to create with 3 5/8" metal studs at 16" C/C with batt insulation from top of raised floor to underside of slab. Partition to be continuous below raised access floor to top of slab with detail to maintain base building return air path form corridor to adjacent suite above the new door to be added. Contractor to review site condition to match detail of typical demising wall at public corridor. Refer to attached detail for concept.

New Door at Public Corridor:
Size and location clearance within corridor to meet the OBC requirements i.e. clearance space for door opening from door frame to wall.

New door at public corridor to be 3'-2"wide x 9'-0" high. Door and frame to be of solid wood with ¾ hr. fire rating. Hardware to be of mortise body with electric strike lockset. Card reader for Tenant Access to match base building standard and tie back to base building security system.

Contractor to confirm specs & dimensions to match existing door within public corridor.

5.1.2 Signage: The Landlord will provide a tenant directory to display the Tenant's name at and the respective floor levels in the main directory at the main entrance lobby of the Building. However, the Landlord shall determine the design and size of the directories.

5.1.3 Flooring: The floor finish of the Demised Premises is raised flooring utilizing a UFAD system. The Tenant is required to install suitable final floor finishes on top of the raised floor. All carpet adhesives must be LEED compliant and installation of any carpets on an occupied floor must be undertaken outside of normal business hours.

5.1.4 Exits to be accessible at all times with no exceptions: Tenant is to ensure that all exists are accessible at all times without any obstruction and within the limits of travel distance as required by Building Code.

5.1.5 Occupant Load and Egress Capacity: Tenant is to ensure that the occupant load and the egress capacity of exits are in accordance with the requirements of Building Code.

5.1.6 Fastenings: Tenant contractors are not permitted to mechanically fasten to window frames, fire-rated walls or exterior walls containing structural air/vapour barriers.

5.1.7 Internal Partitions: Internal wall partitions should align to the window mullions and / or be suitably capped so as to maintain the general aesthetics of the exterior of the Building. Metal stud frames are to be secured to the floor

and/or structural soffits.

5.1.8 Suspended Ceiling: Ceilings are to be suspended from the structural slabs. Mechanical and electrical services such as air-conditioning ducts, cable trays or sprinklers are to be independently suspended from the structural slabs. Under no circumstances, shall the mechanical and electrical services be suspended from the ceilings

5.1.9 Ceiling Access: Where ceiling boards have been provided by the Landlord, the Tenant is required to provide access manholes measuring 600mm x 600mm to be located below fire dampers, fire alarms, floor traps, variable air volume (VAV) boxes, isolators, telephone distribution panels, etc., for maintenance purposes.

5.1.10 Façade and Signage: The Tenant shall not erect or install any signage, furnishing, ornament or tinted film that is visible from the exterior of the building which, in the opinion of the landlord, is unsightly or changes the aesthetics of the façade of the Building.

5.1.11 Shades: To maintain the general aesthetics of the Building, the Tenant is allowed to use roller shades of manufacturer and colour only and as approved

by the landlord. The Tenant is advised to choose shades as approved by the landlord with the appropriate glare, heat and ultra-violet (UV) insulation properties to suit the Tenant's needs. Upon landlord's approval black-out shades can be installed behind the roller shades at the interior of the Building. Where roller shades have been provided and installed by the Landlord, these shall not be removed, and any other shades installed by the Tenant shall be placed at the interior of the Landlord's shades.

5.1.12 Tenant Equipment: Should the tenant install MEP equipment such as but limited to split unit compressors, the Landlord reserves the right to require the Tenant to provide treatment to conceal this equipment from the exterior view. Consideration of this requirement should be given during the Tenants design.

5.1.13 Waterproofing: Should the Tenant introduce areas within the Demised Premises which are subject to regular contact with water, the Tenant shall provide proper waterproofing to these areas to prevent the water from penetrating to areas outside the Demised Premises. A competent, specialist company must carry out all waterproofing works and warranties must be provided to the Landlord. The Landlord will also require the company to carry out a pond test to be verified by the Landlords representatives.

5.1.14 Door Hardware: All door locks installed by the Tenant, on both entrance and interior doors, must be keyed to the building master and sub-master keying system using building standard door hardware. The Property Management Office must be involved with all proposed keying changes or additions. **Outside locksmiths or lock manufacturers are not permitted to change the keying of any locks.** It is strongly recommended that the Tenant’s Contractor contact the Property Manager before purchasing a hardware system to ensure that it is compatible with the base building system.

5.2 Structural Design

5.2.1 Floor Slab Load: The Tenants design must take into account and not exceed the base building structural design and loading capacities. Details of equipment or furniture that may exceed the base building loading capacity including those proposed to be used during Leasehold Improvement or Reinstatement Works must be submitted to the Landlord with the proposed mitigation strategy for approval.

5.2.2 Penetrations: All requests for penetrations and openings through slabs, beams and walls are required to be submitted and obtain approval from Landlord prior to the works being carried out. The tenant will also submit a certification letter for such structural works/ penetrations, signed and stamped by a Licensed Professional Structural Engineer.

5.3 MEP Design

5.3.1 Base Building HVAC Systems: The Landlord shall provide the Base Building system. The Tenant shall be responsible to modify and extend the Base Building systems within their demise. The Base Buildings systems capacity should not be exceeded. Should capacity in excess of the Base Building systems be required the Tenant shall, at their own expense, install supplementary systems and equipment with the Landlords approval. The Tenant shall ensure and demonstrate that their design and Leasehold Improvement works do not in any way undermine or jeopardize the performance of the Base Building systems or other Tenants systems.

5.3.2 Thermostats: Thermostats are required to be relocated from the soffits / ceiling space to drywall partitions at the location beneath the ceiling level for ease of monitoring.

5.3.3 Testing, Adjusting & Balancing (TAB): In the event the Tenant requests the Landlord to re-balance the HVAC systems due to the layout of the Tenant's space, the Landlord reserves the right to charge the Tenant to re-balance the HVAC systems. The Tenant is also responsible to provide the Landlord a certified TAB report once their renovation works have been completed.

5.4 Plumbing Design

5.4.1 Should a dry kitchen / coffee area be required (subject to tapping availability), cold water and drainage can be connected to the piping provided next to each toilet, where available, within the Demised Premises or from such other tapping locations specified by the Landlord.

5.4.2 No plumbing work shall be carried out without the Landlord's approval.

5.4.3 Any commercial food use is required to have an appropriately sized grease interceptor or other device installed to prevent the discharge of Fats, grease or oils or other food solids into the municipal sewer. Guidelines stipulated in appendix B –

PW9.5 of Toronto By-Law 681 Food Service Enterprises and Environmental Code of Practice must be followed. For a copy of the by-law please contact the /Southcore Financial Centre property management office.

5.5 Sprinkler System

5.5.1 Where ceilings have not been installed by the Landlord, the Landlord shall provide a single layer of range sprinkler pipe with pendant sprinkler heads installed at an appropriate level in open plan concept. Pendant sprinkler will be installed without concealed plates. The Tenant is to extend sprinkler dropper pipes to suit its ceiling level and to install sprinkler heads at its ceiling with concealed plates. Any changes to the existing sprinkler layout will be subject to approval by the Landlord.

5.5.2 Where ceilings have been installed by the Landlord, the Tenant shall bear all costs associated with the shifting or addition of sprinkler and / or smoke detectors to accommodate the layout of the Tenants space. All related fire protection works have to be carried out only by the Landlord's designated contractor(s) but the Tenant shall be responsible for the cost of the contractor(s).

5.5.3 The relocation of any existing public address (PA) system speaker and fire sprinkler heads without the Landlord's written approval is not permitted.

5.6 Electrical Services – Low Voltage (LV)

5.6.1 Electrical distribution boards will be provided at the Demised Premises. The Tenant is to install its own metered electrical distribution system within the Demised Premises for its own requirements.

5.6.2 The Tenant is required to submit an Electrical Single Line Diagram indicating the Total Connected Load and Maximum Demand Load for the Demised Premises for the approval of the Landlord.

5.6.3 Electrical works must be carried out by a competent, qualified electrician and must comply with relevant codes and regulations. It is the Tenant's responsibility to deal directly with the Appropriate Authorities regarding the Leasehold Improvement Works.

5.6.4 The Tenant shall bear the cost and expense for any upgrading (without the Landlord being obliged to provide any upgrade) of power supply from the existing electricity provisions specified in the Tenancy Agreement.

5.7 EASUREMENT & VERIFICATION

The intent of Measurement and Verification (M&V) is to support energy management and identify opportunities for additional energy savings by tracking building-level and system -level energy use. It provides a diagnostic tool that can act as the foundation for energy conservation and utility savings initiatives.

BACKGROUND

Generally, the two largest end uses in a commercial office building are lighting and plug loads (equipment and appliances). These are also conveniently the energy end -uses that can be most easily tracked and analyzed on a per-tenant basis. Metering these end uses allows tenants to better understand how they consume energy and provides the tools necessary for ongoing benchmarking and optimization of energy use over time. As Jack Welch, CEO of General Electric once stated, “you can’t control what you do not measure”. Energy optimization may provide operational cost savings as well. Some building operators are now changing the way they do business: retail building operators, for example, typically charge their tenants for actual energy consumption rather than a pro-rated fee (typically incorporated into monthly lease fees). Tenants have been found to reduce energy consumption only if they pay for their actual consumption usage rather than averaged, pro-rated costs.

LEED® Canada for Commercial Interiors is a green building certification program that sets the benchmark for high-performance, healthy, environmentally friendly development in tenant spaces. LEED Canada-CI gives credit for offices that develop and implement an M&V plan, under “EAc3 Energy Use, Measurement & Payment Accountability”.

Bremner Office Tower is a candidate for LEED Canada CS 2009 Gold certification, and an integral part of its energy performance strategy is the implementation of an extensive digital metering and building control system. The following sections describe the existing metering infrastructure available at Bremner Tower and offer guidance for tenants wishing to take advantage of these systems for their own energy efficiency initiatives, M&V program or pursuit of LEED Canada-CI certification.

BREMNER TOWER METERING INFRASTRUCTURE

Bremner Tower has established a comprehensive central digital metering system. It can be broken down as follows:

Electrical

Base building metering separately captures all central cooling, heat rejection, HVAC delivery (pumps and fans), lighting and plug loads. To facilitate floor-by-floor metering for tenants, at least one metering point is required on each floor. In Bremner Tower, three points have been provided as there will be separate panels for HVAC, lighting and plug loads.

Mechanical

The central digital metering system also provides base building metering that captures all central heating, cooling, humidification, HVAC delivery, potable water and non-potable water uses. The option for floor-by-floor sub-metering of chilled water and hot water supply has been included in the design to accommodate full disaggregation of heating and cooling costs on a tenant-by-tenant basis.

Bremner Tower has set up the base building such that sub-metering can be measured for all potential tenants.
The sub-metering system is as follows:

Tenant Electrical Meters

Three electrical sub-metering points per floor are provided to effectively disaggregate tenant end-use for lighting, plug loads and HVAC. This scheme will allow for one tenant per floor to be separately metered for lighting and plugs.
Sub-meters will be provided as follows:

- Floor-by floor HVAC and one for each retail tenant
- One floor-by-floor point for lighting
- One floor-by-floor point for plug loads

Tenant Water Meters

Though these sub-meters are not required in the base building in order to meet LEED requirements, Bremner Tower has included two additional water meters per floor to properly disaggregate heating and cooling provided on each floor. Sub-meters will be provided as follows:

- Chilled water supply to each floor/retail tenant
- Hot water supply to each floor/retail tenant

IMPLEMENTING A TENANT M&V PROGRAM

Tenants wishing to track their own electrical and water consumption should discuss the logistics and develop an agreement with building management. M&V will be able to show energy related performance issues and identify the sources of problems in order to be able to develop energy saving strategies.
Tenants will need to plan for and implement a strategy to successfully achieve the intent and value of measurement and verification. Tenants should be aware that there is additional work involved in creating and implementing an M&V Plan. An engineering or energy management firm may be needed to determine how best to monitor the tenant's energy use and to identify the type and number of additional meters needed. During operation, an individual within the tenant company or a third-party organization would need to analyze the collected data and provide recommendations on how best to optimize energy consumption. Again, the fees to provide these services will depend on the size and complexity of the space, as well as the needs of each project. Some companies may have the technical skills and capacity to perform the above tasks in-house.
A five-step M&V procedure has been provided as a recommendation:

1. Simulate Energy Consumption

Firstly, it is important to perform a cost-benefit analysis of the various energy efficiency measures under consideration for your new office space. Understanding how energy use will be affected by the different lighting and equipment installed, and the operational procedures of that equipment will help to make informed decisions on how to design an energy efficient space.

2. Choose Metering Equipment

Depending on the simulated/estimated energy use patterns of the space, a different number of meters will be needed for each project. Determining the goals of your M&V Plan will also have an impact on the hardware needed. For example, one tenant may wish to meter lighting and equipment on separate meters; another may wish to include both of these loads on one meter. A third tenant may wish to meter different types or clusters of equipment on separate meters (e.g. IT server metered separately from tech centres, PCs and monitors).

3. Information Collection

There are several different ways to collect metered data. An M&V Plan should address how much data is needed to be useful for your purposes, and how this data will be collected. For example, one tenant may wish to perform simple manual readings at scheduled intervals, while another tenant may wish to have data collected and logged automatically by a digital metering system. Each of these methods has pros and cons which should be discussed during the planning process. As another example, some tenants may require billing-grade meters, whereas other tenants may only wish to track this data for internal use and do not require as complex and expensive meters as would be required for billing purposes.

4. Normalize Energy Consumption

Once your space is in use, it is important to revisit the simulated energy consumption values determined in Step 1. The estimated energy use of your space will need to be adjusted to account for actual operating conditions. For example, it is important to ensure that all of the equipment installed has been accounted for. It is also important to ensure that the operating hours used to calculate the estimated energy use reflect the true operating conditions of the space.

5. Benchmarking & Troubleshooting

The final step in the M&V process is to make good use of the data being collected. There are two ways in which this can be done.

Firstly, your space's energy use should be compared against known historical data for buildings/spaces of similar function. For example, uses can be "normalized" on a per-square-meter basis or a per-employee basis to provide a simple comparison of how your company/space ranks with others in your industry. Historical data may be available from corporate offices in other cities, from government organizations or even national surveys. Some companies have been known to make a competition out of this data and award prizes to the office within the organization that uses the least energy per employee.

Secondly, the collected data can be used to identify end uses that are consuming more energy than anticipated (from Step 4). This information can tip operators off as to which energy efficiency measures need to be analyzed further and optimized.

Simple values such as energy use per employee are good overall indicators of energy consumption in a space, but more detailed information is needed to identify what energy efficiency measures are performing well, and which ones are not. Regardless of the approach used, it is important to regularly re-assess benchmarks and consider updating your M&V plan as the use of your space evolves – whether due to changes in use patterns, upgraded equipment, or new internal energy goals.

ADDITIONAL INFORMATION

For tenants considering certification under LEED Canada-CI – or for those interested in learning more about M&V strategies and energy conservation initiatives – the following organizations offer resources and guidance:

Canadian Green Building Council, LEED Canada, http://www.cagbc.org/
Efficiency Valuation Organization, International Performance Measurement
& Verification Protocol (IPMVP), http://www.evo-world.org/

6.0 Design Submittals & Approvals

6.1 Information Sharing: A collaborative approach shall be adopted between the Landlord and Tenants design teams. Both the Landlord and Tenant teams will make all necessary technical information relevant to project design and construction matters mutually available to each other. The sharing of information will be achieved via a formal submittal process. Ideally both teams, to minimize technical problems, will use the same drawing platform and provide digital copies of all information.

6.2 Design Review Principles: The following will be agreed at the outset to make the design review process as smooth as possible:

a) Communication protocol
b) Single point of contact for Landlord and Tenant teams
c) Key design details proposed by Tenant

Formal reviews or "Approvals" (as opposed to data made available for information) will be kept to a sensible minimum. Items requiring approval will be scheduled out and progress with their production and review monitored by the respective teams.

6.3 As-Built Information Assets: All dimensions used for the preparation of the Tenant design should be based on As-Built dimensions of the demised Premises. The Landlord accepts no responsibility for the accuracy of the As-Built dimensions noted on the As-Built information assets and the Tenant shall be fully responsible for verifying all necessary dimensions for their design purposes on site.

6.4 Design Submittals: The Tenant will submit a full Fit -Out design and specification for Landlord's approval. The submissions will describe the general arrangement of the Tenant's Fit-Out and contain sufficient details to identify any proposals that;

a) modify the building fabric;
b) affect it's load bearing capacity;
c) alter the external appearance;
d) connect to the Base Building MEP services;
e) affect rent or value or enjoyment of premises by other occupiers of the building.

It is anticipated that the Fit-Out design will comprise of a number of submissions, which will be broadly grouped within the following stages:

a) Fit-Out design principles
b) Outline design, general arrangement plans and scope of works
c) Detail design, working drawings and specifications
d) Contractors' shop details (for information only)

Specifically, the following shall be provided:

a) Plans, sections and elevations of all internal layouts at an appropriate scale.

b) Reflected ceiling plans of the proposals including any fixtures and fittings within 500mm of the suspended ceilings. These drawings will identify proposed MEP proposals appertaining to internal:

- Lighting Layout
- Low Voltage Electrical Loads
- All modifications with additions to any installed systems
- Any provision for coffee making facilities, dining facilities and kitchens
- All modifications and additions to heating, ventilation, air conditioning and fire protection systems.
- Floor loading and associated calculations

c) Quality, surface finish and Colours of all materials are to be indicated on the drawings or described in a separate specification.

d) Health and Safety Information including:

- WSIB Documentation
- Appropriate Insurance Coverage, holding safe:

- 18 York Street: 18 York Street Holdings Inc., QuadReal Property Group Limited Partnership, QuadReal Property Group, G.P. Inc., and their successors and assigns.

- 120 Bremner: bcIMC Realty Corporation, bcIMC HOLDCO (2007) Inc and QuadReal Property Group Limited Partnership by its General Partner, QuadReal Property Group G.P. Inc., their successors and assigns.

e) Details of the Proposed Contractors.

f) Statement covering the installed plant and how it will interface with the Building Management System (BAS).

g) Statement identifying any implications on the maintenance of the Landlord's plant and equipment, and how the Tenant plans to maintain the works as covered

h) Schedule of works detailing the complete Tenant project including the dates of submission of documentation particularly the final O&M records and As-Built information assets.

The final Tenants designer's drawings are to be complete in all respects including full dimensions and they will demonstrate co-ordination with the Base Building structure and services.

Submittals will generally be issued with a formal transmittal sheet to the Landlords Property Manager and Project manager. The Tenant will submit one (1) hard copy and one (1) digital copy of all drawings and specifications to the Landlord.

Design submittals to be issued under cover of a transmittal sheet in the form attached at appendix E. A transmittal sheet must accompany all submissions to the Landlord.

The Tenant will issue the Landlord with copies of the following statutory consents acquired by the Tenant:

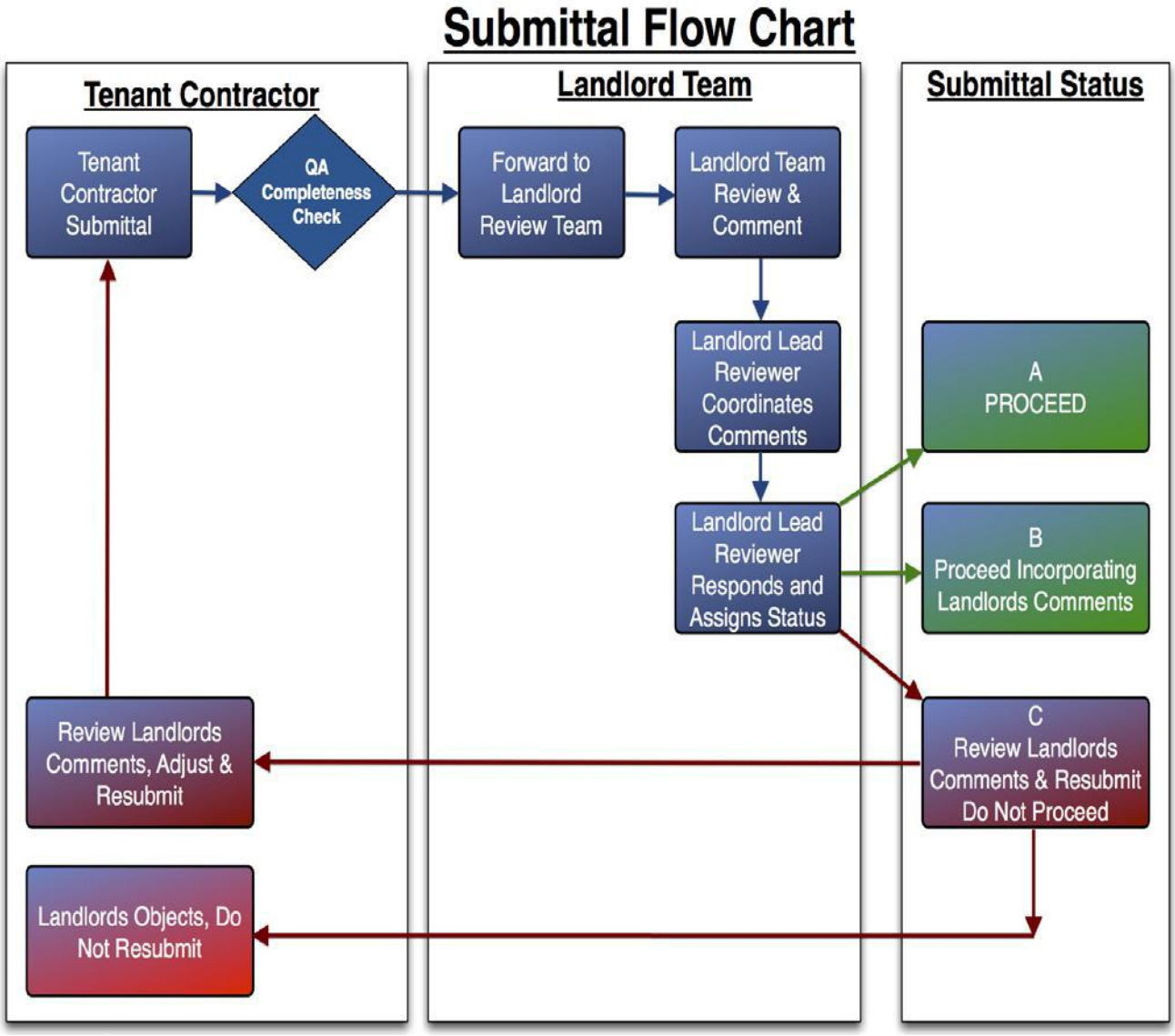
- Building Permit
- Statutory Approvals
- Fire Officer Certificates
- Utilities Documentation
- Copy of all Toronto permit applications to include building, plumbing, HVAC, sprinkler and maglock.

Design submittals shall be made in good time to allow agreement prior to commitments being made and in accordance with the schedule agreed between the Landlord and Tenant. In normal circumstances, any submission should be provided at least one month prior to the intended date for commencement of the work.

The Landlord will return the submittals, depending on the nature of submission, within 15 working days of receipt with comments and/or approvals (approval may be conditional). The review of submittals will follow the sequence set out in the flow chart below.

6.5 Design Approval: Approval may be given separately to each part of the submission and so each approval will necessarily be limited to the information contained in the submission to which it relates. The approval may be conditional, subject to the provision of further or alternative details as scheduled in the notice of approval.

Approvals granted by the Landlord do not relieve the Tenant from any obligations under the terms of the Lease or Agreement to Lease. Furthermore, Landlord approvals do not relieve the Tenant from obtaining any Statutory Authority approvals or undertaking consultations necessitated by the Fit-Out proposals.



7.0 Rules & Regulations for Leasehold Improvement & Reinstatement Works

7.1 Date of Commencement: The Tenant shall only commence the Works on the date as agreed by the Landlord.

Prior to commencement of Tenant Contractor work and access to the complex the following documents must be issued to the Property Manager:

- City of Toronto Building Permit.
- Notice of Project filed by the Tenant Contractor with the Ministry of Labour.
- Written approval of the Landlord to proceed with start of construction based on review of the Tenants design submittals.
- Proof of Insurance certificate. 18 York Street: 18 York Street Holdings Inc, QuadReal Property Group Limited Partnership, QuadReal Property Group, G.P. Inc and their successors and assigns.
- 120 Bremner: bcIMC Realty Corporation, bcIMC HOLDCO (2007) Inc and QuadReal Property Group Limited Partnership by its General Partner, QuadReal Property Group G.P. Inc., their successors and assigns.
- Tenant Contractor to provide proof of good standing with WSIB.
- Should the tenant elect to integrate with the base building SMS, the tenant must provide written acknowledgement to comply with Building Security Standard as outlined in appendix A, c) of this document.
- Any other required documents as itemized & requested by the Landlord.

7.2 Inspection of the Tenant Works: The Landlord shall be entitled but not obliged to inspect the progress of the Tenant Fit-Out Works at any time during the period of the Tenant Fit-Out Works and the Tenants shall permit such inspections and arrange for such inspection by the Landlord or his appointed representatives.

7.3 Notice of Completion: The Tenant shall inform the Landlord in writing of the date of the completion of the Tenants Fit-Out Works.

7.4 Tenants Contractors: The Tenant and his Contractors shall review and adhere strictly to the following:

7.4.1 Security Control – Keys: Only designated Contractor personnel will be issued common area keys. These keys will be held at the 18 York Shipping & Receiving Office and must be signed out and in on a daily basis. Re-keying costs for keys that are lost will be the responsibility of the Tenant. These costs will vary depending on the particular key lost.

7.4.2 Security Control: The appointed contact from the Tenant's Contractor must check in and out with site security daily.

7.4.3 Safety & Insurance: The appointed Tenant Contractor must be in good standing with the provincial Workers' Safety & Insurance Board.

7.4.4 Public Safety: It is the Tenant Contractor's responsibility to ensure that all Contractor staff and their Trades observe and comply with all applicable construction/safety regulations. Any additional safety regulations imposed by an authorized representative of the Landlord must also be complied with, immediately and fully. Should failure to comply result in any construction delay, the Tenant Contractor will be held responsible for all resulting costs.

7.4.5 Federal / Provincial Regulations: The Tenant Contractor's and their subcontractors must observe and enforce all construction safety measures as contained in the requirements of any federal/provincial legislature, regulations, municipal by-laws and requirements and the requirements of all other authorities having jurisdiction which may pertain to construction of the work, including building requirements. In the event of any conflict between any municipal by-laws, provincial or federal legislation, the provision that sets out the most onerous or stringent requirement shall apply.

7.4.6 Health & Safety: The Tenant Contractor must ensure that their staff and subcontractors comply with, but not limited to, all ordinances, the requirements in the Tenants Fit-Out Manual and the requirements of all Acts and Regulations with respect to health and safety including Occupational Health and Safety Act, RSO 1980 Chapter 321 (as amended) and Regulations for Construction Projects (as amended) made there under; and Workplace Hazardous Material Information System (WHMIS) Regulation, Ontario Regulation 644/88 including the following:

a) Before commencement of work and throughout the Contract, maintain on site and readily accessible to all those who may be exposed to hazardous materials, a list of all hazardous materials proposed for use on site or workplace together with current Material Safety Data Sheets (MSDS).
b) Ensure hazardous materials used and/or supplies on site are labeled in accordance with WHMIS requirements.
c) Provide detailed written procedures of safe handling, storage and use of such hazardous materials including special precautions, safe clean up and disposal procedures. Conform to Environmental Protection Act for disposal requirements.
d) Ensure that those who handle and/or are exposed to or are likely to handle or be exposed to, hazardous materials are fully instructed and trained in accordance with WHMIS requirements.
e) Construction Hoarding Detail & Requirements:

- Construction of the hoarding must contain drywall and metal studs, do-not fasten mechanically to floor or ceiling.
- Walls must be constructed from the floor to ceiling; it must not cover the fire alarm speakers, sprinkler heads or Security cameras. Contractor is to verify with the Landlord site dimensions in conjunction with lease line.
- Hardware for the hoarding must be sergeant lever set. Cylinder is to be provided to base building Locksmith for keying.
- Hoarding signage is to be coordinated through Property Management.
- Door trim is to be 2" wood. Baseboards are to be 3" white vinyl.
- Walls must be painted Sherman Williams Wild sage. Doors and frames are to be painted TWT SW 2227.

7.4.7 Working Hours Tenants Demise: Work other than hoisting of materials and noisy work may be carried out in the Tenants Works area from 7:30 am to 5:30 p.m, Monday to Friday. Any work needing to be done at other times must be specifically agreed upon, and arranged with the Property Manager, with the Tenant Contractor providing a minimum written notice of two (2) business days.

7.4.8 Working Hours Landlords Areas: All work not contained within the demising walls and exposed to the public must be enclosed by full height, one side plywood boarding painted to match the Building standard colour or in a manner approved by the Project and Property Manager. No work is to proceed in areas exposed to the public during business hours, these hours being the generally accepted business hours of 8:00 am to 6:00 pm.

7.4.9 Emergency Contact: The Tenants Contractor is required to inform the Property Management Office of names and telephone numbers for emergency contacts in case of an emergency having to do with the Tenant's premises.
EMERGENCY PHONE NUMBER 416-861-9188. The Emergency Phone Number must be clearly posted within the construction area.

7.4.10 Temporary Services: The Tenants Contractor is responsible for the distribution of temporary power and telephone service within the work area, if required during the construction period. The Tenants Contractor will be responsible for all cleaning and making good to all damaged areas.

7.4.11 Communications & Telephony Services: The Tenant is responsible to contract its own telephony and communications services at their own expense. In all cases, service availability and delivery can only be determined by those telecom service providers and the Tenant should contact well in advance of any move as it may take up to 8 to 12 weeks to fulfill the service request on a non-expedited basis. The building is currently serviced by Bell Canada, Zayo Canada, Telus Communications, Rogers Communications,

Aptum (Cogeco) Data Services and Beanfield. The Landlord must approve any other communication requirements or alternate service providers in writing. The Tenant and its contractors must make arrangements to have communications services installed to the premises and this is to be scheduled and coordinated with the Landlord**. The tenanted Telecom / Internet Service Provider will be the only exclusive party to have direct access to the Landlord's Communications Closets & Backbone Riser. Please reference the Lease for full details.**

7.4.12 Loading Dock & Deliveries: The loading docks 18 York Street and 120 Bremner are accessed from Bremner Boulevard. The facility is normally open for regular service from 8:00 a.m. to 5:00 p.m., Monday to Friday (Statutory and designated holidays excluded.) Dock regulations shall be followed or privileges may be suspended or withdrawn. No parking of trade vehicles is permitted. The Landlord assumes no responsibility for breakage, damage, theft or personal injury however caused. All deliveries of materials to the leased premises and construction site must be booked through the Property Management Office giving notice of at least two (2) business days. Large deliveries must be made before 8:00 am or after 6:00 pm, Monday to Friday or from 6:00 am to 6:00 pm on weekends and/or statutory holidays

7.4.13 Service Elevator Supervision Costs: The service elevator is located directly off of the loading dock facilities. The elevator cannot be taken out of normal service or delayed during the day between 8:00 am to 4:30 pm., Monday to Friday. The service elevator is available non-exclusively for small deliveries and Contractor use via dollies, hand carts etc. For deliveries after hours, (i.e. drywall, move-ins, etc.), booking of the service elevator is on a first come, first served basis and arrangements must be made providing at least two (2) business days' written notice through the Property Management Office. Building personnel are required to be on hand to supervise and the cost of same will be at the Project expense. Elevator service cost is $37 / hour. Any service elevator cancellation with less than one (1) full business day's notice of the start time of the booking will be subject to a four (4) hour labour charge to the Tenant. Trades are not to utilize regular passenger elevators and are restricted to the use of the service elevator only.

.

7.4.14 Tenants Works Housekeeping: All construction materials, tools, equipment and workbenches must be kept within the work area throughout the construction period. The security of tools/materials is the responsibility of the Contractor. All public lobbies, corridors, washrooms and stairs shall be kept clear of construction materials at all times. Floor mats must be laid down at all exits and must be vacuumed regularly to minimize dust. All forms of nuisance including but not limited to the following shall be controlled:

- Noise.
- Drifting dust.
- Noxious fumes.
- Excess fluids.
- Major impact on soffits, slabs and demising walls.
- Rubbish, debris and waste materials.

7.4.15 Waste Removal & Management: Corridors, exits, freight elevator lobbies and common areas must be kept clear at all times. Removal of all construction garbage is the responsibility of the Tenants Contractor. Arrangements must be made for service elevator time to remove construction debris to the loading dock. Because of limited space, the Tenants Contractor must immediately remove debris from the site by means of a non -marking rubber wheeled cart. The Tenants Contractor is required to allocate all waste into the appropriate designated waste stream compactors.

7.4.16 Removal of Construction Debris: Removal of Construction debris is the responsibility of the Tenants Contractor and will be scheduled between the hours of 6:00 p.m. to 6:00 a.m. Bins will only be accepted on site during these hours. Booking of the service elevator for down-loading must be coordinated through the Property Management Office with a minimum notice of two (2) business days. The Tenants Contractor is responsible for the most efficient use of the service elevator at the Landlord's discretion. A building security representative may be required, at the discretion of Property Management, after hours and the cost of same will be charged to the Tenant.

7.4.17 Flammable Waste: Waste of a flammable nature (i.e. paper) must not be allowed to accumulate, but must be removed from the site as quickly as possible.

7.4.18 Parking: Property Management does not provide parking for Tenants Contractor personnel and there is no special area reserved for this purpose. Vehicles parked illegally on the property are subject to tagging and/or towing at the vehicle owner's expense. There is a paid parking facility within the complex; however. Vehicles exceeding the maximum height of two meters (6'0 feet) are not permitted access.

7.4.19 Security of Tenants Demise: The Tenants Contractor is fully responsible for the physical security of the premises and the contents thereof throughout the construction period. The Tenants Contractors shall be restricted to the enclosed work area for all work and storage of all construction materials, tools and equipment. The Tenants Contractors shall in no way prop open and/or alter any Building security device/door without the prior written approval by Property Management. Should a door schedule modification be required, the on-duty Security Officer should be contacted.

7.4.20 Fastenings: Tenants Contractors are not permitted to mechanically fasten to window frames, fire -rated walls or exterior walls containing structural air/vapour barriers.

7.4.21 Storage & Disposal of Hazardous Waster Material: Construction generated hazardous waste shall, without exception, be removed from the property on a daily basis.

7.5 Protection of Base Building Elements: The Tenant and his Contractors shall review and adhere strictly to the following:

7.5.1 Windowsill Enclosures: Windowsill enclosures shall not be used as a step or for storage of materials, etc. Repairs for damages shall be the responsibility of the Contractor. The perimeter heating grill shall be covered with filter media during the construction period to prevent dust and debris infiltration.

7.5.2 Mechanical & Electrical Rooms: The Tenants Contractor shall be responsible for cleaning and making good any damages to the Mechanical and Electrical rooms. In particular, floor drains shall not be used for the dumping of garbage, etc.

7.5.3 Stairs & Access Areas: The Tenants Contractor is responsible for cleaning and making good damages to stairs and areas used for access during the Work. Note: stairs, lobbies and corridors damaged must be made good. Contractors shall not wedge fire doors in stairs open.

7.6 **Tie-Ins: The Tenants Contractor must obtain Landlord's permission to co-ordinate installation and any tie-ins to mechanical, electrical, fire protection and life/safety systems or controls. All terminations and tie-ins to Base Building Systems must be performed by the Base Building Contractor, at the Tenant Contractor's cost. A separate work permit request form must be submitted to the Landlord for their review & approval**

7.7 Fire Alarm: The Tenant and his Contractors shall review and adhere strictly to the following:

7.7.1 Sprinkler System: All changes to the base building sprinkler system must be coordinated with Property Management. The sprinkler control valve will be closed and the sprinkler line drained down each day until all revisions on each floor are completed. All sprinkler system components must be able to be made operable at the end of each day. Property Management must be contacted at least two (2) business days in advance of any proposed sprinkler work, and before commencing work on the site. All precautions must be taken to ensure false fire alarms do not take place. Charges will be levied against the Tenant Contractor's account ($ 1,400.00 per alarm, as of January 1, 2020). Sprinkler work requiring isolation of occupied areas must be completed during normal business hours (9:00 am to 5:00 pm, Monday to Friday). The Contractor must provide a fire watch person for occupied areas in accordance with the building fire plan. Work outside of these hours must be scheduled with the Property Management Office.

Upon completion of all Tenant Contractor work the system must be water pressure tested at 150 psi for two (2) hours. The base building engineering consultant must witness the test and send the test certificate to the Property Management Office. The sprinkler system will be reactivated once all tests have been approved. Please see appendix j for a schedule of all associated costs.

A temporary smoke detection system must be installed in the event that the sprinkler system and building smoke detection system become inoperable at the end of each day.

7.7.2 Fire Alarm Devices: **All final terminations and tie-ins to the base building fire alarm system shall be performed by the base building fire alarm contractor.** The Tenants Contractor is responsible for the cost and scheduling of this work. All new Fire Alarm devices to match existing installation.

Arrangements must be made with the Property Management Office prior to performing any work on the fire alarm system. Only building personnel are allowed to isolate the fire alarm panel when modifying, installing and/or

relocating any alarm devices (i.e. pull stations, communication speakers, fire alarm bells, etc.). The Tenants Contractor will be charged $1,400.00 per alarm, as of January 1, 2020 should there be an inadvertently caused alarm. The fire alarm system must be in an operable condition at the end of each day before 5:00 pm.

7.7.3 Specialized Fire Equipment: In the event a preauction system is implemented the Tenant is to ensure that said devices are maintained on an annual basis and a certificate of compliance is maintained and forwarded to the Landlord.

7.8 Drilling or Cutting Work & X-Rays: The Tenants Contractors may not drill or cut openings of any type in any part of the Base Building structure, except where such work is deemed to be necessary and is approved in writing by the Property Manager and the Base Building Structural Engineer, in advance. It is the responsibility of the Tenants Contractor to request this approval. Scheduling of this work must be given by the Tenants Contractor to the Property Manager in writing, five (5) business days in advance, complete with drawings detailing x-ray locations and all other affected areas prior to floor access. All x-ray shots must be done between the hours of 12:00 midnight and 5:00 a.m. The Tenants Contractor must ensure the floors and/or areas affected are marked on the provided work permit. The Tenants Contractor must also place signage at all access points to the affected area, including stairwells and elevator lobbies. The Property Manager must be provided a minimum of three (3) business days' notice should access into another Tenant space be required. All abandoned openings are to be made good by the Tenants Contractor, generally this will mean filled with concrete and guaranteed to be secure.

7.9 Welding, Open Flame & Hot Work Permits: Open flames for welding, cutting or other purposes are not permitted without the prior consent of the Property Manager AND the Tenants Contractor must obtain a Hot Work Permit, which are available from the security desk. Proposed work of this nature must be approved by Property Manager in writing with at least two (2) business days' notice before the work is to be done. An operational fire extinguisher must be available in the immediate vicinity of the work, in addition to those already present. The Tenants Contractor shall coordinate shut off or covering of the smoke detectors with the Property Manager. Should the Tenants Contractor neglect to obtain the proper authorizations or take the required precautions and a fire alarm is activated, resulting in a false alarm, the Tenants Contractor may be charged with all associated costs plus a fine of $1,400.00 per occurrence as of January 1, 2020.

7.10 Procedure for Cutting & Welding Operations: All cutting, and welding must be conducted in a safe manner, to prevent fires and to ensure that Building occupants are not inconvenienced. This procedure outlines how cutting and welding operations are to take place:

a) Any Tenant Contractor conducting welding, cutting, soldering or any other hot work must obtain a Hot Work Permit before commencing any work. With the exception of onsite maintenance staff, Hot Work Permits are only issued to Contractors with a valid work permit.

b) The Tenant Contractor will go to the Security Desk to obtain their Hot Work Permit. The Contractor will show Security their work permit number, and inform them of the location of their work, and the expected duration of their work. Security must also be instructed by the Contractor to ensure that the smoke detectors in the area of work have been bypassed before any work commences.

c) Once the Hot Work Permit has been issued, but before work has commenced, an inspection of the job site must be carried out by Security personnel, to ensure the area is safe and necessary regulations are being followed. The following must be done:

- All combustible items must be removed from the work area, at a distance of 7.5 meters (25 feet). This includes sweeping the floors of dust and debris. Anything that cannot be removed must be covered with a fire-resistant tarp.
- Any flammable liquids (oil, paint, solvents) must be removed from the work area.
- Any openings in walls, floors or ductwork must be covered with a fire-resistant cover.
- The Contractor must have a fully charged, working fire extinguisher at the hot work site. The Contractor must provide a 5lb ABC extinguisher at each welding site but must not use the building's fire extinguishers. If welding is taking place in more than one location at the job site, an extinguisher must be provided for each location.
- The Hot Work Permit must be prominently displayed at the welding site.
- If hot work is being conducted in an open area, where other persons will be passing by, protective fire-resistant curtains must be put up to prevent people seeing the arc or being hit by sparks.

d) Welders will operate their equipment in a safe, responsible manner. Cutting and welding apparatus shall be used in accordance with NFPA 51B (Standards for Fire Protection in use of Cutting and Welding Process) and the Manufacturer's guidelines.

e) While the work is being conducted, the workers must take all possible precautions to ensure that sparks and slag do not spread out from the work area. Frequent checks should be made to ensure that all is well in the area.

f) The workers shall ensure that excessive amounts of fumes and smoke are not generated by the work. If fumes and smoke begin to accumulate, the work should be temporarily stopped until the air clears. It may be necessary for the contractor to provide portable ventilation equipment to manage the fumes on the job site.

g) Under no circumstances is galvanized metal duct to be cut with an oxy-acetylene torch. All cutting of such material will be by way of saw or plasma cutter.

h) When the work is completed, the welder should remain for another thirty (30) minutes carefully inspecting the work area and adjacent areas for any

smouldering fires. If applicable, this inspection should extend to floors above and below the work area and adjacent rooms. Barring any fires, the welder will then sign the permit and return the permit to the Security Desk located in the main lobby.

i) Any safety guidelines on the permit must be adhered to. It is the responsibility of the Contractor to return their portion of the permit immediately once the job is completed. The Contractor portion of the permit must also be signed by the welder to confirm that the affected area has been inspected thirty (30) minutes after the job was completed. Security and Safety personnel will then complete an inspection of the authorized cutting and welding area two to four hours after the job has been completed by the contractor, his portion of the permit must be returned to the Shipping Guard. **Failure to return the signed portion of the permit immediately after the thirty-minute check will result in the penalties mentioned above.**

7.11 Water System Shutdowns: All requests for water system shutdowns (fire, line, domestic, chilled or condenser water, etc.) must be submitted in writing for approval to the Property Manager at least two (2) business days before the shutdown date. Please see appendix j for a detailed list of all associated costs.

7.12 Plumbing & Metering: Where plumbing is removed from the work area, all water supply, drain lines and vent connections must be removed from the ceiling spaces back to the core riser and properly capped. All meter reading units are to be located in Base Building riser rooms. Measurement Canada approved Meter Manager™ electronic sub-meters are to be used. The Tenants Contractor is responsible for all tie-ins, using Base Building Contractors, to the Base Building System and is responsible for any additional programming or connection required for the meter to be integrated into the Base Building System.

7.13 Carpet Installation: Carpet adhesives must be LEED Compliant. Installation of all carpet on an occupied floor must be completed after normal business hours.

7.14 Construction Noise: Work such as coring, chipping and drilling must be carried out during non-business hours with the prior approval of the Property Manager. The Property Manager reserves the right to request any work involving noise levels that are sufficient to result in the disruption of surrounding Tenants' quiet enjoyment of their leased premises be immediately stopped and rescheduled to after hours. Under no circumstances will the Property Manager, Project Manager or the Landlord be held accountable for any cost increases incurred by the Tenants Contractor for alternate scheduling of the associated work.

7.15 Daily Clean-Up: Tenants Contractors must ensure that corridors are left free of debris and must remove dirt and marks from corridor walls, floors, doors, etc., on a daily basis. Where special cleaning is required to maintain the corridor's neat appearance, such cleaning will be done at the Tenant Contractor's expense.

7.16 Site Meetings: The Tenants Contractor is to arrange and record, on a weekly interval during construction, site meetings to include representatives of the Tenants Contractor, Sub-trades, the Project Manager and Property Manager, in order to co-ordinate the work, deal with any problems, alter or arrange schedules and update work progress, etc.

The Remainder of this page has been intentionally left blank

8.0 Building Access Control Strategy Overview

8.1 Strategy Overview: Security & Life Safety Services manages access into the SFC complex by way of our site "Access Control Management Strategy" (ACMS).

The ACMS is based on the premise that only authorized persons are allowed access into the non public areas of the building and even while in the "public areas", persons require a legitimate reason to be there and must not be engaged in any type of Prohibited Activity (as defined by statute or building policy).

- NOTE: All persons working the building must be "authorized" to do so, whether they are in public, common or tenanted locations.

Authorized persons are those conducting legitimate business within the complex and who are in possession of one of the following;

- A valid pass card, or
- A valid Work Permit, or
- Their name is noted on a valid "Permission to Grant Access Form" on file with Security.

8.2 Access Protocol: To be followed by all Contractors and Trades.

j) All Contractors and Trades working at Southcore Financial Centre are required to apply for Work Permits and sign off on Contractor Guidelines Form 10.8.1. Contractor Guidelines document can be located and obtained on our website: www.southcore.ca

k) To obtain a Work Permit, please visit our website: www.southcore.ca/forms. A Work Permit Request Form can be submitted via the work order portal to SFC Property Management for review.

l) Upon approval a numbered Work Permit will be issued allowing the work to proceed and outlining the conditions which must be met by the Contractor and his/her personnel while at Southcore Financial Centre. Failure to comply with the stated conditions can result in the Work Permit being suspended or cancelled, and all work stopped.

m) Upon arrival at the site, all Contractor and Trade personnel will be required to check in at the 18 York Street Shipping & Receiving office located at the loading dock. The Contractor contact site person must produce a copy of the Work Permit (hard copy or via mobile device) so that they can be given a Contractor Access Card, which must be carried at all times while on the property. The pass must be presented to Security when requested, in order to illustrate that the person is authorized to be on site.

n) Contractors and Trades who are not in possession of a “valid” Work Permit will be denied access until such time as Security is able to verify that they are authorized to be on site.

o) Personnel found on site without a valid Work Permit or Contractor Access Card may be ejected from the site.

p) At the conclusion of your scheduled work, all personnel must check out at the Shipping & Receiving Office and return all assigned Contractor Access Cards to Security.

Note: *It is the Tenants Contractor / Trade’s responsibility to review the: General Restrictions, Safety Precautions, and Other Special Instructions & Fines for Life Safety Violations section of your assigned numbered permit.* ***ACCIDENTS, EMERGENCIES, OR DAMAGE MUST BE REPORTED IMMEDIATELY TO 416-861-9188.***

9.0 Information Asset Submittal on Completion of Works

Prior to occupation the Tenant will provide the Landlord with written confirmation of the following:

- That the Landlords insurers have been advised at least ten days prior to Substantial Completion.
- The increase in value of Landlords fixtures and fittings at least five working days before completion, for insurance purposes.
- That all statutory approvals are in place to permit occupation of the premises.
- That all fire prevention and life safety systems are fully operational.
- That all drains within the Tenants demised are clear to the nearest connection to the common drain.
- That no deleterious materials have been used during the fit-out.
- That all verification/ inspection with the city that include maglocks and fire bypass must be completed after business hours.

Following Substantial Completion, the Tenant will, within 28 days of Substantial Completion, (as certified by the Tenant's Designer/Contractor) of the Fit-Out Works, provide the Landlord with the following:

- One paper plus 1 digital complete set of As Built drawings, specifications for architectural / design, mechanical, electrical, communications, security and structural and other record material covering all aspects of the works carried out in a format to be agreed with the Landlord. All aspects to include; architectural CAD, structural communication, electrical and mechanical as built drawings.
- One paper plus 1 digital complete set of O&M Manuals in a format to be agreed with the Landlord.
- One paper plus 1 digital complete set of data confirming all MEP services that have been altered or have been re-commissioned in accordance with the agreed procedures. This will include a certified TAB report and certified Independent Commissioning Specialist report.
- One paper plus 1 digital copy of all statutory approvals.
- One paper plus 1 digital copy of all warranties (1 year materials and minor equipment, 5 years mission critical equipment).
- Copy of the Toronto Building Inspection Status Report to confirm that all permits associated with the work are closed by the City of Toronto.

Appendix A: Specialist Building Systems Guidelines

The following guidelines are provided for information and they do not relieve the Tenants Design/ Contracting team from any necessary due diligence or design effort.

a) Mechanical & HVAC Systems

Compliance

- Comply with all current relevant codes and local regulations having jurisdiction including but not limited to; O.B.C., N.B.C., N.F.P.A. 13, C.G.A. 149.1, C.S.A., O.W.R.A. 675/85, Canadian Plumbing Code, Ontario Hydro Code.
- Use materials that are C.S.A., U.L.C., code approved and C.G.A. or Ontario Hydro certified for the intended application.

Workmanship

- Employ a responsible foreman to supervise the work and retain for duration of construction period.
- Employ only skilled plumbers, steam fitters, sheet metal workers for the execution of the work. Workmanship shall be first class as regards to durability, efficiency, safety, and neatness of detail.
- Identify all visible piping fully exposed or in accessible spaces (i.e. lay-in ceilings) with legend lettering, direction of flow and field colour band as detailed in table below:

Legend & Flow			Field
Medium	**Legend**	**Arrow Colour**	**Colour Band**
Heat Pump Water Supply	H.P.W.S.	Black	Light Green
Heat Pump Water Return	H.P.W.R.	Black	Light Green
Condensate	Cond.	Black	Black
Cold Water	C.W.	Black	Light Blue
Domestic Hot Water	D.H.W.	Black	Dark Blue
Sanitary Sewer	San.	White	Black
Plumbing Vent Line	Vent	Black	Black
Radiation Heat Supply	HWS	White	Purple
Radiant Heat Return	HWR	White	Purple
Condenser Water Supply	CWS	White	Dark Green
Condenser Water Return	CWR	White	Dark Green

Appendix A: Specialist Building Systems Guidelines

a) Mechanical & HVAC Systems – Continued

- All valves shall have securely affixed to them a brass plate tag with embossed black numbers.
- Submit to the Property Manager a list of valve numbers indicating location and function.
- Engage the service of an independent balancing contractor to test, adjust & balance all HVAC systems.
- Flushing Procedures:

    1. Clean all new piping internally by flushing with clean water prior to the application of pressure testing and the start of chemical cleaning.
    2. Block off or isolate all systems that may be adversely affected by accumulations of dirt or debris weld or any other foreign matter.
    3. Thoroughly flush all piping clear of all loose foreign matter, following the flushing clean all strainers. Check all low points to ensure complete removal of loose dirt.
    4. Isolate and bypass and equipment's that may be damaged during the flushing procedure.

The Remainder of this page has been intentionally left blank

Appendix A: Specialist Building Systems Guidelines

The following guidelines are provided for information and they do not relieve the Tenants Design/ Contracting team from any necessary due diligence or design effort.

b) Electrical Systems

Compliance

- Comply with all current relevant codes and local regulations having jurisdiction including but not limited to; Ontario Hydro Code, Local Inspection, Ontario Building Code, and any other ordinance.
- Comply with the current edition ESA (Ontario Electrical Safety Code).
- Comply with all applicable C.S.A. electrical bulletins. Where specific bulletins are not named they are still considered an integral part of the Works.
- Grounding shall be in accordance with the requirements of the Ontario Electrical Code. Provide all grounding required regardless if not detailed on the Works drawings.
- Provide all materials with C.S.A. approval.

Workmanship

- Employ a responsible foreman to supervise the work and retain for duration of construction period.
- Employ only skilled and qualified Electricians for the execution of the work. Workmanship shall be first class as regards to durability, efficiency, safety, and neatness of detail.
- Arrange and pay for all permits and inspection fees required for the work of this trade. It is the responsibility of this Tenants Contractor to submit to the Electrical Inspection Department and/or supply authority any and all drawings and specifications required for permits, fees, approvals, examinations and services.

Appendix A: Specialist Building Systems Guidelines

The following guidelines are provided for information and they do not relieve the Tenants Design/ Contracting team from any necessary due diligence or design effort.

c) Electronic Security Management System (SMS)

SMS Overview

For the purpose of clarity, this section deals with **security systems** and not fire or life safety systems.

Tenants have the choice of installing and utilizing their own security system which could either be interfaced with and monitored by the base building SMS, or they have the option of having their own independent system monitored and supported by a third party provider.

In order for a Tenant system to be interfaced with and monitored by the base building SMS, they must comply with the provisions noted in this Technical Standards Document and enter into a service level agreement (SLA) with the Landlord for the monitoring and annual licensing of the system.

Alternatively, Tenants who operate their own electronic security system, which is not monitored by the Landlord are solely responsible for the management and operation of their respective systems, unless a written SLA is in place indicating that the Landlord will provide certain services and support in respect to the operation/management of the Tenant system.

As the installation of a Tenant security system is considered a leasehold improvement, Tenants must comply with the Leasehold Improvement Manual (LIM) as well as this Technical Standards document. When installing a new, or managing an existing system,

Tenants are free to select any base building approved security installation contractor listed in the LIM that they wish. However, the final connection of the Tenant system to the base building SMS, as well as its commissioning, must be completed by the Base Building Security Integrator (BBSI) in conjunction with the Base Building Security Contractor (BBSC), for a fee. Please appendix j for all associated costs.

Tenants with interfaced systems must also acknowledge that the standards noted within this document are subject to change from time to time, in order to keep up with evolving technology, and Tenants must undertake to ensure that their systems remain compliant with the current standard.

Appendix A: Specialist Building Systems Guidelines

c) Electronic Security Management System (SMS) - Continued

Unless an SLA is in place between the Tenant and Landlord in which the Landlord undertakes for a fee, to maintain the Tenants system (or component(s) thereof), the Tenant will be fully responsible for all service related issues and it will be their responsibility to notify their chosen base building approved security installation contractor when repair and/or modification services are required. Note that only the BBSC can access the base building SMS servers and all associated programming, for a fee. Coordination may be required between the two contractors. At the completion of each service call, the Tenant selected approved security installation contractor will provide the property management office with a copy of their Service Report, which describes the details of the service rendered.

Tenants are strongly encouraged to enter into agreements with the vendor of their choice, in order to provide either a Service and/or Preventative Maintenance agreement for their system. Failure to have such an agreement will result in service being provided on a time and material basis, when required. Tenants are fully responsible to maintain and service their security systems and associated components, at their expense.

SMS Strategy

The SFC Security Management System (SMS) is segmented into two main components dividing the system into two, one for the control of Tenant electronic security components and the other to control the base building security components including the SMS servers and network. This allows the Landlord the ability to have total control over the base building SMS, while also allowing Tenants to have full control over their own system without being able to access or impact any other part of the base building or other Tenant's SMS.

The intent of this SMS Technical Standards document is to standardize the installation and commissioning of all new security systems and related components. All new systems and related components shall adhere to the technical, installation and commissioning requirements indicated in this document.

Installation of all new systems and related components shall be planned and executed in such a manner as not to affect existing SMS functions or uses. Where an installation of a new SMS and its related components is anticipated to temporarily affect the existing SMS, temporary measures shall be put in place to maintain the current functionality until the new SMS can be completed.

Appendix A: Specialist Building Systems Guidelines

c) Electronic Security Management System (SMS) - Continued

Although it is not mandatory for Tenant security systems which are not integrated into the base building SMS to adhere to the technical standards indicated in this document for their own independent SMS, Tenants who intend to have their systems monitored by the base building SMS shall ensure that their systems are installed and commissioned to the requirements indicated in this document.

SMS Authorizations Required & Project Milestones Tenant Systems

A Work Permit must be issued by the Landlord, prior to the commencement of the Works. In order to apply for a Work Permit, the Tenant's Contractor must ensure that they are in full compliance with all requirements of the tenant Leasehold Improvement Manual. In addition, the following criteria must be followed:

Submission of Engineered Drawings Milestone

For tenants that elect to integrate with the Landlords SMS and Consistent with section 6.0 "Design Submittals & Approvals", Tenants Designer/Contractors must at their cost, submit engineered drawings for review by the BBSI and Landlord which clearly shows at a minimum the following:

- The location of all SMS devices being added or removed, including doors, access control devices, SMS panels, power supplies, etc.
- Cable and conduit runs, junction boxes and termination points.
- All electrical hook ups.

Shop Drawings Milestone

- The BBSI may, at times, request shop drawings for any project. The purpose of shop drawings is to provide technical details of the proposed work outlined in the engineered drawings.
- Prepare and submit for approval one emailed electronic set of clearly identified shop drawings and for such items as the BBSI may request. The term "Shop Drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided to illustrate details of a portion of the Work.

Appendix A: Specialist Building Systems Guidelines

c) Electronic Security Management System (SMS) - Continued

- Shop drawings shall consist of but not limited to the following:
    - A title page that clearly identifies the project name, address and contractor.
    - Proposed wiring diagrams of all components and their interconnection. Refer to the SMS Drawing Standards document for details.
    - A site-specific schedule of proposed product and control panel cut-sheets showing model numbers, physical dimensions, mounting method and location referenced to the engineered floor plans. Should the cut-sheet show multiple model info, the appropriate models selected for use shall be identified.

    For all equipment show:

        - General appearance including external dimensions.
        - Voltage & current ratings.
        - Control and wiring details, including mounting location.

Commissioning

- Commissioning shall be performed, for a fee by the BBSI. Commissioning shall take place at least two times:
    - At the rough-in completion stage, prior to the closing of any confined spaces, walls and ceilings containing any component of the SMS including conduit, junction boxes and mounted panels. The Tenants contractor/designer must provide the BBSI and the Security & Life Safety Services (through the Landlord Project Manager) with 10 days notice, so that a partial verification/commissioning of the work can take place.

Appendix A: Specialist Building Systems Guidelines

c) Electronic Security Management System (SMS) - Continued

- At completion and prior to it being connected to the SMS, the Tenant system must be commissioned to ensure compliance with this SMS Technical Standards document. Any work that does not meet standards or fails to pass the owners commissioning/inspection process will not be interfaced with the building SMS. If this occurs, any deficiency must be corrected to ensure that the work is fully compliant prior to it being connected to the SMS.
- Deficiency re-inspection(s) shall be chargeable and shall take place as long as deficiencies still exist.
- The Tenant will be invoiced accordingly for the commissioning of their system/devices by the BBSI.
- Testing and verification shall also include system and a component manufacturer recommended testing and verification procedures.
- All redundant conduit, wiring and devices shall be decommissioned and removed.
- Prior to decommissioning and removal of conduit and cables:
  - Plan and coordinate all work with the BBSI of the Landlord.
  - Verify that the removal of each conduit, wiring and device cable will not affect the performance or integrity of the remaining systems.
  - Trace each cable end to end prior to removal to ensure the removal of only intended cables.
  - All as-built drawings MUST be updated after removal of conduit, wiring and devices.
  - In the event of accidental or unintentional removal of conduit, wiring or device that is not slated for decommissioning and removal, reinstate these as per the standards set out in this document.

Appendix A: Specialist Building Systems Guidelines

c) Electronic Security Management System (SMS) - Continued

- After the decommissioning and removal of conduit, wiring and devices, verify that this work did not affect the performance or integrity of the remaining systems.
- Prior to removal of cabling, identify all existing non-active cabling (as well as active cabling to remain), and verify the location and extent of removal. Tone out cables to ensure the intended cables are decommissioned.
- Dispose of all removed debris on a daily basis.
- Make good all Fire Stopping and Waterproofing where Fire Stopping and/or Waterproofing has been disturbed during cable removal, or where Fire Stopping and/or Waterproofing was non-existent.

As-Built Drawings

In addition to meeting the requirements of section 10.0 “Information Asset Submittal on Completion of Works”, at the completion of the project, the Tenant’s Contractor/Designer will provide a complete set of As-Built drawings (CAD drawings as well as hard copy) before the work order is closed. Failure to provide the required As-Built drawings may result in the system being disconnected from the base building “head end” SMS.

- The BBSI shall update the base building As-Built drawings for the Owner, using information from the Tenant’s As-Built drawings.
- All new installations and/or modification(s) of existing SMS related conduit, wiring and devices shall be recorded on as-built drawings.
- As-built prints/plots shall not contain markings or corrections by hand (i.e. marker, pen, pencil, etc.).
- All As-Built drawings shall be soft copy AutoCAD format on USB stick as well as printed hard copy. All soft copy of As-Built drawings shall be of the latest release of AutoCAD software.

Appendix A: Specialist Building Systems Guidelines

c) Electronic Security Management System (SMS) - Continued

- Final as-built drawings to include but not limited to the following:
    - All revisions made to the drawings during construction. All approved changes.
    - Routing of all main and intermediate backbone wiring.
    - Location of all peripheral devices including all associated labeling.
    - Location of all head end and intermediate active and passive equipment.
    - A matrix complete with a list of all head end and intermediate; active and passive equipment. The matrix shall identify name, model, capacity including but not limited to ports, expansion slots, memory, storage, etc

The Remainder of this page has been intentionally left blank

Appendix A: Specialist Building Systems Guidelines

The following guidelines are provided for information and they do not relieve the Tenants Design / Contracting team from any necessary due diligence or design effort.

d) Telecommunications Infrastructure

A complete communications raceway system is installed in the communications closets. The raceway system is terminated in the main telecommunication room, located on Level P1, permitting connection to off-site networks through a service provider of choice. Access to the vertical raceway system is only under specific approval of the Landlord and only upon receipt and review of the plans and specifications provided by the Tenant to the Landlord. Where possible, the Tenant shall use the base-building fibre and copper infrastructure supplied by or installed by the Landlord.

- 18 York - All base building fibre communication is via the east riser
- 18 York - All tenant fibre communication is via the west riser

- 120 Bremner - All base building fibre communication is via the south riser
- 120 Bremner - All tenant fibre communication is via the north riser

The Tenant must provide a statement of work or other written documentation, acceptable to the Landlord, which indicates use of building infrastructure, raceways, sleeves or conduit by their telecommunication provider. The Landlord reserves the right to approve the use of or assign the sleeve location of any additional cabling for use by the Tenant or installed on their behalf by their telecommunications provider. All costs are the responsibility of the Tenant. The building entrance ducts permits both fibre optic and copper-based telecommunication carrier services to enter the building from multiple service providers from two sides of the building (diverse entry). The Main Telecommunications Room and Carrier Point of Presence Rooms will be connected to a building communications pathway riser system servicing all floors of the building for vertical transport of the building backbone cabling requirements by the Tenant and its service provider. The Tenant is responsible for installing all necessary communication cabling and equipment from the incoming service entrance to its floor.

For tenants that elect to integrate with the Landlords telecommunications infrastructure and Consistent with section 6.0 “Design Submittals & Approvals”, the Tenant shall provide plans and specifications and working drawings to the Landlord for the Landlord’s review and approval. Consistent with section 10.0 “Information Asset Submittal on Completion of Works”, the Tenant’s Contractor will provide As-Built plans upon completion and acceptance of the project by the Landlord. Lobby level and Level 2 retail areas are to be reviewed on a case by case basis. All wiring in the raised access flooring system (i.e. telephone and data communication lines) must be completely enclosed in conduit or in the raised access flooring system and is subject to Appendix 1.

Redundant, obsolete or abandoned cabling must be removed back to source (as required by the National Electrical Code). Tenant shall provide to the Landlord evidence the Landlord reasonably requires confirming compliance by the Tenant with this obligation, and as required from time to time.

Appendix A: Specialist Building Systems Guidelines

The following guidelines are provided for information and they do not relieve the Tenants Design/ Contracting team from any necessary due diligence or design effort.

e) Under Floor Air Distribution (UFAD) System

In addition to providing a corridor for the distribution of building services, the raised access flooring in tenant spaces performs a critical role in air distribution and functions as a key component of the sustainability / LEED strategy for the building. The raised access floor serves as an Under-Floor Air Distribution system (UFAD*) for the tenant space and acts as the supply air plenum to deliver conditioned ventilation air throughout the tenant premises by releasing air through adjustable terminals and diffusers at floor level and returning air through high level grilles to the mechanical room at the core. This system is capable of providing quiet, comfortable, effective, user adjustable, and energy efficient ventilation in the work environment. The tenant's fit-up work must observe a number of important considerations for the air distribution role of UFAD system to work as designed.

The UFAD system on each floor has been designed, installed and commissioned to reach its intended operating parameters only with the addition of tenant finishes. The manufacturing and installation tolerances of the raised access floor product necessarily result in small gaps between panels. In order to permit periodic access to the floor plenum for installation or reconfiguration of services, joints between floor panels cannot be permanently sealed. Despite the nominal size of the spaces between tiles, the cumulative joint length over the area of an entire floor is a large figure when considered in aggregate. Although the air escaping through floor panel joints is reaching its intended destination, the leakage rates of the UFAD system without tenant finishes are too great to support controlled air distribution.

The UFAD system consists of:

- Air handling equipment,
- A segregated high-pressure supply air plenum under the mechanical room floor,
- Under floor temperature mediation ducts,
- Supply air plenum under the access flooring system,
- Access flooring (Carpet, Tile, Floor Panels, etc.)
- Miscellaneous sheet metal and sealant closures at perimeter of the access floor system,
- Terminal devices such as utility and electrical boxes and distribution
- Floor powered and manual diffusers installed in the access floor system,
- Certain BMS system components, including air pressure sensors within the floor plenum
- VAV boxes at the perimeter windows
- Ducting with adequate provision for return air.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Common Problems in Design & Construction – Recommended Information

The floor air supply and return path can be negatively affected by:

- Adding partitions under floor, blocking even air pressure distribution to all areas.
- Adding partitions and insufficiently sized transfer ducts above the ceiling, inhibiting or blocking the return air path back to the floor's compartment unit.
- Blocked sheet metal ducts: Tenant Contractor omits to remove temporary plastic coverings
- Gaps in sound proofing seals at the window mullions
- Improper positioning of floor diffusers (e.g. under furniture or equipment)
- Improper quantity or distribution pattern of floor diffusers
- Improperly setting of VAV dampers
- Leaks in the floor plenum caused by:
    - Floor finish gaps which are not sealed
    - Utility box openings not sealed,
    - Flooring under millwork, appliances or office equipment not sealed
- Failure of Tenant Contractor to seal floor joints under Tenant partitions.
- Failure of Tenant Contractor to realize that access floor tiles are sealed airtight with caulking where the access floor meets the outer perimeter sheet metal septum, columns, elevator lobby walls, the mechanical room perimeter and the core walls. These tiles are not to be removed under any circumstances. If access is required under the floor at these tiles, remove adjacent tiles to gain access.

The following section of the manual provides further information on these types of issues.

Ontario Building Code Considerations

It is important for the Tenant's design and construction team to realize that the space below the access floor panels of the UFAD is a supply air plenum. Therefore, no devices, materials, or systems may be placed with in this space, that do not meet the flame spread and smoke developed limitations of the Ontario Building Code (or other standards referenced therein) for such a space. Tenants are required to ensure their Contractor only uses materials and sealants which are non-flammable, plenum rated and Code compliant.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System Continued

Camino Modular System

18 York and 120 Bremner has installed a Camino Modular Raised Floor System. The Tenant shall review Camino Modular system manual with respect to the access floor tile installation and maintenance. Care must be taken to not exceed load restrictions with respect to storage and movement across access floor. This must also be reviewed and taken into consideration by Tenant construction crews to avoid damage which will be the Tenant's responsibility to repair.

Special Access Floor Precautions

- Use the appropriate lifting device to remove the panel from the floor. The use of screwdrivers, pliers or other objects to pry or lift panels is not recommended and should be prohibited.
- Every precaution should be taken not to disturb the level adjustment of the support pedestals, and the squareness and position of the stringers while the floor panels are out of the floor system. Only the minimum amount of panels are to be removed, if long rows are required to be removed then one panel every 20 ft should be left in to retain the access floor grid integrity.
- When accessing the floor, lift the panel clear of the access floor system and lay the panel down top side up and out of the way. To replace the panels place the panel straight onto the pedestal head.
- Always make a final check to see that panels are correctly in place, level and secure to avoid rocking panels.

Partitioning- Design Criteria

Partitions within the raised floor plenum will not be approved by the Landlord, except in special circumstances, and is not encouraged because it will interrupt the continuity of the supply air within the plenum, preventing or severely restricting air movement into the enclosed plenum below the acoustically segregated space. As a result, all Multi-Tenant Floors where demising wall are provided by the Landlord, has been built with security mesh as the separation within the floor plenum.

At certain offices, meeting rooms, and other tenant spaces where a high degree of acoustic separation between spaces is desired, the tenant may wish to take measures within the raised access floor plenum to attenuate the flanking sound path below the floor. This poses special challenges that must be addressed by the tenant and may require the Tenant engage the services of an acoustical consultant.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

In addition, partitions in the plenum space may require relocation of services such as the UFAD floor pressure sensors, temperature mediation ducts and zone electrical boxes to maintain their functionality. If acoustic partitions in the plenum are considered unavoidable on a limited basis within the Tenant's design, tenant work will require installation of dedicated air handling devices to ensure air circulation into the segregated portion of the plenum. Material selected must be suitable for installation in the supply air path and therefore shall not be a material susceptible to shedding fibers or particles into the air.

Camino Acoustic Plenum Divider System allows air to pass between zones while maintaining acoustic separation

Tenant Floor Finishes: Carpet Tile

The UFAD system design anticipates that a non -permeable finish such as carpet tile will be installed over the access floor system as part of the tenant's fit-up work and that this finish will cover joints between floor panels, blocking air flow from under floor plenum into the tenant's space. The raised access floor system in conjunction with the tenant's appropriate floor finishes, correctly installed, will result in a minimal level of air leakage between panels and permit the control of ventilation rates and temperature throughout the floor.

As noted above, floor finishes need to be non-permeable in order to cover joints between panels and restrict air flow between floor panel joints. Most carpet tile products are manufactured with a secondary rigid backing that meets this requirement; some carpet roll goods are also available with a rigid backing similar to that used to back carpet tiles. Conventional carpet roll goods are not suitable for blocking air flow at joints in the access flooring and do not permit removal of access floor tiles for maintenance and services installation. If in doubt about whether the secondary backing of a carpet or carpet tile product is permeable, a good rule-of-thumb criterion would be to determine whether the backing provides a moisture barrier to the product in which case it may be considered impermeable.

In order to restrict air flow at access floor panel joints, carpet tile installations must be laid out such that joints between tiles are offset from joints between floor panels. The carpet tile layout should start with a "half-stagger" condition with the first tile laid centered on a four-way intersection between panels. It is likely that finish materials in tile format will be sized to a different module than the floor access panels and therefore finish joints will occasionally coincide with access floor panel joints. Where this condition occurs, or where carpet tile or rigid backed roll goods joints fall within 50 mm parallel to an access floor panel joint, the floor panel joint shall be sealed with a removable non-flammable sealant compound or with a non-permeable, non-flammable tape. Joints between carpet tiles where they cross access panel joints create a negligible opening through which leakage is insignificant and therefore not a concern.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Tenant Floor Finishes: Hard Floor Finishes

Hard (and therefore impermeable) finishes such as wood flooring, ceramic tiles, stone tiles, and similar products can be used as finishes for raised access flooring, either as factory applied finishes to the panels or as field applied material. In the case of the former, the tenant would need to replace the base building floor tiles with new prefinished tiles or modify the support system by lowering support pedestals and adding metal stinger members, with the addition of full elastomeric gaskets between pedestals to completely seal joints between floor access panels.

In the case of field applied hard finishes, the tenant would need to have the access floor system modified to lower the height of the pedestals as required to permit the required floor finish build-up while maintaining the intended finish floor elevation. While this method would successfully cover and seal joints in the floor tiles, it would prevent removal of floor tiles for service access and therefore any system components located in the plenum below that require access for maintenance or by Code will need to have special air-tight access panels installed in the finishes / access flooring directly above. Therefore, prefinished tile joints which are grouted, the Tenant shall provide means such as access hatches to reach mechanical/electrical/control devices under such areas.

Hard finish systems of the field applied type must not be bonded to the access floor system and must permit freedom of movement at joints between tiles to prevent cracking of finishes. Polyethylene sheet plastic is a commonly used material for creating a bond-break to control cracking of finishes over discontinuous substrates.

The bare access floor shall be lowered approx. 1” and a ½” cement board applied with staggered seams prior to the field application of hard surfaces. The hard surface is then applied to the level of existing carpet finish.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Floor Panels – Factory Applied Finishes: Camino SC Panel Stone and Resilient Series with Air Leakage Gasket

- Panels shall consist of hot dip galvanized top steel sheet and formed steel bottom pan encasing a cementitious treated composite fiber core material.
- Finish the surface of floor panels with an engineered stone or resilient covering material. The type, colour and pattern shall be selected from manufacturer's standard.
- The engineered stone and resilient covering material shall have an applied trim condition that is sealed to the tile, and mechanically located in place. Glued or pressure fit trim is unacceptable
- SC Series Stone panel system shall include a stringer with air leakage gasket and the system shall achieve a leakage rate of less than 0.10 cfm/sf with an under-floor pressure of 0.05" wg.

Floor Air Diffusers

The basis of a UFAD design is that there will be a slight positive air pressure at the manual diffuser locations. The tenant design team should consider diffuser locations carefully to ensure occupant comfort. It is important that they refer to the mechanical drawings and specification for the additional contribution of the VAV boxes and dampers located at perimeter windows.

The manual floor diffusers, even when fully shut, have leakage which is expected. When closed, manual floor diffusers have a leakage rate of ~8-10 cfm per unit. This ensures the space is always receiving ventilation and is consistent with the overall engineering specification. Floor Diffusers will not be effective if located under equipment/printers/office furniture and must be relocated by the Tenant to open areas as needed.

Note: Full Floor Tenants: At Turnover, the Landlord will provide diffusers at locations and to a quantity appropriate for the open layout at Turnover. Full-floor Tenants may add diffusers and relocate existing diffusers up to a maximum of 1 diffuser per 100 SF usable, with the approval of the Landlord.

Note: Suites on Multi-Tenant Floors: At Turnover, the Landlord will provide diffusers at locations appropriate for the open layout at Turnover and at the maximum number permitted for the design of that multi-tenant floor suite. The Tenant may relocate the diffusers to suit their Tenant fit -up layout but may not add/delete diffusers without the prior approval of the Landlord.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Round Diffusers: AirPath 180 Vortex Personal and VAV Control Swirl Diffuser

Diffuser shall be designed for supply into the space with maximum air flow of 80 CFM at a plenum pressure of 0.05" W.G. Diffuser shall be 224 mm (9") diameter and be complete with dirt collection basket and manual adjusted flow regulator damper to allow user to control air flow. Diffuser shall have an integral thumb slider to enable easy adjustment of personal air flow requirements. Diffuser shall match look of electrical floor box and be interchangeable in same cut out hole. Diffuser shall have ability to add a low voltage actuator and internal set screw adjustment to increase output to 110 CFM at a plenum pressure of 0.05" W.G. Diffusers shall have integral air seal gasket to maintain air tightness in cut out panel.

Existing Perimeter Seals, Penetrations in Structure & Floor Access Panels

Just as important to the functioning of the UFAD system is the maintenance of the existing perimeter seals to the access flooring system installed as part of the base building work. The access floor system has been rigorously sealed where it meets perimeter construction such as columns, core area walls, and the perimeter heating / ventilation 'trench'. Similarly, penetrations through the concrete structure for services have been sealed to prevent any leakage from the air plenum that would reduce the effectiveness of the system.

It is critical to the functioning of the UFAD system that all tenant construction maintain existing seals and seal any new penetrations through the structure or through floor access panels to eliminate air leakage.

Where the raised floor access system abuts perimeter elements and has been sealed at these conditions as part of the base building work, tiles shall not be removed except in the most exceptional circumstances and only then with the approval of the Landlord. Any and all penetrations made in conjunction with the tenant work through base building floors slabs or walls below the raised access floor shall be sealed air-tight including piping, electrical conduit, fasteners, and anchors. Conduit penetrations shall be sealed between base building construction and the exterior of the conduit as well as inside the conduit itself to prevent the passage of air within conduits. Likewise, penetrations through raised access floor panels for piping, electrical conduits, fasteners and anchors shall likewise be sealed airtight to prevent leakage and conduits shall be sealed inside to prevent air movement through the pipe.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

No penetrations of the compartment room high pressure plenum will be permitted without the authorization of the Landlord. Access panels inside the Compartment Room are not to be removed under any circumstances. If removal is unavoidable, removal shall only be in the presence of the Building Mechanical Consultant and with the Landlord's approval.

Note for Full Floor Tenants: The ventilation system relies on the return air grilles located at the south and west faces of the Compartment Room. These grilles must remain completely unobstructed. Construction of partitions in close proximity to the return air grilles shall be done only with the approval of the Landlord. It should be also noted that these grilles connect to silencers inside the mechanical room which are susceptible to contamination and damage from dust and other airborne contaminants generated during construction. These grilles must be temporarily protected with filter media or polyethylene sheeting during construction operations. The Tenant will be responsible for any damage and may be required to replace the compartment filters prior to occupancy, at Tenant's cost.

Tenant's finished work in these areas must be inspected by the Building Mechanical Consultant, at Tenant's cost, to ensure seals have been restored.

Utility, Electrical and Telecom Boxes

Drop -in utility boxes (e.g. recessed power and telecom boxes) installed by the Tenant shall be the Building Specification, Camino Product. Design teams must remember that not all products are intended for use in a UFAD system. It is critical that any product installed incorporates a continuous gasket seal. Equivalent boxes may only be used with the approval of the Landlord. It is the Tenant's responsibility to ensure openings and knock-outs within such boxes shall be closed and sealed to the floor plenum to prevent leakage. The Tenant (or the Tenant's Mechanical Consultant) will be required to provide a letter which confirms that that approved floor boxes and the floor box seals have been properly installed prior to the Tenant Re-Balancing the floor and prior to occupancy.

Camino UFAD Floor Box: CHR-120-2D-UFA: CSA approved Power, Voice & Data (PVD) Service centers shall be provided in locations as detailed on the contract drawings. The service outlet box shall be a round drop-in design with heavy duty poly carbonate lid to match and be interchangeable with round swirl diffusers. Leakage of box with two 2 electrical cables and 2 network cables shall be less that 5 cfm with underfloor pressure of 0.05" wg.

Camino UFAD Air Leakage Control Grommet to be used for furniture feeds, and cable penetrations into the access floor.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Power and Telecom Feeds

Care must be exercised in sealing new power and telecom feeds from base building electrical and telecom rooms. Sleeves and other openings through walls and slabs have been provided for this purpose as part of the base building and have been sealed air-tight or, in instances where sleeves are through fire separations, have been fire-stopped and smoke sealed. New electrical / telecom feeds that pass through existing sleeves must restore air seals and fire /smoke seals and new conduits shall be sealed on the interior to prevent air passage. Voids under access flooring within electrical and telecom rooms are not contiguous with the underfloor plenum / UFAD system because all base building penetrations between the underfloor air supply plenum and that in electrical and telecom rooms have been sealed and tenant penetrations will have been sealed by the tenant. Therefore, openings through the access flooring in these rooms at locations where new conduits are turned up through the floor to wall-mounted panels or switches need not be sealed air-tight.

Care should be taken while working under the access floor to avoid disturbing Building Management System wiring under the floor which is installed loose and can be damaged or disconnected from terminations at devices if force is exerted on these wires.

All drywall dust and debris must be vacuumed after feeds, conduit, cable tray etc are sealed and prior to the replacement of the access floor panels.

Work at the Perimeter Window Trench

The access floor air plenum as well as the perimeter convector trench shall be kept free of dust, debris, and liquids to ensure clean and efficient ventilation. Perimeter grilles at convector trenches shall not be covered, damaged, modified, or removed under any circumstances. Partitions that extend on top of the perimeter grilles shall be constructed only with the approval of the Landlord. Drawings submitted for review by the Tenant must include details on how partitions will abut (and are not permanently affixed to the window mullions) and how they extend over the perimeter grilles.

Camino Perimeter Trench Acoustic Partition Filler to be used at perimeter demising walls adjacent to the curtain wall and over the perimeter trench.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Ductwork Above and Below Floor: During Tenant Construction

A common problem in obtaining initial air flows is that the Tenant Contractor forgot to remove all the plastic protective firm put in place to stop dust migrating into vents during construction. The Lease typically requires the Tenant to provide a letter to the Landlord that all mechanical systems have been built to the approved specifications prior to occupancy. Tenants are to ensure the Tenant Contractor has checked for blockages and removed all temporary protective plastic prior to issuing the Mechanical confirmation letter and before re-balancing of the system.

VAV Dampers and Thermostat Controls

Typically thermostats register the perimeter heating & cooling by adjusting the VAV dampers within a given zone. The temperature of the air being supplied will be set to the base building set-point as part of the base building controls system.

The compartment unit serving the floor shall not be started unless sufficient floor diffuser terminals and VAV units are open. Prior to starting the compartment unit, all manual diffusers amounting to approx 16,000 cfm and perimeter VAV outlets amounting to 24,000 cfm are to be opened. If the unit is started with these closed there is a possibility of over-pressurization leading to floor tiles popping out.

When perimeter VAV dampers are combined with interior VAV diffusers they must be balanced to ensure proper operation.

Under Floor Air Pressure Sensors

There are two under floor sensors per typical office floor which are programmed to control the central compartment fan unit for the floor. These are typically in the opposite corners (Refer to Mechanical drawings for details) of each floor. These sensors must remain in an open area below floor space to function properly. If a Tenant design is determined by the Landlord to negatively affect the function of any sensor, the Tenant may be required to relocate and reprogram them, at Tenant's cost.

Appendix A: Specialist Building Systems Guidelines

e) Under Floor Air Distribution (UFAD) System - Continued

Rebalancing of the System Prior To Occupancy

The under-floor system must be inspected mutually in coordination with Property Management to ensure the location(s) are clean and free of obstruction. Any damaged / compromised air filters will be replaced at the cost of the Tenant.

Any tenant work done on the raised access floor system involving the addition/deletion/ relocation of grilles/diffusers or the penetration of floor panels or perimeter construction requires that the air distribution system be rebalanced by the Landlord's Building Testing and Balancing Agent and the reports submitted to the Landlord for review by the Building Mechanical Consultant. The scope for work for rebalancing of the space must be approved by the Landlord's mechanical consultant and will include standardized testing procedures and sequences as required for the floor type. Rebalancing may be more complex on multi-tenant floors.

Tenant Mechanical Engineer to Warrant the Tenant Mechanical Work.

It is the Tenants responsibility, prior to occupancy, to provide written notice from the Tenant Mechanical Engineer that they warrant the mechanical work completed by the Tenant have been completed to code and is as per the Landlord approved drawings. This must include a statement that the tenant has not introduced changes to building systems without Landlords approval and that the Tenant Mechanical Consultant warrants that mechanical construction work was complete in compliance with the requirements of SFC Leasehold Improvement Manual.

REVIEW & CONSIDERATION*: The following as a guideline are previous and past design submissions whereby corrective action and design concepts had to be edited and revised to achieve optimum performance (italics only):*

1) *Plenum locations where partitions extend below the floor and/or were acoustic baffles are proposed, air movement will be restricted, and the effectiveness of the system will be reduced. An area of major concern is the suite surrounding Reception where the partitions around the three conference rooms that flank this space are all designated as slab to slab construction: this condition effectively severs the underfloor and above-ceiling plenums to the north and south of this area, blocking the return air flow path moving from areas to the south toward the Compartment Room to the north. Our strong recommendation would be to significantly reduce or eliminate partitions that extend to the underside of the slab above where these partitions obstruct the continuity of return air flow in the ceiling areas. Similarly, in underfloor conditions, we strongly recommend the elimination of partitions and acoustic baffle construction in the floor plenum."*

2) *Return Air slots (various rooms with gypsum board ceilings): "details XX and XX show this condition as a 1" wide slot in the ceiling at one location in each room. We caution the designers that the base building Under Floor Air Distribution system is a low pressure / low velocity system that relies on broad distribution of supply and return elements and a generously sized / low static loss air path. These slots look restrictive (to the Landlord's Architect) and may reduce ventilation effectiveness in spaces with gypsum board ceilings. We would strongly recommend increasing the width of these slots and adding additional distributed return air slots."*

3) *Landlord's demising partitions of tenancy/Creating Corridors: On Multi-Tenant Floors: The upper portion of the existing demising partitions between the corridor and the tenant space in these locations are open to the ceiling plenum in the corridor with security mesh installed on the tenant side of the partition. This detail is intended to provide a transfer path for the return air from the tenant ceiling plenum to cross above the common corridor ceiling to the return air silencers located along the west and north walls of the Compartment Room. The detail is not readily visible because it is concealed above the suspended ceilings and is therefore not treated cosmetically. However, the design for the Teknion space calls for the ceiling to be open to the underside of the structure above (ie the base building ceiling in these areas is being removed to expose the concrete soffit) and the condition will therefore be exposed.*

4) *Return air PATH at the ceiling is critical at North End of the floor, where air must return to the Mechanical room: please note that the head condition at the demising partitions includes a continuous air return slot that permits the passage of return air between tenant spaces as part of the return air path to the Compartment Room at the north end of the core. The tenant reflected ceiling drawings do not acknowledge this condition which occurs along the east side of Rm XX, Servery and above Storage and in room XX to XX inclusive. But Detail 1 / XX shows a closed bulkhead that will completely obstruct the return air path at this condition. At storage closets XX in this space detail XX is indicated and although no ceiling is provided in these spaces, this will force the return air path to be through the perimeters and undercuts of the doors."*

5) *Deleting Base Building Luminaries: Ref Detail XX: this detail indicates a return air slot between new gypsum board ceilings and the existing perimeter gypsum board*

perimeter bulkhead in the following offices: Office XX, Meeting Area XX, Office XX, Meeting area XX, Marketing Office XX. The detail does not indicate a width for this slot and this raises concerns for ventilation effectiveness as noted above for the typical air slot detail. Given that the typical suspended acoustic tile ceiling and air-handling base building luminaries are being eliminated and replaced in these area, this slot will need to be larger than that which was provided as part of the Landlord's base building work.

6) *Floor leakage from Floor-mounted power / voice / data boxes: these boxes must be configured to prevent ventilation air passage and all knock-outs, cable passes, and other holes in the boxes need to be sealed as air-tight as possible to maintain ventilation effectiveness. Similarly, floor penetrations at boxes need to be sealed with gaskets built into the box.*

7) *Sealing the floor under partitions and floor finishes: To maintain ventilation effectiveness, flooring must be installed over some form of sheet air barrier product that will effectively seal the joints in the access flooring (such as Carpet Tile). Alternatively, joints may be sealed with a removable sealant or tape prior to installing a wood, tile or stone floor. In this case we noted that the specification for the wood flooring indicates that a trowel-applied underlayment product is to be installed prior to constructing the wood floor: we are concerned that this will effectively ruin the surface of the raised access floor panels and prevent their future use by other tenants. We would suggest that an underlayment may not be necessary given the general flatness of the raised access floor system. However, if the tenant's design team considers that an underlayment is required, a bond-breaker shall be provided to facilitate the removal of the underlayment at a future date. Notes elsewhere in the documents indicate that the raised access floor system is to be lowered to provide a flush relationship between the areas of WDF-1 finish and other finishes adjacent. Where this change in level occurs, the joint in the raised access floor system shall be sealed air tight with a sheet metal baffle. Note that additional supports for the raised access floor system may be required if the location of the step in level occurs at a location other than a modular joint.*

8) *Replacing Diffusers: FYI we note that many static diffusers are to be removed and turned over to the Landlord with these diffusers to be replaced by thermostatically controlled models. We believe that the base building static diffusers can be easily converted to thermostatic control by adding a modular servo motor and this may provide a cost savings to the tenant as well as reducing potential waste / unnecessary production of new components (positive sustainability initiative).*

9) *COUNT AND PROXIMITY OF RL DIFFUSERS AT PERIMETER AREAS AND OFFICES MAY NOT OFFER SUFFICIENT VENTILATION DURING WINTER MONTHS WHEN PERIMETER VAV TERMINALS SHUT OFF DURING HEATING DEMAND. The lack of vortex diffusers near the glass line seems to anticipate that the air supply through the perimeter floor grille functions in all conditions but when thermostats at the perimeter call for heat, the VAV dampers close. Therefore, there needs to be a measure of redundancy near the perimeter with vortex floor diffusers located at a consistent density all the way to edges of the floor.*

Appendix A: Specialist Building Systems Guidelines

The following guidelines are provided for information and they do not relieve the Tenants Design/ Contracting team from any necessary due diligence or design effort.

f) Window Shade System

The window shading system* provides a means for controlling glare during sunny conditions and functions as an important component of the sustainability / energy strategy for the building. The system is designed to reduce energy consumption in two ways: the system deploys the shades as required to control undesirable solar heating of spaces when windows are exposed to the sun; during overcast conditions or when areas of glazing are not exposed to the sun, the system opens the shades to maximize daylighting of perimeter spaces, acting in parallel with the lighting control system to reduce energy use by dimming un-needed artificial lighting. Lastly, the shades play an important role in preventing night-time bird strikes by high-flying migratory birds. No component of the shading system shall be removed or modified without the approval of the Landlord. The shade system shall be serviced and /or modified only upon request to the landlord for review.

The mechanical portion of the shading system consists of a roller shade at each light in the curtainwall. This shade fabric is a woven synthetic coated fiberglass which is white on the exterior side to help reflect incident light and heat out of the building while the interior side is a neutral grey to harmonize with tenant décor/furnishings. The shade fabric is an open weave material that permits 3% of the incident light to enter, providing soft low-level glare-free illumination in perimeter areas when sunny conditions prevail. The openness of the weave also combines with the darker interior colour of the fabric to permit an impression of the view through the glass beyond when the shade is closed. The fabric is sized to cover as much as possible of each lite and is rolled around an aluminum tube concealed behind a removable fascia panel in the curtainwall framing at the head. However, because of the location of the shade roller between mullions, a gap between the aluminum curtainwall framing and the edge of the fabric necessarily exists and will admit a small amount of direct sunlight that will extend into the tenant space for a short time when the sun is perpendicular to the building façade. Note also that the shades do not meet at corner glazing conditions because the shade rollers at the head will not permit this and therefore direct sun will enter through the gap between shades as the sun swings briefly through a portion of the sky. The fabric is weighted by a hem bar inserted in the bottom of the shade to keep it taught and resist movement induced by air currents. Each shade roller is linked to its neighbor through a connecting rod that runs through holes in the aluminum curtainwall framing. Typically, the shades are connected in groups of six and include all shades within a bay of windows between columns. An operator motor located at one end of each group of shades powers each bay such that all six shades in each bay move as one.

Appendix A: Specialist Building Systems Guidelines

f) Window Shade System - Continued

At corner conditions, the three shades on either side of the corner are grouped separately and each group of three operates separately according to the sun's orientation at any particular time.

The operating portion of the shade system is controlled from a central computer that is programmed to operate all shades in the building with the goal of optimizing energy performance. Each digital shade motor in the shade system is addressable and autonomous, permitting refined control of shades down to individual bays on individual floors of the building. All shade motors on each floor are linked by control cabling arranged in a "daisy-chain" circuit, with each motor connected to its immediate neighbours. The low voltage control cables are concealed in a raceway above the shade rollers and pass through a dedicated hole in the curtainwall, connecting to the operator motors with RJ-45 connector plugs. The control cabling is terminated in a control module located in the west electrical room on each floor . The control modules at all floors are networked to the central shade control computer which coordinates shade positions at all floors. This PC uses a virtual 3D model of the building and its neighbours to determine which portions of the building are exposed to the sun at any given time on any day of the year. In response to the calculated conditions, the controller lowers shades in windows through which the sun is shining. Where a neighbouring building is casting a shadow that covers some or all windows on the facade, the controller is able to predict this condition and leave those shades open to maximize daylight harvesting. Where the sun is in a quadrant of the sky that leaves one side of the building in shade, the controller keeps shades on that side of the building open. The shade control computer is networked to two sky-tracker stations located on the roof. These devices provide real-time input on sun conditions to the shade control computer so that it can make decisions about when shades need to be lowered (ie. when sunny conditions are prevalent over a predetermined interval).

Typical operation routines for the shading system would include the following:

- Automatic Control, Sunny Conditions: shades in areas of glazing exposed to sun (or significant reflections from nearby buildings) will be deployed by the central control system for the building to a pre-set closure limit (closed to within +/- 125 mm above sill line of glazing system); shades on windows not exposed to the sun will remain open; when position of sun has changed and glazing is no longer exposed to sun, central control system will open shades. During the life of the building, as ambient outdoor light conditions evolve with the construction of additional buildings nearby, glare and reflection conditions created by adjacent buildings during certain hours of the day will be programmed into the central control system which will lower shades in exposed areas to mitigate these effects.

Appendix A: Specialist Building Systems Guidelines

f) Window Shade System - Continued

- Automatic Control, Variably Sunny Conditions: when sunny conditions prevail for more than a pre-set interval, shades in areas of glazing exposed to the sun will be deployed as noted above while shades on windows not exposed to sunlight will remain open; when sunny conditions end or sun changes position, system will open shades.
- Automatic Control, Overcast Conditions: all shades will open and remain so until sunny conditions are experienced.
- Automatic Control, Evening: all shades that are open will close shortly after sunset at a predetermined level of ambient outdoor light to mitigate migratory bird strikes; shades will re-open shortly before dawn at a predetermined outdoor ambient light level.
- Tenant Control, Sunny Conditions: when a request is received from an authorized tenant user through the internet protocol access to the central control system, shading system may be actuated as desired (open or close shades) according to group address and according to user permissions; shades that have been closed by a user will remain so for a preset window of time or until dawn the following morning unless an authorized tenant user inputs a request to open shades through system IP interface.
- Tenant Control, Variably Sunny Conditions: (as per sunny conditions except that shades opened by tenant users will not re-set to closed position after 90 minutes if cloudy conditions prevail at that time).
- Tenant Control, Overcast Conditions: shade adjustments requested by tenant users will remain as adjusted until just after sunset when all open shades will close or until just before sunrise when all closed shades will re-open.

The shade control computer runs a software program that evaluates a virtual built environment and real-time data on sun conditions to decide which shades to lower or raise in order to optimize the energy performance of the building. While this is the default operating mode for shades in the building, a level of occupant control is also possible through an Internet Protocol (IP) interface that potentially allows any shade motor to be controlled from any internet-connected computer. Using a “soft switch” interface program, a building occupant with appropriate permissions can actuate an individual shade motor or a group of shade motors to lower or raise shades. It is the Landlord’s anticipation that permissions would be limited to selected senior individuals and administrators within tenant organizations in order to prevent chaotic situations and constant adjustments to the shade systems.

Appendix A: Specialist Building Systems Guidelines

f) Window Shade System - Continued

The shading system has been designed to permit tenants to change shade operation groupings and to divide existing groups into smaller groups or even individually operated shades should this be desired. These adjustments would require the installation of additional shade motors, power wiring to these motors, and additional control cabling. Any shade can be decoupled from neighbouring shades by removing the connector shafts that link the shade roller through the curtainwall frames. The shade roller would then be removed and fitted with a new motor. New power wiring would need to be installed to power the shade and the existing control wiring would need to be modified to include the new shade motor in the daisy chain. Lastly, the shade control computer would need to be re-programmed to recognize the new shade motor address and give it a location in the building. Where a new motor is added in the middle of an existing group, an additional motor may need to be added to operate shades that are no longer connected to the existing operator. Modifications to existing base building shades shall be carried out exclusively by the original provider of the system (Solarfective Products Limited). A fixed unit price to modify shade groupings by removing drive couplings and adding motor operators has been established with the provider of the system and this price is offered to tenants of the building. It should be noted that this price is for modifications to shades, shade operators, and shade controls only and that electrical power to new shade motors will be in addition to the Landlord's unit price.

The shades provided as part of the base building are room darkening shades and will not provide black -out conditions. If the tenant desires the ability to provide black-out conditions during daylight hours, a secondary set of shades mounted to the interior face of the curtainwall framing would need to be installed complete with continuous light blocking pocket channels at the rear face of each mullion. Such shades may be motorized and controlled locally or manually operated with bead chains.

Please refer to the Ellis Don Automated Building Shades presentation in Appendix H at the conclusion of this Document which details "All you ever wanted to know about building shades but were afraid to ask".

- ***Note:*** *The window shading system consists of the following components: roller shades integrated into the curtainwall framing system and linked to neighbouring roller shades with a drive coupling connection through each curtainwall mullion; smart digital drive motors located within shade roller tubes with a single motor operating 6 shades in each 9.1 m bay or 3 shades either side of corner conditions; power wiring to motors with each motor hard wired to line voltage power at a cast-in box in the slab soffit above; signal wiring to motors consisting of a daisy-chain network of low-voltage wiring from motor to motor looped to a control module on each floor; building shade control wiring linking control modules at all floors through a vertical riser in the telecom room; the shade control computer located in the building operations center which collects data on sun conditions and determines which shades should be closed or open at any given time; two sun-tracking devices mounted on the roof of the building that monitor atmospheric conditions and report these to the shade control computer.*

Appendix B.1: Schedule of Base Building Finishes 18 York Street

Note: Tenants Contractors/Sub-Trades should refer to the As Built information for further information as the following is intended as reference information only.

- Ceiling grid: Chicago Metallic, Seismic 1200, 15/16” exposed grid system, off-white colour.
- Acoustic tiles: CertainTeed, Symphony f, 20”x60”x1.5” [1367-DVT-1], Reveal edge.
- Perimeter shades: Solarfective Products, shades with intelligent motors, Sheerwave 2703, colour P91 Oyster / Pewter [Oyster side out, Pewter facing inwards], Dark grey hembar, 3% open area.
- Raised floor: TecCrete 1250 Bare Corner Lock Panel, 610x610.
- Elevator lobby walls: 5/8” gwb, primed on 41mm metal studs on 240 concrete blocks.
- Elevator ceiling light fixtures: USA Illumination, 1650 BL710-A 10 120V, Bevel Square; metal halide recessed downlight.
- Elevator ceiling cove light fixtures: Philips, eW Cove Powercore, 2800 K.
- Elevator ceilings: 5/8” gwb, primed.
- Elevator cab walls: quartered cut walnut, low gloss finish / stainless steel [X-L Blend ‘S’] / Accura Glass, Clear Tech, annealed low iron acid etched glass with mirror backing & polished edges.
- Elevator cab ceiling: quartered cut walnut, low gloss finish / stainless steel [X-L Blend ‘S’].
- Elevator doors: stainless steel [X-L Blend ‘S’].
- Elevator portal surround: 6mm thick stainless steel [X-L Blend ‘S’].
- Elevator cab floor: Algonquin Limetsone, vein cut tiles, honed.
- Public corridor partitions: 16mm gwb on both sides of 92mm metals studs = 124mm with acoustic batt insulation.

Appendix B.2 : Schedule of Base Building Finishes 120 Bremner Boulevard

Note: Tenants Contractors/Sub-Trades should refer to the As Built information for further information as the following is intended as reference information only.

- Ceiling grid: Ceiling height with T-Bar installed is 9 feet.
- Structural grid: 30 feet modular on perimeter.
- Clearance under major beams: 9’ 8” typical (9” 6” at some locations).
- Raised access flooring: 18 inch raised floor on floors 4 thru 30.
- Exterior finishes: Double Glazed curtain wall with silicone joints on typical floors Lobby: structural glazing system with insulated glazing (low iron tempered outer lite, clear tempered inner lite with low-E coating) Architecturally exposed concrete columns, clear glass and stainless steel lower canopy and natural Ontario limestone accent cladding. STC rating for curtain wall system estimated at approximately 38.
- Exterior glazing: Insulated Glazing Units with Viracon Glazing Type 1 or Equivalent (Thermal insulating unit; Outer Lite: 6 mm, heat strengthened, Colour TBD with dot-pattern ceramic frit shading pattern and low E coatings on surface 2; Inner Lite: 10 mm tempered low iron glass) with Silicone Joints.
- Window size on 5’ grid: 1524mm x 100mm typical module (1450mm x 2744mm (min) visible area). All floors East/West – 12.4m.
- Core to exterior glass distance: Low rise floors: North/South – 13m and 15.6m.
- Core to exterior glass distance: High rise floors: North/South – 13m and 22.0m.
- Elevator lobby floor: Concrete topping on metal deck installed at 75 mm below finished floor to receive floor finish by tenant.
- Elevator lobby walls: Elevator lobby walls will be gypsum board, taped, sanded and primed ready to accept Tenant finishes. Elevator call buttons and indictor lights will be functional and mounted on the wall but not permanently secured, ready for install of Tenant finishes. Tenants who have leased entire floors may request deleting the lobby wall finishes if such as request can be accommodated by the Landlords construction schedule. In this case the walls will consist of concrete block masonry walls to elevator shafts and poured in place concrete structure including shear walls and lintel beams. Additional cost to complete would be the responsibility of the Tenant.

Appendix B.2: Schedule of Base Building Finishes 120 Bremner Boulevard - Continued

Note: Tenants Contractors/Sub-Trades should refer to the As Built information for further information as the following is intended as reference information only.

- Elevator ceiling: Drywall ceiling will be installed by Landlord, taped, sanded and primed ready to accept Tenant finishes. Base building light fixtures installed by Landlord. Tenants who have leased entire floors may request deleting the elevator lobby celling, if such a request can be accommodated by the Landlord's construction schedule. As such the ceiling be left open to underside of concrete floor slab above with exposed services. Additional cost to complete would be the responsibility of the Tenant.
- Elevator lighting and devices if ceilings deleted: Temporary fluorescent chain hung light fixtures to be replaced by tenant lighting: fire and safety devices (speakers/strobes) temporarily installed with excess wire length coiled for relocation to tenant ceiling; upright sprinkler heads as required to meet NFPA 13 for modification by tenant lo suit tenant ceiling design.
- Elevator lobby multi tenant floors: On multi-tenant floors, elevator lobbies, including floors, walls, ceiling and exiting corridors wall be finished to the Landlord's Base Building Standard and comply with all code requirements.
- Elevator floors multi tenant floors: Algonquin limestone tile.
- Elevator walls multi tenant floors: White plaster with textured finish.
- Elevator ceiling multi tenant floors: Drywall ceiling painted white with building standard lobby light fixtures, recessed compact florescent down lights.
- Superstructure: The floor structure will consist of concrete slab system spanning between the concrete beams purlins. If tenant requires an inter-floor stair opening in the floor this may be accommodated between the main floor beams. Additional reinforcement of the purlins and slab would be required and required information could be provided during design of stair and slab opening.
- Rigidity: Lateral rigidity of structure:
    - Wind OBC 2006: hs/500
    - Seismic OBC 2006: hs/500
    - Hs = floor to floor height
    - Live load (office) 3.8kpa (80lb/sf)
    - Partitions (dead load) 1.0kpa (20lb/sf)
    - Dead load – raised floor, ceiling, mechanical 1.5 kpa (30lb/sf)

Appendix B.2: Schedule of Base Building Finishes 120 Bremner Boulevard - Continued

Note: Tenants Contractors/Sub-Trades should refer to the As Built information for further information as the following is intended as reference information only.

- Live load (including partitioning): An allowance of 7.2 kpa (100 psf) for high density filing has been provided at designated locations on structural plans. High density filing systems exceeding load allowance (refer to structural drawings) and requests for high density filing systems located elsewhere maybe accommodated during building construction subject lo Landlords approval. incremental cost, if any, to be paid by the Tenant. The Service Elevator cab dimension is: 5’-4”x7’-0”x11’-7”.

The Remainder of this page has been intentionally left blank

Appendix C: Schedule of Contractors 18 York and 120 Bremner

(All Terminations and "Tie Ins" to Base Building Systems must be performed by Base Building Contractors noted below in bold)

Engineering & Structural	Stephenson Engineering	Contact: Moshen Mansouri Tel: 416-635-9970 Email:mmansouri@stephenson-eng.com
Mechanical	*Johnson Controls (Base Building Tie-in & connection)	Contact: Robert Ferraro Tel: 905-731-2813 Email: robert.ferraro@jci.com
	The Mitchell Partnership Inc (TMP)	Contact: Tony Dingman Tel: 416-753-8870 Email: tdingman@tmptoronto.com
	The Aquila Group	Contact: David Ng Tel: 416-340-1937 ext. 212
Electrical	*Guild Electric Ltd (Base Building Tie-in & connection)	Contact: Mark Donner Tel: 416-688-1597 Email:mark.donner@guildelectric.com
	Smith & Long Ltd	Contact: Jason Pultz Tel: 416-391-0443 ext. 206 Email: jpultz@smithandlong.com
	Black & McDonald	Contact: Michael Vulcan Tel: 416-991-5070 Email:mvulcan@blackandmcdonald.com
	Impact Electrical	Contact: Steve Dobson Tel: 905-219-0008 Email: sdobson@impacteml.com
	Campbell and Kennedy	Tel: 905-761-8840 Email:gmbox@campbellkennedy.com

Air Balancing	Ace Commercial Air Test & Balancing Ltd.	Contact: Ajay Jhajj Tel: 416-727-2009 Email: info@aceairbalancing.com
	Design Test & Balance Ltd	Contact: Surrinder Sahota Tel: 905-886-6513
Security Systems (Access Control & CCTV)	* Securitas Electronic Security (Base Building Tie-in & connection)	Contact: Brian Keller Tel: 647-407-0060 Email: brian.keller@securitases.com
Fire Alarm Panel & Sprinkler System	* Sage Fire Protection Service (Base Building Tie-in & connection)	Contact: Jerry Carr Tel: 905-683-6600 Email: jerry@sagefireprotection.com
	Classic Fire Protection	Contact: Steve Peckham Tel: 416-740-3000 Email: peckham@classicfire.com
	JD Collins Fire Protection	Contact: Dan Madden Tel: 905-660-4535 Email: dan@jdcollins.ca
Locksmith	*J. Latorre Locksmith Services (Base Building Tie-in & connection)	Contact: Joe Latorre Tel: 519-855-9895 Email: Jj.latorre@hotmail.com
Environmental	Pinchin	Tel: 1-855-746-2446
IT Riser Management	*Andorix (Base Building Tie-in & connection)	Tel: 1-833-426-3674 Email: quadreal@andorix.com
Telecom & IT Support	The Attain Group Inc.	Contact: Doug Hanson Tel: 647-965-9424 Email: doug.hanson@tehattaingroup.com
Raised Floor Systems	Camino Modular Systems	Contact: Serge Jovanic Tel: 416-675-2400x 223

Perimeter Window Shades	*LeGrand SolarFective Products Ltd (Base Building Tie-in & connection)	Contact: Richard Welk Tel: 647-327-7808 Email: richard.welk@legrand.com
Glass & Glazing	BOS Glass	Contact: Fulvio Zanneta Tel: 416-360-1166 Email: fulvio@bosglass.com
Lighting	Lutron	Contact: Ismail Bilal Tel: 647-282-3441 Email: ibilal@lutron.com
Building Automation Controls	* Johnson Controls (Base Building Tie-in & connection)	Contact: Robert Ferraro Tel: 905-731-2813 Email: robert.ferraro@jci.com
	Mechanical Trade Industries (MTI)	Contact: Larry Sobotka Tel: 905-513-1953 Email: larrys@mechtrade.com
Mechanical HVAC/ Plumbing	OPUS Mechanical Services Ltd.	Contact: Scott Munro Tel: 416-312-4500 Email : scott@opusmechanical.com
	Modern Niagara	Contact: Bruce Laitinen Tel: 416-749-6031 ext. 3205 Email:blaitinen@modernniagara.com
	Mechanical Trade Industries (MTI)	Contact: Larry Sobotka Tel: 905-513-1953 Email: larrys@mechtrade.com
	Commercial Mechanical Services (CMS Group Ltd)	Tel: 416-609-9992 Email: info@cmsgroup.com
General Contractors	Shurway	Tel: 416-750-4204
	Hardel	Tel: 416-267-4440
	Rosscor	Tel: 416-297-1811
		Tel: 416-298-1144

	Claybar	
	Marant	Tel: 416- 425-6650
	Govan Brown	Tel: 416-703-5100

The Remainder of this page has been intentionally left blank

Please reference Appendix I for 120 Bremner Boulevard Base Building Contractors & Trades

Appendix D: Design Submittal Form

The following document and necessary attachments shall be submitted to the Landlord or his appointed representatives:

Design Submittal Form

Reference:
Submittal Number:
Date Submitted:
Project:

To:
Company:
e-mail:
Address:

Subject:

Narrative:

List if attachments (including revision number)

From:

CC:

Appendix E: Landlords Document Submittal Tracking Checklist

Documentation Submittal Checklist

The following documentation shall be submitted to the Landlord or his appointed representatives:

Commencement	**Date Submitted**	**Date Filed**
Signed Lease Agreement		
Demised Premises inspection & handover form – GWL Provide		
Leasehold Improvement Deposit		
Requirements statement for delivery, unloading of materials and equipment		
Method Statement for transporting the materials and equipment from the designated unloading area to the Demised Premises, including mitigation measures		

Design Phase	**Date Submitted**	**Date Filed**
The Tenant will submit a full Leasehold Improvement design and specification for Landlord's approval. The submissions will describe the general arrangement of the Tenant's Fit-Out and contain sufficient details to identify any proposals that; a) modify the building fabric; b) effect it's load bearing capacity; c) alter the external appearance; d) connect to the Base Building MEP services; e) effect rent or value or enjoyment of premises by other occupiers of the building.		
Leasehold Improvement Drawings: Architectural Interiors Structural Mechanical Electrical Lighting BAS HVAC Plumbing Sprinkler / Fire / Life Safety Security Telecoms / Data		
Leasehold Improvement Specifications: Architectural Interiors Structural Mechanical Electrical		

Design Phase	**Date Submitted**	**Date Filed**