BASE BUILDING ENVIRONMENTAL CONSIDERATIONS

Environmental Considerations
Over the years there has been a growing concern for the environment in Canada, and society continues to become more aware of issues that may have a negative impact on tomorrow. This is true for home and leisure environments as well as the workplace.

The environmental impact of construction and demolition is now well understood, and the effect of design and engineering on the environment is also well recognized by society and environmental professionals. The resultant effects from products and materials on human health and the environment are acquiring a high profile amongst employees, employers and governments, both locally and globally.

Evaluating products and materials with respect to their specific content and selecting products and materials that minimize the impact on human health and the environment is the first step toward environmental stewardship.

St. Vital Centre provides environmental specifications with Performance Standards as a resource for Tenants selecting products and provides as a useful tool for the decision-making process. Tenants are encouraged to integrate the consideration of environmental concerns and impacts into all decision making and activities, where feasible.

The Performance Standard is set out to maintain environmentally sensitive premises within the building. A tenant premises designed with environmental issues and concerns in mind will provide immediate and positive effects on tenants, employees, clients and visitors in the premises.

St. Vital Centre tenants, employees, clients and visitors are entitled to a healthy environment in which to live and work. St. Vital Centre can help to ensure this by establishing sound environmental practices within the building. All Tenants undergoing a Construction, Demolition and/or Renovation project at
St. Vital Centre will:

- Ensure the highest possible Indoor Air Quality at all times in the building, within limitations of existing equipment and/or conditions.
- Minimize and reduce waste, increase recycling, re-use where possible, and promote the 3Rs concept.
- Reduce emissions of gases and pollutants in general. Consider pollutants generated during production of the product.
- Introduce alternative uses of materials and products where possible.
- Conserve and reduce energy costs. Choose building materials with low embodied energy.
- Conserve fuel and reduce water consumption where possible.
- Conserve raw materials. Choose products for their durability.

Low VOC Content

1.0 Adhesives and Sealants

All materials listed below which are used in the building interior, (i.e., inside of the exterior air barrier) must not exceed the following requirements:

- Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168 requirements in effect on January 1, 2003 and rule amendment dated October 3, 2003.
- Aerosol Adhesives: Green Seal Standard GS-36 requirements in effect on October 19, 2000.

Required Specifications:

- Low to no VOCs, water-based, (not solvent-based).
- Do not use standard construction adhesives (panel adhesives, plastic resin glues, epoxies, ABS and PVC solvent cements).
- Design without butyl rubber and polysulphide caulks.
- Design without petroleum based products.
- Use white/yellow glues, ceramic tile thin-set mortar adhesives, or phenolic adhesives.

2.0 Paints, Stains, Lacquers, Coatings and Finishes

Interior paints and coating applied on site must meet the limitations and restrictions concerning

chemical components set by the following standards:

- Top coats: Green Seal Standard GS-11, Paints, January 1997
- Anti-Corrosive and Anti-Rust Paints: Green Seal Standard GC-03, Anti-Corrosive Paints, second edition, January 7, 1997 for applications on ferrous metal substrates.
- All other architectural coatings, Primers and Undercoats: South Coast Air Quality Management District (SCAQMD) Rule #1113, Architectural Coatings, rules in effect January 1, 2004.

Required Specifications:

- Specify solvent-based paints and lacquers with low VOC where required.
- Specify low to no VOC, water-based, (not organic solvent-based).
- Specify water-based (latex) paints and stains.
- Specify no formaldehyde, mercury, lead, cadmium, or chromium VI.
- Acceptable to specify urethane varnish, natural shellac, nitro-cellulose shellac, mineral oil, linseed oil, paste wax, natural walnut and olive oils, non-toxic oils and varnishes from specialty suppliers.
- Paint of "milk" derivatives is acceptable for sensitive requirements.

3.0 Carpet, Carpet tile or Modules (Including Installation)

- Carpet systems must meet or exceed the Carpet and Rug Institute's Green Label Plus testing and product requirements. Carpet pad must meet or exceed CRI Green Label testing and product requirements.
- Carpet adhesives must meet the requirements Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168 requirements in effect on January 1, 2003 and rule amendment dated October 3, 2003.
- Aerosol Adhesives: Green Seal Standard GS-36 requirements in effect on October 19, 2000.

Desired specifications:

- Recycled content preferred; recyclable after use option
- Select project colours appropriately to match natural soiling.
- Specify carpet that will perform over the entire "lease term".

  Minimum: 28 oz./sq. Yd for loop pile carpets.
  34 oz./sq. Yd for cut pile carpet.
  Minimum:
  26 oz./sq. Yd for loop pile carpet tile/modules.
  32 oz./sq. Yd for cut pile carpet tile/modules.

Required Specifications:

- Jute (preferred) and synthetic backing accepted.
- If specifying PET fibre carpet, jute backing (cut pile), accepted
- If specifying natural colour wool, woven carpet (cut or loop pile), accepted.

4.0 Carpet Installation

Desired Specifications:

- Re-use existing under cushion where possible.
- Specify carpet base from remnants (versus vinyl) where possible.

Required Specifications:

- Recycled content where possible.
- Allow time for off gassing off-site prior to installation.
- Allow for off gassing on-site after regular hours or weekends.

4.1 Carpet Under cushion

Desired Specifications:

- Use recycled polyurethane, recycled waste synthetic fibre, etc.
- Natural materials and products preferred.

Required Specifications:

- Specify "recycled rubber" under cushion.

5.0 Resilient Floor Covering

Desired Specifications:

- When removing vinyl composite tile, VAT (vinyl asbestos tile), use Resilient Floor Covering Institute (RFCI) procedures
- Natural materials and ingredients preferred.
- High recycled content and/or recyclable after-use preferred.

Required Specifications:

- Consider performance requirements such as: chemical resistance, durability, maintenance, heat resistance, etc.
- Low plasticizer content preferred.
- Requires low maintenance and water-based finishes.
- Design for low wastage and minimal off-cuts.
- Specify recycled vinyl where available.
- Low or zero VOCs.

6.0 Millwork

Composite wood and agri-fibre products, including core materials, must contain no added urea-formaldehyde resins. Laminate adhesives used to fabricate on-site and shop applied assemblies containing these laminate adhesives must contain no urea-formaldehyde.
Desired Specifications:

- Re-use wood where possible.
- Minimize use of laminated wood products.
- Certified sustainable managed source preferred where possible.
- Minimal use of nails preferred; design with finger-jointed wood trim, dovetail, etc, where possible.

Required Specifications:

- Do not use rare or tropical forest wood.
- Use substitute for wood such as recycled plastics or metal where possible.
- No or low Vacs, formaldehyde-free
- The use of phenol formaldehyde wood is accepted.
- Specify Medium Density Fibreboard (MDF) where possible.
- Use local or domestic preferred.
- Design with respect to performance required.

Water Use Reduction

7.0 Washroom and Equipment

Required Specifications:

- Specify energy efficient equipment.
- Specify low water consumption equipment (e.g. Sensored faucets and urinals, aerators, etc.)
- Select low flush toilets that are less than 6Litres per flush.
- Dual flush toilets utilizing less than 6L per flush are acceptable.
- Select ultra low flush urinals that use less than 3Litres per flush.
- Select automatic valve controls and/or proximity detectors (sensors), where feasible.
- Select low flow faucets that use 7.5Litres per minute.

8.0 Construction Methods and Procedures

1. Contractors and all trades shall utilize environmentally sensitive materials, methods and procedures where feasible.
2. Disposal of chemicals such as solvents and petrochemical derivatives shall not be poured into the storm or sanitary sewers. Chemicals must be stored and re-used or disposed of in the appropriate manner, eliminating environmental risk.
3. Smoking is not permitted in any part of the premises.

Construction Waste Diversion

9.0 Construction & Demolition Waste (C&D)

1. Abide by St. Vital Centre's Environmental Considerations document, and all other relevant documents, including Environmental Policy, Construction, Demolition, and Renovation Waste Management Policy, Contractor Rules and Regulations.
2. Building materials must be ordered and utilized in order to minimize the amount of waste such as off-cuts created with excess or off-measured materials.
3. Salvage interior glazing, doors and hardware, ceiling grid systems, etc. from demolition where possible and environmentally safe. Re-use is encouraged, where feasible and environmentally safe, of products such as doors and hardware.
4. A Waste Audit and Waste Reduction Workplan report must be completed prior to commencement of the project as well, it will be required to utilize, if available co-mingled waste handlers to be separated off site or source separate and recycle

items including: brick, cardboard, glass, concrete, unpainted drywall, steel and unpainted, untreated, unlamented wood.

5. Set and attain a minimum Waste Diversion Goal of 50% for the Construction Wastes.
6. Recyclable waste shall be co-mingled for later separation or source separated and diverted to a recycled waste hauler/broker. Proof of compliance may be requested at any time.
7. Obtain a waste management plan, which would indicate the estimated volumes of waste from the construction and indicate which materials will be recycled. This could be updated as needed throughout the project to reflect actual volumes and design changes.
8. Waste handlers to be separated off site or source separate and recycle items including: brick, cardboard, glass, concrete, unpainted drywall, steel and unpainted, untreated, unlamented wood.

Construction IAQ Management Plan

10.0 IAQ Management Plan

Desired Specification:

- Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the tenant space. The plan is intended to meet or exceed the recommended Design Approaches of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) IAQ Guideline for Occupied Buildings Under Construction, 1995, Chapter 3.

Required Specifications:

- Protect stored on-site and installed absorptive materials from moisture damage.
- Protect stored on-site and installed absorptive materials from VOC emitting products or procedures.
- If air handlers / fancoils must be used during construction, filtration media with a minimum efficiency reporting value (MERV) of 8 must be used at each return air grill, as determined by ASHRAE 52.2-1999.
- Where the air handling equipment will not be in use during construction seal all ductwork intakes and outlets with heavy poly sheet prior to commencing demolition or construction.
- Replace all filtration media immediately prior to occupancy.

Resources

Forest Stewardship Council
www.fscus.org

Greater Vancouver Regional District – Sustainable Purchasing Guide
http://www.gvrd.bc.ca/smartsteps/pdfs/SustainablePurchasing.pdf

Recycled Content Product Directory
www.ciwmb.ca.gov/rcp

Bay Area Air Quality Management District
www.baaqmd.gov

The Carpet and Rug Institute (CRI)
www.carpet-rug.com

Green Seal
www.greenseal.org

South Coast Air Quality Management District
www.aqmd.gov

Carpet and Rug Institute, Green Label Plus Testing Program
www.carpet-rug.org

Sheet Metal and Air Conditioning Contractors National Association
www.smacna.org

American Society of Heating, Refrigeration & Air Conditioning Engineers
www.ashrae.org