Appendix D

Contents: Sustainability Guidelines

Introduction

It is intended that the building be built with reasonable care and diligence regarding environmental sustainability and stewardship. To that end the information provided herein suggests methods, goals ands materials that could be used in this project.

The items outlined below are not intended to add to the requirements of the Contract, but are intended to provide only information and guidance to the Contractor.

At the construction start-up meeting, the Contractor will be asked if and how the items herein will be addressed in this Work, and to provide a written commentary in that regard relating to each item. Prior to close out, the Contractor is asked to provide a written commentary relating to each item indicating whether or not his stated goal was met. It would be acceptable to provide ongoing updates as well.

Some of this information may overlap or conflict with items called for in the Specifications. In cases of overlap or conflict between the Specifications and this information, the Specifications must be met as at least the minimum standard, and take precedence over this information.

Waste Minimization Plan

Cleaning

.1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.

.2 Source separate materials to be recycled into specified sort areas.

Disposal of Wastes

.1 Do not bury rubbish or waste materials.

.2 Do not dispose of waste, volatile materials, mineral spirits, oil, or paint thinner into waterways, storm, or sanitary sewers.

.3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.

Diversion of Materials

.1 Separate materials such as wood, steel, aluminum, cardboard, concrete, etc. away from waste stream and stockpile in separate piles or containers, as reviewed by the Architect’s Construction Administrator consistent with applicable fire regulations.

.1 Mark containers or stockpile areas.
.2 Provide instruction on disposal practices.

.2 The list provided may be expanded to account for materials not mentioned.

.3 Provide separately labelled recycling containers for those working onsite such as glass, aluminum, cardboard, etc.

Proof of Disposal (POD)

.1 Wherever possible, keep waybills or records of disposal to prove recycling policy are being implemented.

Construction Indoor Air Quality Plan

HVAC Protection

Protect HVAC equipment from collecting odours and pollutants during demolition & construction by implementing the following measures:

.1 System shut-down during heavy construction or demolition.
.2 Isolation of the system from surrounding environment to prevent intake of pollutants.
.3 Sealing all return system openings in and immediately adjacent to the construction area.
.4 Avoidance of utilizing the mechanical room for storage of waste/construction materials.
.5 Protection of diffusers, VAV boxes, and ducts with sealed plastic.

Source Control

Take steps to eliminate or control the introduction of pollutants to the project environment including:

.1 System shut-down during heavy construction or demolition.
.2 Preferential selection of low-emitting products of Carpet, Adhesives, Paints, Caulks, Cleaning solutions, Wall coverings, Furniture.
.3 Restriction of traffic volume and prohibiting idling of motor vehicles where emissions could be drawn into occupied areas.
.4 Switching from diesel to bottled gas for equipment such as generators or fork lifts.
.5 Cycling equipment off when not needed.
.6 Exhausting pollution sources directly to the outside with a portable fan & flex duct.
.7 Local recirculation of air through a portable air cleaner.
.8 Reduce the exposed surfaces of VOC-containing materials:

.1 Use enclosed tanker rather than an open kettle for roofing
.2 Keep containers of wet products closed as much as possible.
.3 Cover / seal waste materials when they could release odours or dust.
.4 Application of a sealer to a surface which is a persistent odour source.

Pathway Interruption

Interrupt potential contaminant pathways from circulating pollutants within the project areas.

.1 Depressurization of work areas by:
  .1 Adjusting the balance of the existing HVAC and exhaust systems.
  .2 Installing portable exhaust fans.
.2 Pressurize occupied space by increasing supply air and/or reducing return/exhaust air in building areas remaining occupied during construction to exclude airborne dust and odours:
.3 Temporarily extending the fan schedule for overnight pressurization to prevent dust and odour from migrating into the space.
.4 Containment of work sites with barriers.
.5 Capping of return air ducts in work sites.
.6 Application of negative pressure to work sites.
.7 Relocate equipment to a more favourable location in regard to air quality.
.8 Protection of mechanical rooms by storing construction products and waste materials elsewhere.
.9 Sealing of intake dampers.
.10 Closing or sealing exterior doors, the top of the elevator shaft, etc.

Housekeeping

.1 Prevent dust accumulation, spills or excess applications of products containing solvents and conditions of prolonged moisture by the following methods:
  .1 Suppress dust with wetting agents and/or sweeping compounds.
  .2 Increasing the cleaning frequency for dust.
  .3 Selection of a more efficient dust collection method (e.g., a damp rag, wet mop, or vacuum equipped with a high efficiency particulate filter or wet scrubber).
  .4 Ensure that all surfaces (including higher ledges, behind furniture, and inside mechanical equipment) are kept clean.
  .5 Remove spills or excess applications of solvent-containing products as soon as possible.
  .6 Remove accumulated water and keeping work areas as dry as possible.
  .7 Vacuuming with HEPA filtered vacuum cleaners prevents aerolization of settled dust.
  .8 Protect porous materials such as insulation from exposure to moisture.

.9 Replace of materials that have remained damp for too long a period.

Low-Emitting Materials

Low-Emitting Materials

The following is the recommended volatile organic compound (VOC) limits for all substances and materials listed below applied within the weatherproofing system (grams per Litre, less water and exempt compounds):

Low-Emitting Materials, Adhesives & Sealants

Reference: State of California's South Coast Air Quality Management District (SCAQMD) Rule 1168, June 2006.

Ceramic tile adhesives: 65 g/L
Contact adhesives: 80 g/L
Contact adhesives for specialty purposes: 250 g/L
Cove base adhesives: 50 g/L
Dry wall and panel adhesives: 50 g/L
Fibreglass adhesives or primers: 80 g/L
Indoor carpet and carpet pad adhesives: 50 g/L
Metal to metal adhesives or primers: 30 g/L
Multipurpose construction adhesives: 70 g/L
Plastic adhesive primers: 550 g/L
Plastic foams adhesives: 50 g/L
Porous material (except wood): 50 g/L
Rubber floor adhesives: 60 g/L
Single ply roof membrane adhesives: 250 g/L
Structural glazing adhesives: 100 g/L
Subfloor adhesives: 50 g/L
Top and Trim adhesives: 540 g/L
Traffic marking tape adhesive primers: 150 g/L
VCT and asphalt tile adhesives: 50 g/L
Welding: ABS: 325 g/L
Welding: CPVC: 490 g/L
Welding: Plastic cement: 250 g/L
Welding: PVC: 510 g/L
Wood flooring adhesives: 100 g/L
Wood structural member adhesives: 140 g/L
Wood adhesives or primers (not regulated above): 30 g/L
Architectural sealants: 250 g/L
Architectural non-porous sealant primers: 250 g/L
Architectural porous sealant primers: 775 g/L
Marine deck sealants and sealant primers: 760 g/L

Modified bituminous sealant primers: 500 g/L
Non-membrane roof sealants: 300 g/L
Single-ply roof membrane sealants: 450 g/L
Other sealants: 420 g/L
Other sealant primers: 750 g/L

Low-Emitting Materials, Paints and Coatings

Architectural Paints, Coatings
Reference: Green Seal's Standard GS-11, May 1993.

Non-flat architectural paints/coatings/primers applied to interior walls and ceilings: 150 g/L
Flat architectural paints/coatings/primers applied to interior walls and ceilings: 50 g/L

Anti-corrosive and Anti-rust Paints
Reference: Green Seal Standard GC-03, January 1997.

Gloss anti-corrosive and anti-rust paints applied to interior ferrous metal substrates: 250 g/L
Semi-gloss anti-corrosive and anti-rust paints applied to interior ferrous metal substrates: 250 g/L
Flat anti-corrosive and anti-rust paints applied to interior ferrous metal substrates: 250 g/L

Interior Paints, Coatings
Reference: South Coast Air Quality Management District (SCAQMD) Rule 1113, January, 2004 (not already covered by GS-11 and GC-03).

Clear wood finishes applied to interior elements (varnish, lacquer, sanding sealers): 275 g/L
Floor coatings applied to interior elements: 50 g/L
Waterproofing sealers and all other sealers applied to interior elements: 100 g/L
Clear shellacs applied to interior elements: 730 g/L
Pigmented shellacs applied to interior elements: 550 g/L
Stains applied to interior elements: 100 g/L.

Low-Emitting Materials, Carpet
Reference: Carpet and Rug Institute's Green Label Indoor Air Quality Test Program.

Low-Emitting Materials, Composite Wood

Composite wood and agrifibre products, including core materials, must contain no added urea-formaldehyde resins. Adhesives used to fabricate laminated assemblies containing these products must contain no urea-formaldehyde.

Responsible Materials

High Recycled Content

Concrete to contain fly-ash content.
Steel to contain 70% recycled material or greater.
Use products and materials with high recycled content where possible.

Regional Materials, Extracted and Manufactured Regionally

Specify products and services that are locally manufactured and/or extracted where appropriate.

END OF APPENDIX