

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government Projects, Division 01 Sections take precedence over technical specifications in other Divisions of this Project Manual.

1.2 RELATED REQUIREMENTS

- .1 Not used.

1.3 REFERENCES

- .1 American National Standard Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
 - .1 ANSI/ASHRAE 52.2, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particulate Size (ANSI approved).
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-92.1, Sound Absorptive Prefabricated Acoustical Units.
- .3 CSA Group
 - .1 AAMA/WDMA/CSA 101/I.S.2/A440, NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights.
 - .2 CAN/CSA-B45.0 Series, Plumbing Fixtures.
- .4 Environmental Choice Program
 - .1 CCD-016, Thermal Insulation Materials.
 - .2 CCD-020, Gypsum Wallboard.
 - .3 CCD-029, Water Conserving Products.
 - .4 CCD-045, Sealant and Caulking Compounds.
 - .5 CCD-046, Adhesives.
 - .6 CCD-047, Architectural Surface Coatings.
 - .7 CCD-048, Surface Coatings - Recycled Water-Borne.
 - .8 CCD-127, Recycled Plastic Products.
 - .9 CCD-144, Naturally-Derived Phenol Substitutes.
 - .10 CCD-150, Steel for Use in Construction Products.
 - .11 CCD-152, Flooring Products.
- .5 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001, FSC Principle and Criteria for Forest Stewardship.
- .6 Green Seal Environmental Standards (GS)
 - .1 GS-03, Environmental Criteria for Anti-Corrosive Paints.
 - .2 GS-11, Standard for Paints and Coatings.

- .7 National Air Duct Cleaners Association (NADCA)
 - .1 NADCA ACR, Assessment Cleaning and Restoration.
 - .2 NADCA Standard 05, Requirements for the Installation of Service Openings in HVAC Systems.
- .8 Sheet Metal and Air Conditioning National Contractors Association (SMACNA)
 - .1 IAQ Guideline for Occupied Buildings Under Construction, 2007.
- .9 Sustainable Forestry Initiative (SFI)
 - .1 SFI Standard.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submittals required:
 - .1 Compliance Report indicating requirement to purchase energy efficient and environmentally benign products.
 - .2 Use Report indicating understanding of requirement to use materials and methods of construction, which improve energy and water efficiency, reduce hazardous by-products, and use recycled materials, or materials, which can be reused.
 - .3 Ensure Energy Report: indicates EnergyGuide ratings of new equipment and appliances.
 - .4 Building systems and material evaluation report.
- .3 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements. Indicate VOC emissions, prior to installation or use:
 - .1 Adhesives.
 - .2 Caulking compounds.
 - .3 Sealants.
 - .4 Insulating materials.
 - .5 Fireproofing or fire stopping materials.
 - .6 Paints.
 - .7 Floor and wall patching or levelling materials.
 - .8 Lubricants.
 - .9 Clear finishes for wood surfaces.
- .4 Construction Schedule:
 - .1 Submit schedule of construction prior to start of work, in co-ordination with scheduling requirements, including:
 - .1 Sequence of finish applications and allowances for curing times.
 - .2 Identification of finish types. See Table A
 - .3 Schedule and duration of proposed temporary ventilation.
 - .4 Delivery schedules of manufactured materials which are anticipated to off-gas in timely manner, which will allow for airing of those materials prior to their scheduled installation.

- .5 Indicate and schedule commissioning procedures and temporary usages of building mechanical systems, identifying types of filtration and schedule for filter replacement.

1.5 HAZARDOUS MATERIALS

- .1 Take measures to ensure chemical spills do not enter drains.
- .2 Provide proper storage and containment of herbicides and indoor pesticides.
 - .1 Design and construction of storage spaces for hazardous materials in accordance with authorities having jurisdiction.
 - .2 Include ventilation of areas, which contain potential sources of air contamination.
 - .1 Comply with standards for storage of flammable, combustible and hazardous materials, explosives, compressed gas cylinders, and reactive, corrosive and oxidizing materials.
 - .3 Storage conditions, ventilation requirements, construction materials storage areas, containers, drums and tanks, compatibility issues, and labelling: in accordance with federal and municipal guidelines supplemented as follows:
 - .1 Confine storage of chemicals and hazardous wastes to designated areas with security of access.
 - .2 Ensure access to hose bib and water for mixing concentrated chemicals.
 - .3 Include containment to prevent spills from entering drains.
 - .4 Include venting to exterior.
 - .5 Keep storage areas under negative pressure, where possible.

1.6 EROSION AND SEDIMENTATION CONTROL

- .1 Develop an Erosion and Sedimentation Control Plan to control stormwater runoff and other erosion measures.
- .2 Protect stockpiled topsoil.

1.7 REDUCING SITE DISTURBANCES

- .1 When building is on a previously undeveloped site comply with following requirements:
 - .1 Avoid major alterations to sensitive topography, vegetation and wildlife habitat in areas indicated.
 - .2 Create traffic patterns, that cause minimum site disruptions, as per Departmental Representative's approval.
- .2 Minimize disturbances to watershed using site water management measures to ensure that watersheds and groundwater will be preserved.
- .3 Construct and erect erosion barriers to locations as directed by Departmental Representative.
- .4 Take measures to avoid soil compaction unless required as part of constructing Works.
- .5 Re-grade and plant vegetation to restore original condition.

1.8 BUILDING ENVELOPE

- .1 Include insulation to optimize reduction of heat losses or heat gains through building envelope.
 - .1 Insulation to levels specified in Model National Energy Code (MNEC).
- .2 Maintain integrity of building envelope using air barriers and vapour retarders and avoid thermal bridging to provide thermal comfort and prevent condensation.
 - .1 Air leakage through windows: not to exceed limits specified in AAMA/WDMA/CSA 101/I.S.2/A440.

1.9 GENERAL BUILDING DESIGN

- .1 Indicate in writing to Departmental Representative.
 - .1 Compliance Report: indicating requirement to purchase energy efficient and reduced environmental impact products.
 - .2 Use Report: indicate understanding of requirement to use materials and methods of construction, which improve energy and water efficiency, reduce hazardous by-products, and use recycled materials, or materials which can be reused.
 - .3 Energy Report: to indicate that new equipment and appliances meet energy efficiency criteria.

1.10 GENERAL CONSTRUCTION MATERIALS/PRACTICES

- .1 Materials and Resources
 - .1 Use uncontaminated demolition materials for fill and hardcore and/or granular base.
 - .2 Incorporate reused building materials as indicated.
 - .3 Use products and services that meet criteria of EcoLogo guidelines.
 - .4 Provide list of non-endorsed products and services, provided the green labelled product or services are capable of meeting specified performance requirements.
- .2 Construction Waste Management
 - .1 Follow recommendations and requirements of this projects construction, renovation and demolition (CRD) waste management plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
 - .2 Recycled Content
 - .1 Use materials with post-consumer and post-industrial recycled content.
 - .3 Local/Regional Materials
 - .1 Use systems and materials having 20%, by cost, of total products or materials manufactured within 500 kilometers if transported by truck or 2400 kilometers if transported by rail or water of project site.
 - .4 Rapidly Renewable Materials
 - .1 Use systems and materials that originate from renewable sources.
 - .5 Wood
 - .1 Use lumber sourced from independently certified well-managed forests in accordance with CAN/CSA-Z809 or FSC or SFI.

- .2 Materials made from composite wood materials or agricultural products: must not contain urea-formaldehyde resins.
- .6 Insulation
 - .1 Utilize insulation materials meeting following requirements:
 - .1 Board-type thermal insulation materials must contain, when calculated on 12-month rolling basis:
 - .1 Over 35% recycled material by weight of finished product if made from glass fibre.
 - .2 Over 45% recycled material by weight of finished product if made from mineral composition.
 - .2 Loose-fill and spray-on thermal insulation materials must contain, when calculated on 12-month rolling basis:
 - .1 Over 75% recycled material by weight of finished product, if made from cellulose fibre.
 - .2 Over 35% recycled material by weight of finished product if made from glass fibre.
 - .3 Over 50% recycled material by weight of finished product, if made from mineral wool.
 - .3 Use insulation materials manufactured or installed that do not include CFC's.

1.11 CEILINGS

- .1 Utilize ceiling tiles (panels) that:
 - .1 Comply with CAN/CGSB-92.1.
 - .2 Have noise reduction coefficient (NRC) of at least 0.50 when tested on E400 mounting in accordance with CAN/CGSB-92.1.
 - .3 Contain, when calculated on 12-month rolling average:
 - .1 Over 75% recycled material by weight of finished product, if made from cellulose fibre.
 - .2 Over 35% recycled material by weight of finished product if made from glass fibre or mineral composition.

1.12 PAINTS, STAINS, AND VARNISHES

- .1 Use paints and coatings with VOC limits to CCD-047, CCD-048, GS-03 and GS-11.

1.13 SEALANTS, ADHESIVES AND COMPOUNDS

- .1 Use adhesives with VOC limits to CCD-046.
- .2 Use sealant products with VOC limits to CCD-045.

1.14 PLUMBING FIXTURES

- .1 Water Efficiency
 - .1 Include bathroom faucets with low flow models aerators.

- .2 Include efficient equipment to heat and supply service water to meet water-use target of less than 1.0 m³/m²/year.
- .2 Water Use Reduction
 - .1 Install water metres as indicated.
 - .2 Use low-flow faucet.
 - .3 Include low flow toilets to CAN/CSA-B45.0, maximum 6 Litres/flush.

1.15 EXTERIOR SITE

- .1 Take measures to prevent soil erosion before, during, and after construction by controlling storm-water runoff and wind erosion. Use:
 - .1 Detention ponds.
 - .2 Infiltration trench.
- .2 Landscape and Exterior Design
 - .1 Restore vegetation to match pre-construction condition.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION