OXYGEN BUILDING ARCHITECTURAL SPECIFICATIONS

GENERAL REQUIREMENTS:

The Contractor is required to supply all labour and supervision, all plant and equipment and all materials and supplies required to carry out the construction of the Oxygen Building at the Coldbrook Biodiversity Facility.

Work consists of the weather-tight construction of a wood frame building on a 24 ft. x 26 ft. concrete slab, with 10 ft. high ceiling, a 4:12 pitch gable roof and insulation of building.

All work to be completed in accordance with good construction practices and to the satisfaction of the Department's Project Office.

The Contractor is required to visit the site and familiarize themselves with site conditions and all items relevant to this work before submitting their tender. The Contractor shall determine all conditions that exist or may be encountered in the execution of this work.

The Contractor shall maintain efficient and continuous supervision.

The Department shall provide reasonable access to the Contractor, storage on site, free electrical power for construction purposes and use of sanitary facilities as designated by the facility's manager.

The Contractor shall perform work in accordance with the latest National Building Code of Canada (NBC) and any other code of provincial/municipal application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.

The Contractor shall not unreasonably encumber the site with materials or equipment. When the work is totally completed, the Contractor shall timely remove construction materials and equipment from site and also remove and properly dispose off site all surplus and/or waste materials and products and other construction debris as designated by the Department's Project Officer.

The Contractor shall use new building materials and construction products unless otherwise specified.

Unless otherwise indicated in these specifications or by drawings AP-1, AP-2, AP-3, AP-4, M-1, M-2, E-1, E-2 and E-3, the Contractor shall install or erect the materials in accordance with the manufacturer's recommendations. Improper installation or erection of materials, due to failure to comply with these requirements, authorizes the Project Officer to require removal and reinstallation at no cost to the Department.

CARPENTRY:

Rough lumber to be MLB stamped framing lumber, No. 1 Grade spruce, S4S, S-Dry.

Prefabricated roof trusses, including two gable trusses, to be designed as per loads shown on drawing AP-2. Shop drawings of trusses are required for Project Officer's approval.

Plywood sheathing for exterior walls and roof to be CANPLY stamped 1/2 in. CSP, unsanded standard construction in accordance to CSA 0151-M.

All fasteners, anchors, ties and nails to be galvanized unless noted otherwise. Use 1/2 in. x 6 in. Hilti kwik-bolt (or equal) to anchor sill plate to concrete slab.

All carpentry work to be securely fastened, plumb and square.

THERMAL AND MOISTURE PROTECTION:

Wind barrier to be DuPont Tyvek (or equal) commercial wrap.

R-24 and R-40 unfaced, friction fit fiberglass insulation to comply with CSA A101-M, Type 1. Use R-24 insulation in all walls and R-40 insulation in ceiling.

Asphalt shingles to be min. 210 lbs./sq., self-seal type, crystal black in color in accordance with CSA A123.1. Roofing felt to be min. 15 lbs. in accordance with CSA A123.3. Use continuous metal starter strip. Installation of roofing felt and asphalt shingles in accordance to CAN3-A123.51.

Exterior walls to be protected with vertical metal siding, including flashing, trim and other special purpose accessory pieces required for the siding system being used, to restrict the entry of rain and snow into the wall assembly. Vertical metal siding to be white prefinished aluminum cladding as per CGSB 93-GP-5Ma, type A, class 1. Metal flashing, soffit, fascia and exposed trim to be white prefinished aluminum as per CGSB 93-GP-2Ma, type C (type B for soffit), class 1. Install cladding in accordance with CGSB 93-GP-5M. Install outside corners, edging, soffit, drip cap, sill and door/window opening flashing as indicated.

Caulking shall be a non-hardening type suitable for exterior use, selected for its ability to resist the effects of weathering and compatible with and adhere to the substrate to which it is applied. Caulking to conform to CGSB 19-GP-5M, "Sealing compound, one component, acrylic base, solvent curing". Caulking shall be used where required to prevent the entry of water into the structure and between siding and the adjacent door/window frames or trim, including sills.

Use white seamless aluminum gutters and downspouts. Downspouts to have extensions to carry rainwater away from building in a manner which prevents soil erosion.

DOORS AND WINDOWS:

All doors to be commercial quality, 1 3/4 in. thick, 3 ft. x 7 ft. galvanized metal to ASTM A526 standards. Urethane insulation bonded core to CGSB 51-GP-21M. Doors to be prepped for cylindrical locks. All door frames (two 3 ft. x 7 ft. and one 6 ft. x 7 ft.) to be standard 20 gauge, galvanized metal prepped for 2 in. x 6 in. stud walls. Primer for all doors and door frames to CGSB 1-GP-181M. Hinges to be standard stainless to CGSB 69-GP-1M. Keyed cylindrical lockset to be standard stainless to CGSB 69-GP-3M. Threshold to be aluminum to CGSB 69-GP-6M. All exterior doors to have weatherstripping. Doors, frames and other hardware are available from Apex Industries Inc. or Coastal Door & Frame Ltd., both of Dartmouth, Nova Scotia.

All windows to be commercial quality, 3 ft. x 3 ft. 6 in. white single hung vinyl to CAN3-A440. Insulating sealed double glass with low-emissivity film to CAN2-12.8.

FINISHES:

All interior ceiling surfaces to have 6 mil vapour barrier, 1 in. x 4 in. strapping at 16 in. center to center and 3/8 in. gypsum board. All interior wall surfaces to have 6 mil vapour barrier and 1/2 in. gypsum board. All interior surfaces to be painted with one coat of primer and two coats of white acrylic latex semi gloss paint.