

# **Concept and Design Development Report**

## **Model Index** (edit to suit Project requirements)

### **1.0 Project Narrative** (include Computer Generated Rendering)

### **2.0 Faculty Program**

- 2.1 Program Narrative
- 2.2 Program Design Comparisons
- 2.3 Summary of Departmental Spaces
- 2.4 Gross Area Comparison

### **3.0 Site Infrastructure**

- 3.1 Site Earth Works
- 3.2 Water Mains
- 3.3 Sanitary Sewer Mains
- 3.4 Site Storm Drainage
- 3.5 Manholes and Catchbasins
- 3.6 Hard and Soft Landscaping

### **4.0 Building Envelope**

- 4.1 Foundations
- 4.2 Structural Framing
- 4.3 Concrete Slabs on Grade/Suspended Slabs
- 4.4 Thermal and Moisture Protection
- 4.5 Roof Assembly
- 4.6 Exterior Wall Assemblies
- 4.7 Doors, Windows and Skylights
- 4.8 Door Operators
- 4.9 Entrances and Exits
- 4.10 Overhead Doors

### **5.0 Barrier Free**

- 5.1 Barrier Free Path of Travel (Exterior and Interior)
- 5.2 Barrier Free Washrooms
  - 3.2.1 Water Closets
  - 3.2.2 Lavatories
- 5.3 Shower Rooms
  - 3.3.1 Shower Stalls
  - 3.3.2 Shower Trim
- 5.4 Automatic Door Operators
- 5.5 Counter Spaces
- 5.6 Parking Spaces and Walkways

- 6.0 Fire and Life Safety**
  - 6.1 Code Reviews (NRCC & NFPA Life Safety)
  - 6.2 Occupant Load Calculations
  - 6.3 Fire Commissioner's Form
  - 6.4 Fire Separations
  - 6.5 Escape Routes within Facility
  - 6.6 Emergency Lighting
  - 6.7 Sprinkler System Devices
  - 6.8 Pressurization/Smoke Control
  - 6.9 Fire Alarm
  - 6.10 Exit Lighting Systems
  - 6.11 Emergency Lighting Systems
  - 6.12 Standpipes
  - 6.13 Wet Pipe Sprinkler Systems
  - 6.14 Dry Pipe Sprinkler Systems
  - 6.15 Pre-Action Systems
  - 6.16 Deluge Systems
  - 6.17 Wet Chemical Extinguishing Systems
  - 6.18 Clean Agent Extinguishing Systems
  - 6.19 Fire Extinguishers
  - 6.20 Fire Pumps
  
- 7.0 Fit-Up and Finishes**
  - 7.1 Acoustical Performance
  - 7.2 Room Fit-up and Finishes
  - 7.3 Millwork
  
- 8.0 Food Services and Laundry**
  - 8.1 Kitchen Equipment
  - 8.2 Pre-Fabricated Walk-in Freezers and Coolers
  - 8.3 Laundry equipment
  - 8.4 Cooler/Freezers Heat Recovery
  - 8.5 Laundry Heat Recovery
  - 8.6 Kitchen Ventilation
  
- 9.0 Conveying Systems**
  - 9.1 Fire Services Elevator
  - 9.2 Elevators
  - 9.3 Patient Lifts
  - 9.4 Hydraulic Lift
  - 9.5 Elevating Docks
  
- 10.0 Plumbing**
  - 10.1 Plumbing Fixtures
  - 10.2 Domestic Water System
  - 10.3 Domestic Water Treatment

- 10.4 Domestic Water Booster Pumps
- 10.5 Sanitary Sewer
- 10.6 Storm Sewer

## **11.0 Medical Gas**

- 11.1 Medical Air System
- 11.2 Medical Vacuum System
- 11.3 Medical Oxygen System
- 11.4 Oxygen Generation

## **12.0 HVAC**

- 12.1 Steam Generators- Boilers
- 12.2 Chilled Water System-Chillers
- 12.3 Hot Water Heating System
- 12.4 Chilled Water System, Humidification
- 12.5 Air Handling Systems
- 12.6 Fans, Reheat Coils
- 12.7 Space Pressure
- 12.8 Ground Source Heat Pump
- 12.9 Isolation Room Systems
- 12.10 Hot Water Generator-Boilers
- 12.11 Heat Recovery Systems
- 12.12 HVAC Water Treatment

## **13.0 Controls**

- 13.1 DDC Systems
- 13.2 Energy Management System
- 13.3 System Architecture
- 13.4 Existing Systems
- 13.5 Control Sequences
- 13.6 Zone Control
- 13.7 Heater Control

## **14.0 Electrical-Distribution**

- 14.1 Padmount Switchgear
- 14.2 Exterior Load Break Switches
- 14.3 Interior Switchgear
- 14.4 Air Circuit Breakers
- 14.5 Conductors
- 14.6 Interior Feeders
- 14.7 Padmount Distribution Transformers
- 14.8 Dry-Type Transformers
- 14.9 Lightning Arrestor
- 14.10 Overhead Service
- 14.11 Underground Service
- 14.12 Electric Load Bank

- 14.13 Cable Tray Systems
- 14.14 Power Factor Capacitors
- 14.15 Service Entrance Equipment
- 14.16 Motor Control Centres
- 14.17 Disconnect/Safety Switches
- 14.18 Equipment Enclosure
- 14.19 Splitters
- 14.20 Junction Boxes
- 14.21 Wiring Devices
- 14.22 Circuit Breakers
- 14.23 Conduits
- 14.24 Motor Starters
- 14.25 Grounding
- 14.26 Contactors
- 14.27 Electrical Outlets
- 14.28 Electric Heating
- 14.29 Snow Melt Cables

## **15.0 Electrical-Lighting**

- 15.1 Lighting
- 15.2 Lighting Transformers
- 15.3 Lighting Panel Boards

## **16.0 Electrical-Emergency Power**

- 16.1 Emergency Power Generation
- 16.2 Transfer Switches
- 16.3 Generator Switch Board
- 16.4 Ventilation
- 16.5 Fuel System
- 16.6 Emergency Power Distribution

## **17.0 Communications, Data and Security**

- 17.1 Intercom System
- 17.2 Public Address System
- 17.3 Nurse Call System
- 17.4 Central Clock System
- 17.5 Central Dictation
- 17.6 Television System
- 17.7 Security System Card Access
- 17.8 Security System- CCTV
- 17.9 Telephone Systems
- 17.10 Assistive Listening Systems
- 17.11 Data Cable Systems
- 17.12 Uninterruptible Power Supply

## 18.0 LEED

- 18.1 LEED Scorecard
- 18.2 Sustainable Sites
  - 16.1.1 Prerequisite 1 Erosion & Sedimentation Control
  - 16.1.2 Credit 1 Site Selection
  - 16.1.3 Credit 2 Development Density
  - 16.1.4 Credit 3 Redevelopment of Contaminated Sites
  - 16.1.5 Credit 4 Alternative Transportation
  - 16.1.6 Credit 5 Reduced Site Disturbance
  - 16.1.7 Credit 6 Stormwater Management
  - 16.1.8 Credit 7 Heat Island Effect
  - 16.1.9 Credit 8 Light Pollution Reduction
- 18.3 Water Efficiency
  - 16.2.1 Credit 1 Water Efficient Landscaping
  - 16.2.2 Credit 2 Innovative Wastewater Technologies
  - 16.2.3 Credit 3 Water Use Reduction
- 18.4 Energy & Atmosphere
  - 16.3.1 Prerequisite 1 Fundamental Building Systems Commissioning
  - 16.3.2 Prerequisite 2 Minimum Energy Performance
  - 16.3.3 Prerequisite 3 CFC Reduction in HVAC&R Equipment and Elimination of Halons
  - 16.3.4 Credit 1 Optimize Energy Performance
  - 16.3.5 Credit 2 Renewable Energy Performance
  - 16.3.6 Credit 3 Best Practice Commissioning
  - 16.3.7 Credit 4 Ozone Protection
  - 16.3.8 Credit 5 Measurement and Verification
  - 16.3.9 Credit 6 Green Power
- 16.4 Materials & Resources
  - 16.4.1 Prerequisite 1 Storage & Collection of Recyclables
  - 16.4.2 Credit 1 Building Reuse
  - 16.4.3 Credit 2 Construction Waste Management
  - 16.4.4 Credit 3 Resource Reuse
  - 16.4.5 Credit 4 Recycled Content
  - 16.4.6 Credit 5 Regional Materials
  - 16.4.7 Credit 6 Rapidly Renewable Materials
  - 16.4.8 Credit 7 Certified Wood
  - 16.4.9 Credit 8 Durable Building
- 16.5 Indoor Environmental Quality
  - 16.5.1 Prerequisite 1 Minimum IAQ Performance
  - 16.5.2 Prerequisite 2 Environmental Tobacco Smoke (ETS) Control
  - 16.5.3 Credit 1 Carbon Dioxide (CO<sub>2</sub>) Monitoring

<b>16.5.4</b>	Credit 2	Ventilation Effectiveness
<b>16.5.5</b>	Credit 3	Construction IAQ Management Plan
<b>16.5.6</b>	Credit 4	Low-Emitting Materials
<b>16.5.7</b>	Credit 5	Indoor Chemical & Pollutant Source Control
<b>16.5.8</b>	Credit 6	Controllability of Systems
<b>16.5.9</b>	Credit 7	Thermal Comfort
<b>16.5.10</b>	Credit 8	Daylight & Views

**16.6** Innovation & Design Process

<b>16.6.1</b>	Credit 1	Innovation in Design
<b>16.6.2</b>	Credit 2	LEED Accredited Professional

**19.0 Furniture & Equipment**

<b>19.1</b>	Owner Supplied and Installed (include Product Literature)
<b>19.2</b>	Owner Supplied, Contractor Installed (include Product Literature)
<b>19.3</b>	Contractor Supplied and Installed (include Product Literature)

**Annexes**

Room Data Sheets  
 Geotechnical Report  
 Energy Simulation Report  
 Ground Source Heat Exchanger Sizing  
 MNECB Checklist  
 Commissioning Plan  
 Specification Index  
 List of Drawings  
 Drawings (separate cover)  
 Costing Studies (separate cover)