

GREEN BUILDING DESIGN DELIVERABLES

**Version 1.4
May 5, 2007**

1. INTRODUCTION

1.1 *Context for LEED Certification:*

- The average North American spends 90% of his/her time in buildings.
- Buildings construction, operation and demolition have significant environmental impacts:
 - 30% of greenhouse emissions in Canada,
 - 38% of total Canadian secondary energy use
 - 12% of our fresh water withdrawals
 - 15% to 40% of landfills is from building construction waste
 - 40% (3 billion tons annually) of raw materials globally
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- Achieving the LEED (Leadership in Energy and Environmental Design) certification will assist to reduce the building's impact on the environment, conserve energy, save money & improve the indoor environment.
 - To do this requires:
 - Meeting all 7 LEED prerequisites
 - Achieving the appropriate number of the 70 possible LEED credits
 - Completing necessary LEED documentation for prerequisites & credits
 - Submitting a complete application for certification to CaGBC
 - Providing any supplementary documentation required by CaGBC to achieve LEED certification.

1.2 *Purpose of this Document*

- This document is intended to define deliverables required at each stage of the design of a green building in order to achieve LEED certification (aka Green Building Design Deliverables).
 - These deliverables are essential to be completed at the prescribed step in the process, in order to maximize LEED points and minimize capital costs.
 - These deliverables can be achieved in a multitude of ways; however, it has been shown that an Integrated Design Process (IDP) can save time and cost as well as improving effectiveness.

GREEN BUILDING DESIGN DELIVERABLES

2. Schedule (Conceptual level CPM) noting major milestones	
a. IDP & Design Coordination Meeting dates	<input type="checkbox"/>
b. Public meeting dates	<input type="checkbox"/>
c. Development Permit submission & approval	<input type="checkbox"/>
d. 50% Drawing completion	<input type="checkbox"/>
e. Building Permit submission & approval	<input type="checkbox"/>
f. Tender request & close	<input type="checkbox"/>
g. Contract award	<input type="checkbox"/>
h. Commissioning	<input type="checkbox"/>
i. Occupancy	<input type="checkbox"/>
3. Budget (Conceptual level budgets by major category)	
a. Project Management, Consultants, Contractors, etc.	<input type="checkbox"/>
i. Further break down if available (sub-consultants, sub-contractors, etc.)	
4. People	
a. Organization chart noting reporting & approvals (i.e. include owner, staff, consultants & contractors (with emphasis on LEED players – LEED Coordination/Documentation, Contractor Champion, etc.)	<input type="checkbox"/>
b. Performance Management	
i. Critical Success Factors (i.e.Goals/Targets)	<input type="checkbox"/>
ii. Performance Reporting methodology (frequency, process, etc.)	<input type="checkbox"/>
1. Staff	<input type="checkbox"/>
2. Consultants	<input type="checkbox"/>
3. Contractors	<input type="checkbox"/>

GREEN BUILDING DESIGN DELIVERABLES

ii. LEED Documentation tracking report noting current status	<input type="checkbox"/>
iii. DRAFT LEED Letter Templates completed by professional responsible relative to concept design	<input type="checkbox"/>
g. General	<input type="checkbox"/>
i. Updated Table of Contents of drawings	<input type="checkbox"/>
2. Schedule Updated to DD	<input type="checkbox"/>
3. Budget Updated to DD	<input type="checkbox"/>
4. People	<input type="checkbox"/>
a. Updated Organization chart noting reporting & approvals	<input type="checkbox"/>
b. Performance Management Reports	<input type="checkbox"/>
1. Staff	<input type="checkbox"/>
2. Consultants	<input type="checkbox"/>
3. Contractors	<input type="checkbox"/>

GREEN BUILDING DESIGN DELIVERABLES

CONSTRUCTION DOCUMENTS	Done
<p>1. Scope</p> <ul style="list-style-type: none"> a. Architectural Drawings & Specifications <ul style="list-style-type: none"> i. Refined narrative on concept <input type="checkbox"/> ii. Refined floor plans including millwork <input type="checkbox"/> iii. Refined Building Elevations <input type="checkbox"/> iv. Refined Perspective Views <input type="checkbox"/> v. Narrative & details on refinement of special features & quality issues <input type="checkbox"/> vi. Refined envelope concept <ul style="list-style-type: none"> 1. Areas (walls, windows, doors) <input type="checkbox"/> 2. U – Values (walls, windows, doors) <input type="checkbox"/> b. Structural Drawings & Specifications <ul style="list-style-type: none"> i. Updated Schematic/cartoon of structural <input type="checkbox"/> ii. CD drawings <input type="checkbox"/> iii. Draft Specification <input type="checkbox"/> c. Mechanical Drawings & Specifications <ul style="list-style-type: none"> i. Updated narrative on Concept (if required) <input type="checkbox"/> ii. Updated schematic/cartoon of mechanical concept <input type="checkbox"/> iii. List of major equipment noting sizes (HP, lps, etc.) <input type="checkbox"/> iv. Mechanical power density (watts/sq.m.) <input type="checkbox"/> v. CD drawings <input type="checkbox"/> vi. Draft mechanical specification <input type="checkbox"/> d. Electrical Drawings & Specifications <ul style="list-style-type: none"> i. Refined narrative on Concept <input type="checkbox"/> ii. Refined schematic/cartoon of electrical concept <input type="checkbox"/> iii. Lighting power density (watts/sq.m.) <input type="checkbox"/> iv. CD drawings <input type="checkbox"/> v. Draft electrical specification <input type="checkbox"/> e. Energy Simulation <ul style="list-style-type: none"> i. Energy simulation based on design development design noting % energy cost saving & LEED points <input type="checkbox"/> f. LEED Management <ul style="list-style-type: none"> i. LEED scorecard with NO uncertain credits (i.e. no ??) other than contractor credits <input type="checkbox"/> 	

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ii. LEED Documentation tracking report noting current status	
iii. DRAFT LEED Letter Templates completed by professional responsible relative to concept design	<input type="checkbox"/>
g. General	<input type="checkbox"/>
i. Final Table of Contents of drawings	<input type="checkbox"/>
2. Schedule Updated to CD	<input type="checkbox"/>
3. Budget Updated to CD	<input type="checkbox"/>
4. People	<input type="checkbox"/>
a. Updated Organization chart noting reporting & approvals	<input type="checkbox"/>
b. Performance Management Reports	
1. Staff	<input type="checkbox"/>
2. Consultants	<input type="checkbox"/>
3. Contractors	<input type="checkbox"/>