LEED for Neighbourhood Development
Smart Growth, Urban Design, and Infrastructure Highlights

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LEED ND Presentation Summary

• LEED Canada
• LEED for Neighbourhood Development
• LEED ND Adaptation Process
• LEED ND Structure
• Certification Process
• **Smart Growth and Linkage** Prerequisites & Credits
• **Neighbourhood Pattern & Design** Prerequisites and Credits
• **Green Infrastructure** & Buildings Prerequisites and Credits
• Innovation and Design Process Credits
• Further Resources
LEED Categories

• Subdivided into **nine categories:**
  • New Construction and Major Renovations
  • Existing Buildings: Operations and Maintenance
  • Commercial Interiors
  • Core and Shell
  • Schools (K-12)
  • Retail – in pilot form
  • Healthcare – in draft form
  • Homes
  • **Neighbourhood Development**
LEED Canada

- The **Canadian Green Building Council (CaGBC)** adapting US systems to **Canadian climates, construction practices, and regulations**.

- Canadian versions are:
  - New Construction
  - Commercial Interiors
  - Core and Shell
  - Existing Buildings
  - Homes
  - **Neighbourhood Development (Alternative Compliance Paths)**
LEED for Neighbourhood Development

• USGBC developed LEED ND with the Congress for the New Urbanism and Natural Resources Defense Council.

• 238 pilot projects worldwide, including 24 in Canada, with 6 in Ontario:
  • Batawa Community, Quinte West
  • CFB Rockliffe, Ottawa
  • Metrogate, Toronto
  • North Oakville Secondary Plan, Oakville
  • Preston Meadows, Cambridge
  • Toronto Waterfront Area 1, Toronto

• 106 pilots certified LEED ND as of December 14, 2011
LEED ND Adaptation Process

• CaGBC worked with USGBC and:
  • Toronto Region Conservation Authority
  • Smart Growth BC
  • Federation of Canadian Municipalities
  • Universities

• A Canadian LEED ND Core Committee of technical experts, developers, partner organizations, and CaGBC staff oversaw the technical adaptation of LEED ND in Canada.

• USGBC prefers minimal changes to their rating systems, which resulted in a series of LEED 2009 ND Canadian Alternative Compliance Paths (ACPs) being developed, versus an entirely Canadian system.

• ACPs available on the CaGBC web site since December 2011.
LEED ND Structure

• LEED-ND based on **five theme areas** for **110 possible points**:
  • Smart Location and Linkage - 5 prerequisites + 27 possible points
  • Neighbourhood Pattern and Design – 3 prerequisites + 44 possible points
  • Green Infrastructure and Buildings - 4 prerequisites + 29 possible points
  • Innovation and Design Process - 6 possible points
  • Regional Priority Credits – 4 possible points

• A minimum of **40 points is required for Certification**, 50 for Silver, 60 for Gold, and 80 for Platinum.

Pointe Norde, Montreal
CERTIFIED GOLD

Strathearn Master Plan, Edmonton
CERTIFIED SILVER

Technopole Angus, Montreal
CERTIFIED GOLD
Certification Process

Stage 1: Optional Pre-Review
Stage 2: Certification of an Approved Plan
Stage 3: Certification of a Completed Neighbourhood Development

Toronto Waterfront Area 1–East Bayfront and West Don Lands – CERTIFIED GOLD

Dockside Green, Victoria – CERTIFIED PLATINUM
1. Smart Location
   • On publicly-owned existing or planned water/wastewater infrastructure and option of:
     • infill
     • adjacent
     • existing or planned transit
     • nearby neighbourhood assets.

2. Imperiled Species and Ecological Communities

3. Wetland and Water Body Conservation

4. Agricultural Land Conservation

5. Floodplain Avoidance
Smart Location & Linkage Credits

1. Preferred Locations - 10 points
   • previously developed infill site, (virgin) infill site, previously developed adjacent site, or previously developed but not an infill or adjacent site; and/or
   • **Connectivity** location: an area of **high intersection density**; and/or
   • Designated High Priority Location

2. Brownfield Redevelopment - 2 points

3. Locations with Reduced Automobile Dependence – 7 points

Connectivity
4. Bicycle Network and Storage – 1 point
   • near a **bicycle network** and enclosed **bicycle storage and parking**.

5. Housing and Jobs Proximity – 3 points
   • located **within walking distance of number of existing jobs ≥ the number of dwelling units in the project**; or
   • **within walking distance of transit and the number of dwelling units ≥ the jobs created in the project**

6. Steep Slope Protection – 1 point

7. Site Design for Habitat or Wetland/Water Body Conservation – 1 point

8. Restoration of Habitat or Wetlands/Water Bodies – 1 point

9. Long-Term Conservation Management of Habitat or Wetland/Water Bodies – 1 point
Neighbourhood Pattern & Design Prereqs

1. Walkable Streets
   - principal functional entries to be on public space
   - minimum building height-to-street-width ratio of 1:3
   - continuous sidewalks of a minimum width
   - maximum number of street-facing garage doors or service bays.

![Building-Height-to-Street-Width Ratio](image)

Oakville Town Hall  Kitchener City Hall

Principal Entry on Public Space not Parking Lot
2. Compact Development
   - minimum net residential densities and/or floor area ratios depending on distance from transit:
   - minimum net residential density of 17 du/ha

3. Connected and Open Community
   - minimum connectivity
1. Walkable Streets – 12 points

- 16 criteria
- organized under categories of Facades & Entries, Ground-Level Use & Parking, Design Speeds, and Sidewalk Intrusions:
  - Facades and Entries: maximum building setbacks, distance between building entries

![Building Setbacks](image1)

![Distance Between Entries](image2)
1. Walkable Streets – continued

- Ground-Level Use & Parking:
  - minimum glass on ground level
  - maximum blank wall lengths, no ground level shutters
  - minimum on-street parking
  - continuous sidewalks of a minimum width
  - minimum finished floor elevation
  - minimum ground floor retail area and street façade lengths
  - minimum height-to-street-width ratio of 1:3

Glass on Ground Floor Facades  Blank Wall Maximum Length  Minimum Ground Floor Level for Dwelling Space
1. Walkable Streets – continued
   - Design Speeds for Safe Pedestrian and Bicycle Travel: streets designed for maximum target speed
   - Sidewalk Intrusions: maximum number of at-grade driveway crossings with sidewalks

2. Compact Development – 6 points
   - minimum [net] residential densities and/or floor area ratios

3. Mixed-Use Neighbourhood Centres – 4 points
   - minimum number of dwelling units are within walking distance of a range of diverse uses
4. Mixed-Income Diverse Communities – 7 points
   • number and ratio of housing types and sizes within or nearby the project
   • percentage of affordable rental and/or for-sale housing within the project

5. Reduced Parking Footprint - 1 point
   • parking to the rear or side of buildings maximum surface parking areas
   • minimum bicycle parking and storage
   • minimum carpool/shared-use vehicle parking spaces
5. Street Network – 2 points

- Minimum distance between through streets or walks
- Minimum bike and walk connections through cul-de-sacs;
- Degree of "connectivity".

Keele St., Vaughan

Minimum Distance Between Through Streets and Walks

Connectivity
Neighbourhood Pattern & Design Credits

7. Transit Facilities – 1 point
8. Transportation Demand Management – 2 points
9. Access to Civic and Public Spaces – 1 point
10. Access to Recreation Facilities – 1 point
11. Visibility and Universal Design – 1 point
12. Community Outreach and Involvement – 2 points
13. Local Food Production – 1 point
14. Tree-Lined and Shaded Streets – 2 points
15. Neighbourhood Schools – 1 point
Green Infrastructure & Buildings Prereqs

1. Certified Green Building
2. Minimum Building Energy Efficiency
3. Minimum Building Water Efficiency
4. Construction Activity Pollution Prevention

The Village at Griesbach, Edmonton
Curry Barracks, Calgary
Fauberg Boisbriand, Broisbriand, QC
CERTIFIED GOLD
CERTIFIED GOLD
CERTIFIED GOLD
Green Infrastructure & Buildings Credits

1. Certified Green Buildings – 5 points
2. Building Energy Efficiency – 2 points
3. Building Water Efficiency – 1 point
4. Water Efficient Landscaping – 1 point
5. Existing Building Reuse – 1 point
6. Historic Resource Preservation and Adaptive Reuse – 1 point
7. Minimize Site Disturbance in Design and Construction – 1 point

Brookside Public School, Scarborough Certified Green Building

Historic Resource Preservation and Adaptive Reuse

Waterloo Architecture School, Galt
8. Stormwater Management - 4 points

• amount of rainfall retained on site through infiltration, evapotranspiration, and reuse.

• locating in a previously developed site, earning minimum points in Brownfields Redevelopment, Walkable Streets, Compact Development, and Diversity of Uses credits.

9. Heat Island Reduction – 1 point

Heat Island Reduction  Green Roof, Mountain Equipment Coop, Toronto
Green Infrastructure & Buildings Credits

10. Solar Orientation – 1 point
   • minimum number of blocks with longer side on east/west axis and Compact Development credit
   • Minimum amount of project building square footage with longer side on east/west axis.

11. On-Site Renewable Energy Sources – 3 points
   • on-site, non-polluting technologies with production capacity of minimum percentage of project’s annual electrical and thermal energy cost.
12. District Heating and Cooling – 2 points
   • percentage of project’s annual heating and/or cooling consumption is provided by district plant
   • exceed a number of efficiency criteria
   • combined Heating and Power
13. Infrastructure Energy Efficiency – 1 point
   • all new infrastructure to achieve annual energy reduction.
14. Wastewater Management – 2 points
   • on-site treatment to reuse on-site minimum percentage of average annual wastewater generated.

15. Recycled Content in Infrastructure – 1 point

16. Solid Waste Management Reduction – 1 point

17. Light Pollution Reduction – 1 point
Innovation and Design Process Credits

1. Innovation and Exemplary Performance – 5 points
2. LEED Accredited Professional – 1 point
Regional Priority Credit – 4 points
   • **regional importance for the project’s location.** Non-U.S. projects are not eligible.

Tassafronga Village, Oakland
CERTIFIED GOLD

Twinbrook Station, Rockville MD
CERTIFIED GOLD

Reston Heights, Reston VA
CERTIFIED GOLD
Further Resources

- CaGBC web site:  www.cagbc.org
- USGBC web site:  www.usgbc.org