

# Mississauga Green Development Standards Update

Environmental Action Committee

April 4th, 2023



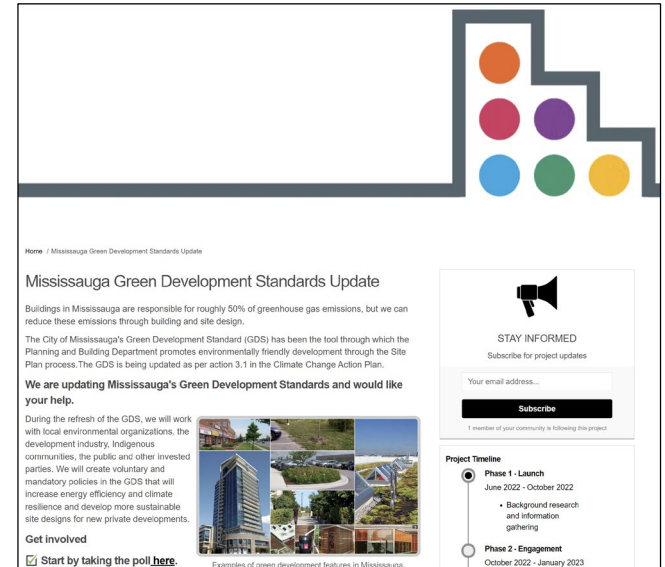
# Discussion

- Project update since the June EAC
- Review other green development standards (GDS's) in GTA
- Mandatory tiered metrics vs. point/menu system
- Objectives of the metrics
- Draft mandatory metrics tier 1
- Next steps



# Project Update

- Mississauga's (MGDS) web site launched and open for comments
- Project Phase 1 and 2 complete, benchmarking, information gathering, etc.
- Numerous discussions with other municipalities on implementation, process, mandatory metrics, etc.



## MGDS Web site

# Why update Green Development Standards



## GC endorsed the Climate Change Action Plan in 2019 Action 3.1 – GDS update with energy and resilient design

### Action #3: Improve the Energy Efficiency and Climate Resilience of New Buildings

The City will work to advance the sustainability and resilience of new private developments to encourage the use of renewable and district energy, reduce stormwater runoff, protect and enhance ecological functions, and reduce urban heat island.

#### Goals Supported

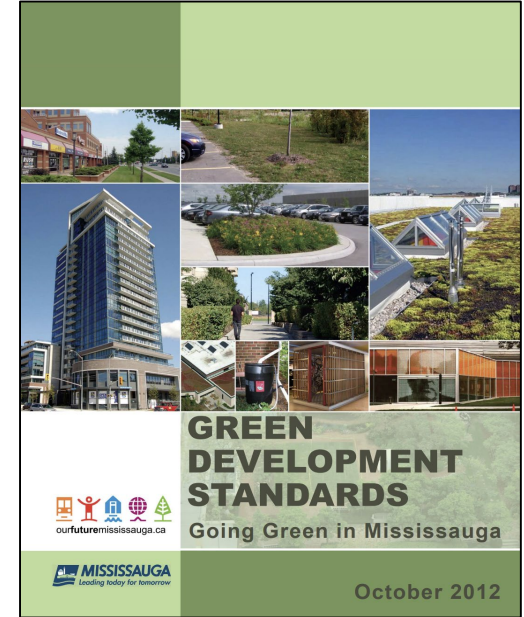
Adaptation      Mitigation

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Supporting Actions	Action Type	Timeline	Cost	Status	Responsibility		Additional Stakeholders
					Lead	Support	
3-1 Update the Green Development Standard to include energy and resilience considerations within building, site features, and boulevard design	Plan/Study	▬▬▬	\$\$	Planned	Development and Design/ Parks, Forestry & Environment (Environment)* *Co-Lead	Legal, Infrastructure Planning and Engineering Services	Utilities, Property Owners/ Management / Developers
3-2 Identify opportunities to introduce new legal and/or policy tools, including by-laws, to require implementation of climate resilience measures (e.g., green roof by-law) in new buildings	Plan/Study	▬▬▬	N/A	Not initiated	Parks, Forestry & Environment (Environment)	Legal Services, City Planning Strategies	

# Current GDS 2012

- New private developments under the Planning Act
- Voluntary standards through site plan approval
- Successful at obtaining low-impact landscape features (stormwater, bio-swales, green roofs, etc.)
- Does not address GHG emissions and building resilience



## GDS 2012

# Two Types of Standards/Metrics

- ❑ **Mandatory tiered standards**, advantages, e.g, tier 1, tier 2, etc. (Toronto, Whitby, Pickering, Ottawa)
- ❑ **Point system or menu selection**, (Brampton, Vaughan, Richmond Hill)
  - Some developers prefer the tiered approach other point/menu approach
  - BILD prefers the point system
  - The point system: often selecting the easy points (low hanging fruit), not addressing GHG emissions, challenging for city staff review and verify and lengthy for the applicant.

8	% Tree canopy within proximity to building/pedestrian infrastructure	Satisfy municipal planting requirements	Provide shade within 10 years for at least 50% of the walkways/sidewalk lengths All trees should be selected from the applicable municipal tree list. (2 POINT)	Provide shade within 10 years for at least 75% of the walkways/sidewalk lengths. All trees should be selected from the applicable municipal tree list. (2 POINTS)	Municipal OP LEED ND NPDc14	4
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## 44 SPA Metrics Brampton

# Mandatory Tiered Metrics

Toronto's mandatory tiered system 2013

- Tier 1, is mandatory (36 metrics)
- Tier 2 and 3 are voluntary and are more rigorous metrics
- Tier 2 and 3 provide development charge (DC) incentives (i.e. \$1000's per unit)
- DC Incentives would be challenging for Mississauga as we are a two tier municipality. Needs approval by City and Regional Council

2018	2022	2026	2030
V3 Tier 1	--	--	--
V3 Tier 2	➤ V4 Tier 1	--	--
V3 Tier 3	V4 Tier 2	➤ V5 Tier 1	--
V3 Tier 4	V4 Tier 3	V5 Tier 2	➤ V6 Tier 1



All projects must complete and demonstrate compliance with Tier 1 and pay Development Charges in order to be eligible to apply for the [Development Charge Refund](#). Tier 1 is verified through Site Plan Approvals. The Tier 2 and 3 high performance standards are third party verified and certified by prequalified consultants. Review the current Development Charges Bylaw and DC Refund Cap rates to determine the potential incentive available to your project

# Mandatory Tiered Metrics: Advantages

- Mandatory performance targets are better at reducing GHG emissions (energy) and pathway to Net-zero
- Align metrics with other GTA cities – strength in numbers
- Lead by example - align with the City's Corporate Green Building Standards
- Metrics are quantifiable and direct, which is simpler for the applicants and City staff



## Energy – operational carbon

Office Building		
Level 1	Level 2	Level 3
<b>EUI:</b> 110 kWh/m <sup>2</sup> /year	<b>EUI:</b> 90 kWh/m <sup>2</sup> /year	<b>EUI:</b> 60 kWh/m <sup>2</sup> /year
<b>TEDI:</b> 55 kWh/m <sup>2</sup> /year	<b>TEDI:</b> 35 kWh/m <sup>2</sup> /year	<b>TEDI:</b> 15 kWh/m <sup>2</sup> /year
<b>GHGI:</b> 15 kgCO <sub>2</sub> e/m <sup>2</sup> /year	<b>GHGI:</b> 10 kgCO <sub>2</sub> e/m <sup>2</sup> /year	<b>GHGI:</b> 5 kgCO <sub>2</sub> e/m <sup>2</sup> /year

## Mississauga Corporate Green Building Standard– 17 Metrics



## MGDS Draft Metrics – 5 objectives

1. Direct, simple and verifiable which will be easier for City staff and applicants
2. Aims at climate change, resiliency and pathway to Net-zero
3. Aligns with the City Corporate Green Building Standards and Toronto and GTA municipalities standards
4. Does not repeat or conflict with an existing City standards/program/etc., e.g. stormwater
5. The authority to implement through the Planning Act, official plan, by-laws and site plan approval



Transparent Solar Panels

# MGDS Draft Metrics – Tier 1 Mandatory (Site Plan)

## ENERGY

Submit an Energy Modelling Report with 3 performance targets – operational carbon

	Draft Metric	City's Corporate Building Standards	Toronto Green Standards Version 4
1	<b>TEUI</b> – Total Energy Use Intensity	CBS L1	TGSV4 T1
2	<b>TEDI</b> – Thermal Energy Demand Intensity	CBS L1	TGSV4 T1
3	<b>GHGI</b> – Green House Gas Intensity	CBS L1	TGSV4 T1

# MGDS Draft Metrics – Tier 1 Mandatory (Site Plan)

## RESILIENCY

Ensuring the building continues to maintain minimum functions

4	<b>Emissions-Free Energy/Storage</b> Minimum 5% of the building's energy demand <ul style="list-style-type: none"> <li>a) Solar Panels</li> <li>b) Geo-exchange</li> <li>c) District Energy Ready</li> <li>d) Energy/Battery Storage</li> <li>e) Other Technologies</li> </ul>	CBS L2	TGSV4 T1
5	<b>Refuge Area – 72 hour back-up power</b>	CBS L1	TGSV4 T2

# MGDS Draft Metrics – Tier 1 Mandatory (Site Plan)

## ECOLOGY

Protecting the bird population

<b>6</b>	<b>Bird Friendly Design - Glazing and design</b>	<b>CBS L2</b>	TGSV4 T1
<b>7</b>	<b>Dark Sky Compliant – Exterior lighting</b>	CBS L1	TGSV4 T1

# MGDS Draft Metrics – Tier 1 Mandatory (Site Plan)

## NATURAL SYSTEMS

8	<b>Heat Island Effect</b> – Light coloured paving		
9	<b>Tree Growth</b> – Tree canopy/soil volume/technology	CBS L1	TGSV4 T1
10	<b>Climate Resilience Landscapes</b> – Native plant material, pollinators, bio-diverse and non-invasive plantings	CBS L1	TGSV4 T1
11	<b>Green/White/Blue Roofs</b> – a) 25% green roof, b) 50% cool roof, c) design for stormwater management		TGSV4 T1

# MGDS Draft Metrics – Tier 1 Mandatory (Site Plan)

## CLIMATE CHANGE

Undertake a Life Cycle Assessment for the whole building

12	<b>Embodied Carbon Footprint</b> Undertake a LCA assessment to benchmark embodied carbon	CBS L1	TGSV4 T2
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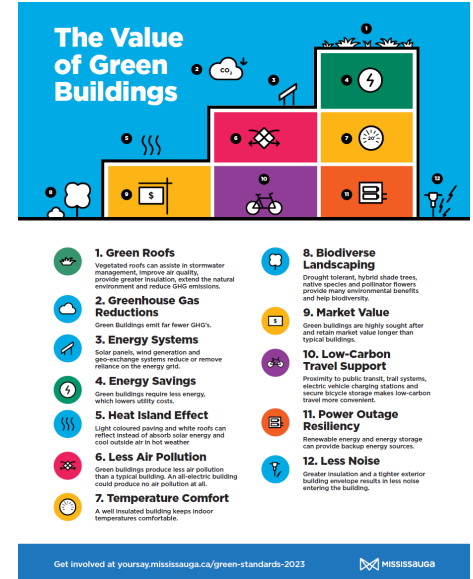
5 Objective Achieved:

**5 Themes** – Energy, resiliency, ecology, natural systems and climate change

**12 Performance Metrics**

# Next Steps

- Comments on GDS 'Have Your Say' website
- Uncertainty as a result of Provincial Bill 109 and Bill 23, Ontario Building Code.
- Mandatory Draft Metrics – define performance targets
- Develop draft Tier 2 and 3 voluntary metrics.
- Focused engagement (developers, youth, equity/affordability, utilities/Region, Indigenous) late-April and early-May 2023



## MGDS Poster

# Thank You