## ECOCITY AT UBC

PROPOSE A FRAMEWORK TO EVALUATE AND AMEND UBC PLANS AND POLICIES

Elham Haghbin

• SDGs are a collection of 17 global goals



- SDGs are a collection of 17 global goals
- UBC has recently aimed to align itself with SDGs



- SDGs are a collection of 17 global goals
- UBC has recently aimed to align itself with SDGs
- How can UBC reach SDGs?



- SDGs are a collection of 17 global goals
- UBC has recently aimed to align itself with SDGs
- How can UBC reach SDGs?
- UBC plans and policies play an important role in delivering these goals



- SDGs are a collection of 17 global goals
- UBC has recently aimed to align itself with SDGs
- How can UBC reach SDGs?
- UBC plans and policies play an important role in delivering these goals
- It is essential to have a framework to evaluate, monitor and amend them



- SDGs are a collection of 17 global goals
- UBC has recently aimed to align itself with SDGs
- How can UBC reach SDGs?
- UBC plans and policies play an important role in delivering these goals
- It is essential to have a framework to evaluate, monitor and amend them

 Is SDGs a sufficient framework to evaluate UBC plans and policies?



													5																
UBC Strategic Plan	20-Year Sustainability Strategy	Okanagan Charter	Vancouver Campus Plan	Okanagan Campus Plan	Climate Action Plan (CAP)	Green Building Action Plan	Land Use Plan	Neighbourhood Plans	Transportation Plan	Zero Waste Action Plan	Public Realm Plan	Emergency Response Plan (ERP)	Community Energy and Emissions Plan (CEEP	Residential Environmental Assessment Plan	Housing Action Plan	Water Action Plan (*)	Stormwater Mgt Plan	Wellbeing Strategic Framework	Inclusion Action Plan	UBC Technical Guidelines	UBC Vancouver Design Guidelines	UBC Okanagan Design Guidelines	Public Art Strategy	Urban Forest Management Plan (*)	Biodiversity Strategic Framework	Framework for Food Action	Bird Friendly Guidelines	LEED Implementation Guide	Wns
																													4
																													8
																													21
																													22
																													4
																													16
																													16
																													4
																													21
																													7
																													22
																													17
																													15
																													5
																													17
																													20
																													11
10	12	7	10	10	8	12	12	7	5	8	6	6	9	10	6	7	7	7	5	7	11	8	4	8	6	10	4	8	

		UBC Strategic Plan	20-Year Sustainability Strategy	Okanagan Charter	Vancouver Campus Plan	Okanagan Campus Plan	Climate Action Plan (CAP)	Green Building Action Plan	Land Use Plan	Neighbourhood Plans	Transportation Plan	Zero Waste Action Plan	Public Realm Plan	Emergency Response Plan (ERP)	Community Energy and Emissions Plan (CEEP)	Residential Environmental Assessment Plan	Housing Action Plan	Water Action Plan (*)	Stormwater Mgt Plan	Wellbeing Strategic Framework	Inclusion Action Plan	UBC Technical Guidelines	UBC Vancouver Design Guidelines	UBC Okanagan Design Guidelines	Public Art Strategy	Urban Forest Management Plan (*)	Biodiversity Strategic Framework	Framework for Food Action	Bird Friendly Guidelines	LEED Implementation Guide	SUM
	1. No Poverty																														4
	2. Zero Hunger																													_	8
	3. Good Health & Well-being																														21
	4. Quality Education																														22
	5. Gender Equality																														4
′	6. Clean Water & Sanitation																														16
	7. Affordable & Clean Energy																														16
	8. Decent Work & Economic Growth																														4
	9. Industry, Innovation & Infrastructure																														21
	10. Reduced Inequalities																														7
	11. Sustainable Cities & Communities																														22
	12. Responsible Consumption & Production																														17
	13. Climate Action																														15
	14. Life Below Water																														5
	15. Life On Land																														17
	16. Peace, Justice & strong Institutions																														20
	17. Global Partnership for Sustainable Developments																														11
	SUM (*) Not Official Plan	10	12	7	10	10	8	12	12	7	5	8	6	6	9	10	6	7	7	7	5	7	11	8	4	8	6	10	4	8	

# MAP UBC PLANS & STRATEGIES TO SDGS

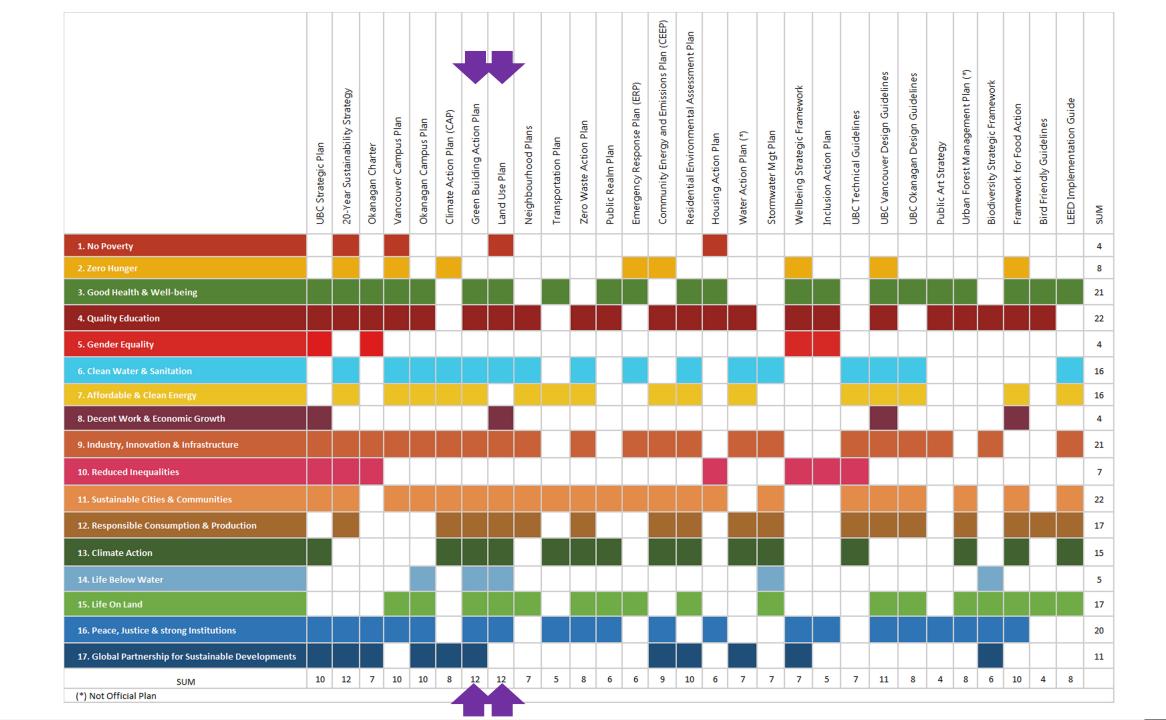
		UBC Strategic Plan	20-Year Sustainability Strategy	Okanagan Charter	Vancouver Campus Plan	Okanagan Campus Plan	Climate Action Plan (CAP)	Green Building Action Plan	Land Use Plan	Neighbourhood Plans	Transportation Plan	Zero Waste Action Plan	Public Realm Plan	Emergency Response Plan (ERP)	Community Energy and Emissions Plan (CEEP)	Residential Environmental Assessment Plan	Housing Action Plan	Water Action Plan (*)	Stormwater Mgt Plan	Wellbeing Strategic Framework	Inclusion Action Plan	UBC Technical Guidelines	UBC Vancouver Design Guidelines	UBC Okanagan Design Guidelines	Public Art Strategy	Urban Forest Management Plan (*)	Biodiversity Strategic Framework	Framework for Food Action	Bird Friendly Guidelines	LEED Implementation Guide	SUM
	1. No Poverty																														4
	2. Zero Hunger																														8
	3. Good Health & Well-being																														21
	4. Quality Education																														22
	5. Gender Equality																														4
	6. Clean Water & Sanitation																														16
	7. Affordable & Clean Energy																														16
	8. Decent Work & Economic Growth																														4
	9. Industry, Innovation & Infrastructure																														21
	10. Reduced Inequalities																														7
	11. Sustainable Cities & Communities																														22
	12. Responsible Consumption & Production																														17
	13. Climate Action																														15
	14. Life Below Water																														5
ĺ	15. Life On Land																														17
	16. Peace, Justice & strong Institutions																														20
	17. Global Partnership for Sustainable Developments																														11
	SUM (*) Not Official Plan	10	12	7	10	10	8	12	12	7	5	8	6	6	9	10	6	7	7	7	5	7	11	8	4	8	6	10	4	8	

# PLANS & STRATEGIES TO SDGS

	UBC Strategic Plan	20-Year Sustainability Strategy	Okanagan Charter	Vancouver Campus Plan	Okanagan Campus Plan	Climate Action Plan (CAP)	Green Building Action Plan	Land Use Plan	Neighbourhood Plans	Transportation Plan	Zero Waste Action Plan	Public Realm Plan	Emergency Response Plan (ERP)	Community Energy and Emissions Plan (CEEP)	Residential Environmental Assessment Plan	Housing Action Plan	Water Action Plan (*)	Stormwater Mgt Plan	Wellbeing Strategic Framework	Inclusion Action Plan	UBC Technical Guidelines	UBC Vancouver Design Guidelines	UBC Okanagan Design Guidelines	Public Art Strategy	Urban Forest Management Plan (*)	Biodiversity Strategic Framework	Framework for Food Action	Bird Friendly Guidelines	LEED Implementation Guide	NOS
1. No Poverty																														4
2. Zero Hunger																														8
3. Good Health & Well-being																														21
4. Quality Education																														22
5. Gender Equality																														4
6. Clean Water & Sanitation																														16
7. Affordable & Clean Energy																														16
8. Decent Work & Economic Growth																														4
9. Industry, Innovation & Infrastructure																														21
10. Reduced Inequalities																														7
11. Sustainable Cities & Communities																														22
12. Responsible Consumption & Production																														17
13. Climate Action																														15
14. Life Below Water						П																								5
15. Life On Land																														17
16. Peace, Justice & strong Institutions																														20
17. Global Partnership for Sustainable Developments																														11
SUM	10	12	7	10	10	8	12	12	7	5	8	6	6	9	10	6	7	7	7	5	7	11	8	4	8	6	10	4	8	
(*) Not Official Plan																														

# PLANS & STRATEGIES TO SDGS

	UBC Strategic Plan	20-Year Sustainability Strategy	Okanagan Charter	Vancouver Campus Plan	Okanagan Campus Plan	Climate Action Plan (CAP)	Green Building Action Plan	Land Use Plan	Neighbourhood Plans	Transportation Plan	Zero Waste Action Plan	Public Realm Plan	Emergency Response Plan (ERP)	Community Energy and Emissions Plan (CEEP)	Residential Environmental Assessment Plan	Housing Action Plan	Water Action Plan (*)	Stormwater Mgt Plan	Wellbeing Strategic Framework	Inclusion Action Plan	UBC Technical Guidelines	UBC Vancouver Design Guidelines	UBC Okanagan Design Guidelines	Public Art Strategy	Urban Forest Management Plan (*)	Biodiversity Strategic Framework	Framework for Food Action	Bird Friendly Guidelines	LEED Implementation Guide	SUM
1. No Poverty																														4
2. Zero Hunger																														8
3. Good Health & Well-being																														21
4. Quality Education																														22
5. Gender Equality																														4
6. Clean Water & Sanitation																														16
7. Affordable & Clean Energy																														16
8. Decent Work & Economic Growth																														4
9. Industry, Innovation & Infrastructure																														21
10. Reduced Inequalities																														7
11. Sustainable Cities & Communities																														22
12. Responsible Consumption & Production																														17
13. Climate Action																												$\neg$		15
14. Life Below Water						П																						T		5
15. Life On Land																														17
16. Peace, Justice & strong Institutions																														20
17. Global Partnership for Sustainable Developments																												$\exists$		11
SUM (*) Not Official Plan	10	12	7	10	10	8	12	12	7	5	8	6	6	9	10	6	7	7	7	5	7	11	8	4	8	6	10	4	8	



	UBC Strategic Plan	20-Year Sustainability Strategy	Okanagan Charter	Vancouver Campus Plan	Okanagan Campus Plan	Climate Action Plan (CAP)	Green Building Action Plan	Land Use Plan	Neighbourhood Plans	Transportation Plan	Zero Waste Action Plan	Public Realm Plan	Emergency Response Plan (ERP)	Community Energy and Emissions Plan (CEEP)	Residential Environmental Assessment Plan	Housing Action Plan	Water Action Plan (*)	Stormwater Mgt Plan	Wellbeing Strategic Framework	Inclusion Action Plan	UBC Technical Guidelines	UBC Vancouver Design Guidelines	UBC Okanagan Design Guidelines	Public Art Strategy	Urban Forest Management Plan (*)	Biodiversity Strategic Framework	Framework for Food Action	Bird Friendly Guidelines	LEED Implementation Guide	SUM
1. No Poverty																														4
2. Zero Hunger																														8
3. Good Health & Well-being																														21
4. Quality Education																														22
5. Gender Equality																														4
6. Clean Water & Sanitation																														16
7. Affordable & Clean Energy																														16
8. Decent Work & Economic Growth																														4
9. Industry, Innovation & Infrastructure																														21
10. Reduced Inequalities																														7
11. Sustainable Cities & Communities																														22
12. Responsible Consumption & Production																														17
13. Climate Action																														15
14. Life Below Water																														5
15. Life On Land																														17
16. Peace, Justice & strong Institutions																														20
17. Global Partnership for Sustainable Developments																														11
SUM	10	12	7	10	10	8	12	12	7	5	8	6	6	9	10	6	7	7	7	5	7	11	8	4	8	6	10	4	8	
(*) Not Official Plan																														

## LIMITATION OF THE SDG FRAMEWORK

- SDGs provide broad but relatively shallow goals
- Innovation, resilience, and management were not addressed by SDGs



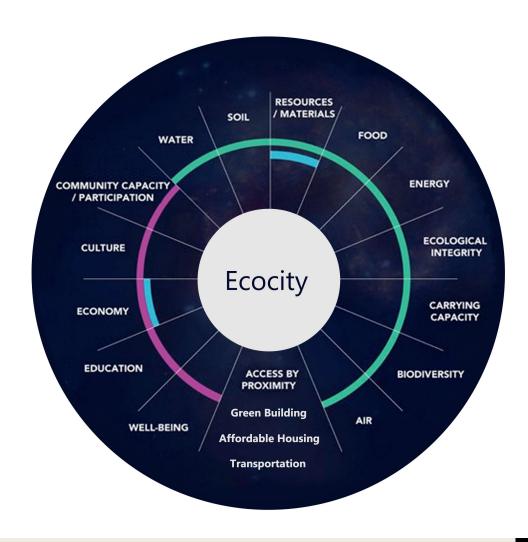
## LIMITATION OF THE SDG FRAMEWORK

- SDGs provide broad but relatively shallow goals
- Innovation, resilience, and management were not addressed by SDGs

There is a need to refine the SDGs framework to address the spatial and temporal scales reflected in UBC's plans



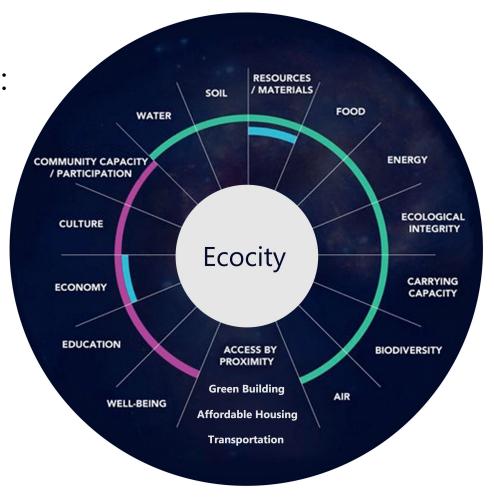
## INTERNATIONAL ECOCITY STANDARDS (IES)



## INTERNATIONAL ECOCITY STANDARDS (IES)

The IES has 18 standards grouped under 4 pillars:

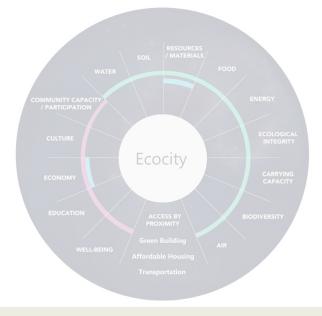
- 1. Urban design
- 2. Geo-bio-physical
- 3. Socio-cultural Features
- 4. Ecological Imperatives





How can UBC plans and policies reach to SDGs and

CAN ECOCITY STANDARDS HELP US GET THERE?



## **SDGs**

## 1. No Poverty 2. Zero Hunger 3. Good Health & Well-being 4. Quality Education 5. Gender Equality 6. Clean Water & Sanitation 7. Affordable & Clean Energy 8. Decent Work & Economic Growth 9. Industry, Innovation & Infrastructure 10. Reduce Inequalities 11. Sustainable cities & Communities 12. Responsible Consumption & Production 13. Climate Action 14. Life Below Water 15. Life on Land 16. Peace, justice & Strong Institutions

17. Global Partnership for

the Goals

## **EcoCity Standards**

Ecocity Standards
Urban Design
Access by Proximity
Access to safe & affordable housing
Green Building
Environmentaly Friendly Transport
Biogeophysical Conditions
Clean Air
Clean & Safe Water
Healthy Soil
Responsible Resources/Materials
Clean & Renewable Energy
Healthy & Accessible Food
Socio-Cultural Features
Healthy Culture
Community Capacity/Governance
Healthy & Equitable Economy
Lifelong Education
Well-being/Quality of Life
Ecological Imperatives
Healthy Biodiversity
Ecological Integrity
Earth's Carrying Capacity

SDG and Ecocity comparison, emerged from ecocitybuilders.org

## **SDGs**

## **EcoCity Standards**

1. No Poverty		Urban Design
2. Zero Hunger		Access by Proximity
3. Good Health & Well-being		Access to safe & affordable housing
4. Quality Education		Green Building
5. Gender Equality		Environmentaly Friendly Transport
6. Clean Water & Sanitation		Biogeophysical Conditions
o. cream water & sumation		Clean Air
7. Affordable & Clean Energy	\\ X7/	Clean & Safe Water
8. Decent Work & Economic Growth		Healthy Soil
<ol><li>Industry, Innovation</li><li>Infrastructure</li></ol>		Responsible Resources/Materials
10. Reduce Inequalities	X	Clean & Renewable Energy
	1// X X Y	Healthy & Accessible Food
11. Sustainable cities &	// /X \	Socio-Cultural Features
Communities		Healthy Culture
12. Responsible Consumption & Production		Community Capacity/Governance
13. Climate Action		Healthy & Equitable Economy
44.1% 5.1	1 // W	Lifelong Education
14. Life Below Water		Well-being/Quality of Life
15. Life on Land		Ecological Imperatives
16. Peace, justice & Strong Institutions		Healthy Biodiversity
17. Global Partnership for the Goals		Ecological Integrity
	]	Earth's Carrying Capacity
	_	



EcoCity Pillars	SDGs	Ecocity Standards
ng.		Access by Proximity
Des	Sustainable Cities & Communities	Access to safe & affordable housing
oan	Sustainable Cities & Communities	Green Building
2		Environmentaly Friendly Transport
ition	climate action	Clean Air
Cond	Affordable and clean energy	Clean & Renewable Energy
cal	Clean water and sanitation	Clean & Safe Water
hys		Healthy Soil
Bio-Geo-Physical Condition Urban Desigr	Zero hunger	Healthy & Accessible Food
<u>ö</u>	Responsible consumption and production	Responsible Resources/Materials
ñ		Healthy Culture
Socio-Cutural Features	Peace, justice and strong institutions	Community Capacity/Governance
Fea	No poverty	Healthy & Equitable Economy
<u>ra</u>	Decent work and economic growth	ricularly & Equitable Economy
a a	Quality education	Lifelong Education
9	Good health and well being	Well-being/Quality of Life
So Ci	Gender equality	
	Reduced inequalities	
atives	Life on land	Healthy Biodiversity
Ecological Imperatives	Life below water	riealthy blouversity
gical		Ecological Integrity
Ecolog		Earth's Carrying Capacity
	Industry, innovation and resilient infrastructure	
	Global Partnership for The Goals	

## **SDGs**

## **EcoCity Standards**

3003		
1. No Poverty		Urban Design
2. Zero Hunger		Access by Proximity
3. Good Health & Well-being		Access to safe & affordable housing
4. Quality Education		Green Building
5. Gender Equality		Environmentaly Friendly Transport
6. Clean Water & Sanitation		Biogeophysical Conditions
o. Clean Water & Samtation		Clean Air
7. Affordable & Clean Energy	\\ X//	Clean & Safe Water
8. Decent Work & Economic Growth		Healthy Soil
<ol><li>Industry, Innovation &amp; Infrastructure</li></ol>		Responsible Resources/Materials
10. Reduce Inequalities	XX	Clean & Renewable Energy
	1// X X Y	Healthy & Accessible Food
11. Sustainable cities &	// /X \	Socio-Cultural Features
Communities		Healthy Culture
12. Responsible Consumption & Production		Community Capacity/Governance
13. Climate Action		Healthy & Equitable Economy
14. Life Below Water	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Lifelong Education
		Well-being/Quality of Life
15. Life on Land		Ecological Imperatives
16. Peace, justice & Strong Institutions		Healthy Biodiversity
17. Global Partnership for the Goals		Ecological Integrity
The Godis	J	Earth's Carrying Capacity



EcoCity Pillars	SDGs	Ecocity Standards
E		Access by Proximity
Des	Sustainable Cities & Communities	Access to safe & affordable housing
an	Sustamable Cities & Communities	Green Building
2		Environmentaly Friendly Transport
ition	climate action	Clean Air
Cond	Affordable and clean energy	Clean & Renewable Energy
cal	Clean water and sanitation	Clean & Safe Water
hys		Healthy Soil
Bio-Geo-Physical Condition Urban Design	Zero hunger	Healthy & Accessible Food
Bio-	Responsible consumption and production	Responsible Resources/Materials
ñ		Healthy Culture
Socio-Cutural Features	Peace, justice and strong institutions	Community Capacity/Governance
Fe	No poverty	Healthy & Equitable Economy
<u>=</u>	Decent work and economic growth	reality a Equitable Economy
in the	Quality education	Lifelong Education
9	Good health and well being	Well-being/Quality of Life
00 01	Gender equality	
	Reduced inequalities	
atives	Life on land	Healthy Diadiyersity
cological Imperatives	Life below water	Healthy Biodiversity
gical 1		Ecological Integrity
90		Earth's Carrying Capacity
	Industry, innovation and resilient infrastructure	
	Global Partnership for The Goals	

## 4 RATING SYSTEMS

- 1. **LEED** Neighbourhood Development Plan
- **2. SITES** v2 Rating System
- **3. ENVISION** (ZOFNASS Rating System for Sustainable Infrastructure)
- **4. RELI** (Resilience-based rating system)

## LEED Neighbourhood Development Plan

0	0	0	Smart	Location & Linkage	28	0	0	0	Green	Infra
Υ			Prereq	Smart Location	Required	Y			Prereq	Certif
Υ	1		Prereq	Imperiled Species and Ecological Communities	Required	Υ	1		Prereq	Minim
Υ	1		Prereq	Wetland and Water Body Conservation	Required	Υ	1		Prereq	Indoo
Υ	1		Prereq	Agricultural Land Conservation	Required	Υ			Prereq	Cons
Υ	1		Prereq	Floodplain Avoidance	Required				Credit	Certif
			Credit	Preferred Locations	10				Credit	Optim
			Credit	Brownfield Remediation	2				Credit	Indoo
			Credit	Access to Quality Transit	7				Credit	Outdo
			Credit	Bicycle Facilities	2				Credit	Buildi
			Credit	Housing and Jobs Proximity	3				Credit	Histor
			Credit	Steep Slope Protection	1				Credit	Minim
			Credit	Site Design for Habitat or Wetland and Water Body Conservation	1				Credit	Rainv
			Credit	Restoration of Habitat or Wetlands and Water Bodies	1				Credit	Heat
			Credit	Long-Term Conservation Management of Habitat or Wetlands and Water Bodies	1				Credit	Solar
				Title Bodies					Credit	Rene
	0	0	Neighl	borhood Pattern & Design	41				Credit	Distri
			Prereq	Walkable Streets	Required				Credit	Infras
	1		Prereq	Compact Development	Required				Credit	Wast
	1		Prereq	Connected and Open Community	Required				Credit	Recy
			Credit	Walkable Streets	9				Credit	Solid
			Credit	Compact Development	6				Credit	Light
		0	Credit	Mixed-Use Neighborhoods	4					
			Credit	Housing Types and Affordability	7	0	0	0	Innov	ation
			Credit	Reduced Parking Footprint	1				Credit	Innov
			Credit	Connected and Open Community	2				Credit	LEED
			Credit	Transit Facilities	1					
			Credit	Transportation Demand Management	2	0	0	0	Regio	nal P
Ī			Credit	Access to Civic & Public Space	1				Credit	Regio
			Credit	Access to Recreation Facilities	1				Credit	Regio
			Credit	Visitability and Universal Design	1				Credit	Regio
			Credit	Community Outreach and Involvement	2				Credit	Regio
			Credit	Local Food Production	1					
			Credit	Tree-Lined and Shaded Streetscapes	2	0	0	0	PROJ	ECT T
			Credit	Neighborhood Schools	1	Cert	ified	: 40-	49 points.	Silver

0	0	0	Green	Infrastructure & Buildings	31
Υ			Prereq	Certified Green Building	Required
Υ			Prereq	Minimum Building Energy Performance	Required
Υ			Prereq	Indoor Water Use Reduction	Required
Υ			Prereq	Construction Activity Pollution Prevention	Required
			Credit	Certified Green Buildings	5
			Credit	Optimize Building Energy Performance	2
			Credit	Indoor Water Use Reduction	1
			Credit	Outdoor Water Use Reduction	2
	Credit		Credit	Building Reuse	1
			Credit	Historic Resource Preservation and Adaptive Reuse	2
			Credit	Minimized Site Disturbance	1
			Credit	Rainwater Management	4
			Credit	Heat Island Reduction	1
			Credit	Solar Orientation	1
			Credit	Renewable Energy Production	3
			Credit	District Heating and Cooling	2
			Credit	Infrastructure Energy Efficiency	1
			Credit	Wastewater Management	2
			Credit	Recycled and Reused Infrastructure	1
			Credit	Solid Waste Management	1
			Credit	Light Pollution Reduction	1
0	0	0	Innova	tion & Design Process	6
			Credit	Innovation	5
			Credit	LEED® Accredited Professional	1
0	0	0	Region	nal Priority Credits	4
			Credit	Regional Priority Credit: Region Defined	1
			Credit	Regional Priority Credit: Region Defined	1
			Credit	Regional Priority Credit: Region Defined	1
			Credit	Regional Priority Credit: Region Defined	1
0	0	0	PROJE	CT TOTALS (Certification estimates)	110

5 ?	NO					YES	?	NO				
0	0	1: SITE CONTEXT		Possible Points:	13	0	0	0	6: SITE DESIGN - HUMAN	HEALTH + WELL-BEING	Possible Points:	30
		CONTEXT P1.1	Limit development on farmland						HHWB C6.1	Protect and maintain cultural and	historic places	2 to 3
		CONTEXT P1.2	Protect floodplain functions						HHWB C6.2	Provide optimum site accessibilit	y, safety, and wayfinding	2
		CONTEXT P1.3	Conserve aquatic ecosystems						HHWB C6.3	Promote equitable site use		2
		CONTEXT P1.4	Conserve habitats for threatened and	d endangered species		-			HHWB C6.4	Support mental restoration		2
	cecccc	CONTEXT C1.5	Redevelop degraded sites		3 to 6	-			HHWB C6.5	Support physical activity		2
		CONTEXT C1.6	Locate projects within existing develo	oped areas	4	1			HHWB C6.6	Support social connection		2
		CONTEXT C1.7	Connect to multi-modal transit netwo	orks	2 to 3	1			HHWB C6.7	Provide on-site food production		3 to 4
									HHWB C6.8	Reduce light pollution		4
0	0	2: PRE-DESIGN ASSESS	SMENT + PLANNING	Possible Points:	3	·······			HHWB C6.9	Encourage fuel efficient and mult	i-modal transportation	4
11111		PRE-DESIGN P2.1	Use an integrative design process			·······			HHWB C6.10	Minimize exposure to environmen	ntal tobacco smoke	1 to 2
		PRE-DESIGN P2.2	Conduct a pre-design site assessmer	nt		-			HHWB C6.11	Support local economy		3
		PRE-DESIGN P2.3	Designate and communicate VSPZs									
	amm	PRE-DESIGN C2.4	Engage users and stakeholders		3	0	0	0	7: CONSTRUCTION		Possible Points:	17
_	.i					Υ	11111		CONSTRUCTION P7.1	communicate and verify sustaina		W//////
0	0	3: SITE DESIGN - WAT	FR	Possible Points:	23	Y			CONSTRUCTION P7.2	Control and retain construction po	ollutants	<i>39999</i>
11111	11111	WATER P3.1	Manage precipitation on site	rossible rollies.		Y			CONSTRUCTION P7.3	Restore soils disturbed during co		
		WATER P3.2	Reduce water use for landscape irrig	ation		-			CONSTRUCTION C7.4	Restore soils disturbed by previous		3 to 5
		WATER C3.3	Manage precipitation beyond baseling		4 to 6	······			CONSTRUCTION C7.5	Divert construction and demonito	rr materiais from	3 to 4
		WATER C3.4	Reduce outdoor water use		4 to 6				CONSTRUCTION C7.6	Divert reusable vegetation, rocks,	and soil from disposal	3 to 4
		WATER C3.5	Design functional stormwater feature	es as amenities	4 to 5	-			CONSTRUCTION C7.7	Protect air quality during construc		2 to 4
		WATER C3.6	Restore aquatic ecosystems	23 03 differences	4 to 6	-			CONSTRUCTION C/./	Protect an quanty during constitut	1011	2104
I	.l	WAILN CO.0	Restore aquatic ecosystems		4100	0	0	0	8. OPERATIONS + MAINT	ENANCE	Possible Points:	22
0	0	4: SITE DESIGN - SOIL	. VEGETATION	Possible Points:	40	Y	9////	3////		Plan for sustainable site mainter		3///////
	77777			17.77777777777777	¥////////				O+M P8.1			-3/////
- 4///		SOIL+VEG P4.1	Create and communicate a soil mana	igement plan		Y			O+M P8.2	Provide for storage and collection	orrecyclables	11111111
		SOIL+VEG P4.2	Control and manage invasive plants			ļ			O+M C8.3	Recycle organic matter		3 to 5
		SOIL+VEG P4.3	Use appropriate plants			ļ			O+M C8.4	Minimize pesticide and fertilizer		4 to 5
		SOIL+VEG C4.4	Conserve healthy soils and appropri	ate vegetation	4 to 6	ļ			O+M C8.5	Reduce outdoor energy consumpt		2 to 4
		SOIL+VEG C4.5	Conserve special status vegetation		4	ļ			O+M C8.6	Use renewable sources for lands		3 to 4
		SOIL+VEG C4.6	Conserve and use native plants		3 to 6	ļ			O+M C8.7	Protect air quality during landsca	pe maintenance	2 to 4
		SOIL+VEG C4.7	Conserve and restore native plant co	mmunities	4 to 6							
		SOIL+VEG C4.8	Optimize biomass		1 to 6	0	0	0	9. EDUCATION + PERFOR		Possible Points:	
		SOIL+VEG C4.9	Reduce urban heat island effects		4	ļ			EDUCATION C9.1	Promote sustainability awarenes	s and education	3 to 4
		SOIL+VEG C4.10	Use vegetation to minimize building	energy use	1 to 4	ļ			EDUCATION C9.2	Develop and communicate a case	study	3
	. <u>j</u>	SOIL+VEG C4.11	Reduce the risk of catastrophic wildf	ire	4				EDUCATION C9.3	Plan to monitor and report site pe	erformance	4
_	_											
0	0	5: SITE DESIGN - MAT	ERIALS SELECTION	Possible Points:	41	0	0	0	10. INNOVATION OR EXE	MPLARY PERFORMANCE	Bonus Points:	9
		MATERIALS P5.1	Eliminate the use of wood from threa	atened tree species					INNOVATION C10.1	Innovation or exemplary perform	ance	3 to 9
		MATERIALS C5.2	Maintain on-site structures and pavi	ng	2 to 4							
		MATERIALS C5.3	Design for adaptability and disasser	nbly	3 to 4	YES	?	NO				
		MATERIALS C5.4	Use salvaged materials and plants		3 to 4	0	0	0	TOTAL ESTIMATED POIN	rs	Total Possible Points:	200
		MATERIALS C5.5	Use recycled content materials		3 to 4							
		MATERIALS C5.6	Use regional materials		3 to 5	KE V					SITES Certification levels	Point
		MATERIALS C5.7	Support responsible extraction of ray	v materials	1 to 5	YES	Proj	ect co	onfident points are achieval	ble	CERTIFIED	70
		MATERIALS C5.8	Support transparency and safer chem	istry	1 to 5	?	Proj	ect st	riving to achieve points, no	t 100% confident	SILVER	85
···	·	MATERIALS C5.9	Support sustainability in materials n	nanufacturing	5	NO	Proj	ect is	unable to achieve these cr	edit points	GOLD	100



**ZOFNASS** Rating System for Sustainable Infrastructure



## 1 PURPOSE

- QL1.1 Improve Community Quality of Life
- QL1.2 Stimulate Sustainable Growth & Development
- QL1.3 Develop Local Skills and Capabilities

## 2 WELLBEING

- QL2.1 Enhance Public Health and Safety
- QL2.2 Minimize Noise and Vibration
- QL2.3 Minimize Light Pollution
- QL2.4 Improve Community Mobility and Access
- QL2.5 Encourage Alternative Modes of Transportation
- QL2.6 Improve Site Accessibility, Safety & Wayfinding

## **3 COMMUNITY**

- QL3.1 Preserve Historic and Cultural Resources
- QL3.2 Preserve Views and Local Character
- QL3.3 Enhance Public Space
- QL0.0 Innovate or Exceed Credit Requirements



## 1 SITING

- NW1.1 Preserve Prime Habitat
- NW1.2 Protect Wetlands and Surface Water
- NW1.3 Preserve Prime Farmland
- NW1.4 Avoid Adverse Geology
- NW1.5 Preserve Floodplain Functions
- NW1.6 Avoid Unsuitable Development on Steep Slopes
- WIT.O Avoid offsultable Development off Siee
- NW1.7 Preserve Greenfields

## 2 LAND+WATER

- NW2.1 Manage Stormwater
- NW2.2 Reduce Pesticides and Fertilizer Impacts
- NW2.3 Prevent Surface and Groundwater Contamination

## 3 BIODIVERSITY

- NW3.1 Preserve Species Biodiversity
- NW3.2 Control Invasive Species
- NW3.3 Restore Disturbed Soils
- NW3.4 Maintain Wetland and Surface Water Functions

NW0.0 Innovate or Exceed Credit Requirements



## **LEADERSHIP**

10 Credi

## 1 COLLABORATION

- LD1.1 Provide Effective Leadership & Commitment
- LD1.2 Establish a Sustainability Management System
- LD1.3 Foster Collaboration and Teamwork
- LD1.4 Provide for Stakeholder Involvement

## 2 MANAGEMENT

- LD2.1 Pursue By-Product Synergy Opportunities
- LD2.2 Improve Infrastructure Integration

## 3 PLANNING

1 EMISSIONS

2 RESILIENCE

- LD3.1 Plan for Long-Term Monitoring & Maintenance
- LD3.2 Address Conflicting Regulations and Policies
- LD3.3 Extend Useful Life
- LD0.0 Innovate or Exceed Credit Requirements

CR1.1 Reduce Greenhouse Gas Emissions

CR1.2 Reduce Air Pollutant Emissions

CR2.2 Avoid Traps and Vulnerabilities

CR2.4 Prepare for Short-Term Hazards

CR2.5 Manage Heat Island Effects

CR2.3 Prepare for Long-Term Adaptability

CR0.0 Innovate or Exceed Credit Requirements

CR2.1 Assess Climate Threat



## 1 MATERIALS

- RA1.1 Reduce Net Embodied Energy
- RA1.2 Support Sustainable Procurement Practices
- RA1.3 Use Recycled Materials
- RA1.4 Use Regional Materials
- RA1.5 Divert Waste from Landfills
- RA1.6 Reduce Excavated Materials Taken Off Site
- RA1.7 Provide for Deconstruction and Recycling

## 2 ENERGY

- RA2.1 Reduce Energy Consumption
- RA2.2 Use Renewable Energy
- RA2.3 Commission and Monitor Energy Systems

## 3 WATER

- RA3.1 Protect Fresh Water Availability
- RA3.2 Reduce Potable Water Consumption
- RA3.3 Monitor Water Systems
- RAO.0 Innovate or Exceed Credit Requirements

## system I rating esilience-based

## PANORAMIC APPROACH COMPREHENSIVE ADAPTATION + MITIGATION FOR A RESILIENT PRESENT + I PA PANORAMIC APPROACH TO PLANNING, DESIGN, MAINTENANCE, & OPERATIONS CV COMMUNITY COHESION, SOCIAL & ECONOMIC VITALITY Poly-Reg 1 Improve Community Quality of Life S C S C Reg 1 Study: Project Short-Term Hazard Mitigation and Adaptation Needs Including Climate S C S C Poly-Credit 1 Incorporate Important Community Views and Aspects of Local Landscape Reg 2 Integrative Process, Development & Community Stakeholder Involvement S C Poly-Reg 3 Commissioning & Long-Term Monitoring / Maintenance S C Poly-Credit 2 Community Connectivity: Walkability, Public Transit, Non-Motorized Transit S C Poly-Credit 3 Community Connectivity: Mixed-Use Commercial, Housing & Public / Community Space S C Poly-Credit 1 Business & Community Case Analysis, Post-Development Evaluation and Reporting C S Poly-Credit 4 Expand Citizen Participation: Public Amenities, Councils, Organizations, Communication S C Credit 2 Establish a Sustainability & Resiliency Management System S C Poly-Credit 5 Resilient Organizations: Cooperative & B-Corporation(s), Non-Profits & Social Equity Measures S C Credit 3 Address Conflicting Regulations & Policies Poly-Credit 6 Develop or Expand Local Skills, Capabilities & Long-Term Employment & Mix S C Credit 4 Third Party Leadership & Next Generation Certifications and Programs Poly-Credit 7 Use Regionally Sourced & Manufactured Materials and Products Credits 5-8 Below Expand the Integrative Process Required by Requisite 2 Above C Poly-Credit 8 Stimulate Sustainable Growth and Development S C Poly-Credit 5 Study & Design for By-Product & Underutilization Synergies PH PRODUCTIVITY, HEALTH & DIVERSITY S C Poly-Credit 6 Study & Design for Improved Project Element & Infrastructure Integration S C Poly-Reg 1 Minimum IAQ & Views to the Exterior S C Poly-Credit 7 Study & Design for Long-Term Adaptability, Diversity & Redundancy C Poly-Reg 2 Minimum Protection for Prime Habitat & Floodplain Functions S C Poly-Credit 8 Study & Living Design for Advanced Resiliency Using a Diversity of Ecology-Based Perspectives S C Poly-Credit 1 Human PHD: Expanded IAQ, Davlight & Views, Fresh Air. RISK ADAPTATION & MITIGATION FOR ACUTE EVENTS C Poly-Credit 2 Human PHD: Active Design for Buildings, Communities and Urban Environments **HP HAZARD PREPAREDNESS** C Credit 3 Human PHD: Provide for Social Equity: Interdisciplinary / Intercultural Opportunities S C Poly-Credit 4 Human & Eco PHD: Reduce Pesticides, Prevent Surface & Groundwater Contamination S C Reg 1 Fundamental Emergency Planning & Preparedness for Common Hazardous Events Poly-Credit 5 Ecological PHD: Protect Wetlands & Avoid Slopes and Adverse Geology C S C Req 2 Fundamental Access To: First Aid, Emergency Supplies, Water, Food, Communications Poly-Credit 6 Ecological PHD: Biodiversity, Habitat & Soil S S C Poly-Credit 1 Enhanced Emergency Planning for Common Hazards & Extreme Events s c Credit 2 Enhanced Access: Emergency Care & Supplies, Water, Food, Communications EW ENERGY, WATER & FOOD S C Poly-Credit 3 Additional Emergency Provisions For the Community & for Longer Timeframes S C Poly-Reg 1 Minimum Water Efficiency & Resilient Water and Landscapes S C Credit 4 Community Education: Authentic Dialogues on Ever-Increasing Weather, Safety & Resiliency Risks S C Poly-Reg 2 Minimum Energy Efficiency & Atmospheric Impacts S C Poly-Credit 1 Plan For Rainwater Harvesting, Resilient Landscapes & Food Production HA HAZARD ADAPTATION & MITIGATION S C Poly-Credit 2 Plan the Site and Orientation For Sun & Wind Harvesting, Natural Cooling s c Reg 1 Sites of Avoidance & Repair: 500-Year Flood Plain, Storm Surge & Sea Rise S Poly-Credit 3 Water-Use Reduction, Near Zero / High-Efficiency Water Flows and Resilient Landscapes S C Reg 2 Fundamental Emergency Operations: Back-Up Power & Operations C Poly-Credit 4 Energy Optimization, Near Zero / Carbon Neutral, Net Zero, Net Positive Energy Flows s c Reg 3 Fundamental Emergency Operations: Thermal Safety During Emergencies S C Poly-Credit 5 Edible Landscaping, Urban Agriculture & Resilient Food Production 5 C Reg 4 Safer Design for Extreme Weather, Wildfire & Seismic Events Poly-Credit 6 Reduced Site Environmental Impacts: Lighting, Heat-Island, Airborne Toxins S C Poly-Credit 2 Adaptive Design for Extreme Rain, Sea Rise, Storm Surge & Extreme Weather, Events & Hazards MA MATERIALS & ARTIFACTS S C Poly-Credit 3 Advanced Emergency Operations: Back-Up Power, Operations, Thermal Safety & Operating Water S C Poly-Credit 4 Passive Thermal Safety, Thermal Comfort & Lighting Design Strategies S C Poly-Reg 1 Minimum Material Effectiveness & Life Cycle Planning S C Poly-Credit 5 Transit & Transportation System Protection & Continuous Operations S C Credit 1 Safer, Non-Toxic Materials (SMaRT or Equivalent Certified) S C Poly-Credit 6 Provide Environmental Protection & Remediation for Parks & Preserves С Credit 2 Material & Artifact Effectiveness: Full Life Cycle Design for Durability, Adaptability, Flexibility APPLIED CREATIVITY AND CONTEXTURAL FACTORS FOR RESILIENCY C Credit 3 Material & Artifact Effectiveness: Design for Disassembly, Reuse, Recycling & Composting s c Poly-Credit 4 Material Effectiveness: Use Recycled Content Materials, Salvaged Materials & Local Materials AC APPLIED CREATIVITY, INNOVATION & EXPLORATION S C Credit 5 Use Legally Logged Wood from Ecologically Managed Forests (FSC Certified) S C Poly-Credit 1 Applied Creativity in Resiliency & Integrative Design Credit 6 Reduce Net Embodied Energy & Carbon, Water and Toxins S C Poly-Credit 2 Contextual Factors & Project Responsive Topics Poly-Credit 7 Divert Waste from Landfills, Reduce Excavated Soils Taken from Site Poly-Credit 3 Exemplary Performance

## COMPARE AND RECATEGORIZE RATING SYSTEMS

BASED ON SDGS & ECOCITY FRAMEWORK

EcoCity Pillars	SDGs	Ecocity Standards
-		Access by Proximity
esigi		Access to safe & affordable housing
Urban Design	Sustainable Cities & Communities	Green Building
1000		Environmentaly Friendly Transport
ti on	climate action	Clean Air
on di	Affordable and clean energy	Clean & Renewable Energy
cal C	Clean water and sanitation	Clean & Safe Water
hysi		Healthy Soil
9-09	Zero hunger	Healthy & Accessible Food
Bio-Geo-Physical Condition	Responsible consumption and production	Responsible Resources/Materials
20		Healthy Culture
Fe.	Peace, justice and strong institutions	Community Capacity/Governance
Feat	No poverty  Decent work and economic growth	Healthy & Equitable Economy
ira 	Quality education	Lifelong Education
Out.	Good health and well being	Well-being/Quality of Life
Socio-Cutural Features	Gender equality	
	Reduced inequalities	
tives	Life on land	
Ecological Imperatives	Life below water	Healthy Biodiversity
gical I		Ecological Integrity
Ecolog		Earth's Carrying Capacity
	Industry, innovation and resilient infrastructure	

EcoCity Pillars	SDGs	Ecocity Standards		Rating Sy	stems	
ECOCITY PIllars	SDGS	ECOCITY Standards	LEED	SITES	ENVISION	RELI
=		Access by Proximity	Smart Location & Linkage	Site Context		
esig		Access to safe & affordable housing	Neighborhood Pattern & Design	Site Context		
Urban Design	Sustainable Cities & Communities	Green Building	Indoor Environmental Quality	Pre-design Assessment + Planning		
		Environmentaly Friendly Transport	Green Buildings			
tion	climate action	Clean Air	Energy and Atmosphere			
on di	Affordable and clean energy	Clean & Renewable Energy	Energy and Atmosphere			
Bio-Geo-Physical Condition	Clean water and sanitation	Clean & Safe Water	Water Efficiency	Water	Resource Allocation	Energy, Water + On-site Food
hys		Healthy Soil		Soil + Vegetation	Resource Allocation	Production
-0	Zero hunger	Healthy & Accessible Food				
Bio-0	Responsible consumption and production	Responsible Resources/Materials	Materials and Resources	Materials Selection		Material + Artifacts
		Healthy Culture				
res	Peace, justice and strong institutions	Community Capacity/Governance			Leadership (Collaboration,	Community Cohesion, Social+
Socio-Cutural Features	No poverty  Decent work and economic growth	Healthy & Equitable Economy			Management, Planning)	Economic Vitality
tura	Quality education	Lifelong Education		Education		
Š	Good health and well being	Well-being/Quality of Life		Human Health + Well Being Quality of Life (Purpose, Well		
Socio	Gender equality				Being, Community)	Productivity, Health + Diversity
	Reduced inequalities					
tives	Life on land	Healthy Biodiversity				
H per	Life below water	rieditily blouversity			Natural World (Water, Land,	
gical I		Ecological Integrity			Biodiversity)	
Ecological Imperatives		Earth's Carrying Capacity				
	Industry, innovation and resilient infrastructure		Green Infrastructure Innovation & Design Process	Innovation or Exemplary performance		Applied Creativity
	Global Partnership for The Goals		Illiovation & Design Process	periormance		
				Performance + Monitoring		-
				Operation + Maintenance		Panoramic Approach
					Risk	Hazard preparedness, Adaptation
					(Resilience)	and Mitigation

FooCity Dillors	SDC	Ecocity Standards		Rating Sy	stems	
EcoCity Pillars	SDGs	Ecocity Standards	LEED	SITES	ENVISION	RELI
_		Access by Proximity	Smart Location & Linkage	Site Context		
esig		Access to safe & affordable housing	Neighborhood Pattern & Design	Site Context		
Urban Design	Sustainable Cities & Communities	Green Building	Indoor Environmental Quality	Pre-design Assessment + Planning		
		Environmentaly Friendly Transport	Green Buildings			
tion	climate action	Clean Air	Fraggi and Atmosphere			
on d <u>i</u>	Affordable and clean energy	Clean & Renewable Energy	Energy and Atmosphere			
cal C	Clean water and sanitation	Clean & Safe Water	Water Efficiency	Water		Energy, Water + On-site Food
hysi		Healthy Soil		Soil + Vegetation	Resource Allocation	Production
9- -0	Zero hunger	Healthy & Accessible Food				
Bio-Geo-Physical Condition	Responsible consumption and production	Responsible Resources/Materials	Materials and Resources	Materials Selection		Material + Artifacts
		Healthy Culture				
res	Peace, justice and strong institutions	Community Capacity/Governance			Leadership (Collaboration,	Community Cohesion, Social+
Socio-Cutural Features	No poverty  Decent work and economic growth	Healthy & Equitable Economy			Management, Planning)	Economic Vitality
tura	Quality education	Lifelong Education		Education		
Ğ	Good health and well being	Well-being/Quality of Life		Human Health + Well Being	Quality of Life (Purpose, Well	
Socio	Gender equality				Being, Community)	Productivity, Health + Diversity
	Reduced inequalities					
ıtives	Life on land	Healthy Biodiversity				
прега	Life below water	nealthy blouversity			Natural World (Water, Land,	
cological Imperatives		Ecological Integrity			Biodiversity)	
òoloo		Earth's Carrying Capacity				
			Green Infrastructure	Innovation or Exemplary		1 1 10 10
	Industry, innovation and resilient infrastructure		Innovation & Design Process	performance		Applied Creativity
	Global Partnership for The Goals					
				Performance + Monitoring Operation + Maintenance		Panoramic Approach
				Specialist : Mantenance	Risk (Resilience)	Hazard preparedness, Adaptation and Mitigation
					(resilience)	and magazion

## NEW EVALUATING FRAMEWORK

	Pillars			Stand	lards		
(Su	rban Design ustainable cities d communities)	Access by Proximity	Green Building	Environmentally Friendly Transportation	Resilient Infrastructure	Safe & Affordable Housing	
	o-Geo-Physical ource Allocation)	Clean Air	Clean and Safe Water	Clean and Renewable Energy	Responsible Material/Resources	Healthy and Accessible Food	Healthy Soil
Sc	ocio-Cultural	Good Health and well-being	Quality Education	Healthy & Equitable Economy	Community Capacity/Governance	Reduced Inequalities	
	Ecological Imperatives	Healthy Biodiversity	Ecological Integrity	Earth's Carrying Capacity			
	Panoramic Approach	Sustainable & Resilient Management	Monitoring & Maintenance	HazardPreparedness, Adaptation & Mitigation			
Арр	olied Creativity	Innovation or Exemplary Performance					

Pillars			Stand	lards		
Urban Design (Sustainable cities and communities)	Access by Proximity	Green Building	Environmentally Friendly Transportation	Resilient Infrastructure	Safe & Affordable Housing	
<b>Bio-Geo-Physical</b> (Resource Allocation)	Clean Air	Clean and Safe Water	Clean and Renewable Energy	Responsible Material/Resources	Healthy and Accessible Food	Healthy Soil
Socio-Cultural	Good Health and well-being	Quality Education	Healthy & Equitable Economy	Community Capacity/Governance	Reduced Inequalities	
Ecological Imperatives	Healthy Biodiversity	Ecological Integrity	Earth's Carrying Capacity			
Panoramic Approach	Sustainable & Resilient Management	Monitoring & Maintenance	HazardPreparedness, Adaptation & Mitigation			
Applied Creativity	Innovation or Exemplary Performance					

Pillars			Stand	lards		
Urban Design (Sustainable cities and communities)	Access by Proximity	Green Building	Environmentally Friendly Transportation	Resilient Infrastructure	Safe & Affordable Housing	
<b>Bio-Geo-Physical</b> (Resource Allocation)	Clean Air	Clean and Safe Water	Clean and Renewable Energy	Responsible Material/Resources	Healthy and Accessible Food	Healthy Soil
Socio-Cultural	Good Health and well-being	Quality Education	Healthy & Equitable Economy	Community Capacity/Governance	Reduced Inequalities	
Ecological Imperatives	Healthy Biodiversity	Ecological Integrity	Earth's Carrying Capacity			
Panoramic Approach	Sustainable & Resilient Management	Monitoring & Maintenance	HazardPreparedness, Adaptation & Mitigation			
Applied Creativity	Innovation or Exemplary Performance					

Pill	lar	Standards			Indicators		
initiae	dillines	Access by proximity	Housing and Jobs Proximity	Access to daily needs	Access to Civic & Public Space		
ies & comm	mes & comme	Green Building	Certified Green Building	Optimize Building Energy Performance	Safer Design for Extreme Weather, Wildfire + Seismic Events	Plan the Site and Orientation for Sun + Wind Harvesting, Natural Cooling	Reduced Site Environmental Impacts: Lighting, Heat-Island, Airborne Toxins
stainahla Ci	Stalliable	Environmentally friendly transportation	Encourage fuel efficient and multi- modal transportation	Access to Quality Public Transit	Walkable Streets	Bicycle Facilities	Green Vehicles
1. Urban Design (Sustainable Cities & communities)	ne) lifikad	Resilient infrastructure	Recycled and Reused Infrastructure	District Heating and Cooling	Safer, Non-Toxic Infrastructure Materials	Improve Infrastructure Integration	Design functional stormwater features as amenities
	 	Safe & affordable housing	Mixed-Income Diverse Communities	Encourage affordable housing development	Require affordable housing		

	Pillar	Standards			Indicators		
		Clean air	Reduce Greenhouse Gas Emissions	Protect air quality during construction	Assess Climate Threat	Reduce urban heat island effects	Avoid Traps and Vulnerabilities
		Clean and safe water	Wastewater Management	Reduce Potable Water Consumption	Prevent Surface and Groundwater Contamination	Monitor Water Systems	
	Physical	Clean and renewable energy	Reduce Net Embodied Energy	Use Renewable Energy	Use vegetation to minimize building energy use	Reduce outdoor energy consumption	Commission and Monitor Energy Systems
	2. Bio-Geo-Physical	Responsible material/resource	Use recycled content materials	Support responsible extraction of raw materials	Minimum Material Effectiveness + Life Cycle Planning	Use Local Materials	Reduce Excavated Materials Taken Off Site
		Healthy & Accessible Food	Limit development on farmland	Local Food Production	Resilient Food Production		
		Healthy soil	Restore soils disturbed during construction	Control and retain construction pollutants	Minimize pesticide and fertilizer use	Designate and communicate Vegetation and Soil Protection Zones	

	Pillar	standards		indic	cators		
		Good Health & Well- being	Enhance Public Health and Safety	Minimize Noise and Vibration	Support mental restoration	Support physical activity	Universal Design
		Quality Education	Promote sustainability awareness and education	Community Education on ever-increasing Weather, Safety + Resiliency Risks	Communicate and verify sustainable construction practices		
	Socio-Cultural	Healthy and equitable economy	Develop or expand Local Skills and Capabilities				
	3. Socio	Community capacity & governance	Engage users and stakeholders	Support social connections	Enhance Resilient Organizations & Nonprofits	Enhance Public Spaces	
		Reduced Inequalities	Provide for Social Equity Opportunities				
		Healthy culture	Preserve Historic and Cultural Resources	Provide for Interdisciplinary/ Intercultural Opportunities			

Pillar	Standards		Indicators						
atives	Healthy biodiversity	Conserve and use native plants	Control and manage invasive plants	Conserve habitats for threatened and endangered species	Conserve aquatic ecosystems				
Ecological imperatives	Ecological integrity	Preserve Prime Habitat	Protect Wetlands and Surface Water	Site Design for Habitat or Wetland and Water Body Conservation	Avoid Unsuitable Development On Steep Slopes	Tree-Lined and Shaded Streetscapes			
4. Ecol	Earth's Carrying capacity	avoid consuming Greenfields, wetlands and water bodies	Brownfield Remediation	Locate projects within existing developed areas	Redevelop degraded sites				

Pillar	Standards	Indicators			
5. Panoramic Approach	Sustainability & Resiliency Management	Use an integrative design process	Conduct a pre-design site assessment	Post-Development Evaluation	Study + Design for Long- Term Adaptability, Diversity + Redundancy
	Monitoring & Maintenance	Plan to monitor and report site performance	Plan for sustainable site maintenance	Address Conflicting Regulations + Policies	
	Preparedness, Mitigation, Adaptation	Fundamental Emergency Planning for Common Hazardous Events	Adaptive Design for Extreme Rain, Sea Rise, Storm Surge + Extreme Weather, Events	Prepare for Short- Term Hazards	Prepare for Long-Term Adaptability

Pillar	Standards	Indicators			
6. Applied Creativity	Innovation or Exemplary performance	Applied Creativity in Resiliency & Integrative Design	Applied Creativity in Resilient Economics, Equity, Education	Leadership Metrics and Measures from sources beyond UBC criteria	

## CONCLUSION

UBC framework is a diagnostic tool that helps measure the effectiveness of current
 UBC policies and plans

New framework can guide the development of new plans moving forward.

Thank You