

## 2018 ONE PLANET REPORT



# TABLE OF CONTENTS

	1	SUSTAINABLE WATER	18
	2	Highlights of the Year	18
	2	Summary of 2018 Achievements	19
	3	LOCAL AND SUSTAINABLE FOOD	20
	4	Highlights of the Year	20
	5	Summary of 2018 Achievements	21
		TRAVEL AND TRANSPORT	22
	6	Highlights of the Year	22
	6 7-8	Summary of 2018 Achievements	23
		MATERIALS AND PRODUCTS	24
	9	Highlights of the Year	24
	9 10-11	Summary of 2018 Achievement	25
		ZERO WASTE	26
	12	Highlights of the Year	26
	12	Summary of 2018 Achievements	27
assador	12		
	13-15	ZERO CARBON ENERGY	28
	1/	Highlights of the Year	28
	16 16	Summary of 2018 Achievements	29
	17	LOOKING AHEAD	30-31



18 18

19

20 20

22

22

23

24

24

25

26

26 27

28 28

Highlights of the Year Summary of 2018 Achievements EQUITY AND LOCAL ECONOMY

HEALTH AND HAPPINESS

EXECUTIVE SUMMARY

THE PROJECT

THIS REPORT

SITE SPECIFICS

PROJECT PHASING

Highlights of the Year Summary of 2018 Achievements

#### CULTURE AND COMMUNITY

Highlights of the Year	
Meet Thomas, Zibi's One Planet Ambassador	
Summary of 2018 Achievements	1

#### LAND AND NATURE

Highlights of the Year Summary of 2018 Achievement

### EXECUTIVE SUMMARY

Zibi, located in Ottawa and Gatineau, is envisioned to be the most environmentally conscious and sustainability-focused development project in Canada's history. Under the guidance of the One Planet Living, a holistic 10 principle sustainability framework, Zibi will make it easy for residents, visitors, and workers to lead low impact and healthy lifestyles all while living in comfort and style on the waterfront in the heart of the National Capital Region.

This past year was a momentous year at Zibi; we completed construction on our first phase of infrastructure including the decontamination of 70 000 metric tons of soil, and the installation of civil services. We completed our first residential O Condominiums, a 70 unit condo building and welcomed residents into their new homes in time for the holidays. This provided our first opportunity for our One Planet Ambassador, an individual who is responsible for promoting

and inspiring sustainable lifestyles within the community, to begin rolling out programming. We also built the first phase of our District Energy system, which is a vital step toward zero-carbon heating and cooling at Zibi. We labored over One Planet Design and Contractor specifications that are now incorporated into our design and construction processes at the onset. Moving forward, we can now build upon these templates, to more efficiently communicate our sustainability intentions to designers, contractors, perspective purchasers, and residents. Our processes are improving with each phase of the project so that developer can achieve a One Planet Community and track our progress in a tangible way.

Sustainability is also engrained in our construction practices. This past year, we've had the opportunity to meet with many of our trade partners to educate them on the One Planet Action Plan. We diverted approximately 92% of construction waste from the landfill and reused excavated rock by crushing it at our onsite quarry. Momentum is only increasing as we prepare to welcome more residents and commercial tenants to our community in 2019. Finally, we will continue to work with our Algonquin Anishinabe partners who are providing invaluable direction on the design of our public realms and green spaces that will allow for Zibi to continue to be a leader in social sustainability and indigenous reconciliation in the region.



# THE PROJECT

Located in both Ottawa and Gatineau, Zibi is a transformative project on a physical, environmental, and societal level. The only One Planet Living endorsed community in Canada, Zibi inhabits former contaminated industrial lands, and is transforming them into one of Canada's most sustainable communities. Incorporating public spaces and parks, as well as commercial, retail, and residential real estate, Zibi is poised to become a truly integrated mixed-use community, one that will reinvigorate both the Ottawa and Gatineau downtown core.

Zibi offers a place where residents, retailers, and the public will want to call home. Straddling both the Ottawa and the Gatineau waterfront, Zibi will include unrivaled access to public and active transit routes, Ottawa's brand new light rail train system, one of Canada's most extensive cycle network, public and park space, all while offering the most stunning vistas the region has to offer. Zibi is essentially a waterfront city, reimagined for the 21<sup>st</sup> century.

We are committed to transparency and environmental and social responsibility, from conception to completion. To guide and track this commitment we have adopted a One Planet Action Plan; a framework based on 10 guiding principles of sustainability which we can use to create holistic solutions. Endorsed by Bioregional, the founder of One Planet Living, our Action Plan is Zibi specific drawing on our regional characteristics and unique site history and is integrated into our municipal development permits. The following pages will walk you Zibi's progress as a One Planet Community by highlighting accomplishments and experiences of 2018.



# SITE SPECIFICS

Uniquely situated on the Ottawa River in both the provinces of Quebec and Ontario, Zibi redevelopment occupies Chaudière and Albert Islands and the north shore of the river in Gatineau. Zibi, the Anishinabe word for River, is located on unceded Algonquin-Anishinabe territory; meaning that these lands, including all of the land in Eastern Ontario and Western Quebec were never surrendered, or treatied.

The site and the surrounding area has been central to historically significant activity in the Ottawa area including; use by First Nation's people, a travel route for early European explorers and industrial activity including lumber and pulp and paper operations. Landmarked by 60 meter wide cascading cauldron shaped falls in the middle of the Ottawa River, as a result of industrial activity, the site has been inaccessible to the public for decades.

Zibi site



# PROJECT PHASING

Site redevelopment includes the coordination of various land owners, demolition of the existing industrial buildings, servicing the site, environmental remediation of contaminated soil, and rehabilitating heritage buildings and the natural environment, designing and building new buildings, creating public spaces, and the list goes on. Given this complexity, the community will be constructed over the course of 12-15 years in a phased approach. The end result will be a mixed-use community consisting of residential, retail and commercial space boasting purpose built public spaces and unique waterfront green spaces over 34 acres in the heart of the National Capital Region. We will welcome approximately 5000 residents and 6000 workers to our One Planet Community.





# THIS REPORT

This report is intended to satisfy annual reporting requirements with respect to Zibi's progress with its One Planet Action Plan and has been peer reviewed by Bioregional's panel of experts on sustainable development.

The front half of this report provides a summary of Zibi's progress on its One Planet Action Plan in 2018 by walking through each of the 10 principles. The appendices provide a detailed analysis of data collected to achieve targets and ultimately project outcomes defined in Zibi's One Planet Action Plan.









Late in 2018, Zibi welcomed its first residents to their new home in the O Condominiums. Prior to move in, residents were invited to a 'Welcome to the Community' event where they were introduced to their new community and sustainability solutions integrated into their building. Not only did this event allow for Zibi to foster a sense of appreciation for One Planet Living, it gave residents the opportunity to begin to develop their community.

Zibi surveyed residents as they were moving into their new homes, and generally, our first residents are a happy bunch, see below!

# HEALTH AND HAPPINESS

The creation of community green spaces and play areas will provide ample infrastructure for everyone to lead active lifestyles within the community. Coordinated community gatherings and initiatives will give residents the opportunity to be active in shaping and participating in their community.



### SUMMARY OF 2018 HEALTH AND HAPPINESS ACHIEVEMENTS

(refer to Appendix A for data)

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
HH1	Increase happiness for Zibi residents.	>75%	Percentage of residents that say they're 'happy' with their lives.	Average life satisfaction between 2009-2013 in Ottawa-Gatineau was rated at approximately 8 on a scale to 10 where 10 is "very satisfied" <sup>1</sup> . Average from residents surveyed is 3.75 of 4 where 4 is very happy.	No residents living on site.	A One Planet Ambassador was onboarded to facilitate programming that will promote happiness within the community.	The One Planet Ambassador will deliver a series of workshops and activities that will promote happiness within the community. Residents will be surveyed on their happiness in Q4 of 2019.
HH2	Create opportunities for community involvement.	>70%	Percentage of residents that feel actively involved in their community.	Ottawa-Gatineau residents are less likely than the national average to report that they feel a sense of belonging in their community (58% for Ottawa-Gatineau vs. 65% for all of Canada) <sup>1</sup> .	There were no residents on site in 2017.	Occupancy of Zibi's first residential building began in mid November 2018. Throughout the year, Zibi hosted two workshops related to sustainable food as well as a welcome to the neighbourhood pre-occupancy event.	Residents will be surveyed on this topic late 2019, a year following occupancy. Events will be held throughout the year to facilitate a sense of belonging for residents and the greater community.
ННЗ	Facilitate learning and creative expression opportunities for residents.	12	Number of events and/ or classes held per year within community spaces.	There is currently no industry standard or best practice.	No residents on site in 2017.	Zibi hosted two workshops related to beekeeping and honey harvesting that were attended by residents in 2018 as well as a welcome to the neighbourhood pre-occupancy event.	The One Planet Ambassador will host several events and workshops throughout 2019 that will satisfy this outcome.
HH4	Support better health outcomes for residents.	>85%	Percentage of residents that indicate an overall satisfaction with their health.	63.6% of Ottawa & Gatineau residents perceive their health as very good or excellent; 72.3% perceive their mental health as very good or excellent; Canadian average is 59.9% and 72.2% respectively.	No residents on site in 2017.	Residents were surveyed on whether or not their health allows for them to meet their day-to-day needs. 94% of respondents indicated that yes, their health allows them to meet their daily needs.	The One Planet Ambassador will host several events throughout 2019 that will satisfy this outcome, such as outdoor recreational activities.

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
HH5	Support better health outcomes for construction workers.	>85%	Percentage of workers that indicate an overall satisfaction with their health.	There is currently no industry standard or best practice.	No outreach was done with workers in 2017.	2018 Baseline surveying indicated that of the sample of trade workers surveyed, 50% indicated that their overall health (mental and physical) was great, while 45% indicated that it was good and 5% indicated that there is room for improvement.	Zibi will progress this outcome in 2019 by developing and implementing outreach material including a smoking cessation program.
		>85%	Percentage of workers that indicate increased satisfaction working at Zibi as compared to other sites.	There is currently no industry standard or best practice.	No outreach was done with workers in 2017.	Given the vast majority of trades that work on site, worker turnover is high. Despite this, Zibi endeavours to assess worker satisfaction in 2019 after implementing more programming focused on worker health and happiness.	Zibi will progress this outcome in 2019 by developing and implementing outreach material.

<sup>1</sup>Statistics Canada Life Satisfaction Survey 2009-2013 https://www150.statcan.gc.ca/n1/pub/11-626-x/11-626-x2015046-eng.htm

While Zibi's current baseline for Health and Happiness is positive, as a socially conscious developer we see ample opportunity to improve this. For example, current residents who have moved in the earliest phase of development have minimal access to public spaces and amenities. Further, downtown Gatineau has limited amenities, especially after business hours. Fortunately, Phase 1 of the project will include the construction of public and green spaces as well as commercial space that will accommodate a grocery store, food hall and restaurant services.





Zibi retained Cahco to begin developing an affordable housing strategy. This strategy will guide development over the course of the next 10-12 years ensuring that Zibi achieves its commitments with respect to affordable housing as defined in our One Planet Action Plan as well as what is defined in municipal development permits. In 2018, Zibi continued to work with an Algonquin contractor, Decontie Construction, to provide opportunity for off reserve work for Indigenous trades people. We are proud to be part of this initiative led by key project partners Decontie and Milestone.

### EQUITY AND LOCAL ECONOMY

A community for all, Zibi will incorporate a range of housing opportunities to ensure a diverse mix of owners and renters. The development includes commercial and retail spaces that are preferentially allocated to local and socially responsible business, creating jobs and giving opportunity to small, ethically run enterprises.

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
ELE1	Plan for 7% affordable housing.	7%	Percentage of affordable housing, measured by number of affordable units compared to the total number of units.	In 2011, on average those living in the Gatineau-Ottawa area spent 21% of their income on shelter. According to CMHC, in order for housing to be affordable, no more than 30% of income should be spent on shelter <sup>1</sup> .	In 2017, Zibi held multiple workshops on how to approach affordable housing in the development. Zibi will meet this target overall, but not likely in the first 5 years of the project.	Zibi began developing its affordable housing strategy in 2018 and worked towards strengthening partnerships with key stakeholders in affordable housing management in the region.	Zibi will continue to work toward this outcome. As part of our affordable housing strategy, 2019 will see the breaking of ground for our first rental building.
ELE2	Promote and give precedence to smaller, local and/or ethically run enterprises.	50%	Percentage of retail space storefronts that contain small, local, and/ or ethical businesses, compared to the total number of storefronts at Zibi.	There is currently no industry standard or best practice.	No leases were signed in 2017.	No leases were signed in 2018 however Zibi did host a pop up holiday market showcasing the work of local artisans whose business values align with those of Zibi's.	Leasing representatives continue to work with this target as negotiations with prospective tenants progress.
ELE3	Engage Zibi residents in fair trade programs and products.	One fairtrade business will be in place by the time that 50% of retail storefronts are occupied.	Deploy fair trade guidelines in retail strategy.	There is currently no industry standard or best practice.	No leases were signed. Leasing representatives are targeting a fair trade coffee shop for phase 1 of the project.	No leases have been signed. Leasing representatives are targeting a fair trade coffee shop for phase 1 of the project.	Leasing representatives continue to work with this target as negotiations with prospective tenants progress.
ELE4	Provide opportunities for all community members to democratically participate in governing and managing Zibi.	Set up association within 1 year of first occupancy.	Create a community wide residents' association with documented democratic governance procedures.	There is currently no industry standard or best practice.	There was no occupancy in 2017.	Occupancy began in November 2018, as such no association was established in 2018.	An association will be established in 2019 as property management allows.
ELE5	Create a socially responsible tourist destination.	By year 5, have 1000 tourists per year visit Zibi.	Number of tourists per year.	There is currently no industry standard or best practice.	The Zibi team made progress on planning for this outcome.	In 2018, Zibi hosted 26 events welcoming over 15,000 visitors on site.	Planning for this outcome will continue in 2019 and 2020. Zibi is pleased to be hosting Cirque du Soleil once again in 2019.

### SUMMARY OF 2018 EQUITY AND LOCAL ECONOMY ACHIEVEMENTS

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
ELE6	Develop Zibi beneficially with and for the Algonquin Anishinabe nation and people.	At least 20 individuals are bridged from on-reserve work to off-reserve work experience, throughout the project life cycle.	Zibi will prioritize qualified Algonquin Anishinabe and Indigenous peoples for employment opportunities at the project. Indigenous workers are employed continuously throughout the construction phase, and/or as other service- providers to the project.	There is currently no industry standard or best practice.	14 Algonquin workers were employed for the remediation work (phase 1); of these, 4 workers were retained for further work with contractors.	In 2018, eight individuals were bridged from on-reserve work to off-reserve work experience at Zibi.	Zibi will continue to progress on this outcome and seek new opportunities for Algonquin Anishinabe employment.
		At least 2 opportunities for long-term investment throughout project lifecycle.	Invite First Nations as preferential partners for long-term investment opportunities. Provide detailed information for these opportunities as soon as they are available and provide support as needed to ensure First Nations partners understand the opportunity and how it works.	There is currently no industry standard or best practice.	There is a placeholder for 10% ownership of the district utility company by the Algonquin people.	Zibi progressed conversations with First Nation partners on one long-term investment opportunity in 2018.	Zibi will continue to implement this outcome by identifying other opportunities and progressing existing dialogue surrounding this outcome.
		Preferential pricing program details to be in place prior to launch of first residential project. Details of Indigenous inclusion to be included in formal affordable housing strategy.	Offer a preferential residential pricing program for Indigenous purchasers, and include Indigenous members as part of affordable housing strategy, to ensure that Indigenous culture is not only present at Zibi, but that Indigenous people truly live, work, and play at Zibi.	There is currently no industry standard or best practice.	A preferential pricing program is in place.	A preferential pricing program is in place which provides a small discount to all First Nation, Inuit or Métis purchasers.	Zibi will continue to implement the pricing program.

<sup>1</sup> https://cmhc.beyond2020.com/HiCOMain\_EN.html

2019 will provide opportunity for Zibi to progress on Equity and Local Economy targets as we occupy commercial space and strengthen relationships with local entrepreneurs.







# CULTURE & COMMUNITY

Zibi will give the public unprecedented and long overdue access a site of great cultural relevance. Through signage, architecture, art, and community programming, Zibi will make the rich history of the site legible to residents and visitors and establish a distinct cultural identity. Thanks to improved physical connection to neighbouring attractions and landmarks, Zibi will be integrated into the existing network of cultural destinations within the National Capital Region.

### HIGHLIGHTS OF THE YEAR

This past year was one of significance for Zibi as we welcomed our first residents on site; these residents are the cornerstone of our community and are the first Ambassadors of One Planet Living in Canada. The responsibility to create the culture defined in our Master Plan was not taken lightly. Retaining a One Planet Ambassador, an individual who is responsible for promoting and inspiring sustainable lifestyles within the community, was essential in establishing our vision from the onset. This individual delivered programming to the community including a Welcome to the Neighbourhood event in 2018 and will continue to do so in 2019. Zibi has also established an online community forum for residents allowing them to share resources, post to a buy-and-sell page, and become aware of events occurring in their community.

#### Meet Thomas, Zibi's One Planet Ambassador

Thomas originally joined Zibi in a sales position due to his passion for building world-class human communities. Thomas is well positioned for the role of the One Planet Ambassador given his background in environmental studies combined with his approachable and enthusiastic personality. Thomas looks forward to inspiring and connecting our One Planet Community as it grows.



### SUMMARY OF 2018 CULTURE & COMMUNITY ACHIEVEMENTS

(refer to Appendix B for data)

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
CC1	Create a cultural identity that reflects the history of the locale throughout the development.		A heritage plan, endorsed by municipal heritage planners and First Nation partners, development and implemented at Zibi.	There is currently no industry standard or best practice.	A heritage interpretive plan has been in place since March 2017.	Zibi will continued to implement the principles of the heritage interpretive plan-design for park and the public realm was refined in 2018. For example, several public spaces will be named in Algonquin.	Zibi will continue to implement the principles of the heritage interpretive plan–2019 will see the construction of Zibi Plaza, our first public realm, as well as the construction of Pangishimo Park.
CC2	Adapt and re-use at least four existing historic industrial buildings.	4 Buildings	Number of heritage buildings preserved.	There is currently no industry standard or best practice.	2 facades, plus 2 full buildings in phase 1 to be preserved and repurposed.	2 facades, plus 2 full buildings in phase 1 to be preserved and repurposed. Zibi will continue to implement this target throughout construction.	2 facades, plus 2 full buildings in phase 1 to be preserved and repurposed. Zibi will continue to implement this target throughout construction.
ССЗ	Promote local art and support the local arts community.	50%	Percentage of art installations on site that are created by local artists.	There is currently no industry standard or best practice.	No art was installed in 2017.	Zibi will carry this outcome forward in 2019 as construction continues. Zibi installed its first two public art displays in O Condominiums. The art is the work of Frank Polson of Long Point First Nation.	Zibi will carry this outcome forward in 2019 as construction continues. Much of the art that is planned for parks and public spaces, and is embedded into the detailed park and public realm design work will be the work of local artists.
CC4	Create connectivity with the surrounding communities of the National Capital Region.	All network connections completed before 40% of the building area is complete.	A developed network of connected pedestrian and cycling pathways to and from adjacent communities.	There is currently no industry standard or best practice.	Plans were made to address this target.	Zibi carried this target forward in 2018 primarily through planning with stakeholders. Much of this work is being contemplated as part of the parks and public realm detailed design work. Major bike routes connecting into the NCC's existing pathway will be built by end of 2019.	Zibi will continue to carry this target forward in 2019 as construction continues. Much of this work is being contemplated as part of the parks and public realm detailed design work.

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS	
CC5	CC5	Engage with Algonquins to ensure First Nations history, presence and culture are reflected throughout the development.	Mention traditional Algonquin territory in 100% of public speaking engagements, media events and published reports; 15% of place names will be in Algonquin . Visitors to Zibi know that Zibi is the Algonquin word for river, and Ottawa- Gatineau is within traditional Algonquin territory.	Raise public awareness that project lands are within unceded traditional Algonquin territory through public statements and acknowledgments, signage, wayfinding and place names.	There is currently no industry standard or best practice.	Zibi representatives acknowledged that the Zibi project is occurring within unceded traditional Algonquin territory at 100% of speaking engagements, media events and in published reports. Zibi averages 2-3 public speaking engagements a month. Sales team mentions Zibi that Zibi is the Algonquin word for river in 100% of client and purchaser interactions.	Zibi acknowledged the territory of the Algonquin in 100% of speaking engagements, media events and published reports. Algonquin words were incorporated into on-site construction signage.	Zibi will carry this outcome forward in 2019 through the implementation of targets.
		Minimum of 2 advisory council meetings per year.	Establish a standing advisory council of Algonquin Anishinabe to continuously guide on project matters related to First Nations culture, history and language.	There is currently no industry standard or best practice.	The council was established in 2015, and met 7 times in 2017.	The council was established in 2015, and met 5 times in 2018.	Zibi will continue to meet and collaborate with the Memengweshii council as well as our other Algonquin partners on a regular basis.	
		Minimum of 2 youth engagements per year.	Indigenous youth engagement through internship opportunities, site tours, Zibi staff presentation, or other educational programming.	There is currently no industry standard or best practice.	Several community presentations in Pikwakanagan involved youth but were not exclusive to youth. Though promoted, no requests from Algonquin communities for site visits or school presentations. No internship or summer students in 2017.	Zibi retained a summer student from Pikwakanagan in 2018 who supported several teams throughout the internship including sustainability and marketing. Zibi engaged with the overall community when soliciting feedback on public realm design at events in March, April, and May of 2018. This engagement was not limited to youth but certainly involved youth from the community.	Zibi intends on providing a summer work placement opportunity for student from an indigenous community for summer 2019 and will continue to pursue opportunities to engage with the community as they arise summer 2019 and will continue to pursue opportunities to engage with the community as they arise.	
CC6	Create a sense of belonging within Zibi.	>70%	Percentage of residents that 'know their neighbour'.	There is currently no industry standard or best practice.	No residents on site in 2017.	The first residents occupied their condos in November of 2018. Zibi has already implemented programming to facilitate this action and will report on 2019's success next year.	Zibi will continue to implement programming that will create a sense of belonging within the community.	

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
CC7	Create a culture of sustainability throughout Zibi, from design to operations.	80% of all residents and workers will indicate that their awareness of sustainability issues and solutions has increased year-over- year.	A measurable difference in environmental and sustainability awareness among contractors, tenants and residents.	There is currently no industry standard or best practice.	No residents on site in 2017.	Zibi administered a baseline survey in 2018 with workers and residents that will allow for reporting on this target in 2019.	Zibi will continue to create a culture of sustainability through training and programming in 2019/2020.
		80% of all residents and workers will indicate that their awareness of sustainability issues and solutions has increased year-over- year.	Implement a full-time One Planet Ambassador to develop programs and implement cultural norms around sustainability until the development reaches 30,000 sq. m of buildings, and then transfer the leadership over to the community associate/BIA.	There is currently no industry standard or best practice.	No residents on site in 2017.	A One Planet Ambassador was retained in 2018 and began implementing programming relevant to this target. Initiatives including One Planet training was delivered to workers.	Zibi will continue to deliver programming including workshops and waste audits that will enlighten residents and workers on issues related to sustainability.

This past year provided Zibi with the opportunity to define its culture and community as we welcomed our first residents on site. In the coming years, it will be essential that we establish and maintain our culture and community as this will be a driving force to achieving our outcomes in our One Planet Action Plan.

15





Considerable bandwidth was dedicated to the design of green and public spaces in 2018. Zibi staff worked under the guidance of the Memengweshii Council to design public spaces that will celebrate the natural world of the region and honour Algonquin culture while satisfying the requirements of the National Capital Commission, la Ville de Gatineau and the City of Ottawa. Finding common ground between all project partners and stakeholders proved to be challenging with varying priorities and design principles however we are very pleased to have designed public spaces that will be unique to our One Planet Community. We look forward to seeing the design come to fruition in 2019 with the development of our first public and park spaces.

# LAND AND NATURE

Starting with the remediation of this former industrial site, Zibi will restore the area as a biologically diverse ecosystem. Carefully designed landscapes and greenspaces will provide micro-habitats for Indigenous species, thereby increasing biodiversity on the site

#### SUMMARY OF 2018 LAND AND NATURE ACHIEVEMENTS

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
LN1	Remediate contaminated land and revitalize the area to maximize the benefit to natural ecosystems within the development.	100%	Percentage of the site area that meets provincial regulations after remediation.	There is currently no industry standard or best practice.	51,460 metric tons of remediated soils completed to end of 2017 with 47,578 metric tons in process on site (removed from the bedrock, and being processed and sorted before leaving site).	A total of 70,000 metric tons of soil was remediated from the site in 2018.	Zibi is ahead of our planned schedule for remediation and all remediation has been done to provincial standards.
LN2	Reintroduce native vegetation and increase biodiversity of plants and animals.	14%	Percentage of site area dedicated to park space.	There is currently no industry standard or best practice.	No park space was turned over in 2017.	No park space was turned over in 2018 however Zibi progressed the design of the two of its future park spaces.	Phase 1 will exceed the 14% target. Zibi will turn over the first park of the project in 2019; Pangishimo Park.
		400%	Increase biodiversity of plants and animals by 400%.	There is currently no industry standard or best practice.	No planting occurred in 2017.	2018 planting was limited to minimal temporary landscaping in Gatineau and the installation of a service berry tree in Zibi House. Zibi's first park space was designed in 2018 and will increase biodiversity on site.	Zibi will work with landscape architects in 2019 to implement in public spaces.
		All parks will contain at least 1 plant of significance to First Nations people.	Reintroduce Indigenous plants of historic or cultural significance to First Nations people.	There is currently no industry standard or best practice.	In 2017 Zibi worked with our Algonquin partners to refine a list of plants of significance.	In 2018, Zibi worked with our landscape architect to ensure that plants suggested by our Algonquin partners are incorporated into public space design.	Zibi will continue to work with our landscape architect to ensure that plants of significance continue to be incorporated into public space design.
LN3	Design lighting strategies to minimize the effects of light pollution.	Meet LEED requirements.	Meet uplight and light trespass specifications for exterior areas per the LEED v4 rating systems.	There is currently no industry standard or best practice.	Planned but not executed in 2017.	This requirement was integrated into the specifications of the first building constructed and occupied in 2018.	Zibi will continue to implement these requirements into specifications for the design of buildings and public spaces.
LN4	Foster a love for nature through education and by increasing opportunities to interact with the natural world.	50% of all residents will increase their time "in nature" comparing their personal baseline prior to Zibi to one year after living at Zibi.	Participation in nature programs.	There is currently no industry standard or best practice.	Planned but not executed in 2017 as there were no residents on site. Spaces are being designed to facilitate this outcome.	No programming executed in 2018 as residents began to occupy the first building in November 2018.	Zibi's One Planet Ambassador will deliver programming that will facilitate connections with the natural world in 2019. Pangishimo Park will be completed in 2019 which will provide onsite access to nature in addition to the close proximity to municipal and provincial green spaces.

Our community and the larger community has a vested interest in the revitalization of our site including greening of what has been derelict industrial land. We look forward to making progress on this Principle in 2019 with the development of our first park.





Zibi addressed the Sustainable Water principle from the onset by including low flow high efficiency fixtures in design and construction specifications for its first residential O Condominiums. This building also boasts a cistern which collects roof rainwater used to flush toilets for approximately 50% of the units in the building. Further, Zibi continues to work with our landscape architect to design public spaces with drought tolerant native species which will lessen our dependence on water for irrigation.

# SUSTAINABLE WATER

As a whole, the development will reduce potable water consumption by 15% compared to the regional average of 163L of water per person per day. This is to be achieved through the use of super-efficient appliances and employ non-potable water for sewage conveyance and landscaping, where feasible. Zibi's landscaping will provide storm water remediation to prevent run-off pollution

#### SUMMARY OF 2018 SUSTAINABLE WATER ACHIEVEMENTS

(refer to Appendix C for data)

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
SW1	Reduce residential potable water use to 138 litres per person, per day.	138 litres	Potable water consumed per resident, per day (L).	Ontario households currently use 271 L/ day/ person. Quebec households currently use 386 L/ person/day.	No residents lived on site in 2017.	Low flow high efficiency fixtures have been installed in all suites meeting requirements for LEED For Homes Platinum. Zibi anticipates being able to report more accurately on this target in 2019.	Zibi will continue to include water efficiency measures in specifications and will deliver programming that will promote water conservation.
SW2	Reduce potable water use in landscaping by way of planning drought tolerant species and using non-potable means if permanent irrigation is required.	0%	Percentage of potable water used for permanent irrigation systems.	There is currently no industry standard or best practice.	No irrigation systems were installed in 2017.	No irrigation systems were installed in 2018.	Zibi will continue to work with landscape architects and our infrastructure team to implement this outcome.
SW3	Utilize non-potable water for sewage conveyance in buildings where feasible in order to meet water consumption targets.	10%	Percentage of non-potable water used for sewage conveyance.	There is currently no industry standard or best practice.	No sewage infrastructure was required in 2017.	Zibi's first O Condominiums a cistern (capacity 47,147 L) collects rainwater from the roof of the building and distributes grey water to approximately 50% of residential toilets in the building.	Zibi will continue to implement this outcome in future buildings.
SW4	Achieve near-zero export of pollutants via stormwater outflow.	Total suspended solids will be reduced by 80% prior to discharge.	Pollutant levels in stormwater outflow.	Ambient levels in the Ottawa River: Total suspended solids-6.0 mg/L and turbidity-4.2 NTU <sup>1</sup> .	No stormwater infrastructure was installed in 2017.	Stormceptors designed to remove total suspended solids were installed on site in 2018.	Zibi will continue to work with the infrastructure team to implement this outcome and will begin sampling outflow in 2019.

<sup>1</sup>Data collected between 1985 and 1990 at Carillon. Source Ottawa River Nomination Document, Chapter 3 prepared by Ottawa River Heritage Designation Committee.

Zibi will continue to find creative solutions for greywater use and collection by building and by district. We look forward to exploring opportunities for greywater use as we progress.





Despite being an active construction site for the majority of 2018, Zibi is proud to say that through creative thinking, we were able to make progress on access to local and sustainable food. Specifically, we had a beehive on our construction site. Honey bees will travel up to 5 km to collect nectar and since we are conveniently located within proximity of Gatineau Park, our bees were busy. Jarred honey was gifted to the residents of our first residential building.

# LOCAL AND SUSTAINABLE FOOD

Zibi will serve as a model for integrating agriculture into the urban landscape. Easy access to seasonal, local, and sustainably produced food will help residents enjoy healthier, fresher diets and support local farms and vendors, while reducing the carbon footprint of their diets by 50% as compared to a conventional one



ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
LSF1	Provide access to modest garden spaces for 90% of households that want it.	1.4 Meter squared	Area of food- growing garden spaces onsite per household.	There is currently no industry standard or best practice.	No residents lived on site in 2017.	Zibi's O Condominiums building will have access to 15 garden boxes that are 1.45 M <sup>2</sup> each.	Zibi will continue to progress this outcome.
		1:10	Ratio of food- growing garden spaces to households.	There is currently no industry standard or best practice.	No residents lived on site in 2017.	In 2018 Zibi designed an outdoor space at O Condominium that will accommodate for fifteen 1.4 m2 garden boxes to be delivered in 2019. This results in a ratio of 1:4.7.	Zibi will continue to progress this outcome with 2018/19 construction.
LSF2	Create a community scale food distribution network to improve connections between food and farmers and increase access to local, fairly traded, and organic food.	>70%	Percentage of Zibi residential tenants that purchase at least 25% of their food (by value) that is organic, or local, or fair trade.	Organic food represents less than 1% of Canada's retail food sales.	No residents lived on site in 2017.	Occupancy began in November 2018 and as such no progress was made on this indicator in 2018.	Zibi will continue to progress this outcome in 2019. Awareness programming will be delivered to new residents by the One Planet Ambassador.
		5% in year 1, growing to 25% by year 5.	Percentage of Zibi residential tenants that participate in Zibi's various farm- to-table programs.	There is currently no industry standard or best practice.	No residents lived on site in 2017.	Occupancy began in November 2018 and as such no progress was made on this indicator in 2018.	Zibi will continue to progress this outcome in 2019. Awareness programming will be delivered to new residents by the One Planet Ambassador.
LSF3	Engage residents in education programs to encourage a reduction in consumption of high-carbon foods.	50% of all residents will report a decrease in high-carbon food consumption year over year.	Percent reduction in the consumption of high-carbon foods.	There is currently no industry standard or best practice.	No residents lived on site in 2017.	Occupancy began in November 2018 and as such no progress was made on this indicator in 2018.	Zibi will continue to progress this outcome in 2019. Awareness programming will be delivered to new residents by the One Planet Ambassador.

#### SUMMARY OF 2018 LOCAL AND SUSTAINABLE FOOD ACHIEVEMENTS

The National Capital Region boasts access to local and sustainable food thanks to river valley arable land and a rich history of farming. As such, there are ample opportunities for Zibi to collaborate with local entrepreneurs to provide the community access to local and sustainable food.





A significant part of the work completed by the Zibi team in 2018 consisted of planning for the transformation of the Booth/Eddy St. corridor. This massive undertaking, scheduled to occur in Q3 of 2019, requires the unprecedented coordination of federal, provincial and municipal stakeholders. At completion, the transformation of a vehicle centric corridor will provide safe and efficient access for cross boundary active and sustainable transportation. Not only will this have positive impacts on the Zibi project, it will also transform sustainable transportation opportunities for the region.

# TRAVEL AND TRANSPORT

Sustainable transport is based on both reducing the need for energy reliant transportation by giving priority to bikes and pedestrians and, when energy reliant transport is needed, provide infrastructure for efficient and low-impact alternatives such as ride-share and electric cars



ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
Π	Reduce carbon dioxide (co2) emissions associated with local transportation of residents.	20%	Percentage of parking spaces with electric car charging stations.	Quebec building code makes it mandatory that 240v infrastructure be installed in all new builds. Ontario building code requires that no less than 20% of parking spaces in a building be provided with EVSE.	The first building will be outfitted with the capability to install charging infrastructure in 100% of parking spaces.	To date, in Zibi's first residential building, one charging station has been purchased and installed, 4 more parking spots are equipped with the infrastructure required to plug and play a charging unit, and all parking spots are equipped with conduits to install charging units.	Zibi will continue to progress this outcome with 2019/2020 planning and construction and as residents purchase charging stations. The parking lot dedicated to Zibi house will have a universal and a Tesla specific charging station.
		0.7	Ratio of car parking spaces per household.	Car ownership is 1.3 vehicles per household <sup>1</sup> . Provincial average is 1.45 vehicles per household <sup>2</sup> .	The first building was designed with a 1:1 ratio.	The first building was designed with a 1:1 ratio for market purposes. Zibi will track parking ratios through the design of the project and adapt to achieve the target.	Zibi will continue to progress this outcome with 2019/2020 planning and construction.
		Modify roadway to reduce car lanes from 4 to 2, implement new bus shelters and transit schedule improvements, sidewalks and bikeway in both directions.	Modify the Eddy- booth corridor to prioritize active methods of transportation and transit over personal automobile.	There is currently no industry standard or best practice.	Planned but not executed.	This will be executed in Q3 of 2019.	Will be complete and operational.
		Auto driver: 25%, auto passenger: 10%, transit: 45%, non-motorized: 20%.	Achieve modal split targets to decrease personal vehicle trips.	There is currently no industry standard or best practice.	Planned but not executed.	Zibi will continue to progress this outcome with 2018/19 planning and construction.	Zibi will continue to progress this outcome with 2018/19 planning and construction by working with authorities to include transit stops and bike lanes.
TT2	Reduce the travel distance for basic goods and services to within walking distance.	>90 at 50% build- out.	Community walkscore.	The region's walkscore is 54.	Gatineau is currently rated at 92 and Ottawa rated at 44.	Zibi will continue to progress this outcome with 2019 planning and construction.	Zibi will continue to progress this outcome and anticipates having commercial tenants that will provide basic goods and services in 2020.

#### SUMMARY OF 2018 TRAVEL AND TRANSPORT ACHIEVEMENTS

<sup>1</sup>CMHC figures for Ottawa Centre. <sup>2</sup>NRCAN 2009 vehicle survey.

Ultimately, Zibi is interested in shifting the regional car dependent culture to one that values active and sustainable transportation. The Booth/Eddy Corridor Transformation of 2019 will be a major leap forward for our transportation goals as well as those of the region.



### MATERIALS AND PRODUCTS

When considering the materials comprising the development, a life-cycle analysis approach will be implemented. This approach takes into consideration the environmental impacts of all materials over their respective lifetimes. New technologies and innovative construction solutions will minimize the environmental impact of assembly.



### HIGHLIGHTS OF THE YEAR

This past year allowed for Zibi to learn a fair amount with respect to the products and materials as the majority of the construction on our first residential O Condominiums occurred in 2018. One of the greatest challenges faced in the construction of this building was sourcing sustainable wood. Much to the surprise of the developer, Forest Stewardship Council (FSC) certified wood products are no longer widely available in the Ottawa/ Gatineau market as there is less incentive for suppliers to maintain their memberships. In order to maintain an already delayed construction schedule Zibi did not achieve its target for sustainable wood in its first building. Since, we have made some progress on sourcing FSC wood products but are mindful of the carbon footprint associated with shipping these products across the country or overseas. We will continue to work on sourcing alternative sustainable sources.

In 2018, we also created and began implementing One Planet Living specifications for design and construction. These specifications provide guidance to architects, consultants, the Construction Manager and trades and they, along with other tools designed in conjunction will ensure that Zibi is achieving its targets defined in the One Planet Action Plan.

#### SUMMARY OF 2018 MATERIALS AND PRODUCTS ACHIEVEMENTS

(refer to Appendix D for data)

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
PM1	Retain and repurpose 50% of the existing buildings on-site (excluding the primary mill buildings).	50%	Percentage of existing building area retained and repurposed (excluding primary mill buildings).	There is currently no industry standard or best practice.	Zibi is exceeding this target as per the master plan.	Zibi is exceeding this target as per the master plan. Refer to appendix D for a summary of buildings being retained.	Continue to implement commitment in master plan.
PM2	Repurpose or recycle 90% of all demolition materials (excluding hazardous materials), of which a minimum of 5% by volume should be reused.		<ol> <li>Percentage of demolition materials that are recycled or repurposed (by weight).</li> <li>Percentage of demolition materials that are reused on site (by weight).</li> </ol>	There is currently no industry standard or best practice.	By weight, 2.8% of demolition material was reused on site (concrete). Legacy material has been set aside for reuse but the % is unknown.	<ul> <li>A minimum of 98.5% of demolition material was reused or recycled:</li> <li>1. 98.5% of demolition material was recycled.</li> <li>2. Legacy material has been set aside for reuse but the % by weight is unknown. Demolition concrete is reused on site (see Zero Waste).</li> </ul>	Zibi will continue to work toward this target drawing on opportunities to reuse as they are feasible.
PM3	Reduce embodied carbon of buildings.	20%	<ol> <li>Percentage of materials that contain recycled content.</li> <li>Percentage of materials that are locally sourced or manufactured.</li> </ol>	There is currently no industry standard or best practice.	Not applicable in 2017.	Zibi provided direction in specifications that required the use of local and low carbon products. In the future, we will have a more robust system in place to track this target.	Zibi will continue to include this target in specifications.
PM4	Reduce reliance on unsustainable wood sources. Instead, use wood products with a minimum of 80% FSC certified content, and/or are re-claimed, recycled or from locally managed supply chains.	80%	Proportion of timber or wood products reclaimed, reused or certified by FSC (by value).	There is currently no industry standard or best practice.	Not applicable in 2017 with no buildings constructed.	Approximately 68% of the wood products used in O Condominiums were FSC or reclaimed.	Zibi will continue to include this target in specifications and track progress.
PM5	Meet or exceed established best practice standards for indoor air quality.	Achieve LEED IEQ v4 indoor environmental quality: prerequisites 1 and 2, plus credit IEQC3, plus a minimum of 3 points from IEQc1 and/or ieqc3.	LEED v4 IEQ standards.	LEED v4 IEQ standards.	Adhering to this standard was implemented in the construction of the first building.	Zibi included this guidance in design and construction specifications for the first buildings. In the future, we will have a more robust system in place to track this target.	Zibi will continue to include this target in specifications.
PM6	Embed a culture of reducing and reusing within the development by providing opportunities to share resources.	1	Number of sharing centers and/or related web-based sites established at Zibi.	There is currently no industry standard or best practice.	No residents on site in 2017.	Residents have been provided with an online forum that will allow for them to share, buy, and sell.	Will continue to develop this tool and associated programming.

With specifications, tracking tools, and a process now in place, the principles of One Planet and Zibi's commitments will be embedded into projects from the onset. This will simplify progress tracking and reporting and will provide clear direction for all professionals involved in the construction and operation of a building.





2018 was a year of significant waste production on site through the demolition of large pieces of infrastructure and the construction of new buildings. Thanks to the advocacy of our Construction Manager, waste diversion on site was very strong with a diversion rate of 92.4%. This is no small feat given the number of trades working on site and the complexity of the work being conducted. We look forward to continuing to work with our superintendents to maintain this culture of reuse and recycling on site.

## ZERO WASTE

Zibi will offer waste alternatives to increase waste diversion rates, including recycling and compost programs, to more than 70%. Establish a sharing culture by encouraging residents to share resources.

#### SUMMARY OF 2018 ZERO WASTE ACHIEVEMENTS

(refer to Appendix E for data)

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
ZW1	Divert 70% of total annual residential and commercial waste from landfill.	>70%	Percentage of residential and commercial waste diverted from landfill.	In 2016, the city of Ottawa's residential diversion rate was 44% <sup>1</sup> . The Ville de Gatineau has a target of 45% diversion by 2020 <sup>2</sup> .	No residents lived on site in 2017.	Residents began to occupy the first residential building in November 2018, no waste data was collected in 2018. Waste management has been included in a commercial tenant fit up guide which will assist in achieving targets.	Zibi will work with residents and any commercial tenants in 2020 to achieve this target through outreach, signage, incentive programs and audits.
ZW2	Reduce residential waste.	291 kg/person/ year reduction compared to municipal average.	Weight of residential waste produced per person, per year.	Municipal average 349 kg/person/ year.	No residents lived on site in 2017.	Residents began to occupy the first residential building in November 2018, no waste data was collected in 2018.	A waste audit will be conducted in Q2 of 2019. Pending results, the One Planet Ambassador will work with residents to refine waste management in the building.
ZW3	Reuse concrete demolition waste.	75% re-use on site, 20% re-use offsite, 5% clean fill.	Percent of concrete demolition waste that is crushed and reused as aggregate on site.	There is currently no industry standard or best practice.	Approximately 33% was reused on site, 66% was reused off site, and less than 1% was contaminated and landfilled.	Zibi made every effort to reuse demolition concrete. Approximately 71% was reused on site and 29% was trucked off site.	Continue to thrive toward target as project progresses.
ZW4	Divert 90% of construction waste from landfill.	90%	Percentage of construction waste diverted from landfill (by weight).	There is currently no industry standard or best practice.	An average of 98% of waste was from landfill.	An average of 92.4 % of waste was diverted from landfill.	Continue to work toward target as project progresses.

<sup>1</sup>https://Ottawa.ca/en/residents/garbage-and-recycling/solid-waste-data-and-reports <sup>2</sup>http://www.Gatineau.ca/portail/default.aspx?p=la\_ville/salle\_medias/communiques/communique\_2015&id=-1175808251

Zibi has considerable work ahead with respect to Zero Waste at the community level; with residents now living on site and waste collected by the municipality in Gatineau, it is difficult to track waste consumption. Ultimately, in order to achieve our target for residential waste we will have to develop programming that will empower residents to do their part coupled with tools to do so.





This year saw significant investment by the developer towards our zero carbon commitment. As our first phase of civil infrastructure was installed in the ground in Quebec, so were our district energy pipes. We also built our temporary heating and cooling plant in Quebec and connected to the distribution network and enabled our controls. The early investment is a challenge for any developer because the scale of the infrastructure is far beyond the needs of a single building, but is a crucial building block towards a zero-carbon system. We were proud to welcome our first residents on site, with a functioning district energy system to keep them warm and comfortable in their new home during an uncharacteristically cold Canadian winter.

# ZERO CARBON ENERGY

Zibi's objective is to create a zero carbon community during operations. In addition to sustainable materials and sustainable transport, this will be achieved by creating a district energy system whose aim is to eliminate 100% of the community's reliance on GHG emitting energy sources by 2025

#### SUMMARY OF 2018 ZERO CARBON ENERGY ACHIEVEMENTS

(refer to Appendix F for data)

ZIBI IDENTIFIER	PROJECT OUTCOME	TARGET	INDICATOR	BASELINE	2017 STATUS	2018 STATUS	2019/2020 ACTIONS
ZC1	Ensure 100% of Zibi energy needs, including peak energy, are satisfied on a net zero carbon basis.	100%	Percentage of total building energy demand met through zero carbon sources.	There is currently no industry standard or best practice.	Planned but not yet executed.	In 2018, we established a new company to delivery heating and cooling-Zibi community utility. We built the first phase of our district energy system and electricity needs will be met using Quebec hydro.	Execute for new construction.
ZC2	Decrease building energy demand by 30%.	30%	Percent reduction in building energy demand during operations.	A code-compliant baseline building.	No buildings completed in 2017.	Zibi will be in a position to report on Condominium O's energy demand in 2019.	Zibi will work with architects and construction manager to incorporate this target into future buildings as defined in specifications.
ZC3	Decrease construction emissions by processing excavated rock on site into aggregates for use in the development.	50% on site use; 50% off site use	Volume of excavated rock processed on site for reuse as aggregate on site, off site in the city's core.	There is currently no industry standard or best practice.	Opportunities to reuse rock on site were maximized: 22% of blast rock reused onsite; 78% hauled off site for regional use.	Opportunities to reuse rock on site were maximized: 36% of blast rock reused onsite; 28% hauled off site for regional use and 28% was stockpiled on site for future use as space allows.	Continue to maximize on opportunities to reuse rock on site however space constraints and limits to the need for crushed rock will influence this target.

2018 proved to be a momentous year for Zibi's commitment to Zero Carbon, as highlighted above. While our district thermal system currently operates on natural gas, in the near future, as we begin to welcome more customers, Zibi will expand to include on site heat recovery in addition to heat recovery from an industrial neighbour. In order to empower residents to reduce their consumption and save money, we developed a user friendly mobile application which allows for individuals to smart set their heating and cooling to maximize on comfort.



# LOOKING AHEAD

While 2018 provided Zibi with the opportunity to actively integrate One Planet Living into our project, there is still much more work to be done. With One Planet design and construction specifications now in hand and a refined design to construction process, Zibi is better equipped to track progress and achieve targets. We look forward to developing innovative programming to inspire One Planet Living with our community as we welcome commercial tenants and more residents on site in 2019.







Temporary District Thermal Plant on Zibi Quebec

← 102

Rez-de-Chaussée Ground Floor Shingàkamigà



Trilingual O Condominiums interior wayfinding sign mounted on site-salvaged floor boards from industrial buildings

19.90

103-105 ->

Preserved facade of Domtar Mill on Chaudiere West



July 2019 Zibi.ca