

Calgary



# Better Every Day



**THE CITY MANAGER'S QUARTERLY REPORT ISSUE 4**

**THE CLIMATE CHANGE ISSUE**

*Better Every Day* is a publication of The City of Calgary—we're Calgarians serving the city we live in, the city we love, making life better every day.

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Located on the traditional territories of the people of the Treaty 7 region in Southern Alberta, and home to the Métis Nation of Alberta, Region 3, we are situated on land where the Bow and Elbow Rivers meet. The traditional names for this place we know as Calgary are *Moh-kins-tsis* (Blackfoot), *Wicispa Oyade* (Stoney Nakoda) and *Guts-ists-i* (Tsuut'ina).

CALGARY INCORPORATED AS A TOWN IN:

**1884**

POPULATION:

**1,306,400**

**Second lowest cost of living of Canadian cities.**

(MERCER, 2021)

## MESSAGE FROM THE CITY MANAGER

Climate change affects us all and threatens the health and wellbeing of Calgarians, the economy, public infrastructure, natural ecosystems, and private property. Citizens tell us they are concerned and support immediate action to address climate change. In addition to having a robust Climate Strategy, The City of Calgary is committed to addressing climate change - our City Council declared a climate emergency in November 2021, with the goal of net zero emissions by 2050.

As Canada's third largest city, Calgary needs to promote modern and innovative response to climate change and support a low carbon economy. This encompasses our daily travel, how we build and what materials we use, how we heat our homes, and how we manage waste. We are taking direct action by reducing emissions from The City's own operations while creating opportunities for residents and communities to do what they can to support climate action. The participation of Calgarians will help determine how quickly and successfully our collective climate goals are reached.

If we are to achieve these ambitious targets, we have to develop new, collaborative solutions that require a different way of thinking, and the cooperation of Calgarians, businesses, partner organizations and educators. This issue of *Better Every Day* highlights a few examples of how we are taking the necessary steps to support actions and progress to combat climate change. It is crucial that we all do our part to ensure future generations of Calgarians thrive in a healthy and sustainable environment.

David Duckworth, P. Eng, MBA



# JOURNEY TO NET ZERO



## What is net zero?

In Canada, achieving net zero emissions requires shifting to technologies and energy systems that do not produce greenhouse gas emissions, while removing any remaining emissions from the atmosphere and storing them permanently. Left in the atmosphere, emissions trap heat and cause climate change.

Many Calgary homeowners are feeling the pinch of rising utility costs and are looking for ways to ease the strain on their wallets. With net zero and net zero ready homes on the rise in Calgary, it is possible that your home could lessen some of those costs.

Net zero homes use the latest in green building techniques and technology to construct homes that have the capability to produce as much energy as they consume annually. A 'net zero' home is up to 80 per cent more efficient than an average new home. A 'net zero ready' home is equally as efficient but doesn't include on-site renewable energy systems, like solar panels.

"One of the ways homes reach net zero status is through an exceptionally tight building envelope," says Chris Williams, vice president at Avalon Master Builder, one of the first builders in Calgary to commit to green building technologies and energy and resource efficiency. "These homes are more comfortable overall, they are healthier in terms of indoor air quality, improve temperature control, reduce noise and require lower maintenance as the mechanical systems, for example, are simplified."

Socially conscious consumers looking to make a personal impact on their environmental footprint can be concerned about affordability, but Chris says it is important to examine monthly costs rather than your initial mortgage cost to understand the attainability.

"Even though we all budget on a monthly basis, when it comes to housing, we may think, 'oh those solar panels are an additional \$15,000? - I don't know if I can afford that,'" explains Chris. "Though it feels like an upfront cost, when you add up the costs of the monthly mortgage payment and subtract the utility savings, you get an exceptional living experience for very little extra cost per month over a standard home."

## "Unlike upgrades like granite and hardwood, net zero features pay for themselves."

Energy-efficient homes used to be a niche market often with a high price tag, but advances in technology and the streamlining of green building practices have made these types of homes more attainable. As well as saving homebuyers money on utilities, net zero homes may qualify for the Canada Mortgage and Housing Corporation's (CMHC) Green Home Rebate, which offers a refund of up to 25 per cent on CMHC mortgage loan insurance premium when buying or building an energy-efficient home.

**"With net zero homes, the cost of utilities doesn't really matter as much because your energy in and energy out is balancing, and you're protected against future utility increases."**

~Chris Williams, Avalon Master Builder

Throughout their years of experience in constructing energy-efficient homes, Calgary-based Avalon has established themselves at the forefront of the local homebuilding industry with their progressive and enviro-conscious designs. They work closely with the Canadian Home Builders' Association (CHBA) to share valuable information for the benefit of all members and participate in the CHBA's Net Zero Home Labelling Program to standardize the technical requirements for two levels of net zero labels.

"This program is the best way to prepare the industry and protect the consumer," says Chris.

One of Avalon's latest projects under construction, ZEN Sequel in the southeast community of Seton, is a series of stacked townhomes including eight net zero and eight net zero-ready units. The development is part of CHBA's Net Zero initiative and represents one of seven projects across Canada intended to encourage the construction of net zero and net zero ready multi-residential buildings.

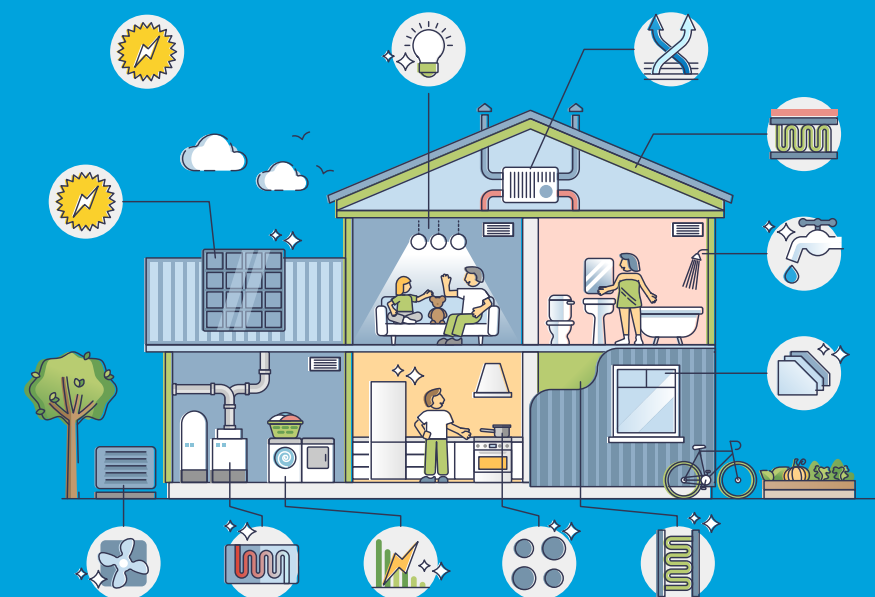
"For us, it has certainly created that competitive advantage because we've been doing net zero homes since the early 2000s, but by no means do we see that as our goal," says Chris. "We think we're better off to share everything that we've learned so that everybody is just building in this fashion because that's only going to help us all meet the building industry climate targets set for 2030 and 2050."

In November 2021, Calgary City Council voted to declare a climate emergency, directing the pace and scale of climate action to be accelerated, and adopting a target of net zero greenhouse gas emissions by 2050.



## Basic features of a net zero home:

- A heating and cooling system that uses an Air-Source Heat Pump and Heat Pump Water Heater
- Double coated, triple pane windows
- Solar panels
- Heat recovery ventilator
- Energy efficient appliances
- Additional insulation to create an airtight envelope
- LED lighting
- Each home is tested and audited by an independent third party to ensure standards are met or exceeded





**?** Did you know Calgary is the sunniest major city in Canada with an average of **333** days of sunshine?

## NEW TOOL SHINES A LIGHT ON SOLAR ENERGY

Have you been considering solar panels for your home and just not quite sure where to start? Do you know if your home is ideal to be able to harness the full potential of the power of the sun?

To help build Calgary's low carbon economy and reach our emissions reduction target, The City of Calgary is researching best practices and incentives to reduce greenhouse gas emissions generated by buildings. One example is a new 'priority stream' pilot being developed to enable builders of net zero housing like Avalon to have their required permits fast-tracked. Projects designed in keeping with the standards of nationally recognized building certification and labelling programs, like CHBA Net Zero Homes, would benefit from streamlined application reviews, access to dedicated staff, general corporate support, and additional exposure through The City's communication platforms.

The pilot is intended to recognize and promote enhanced construction practices and reduce the demand for traditional sources of energy like natural gas and coal generated electricity. Canada has committed to net zero by 2050 and there are many policy decisions that will be required to support the journey to achieve this target.

"As a municipality we have an opportunity to offer a range of incentives to builders that seek this type of quality in building construction," says Martin Beck, senior planner on The City's Climate team. "Process-based incentives like streamlined approvals can

make a difference, but if we can look at offering other incentives such as additional density or floor area exemptions to partially offset the extra capital required to build net zero housing that's attainable to all Calgarians, we need to seriously consider it. Other places in Canada are doing this and we can get there too."

The City will be working closely with Avalon on their next net zero multi-residential project slated for the community of Arbour Lake. The project will offer rental, market, and affordable housing units built both at net zero and net zero-ready standards.

"You have an energy efficiency label on your fridge and your washing machine, but very few are demanding the energy performance information of your home," says Martin. "We want to play a larger part in helping buyers and renters understand and take advantage of the cost and comfort benefits associated with high performance homes, in part made possible by funding programs, such as the one offered by CMHC. We need to all get comfortable in making decisions that prioritize energy efficiency and improvements to building envelopes while making that product attainable and equitable for all types of consumers."

**"We have builders, trades and manufacturers right here in Calgary that can help make this happen. It is a tremendous opportunity to diversify and grow the local economy, provide additional housing that's more affordable to operate, all while reducing our environmental impact."**



SEE MORE ABOUT NET-ZERO

Play video

### CHBA QUALIFIED NET ZERO BUILDERS\*:

- Effect Home Builders Ltd.
- de Waal Developments
- Habitat Studios
- Mattamy Calgary
- Avalon Master Builder
- Net Zero Developments
- Rosecrest Homes
- Effect Home Builders Ltd.
- Dolce Vita Homes
- Homes by Sorensen
- Landmark Communities
- Effect Home Builders Ltd.
- Greener Homes Ltd.
- Jayman Built
- Butterwick Construction
- Grandeur Housing Ltd.
- North Ridge Developments

\*source: Canadian Home Builders' Association

The City recently released a [residential solar calculator](#) as a starting point for Calgarians to understand the solar energy generation potential of the roof area of their home. This new tool will also help homeowners understand the financial viability of installing solar panels. Standard solar panels, known as photovoltaics (PV), generate an electric current by catching light particles from the sun and converting the particles into electricity. This electricity can then be used to power your home – appliances, heating systems, and lighting.

The City has created an interactive map where homeowners can search for their address and see the potential of how much solar energy their home could produce. Results show the optimal size of a PV system, installation costs, environmental impact, and financial returns. For example, on average, an installation of 10 solar panels would lessen two metric tonnes of carbon dioxide from the atmosphere – the equivalent of taking half a car off the road for a year and planting 45 tree seedlings. Climate change is caused by an increase in greenhouse gas emissions, such as carbon dioxide.

"[The calculator] was so simple to use, and it gives you a bird's eye view really quickly to see if solar is viable," says Bridgeland homeowner Kyle. "The calculator gives me potentially actionable data and a solid idea as to where to inquire further – it shows you what is possible to make an informed decision. Most people won't have any idea where to start and this gives them that, specific to their residence."

The affordability of a solar PV system for your home is assessed using three different purchase options: buy, loan, and lease. For each purchase option the average monthly saving on your utility bill is calculated, as well as your expected payback on your investment.

"I could see I would be cash flow positive right away so it certainly would motivate me to make a more informed decision," continues Kyle.

Solar potential calculations are made based on the available roof area and a measurement of how much sunlight reaches the roof. Light Detection and Ranging (LiDAR) data is used to look at roof shape, orientation, and pitch, as well as barriers on the roof area and shading from nearby buildings or trees. An optimal number of panels is then determined based on these factors, and their individual generation is summed to a solar potential for each address.

"Its key genius is that the heat map individualizes your potential and shows you the best way to maximize your residence and roof for panel installation," explains Kyle. "Even though I have a small house, I was surprised to see that I had more solar potential than my neighbour who has a larger house."

The tool also guides Calgarians on next steps, connecting them with knowledgeable service providers and funding programs that can be used to offset costs of green investments. Currently the tool calculates single family homes only, however, industrial and commercial buildings may be added to the calculator in future.



# CARING FOR OUR MOTHER: Science and story offers solutions to climate change

“From the very beginning of the world, the other species were a lifeboat for the people. Now, we must be theirs.”

~ Robin Wall Kimmerer, *Braiding Sweetgrass*

Traditional Knowledge and Indigenous Ways of Knowing have developed over thousands of years of listening, observing, and cultivating a reverent relationship with the environment. As climate change looms over the globe, the impact for Indigenous People who are dependent on natural systems is magnified, threatening access to traditional foods and plants, water resources, and even forcing the relocation of some communities due to habitat loss. Even the smallest margin of climate change can have large consequences on the biodiversity of gathering, fishing, and hunting sources.

“The land is so sacred, we call it Mother,” explains Lorna Crowshoe, Issue Strategist at The City of Calgary and practitioner of Blackfoot traditional ways. “Everything is animate, including mountains, rocks, rivers. We have this kinship and interconnectedness through spirit. We have ceremonies that help us care for our Mother. It is our moral and ethical responsibility in our world view as we are a part of these ecosystems which need to be maintained. All of this informs us as who we are as Indigenous People...it informs our identity.”

Lorna is steeped in knowledge through her proud Blackfoot heritage and devoted personal practice.



## SIKSIKA (BLACKFOOT) CREATION MYTH

By George Bird Grinnell

The Blackfoot believe that the Sun made the earth—that he is the creator. One of the names by which they call the Sun is Napi—Old Man. This is how they tell of the creation:

*In the beginning, there was water everywhere; **NOTHING ELSE WAS TO BE SEEN.** There was something floating on the water, and on this raft were Old Man and all the animal.*

*Old Man wished to make land, and he told the **BEAVER** to dive down to the bottom of the water and try to bring up a little mud. The beaver dived and was underwater for a long time, but he could not reach the bottom. Then the **LOON** tried, and after him the **OTTER**, but the water was too deep for them. At last, the **MUSKRAT** was sent down, and he was gone for a long time; so long that they thought he must be drowned, **BUT AT LAST HE CAME UP** and floated almost dead on the water, and when they pulled him up on the raft and looked at his paws, they found a little mud in them.*

*When Old Man had dried this mud, he scattered it over the water, and **land was formed.***

“For us, this is our ancient knowledge, and for non-Indigenous people this is new to them and is very complex. There are many forums and Indigenous scholars who can contribute Indigenous world views as part of climate change conversations. This topic is finally starting to thrive, but I think there is a little bit of fear about how that plays into the scientific Western worldview that’s been established,” says Lorna.

Indigenous Traditional Knowledge of the land and environment has been commonly dismissed by many experts as anecdotal and unreliable but is now more broadly recognized as not only legitimate, but accurate. Everything that is learned by Indigenous Peoples comes from Mother Earth. Story carriers transfer knowledge to the generations through storytelling. Specific people are given the responsibly to share stories and that task is viewed as a gift.

“We understand the world in terms of relationships and our way of life in the places we are born. Our rituals include creation stories,” explains Lorna. “Our sacred practices may change from community to community, but we do have fundamental practices that we share about the Earth and about the cosmos, so we have a bond with our environment. We’ve maintained our relationships despite being colonized and urbanized.”

**“Indigenous People find it very challenging to fulfill their stewardship duties and responsibilities to Mother Earth in their respective ancestral lands because of colonization.”**

READ MORE OF THE BLACKFOOT CREATION MYTH [HERE](#):

### LORNA RECOMMENDS:

- Blackfoot Physics* by F. David Peat
- The Sun Came Down* by Percy Bullchild
- Braiding Sweetgrass* by Robin Wall Kimmerer
- A Blackfoot History: The Winter Counts: Sikaitapi Itsinniiki* by Paul Raczka



Unchecked, climate change poses a growing threat to the survival of our planet and specifically Indigenous Peoples. Indigenous Peoples are often excluded from processes around climate decisions, negotiating, and policymaking.

The City of Calgary is trying to change that.

In 2017, after consultations with Treaty 7 Knowledge Keepers and urban Indigenous People, City Council approved the [Indigenous Policy and Indigenous Policy Framework](#) to guide meaningful long-term efforts to bring Indigenous identities, histories, cultures, languages traditions and Ways of Knowing into municipal planning, advising, and decision making. As part of this commitment to the policy and towards reconciliation, Indigenous representation on the [Calgary Climate Panel](#) will help bring understanding of the Indigenous world view and the value it brings to Western science, and support the implementation of actions from the [Climate Resilience Strategy](#).

Updates to The City of Calgary's Climate Strategy and Action Plans will support equitable environments for Indigenous Peoples living in Calgary including members of the surrounding Treaty 7 First Nations and Blackfoot Confederacy.

“As someone who is immersed in this way of life, it is my truth and that is how I want to be heard,” says Lorna. “Others may not agree or understand, but does that make it not true? As a practitioner, I can validate it and can contribute to these conversations, and that’s what I think is so exciting for the Calgary Climate Panel and for the work at The City.”

How do we begin to negotiate these ethical responsibilities inherent to Indigenous Traditional Knowledge within the boundaries of a city, when climate change does not recognize borders?

There is much to draw from both Indigenous and Western-based knowledge. Direction is being provided internationally through the United Nations' Intergovernmental Panel on Climate Change and nationally through bodies like the Canadian Institute of Planners. The City recognizes the importance of having dialogue and building relationships with urban and Indigenous neighbours as the decisions Council makes have impacts on communities outside city boundaries.



Images are inspired from Raczka's Winter Counts

The City is uniting science and story with the recognition of how community-based and collectively-held knowledge offers valuable insights complementing scientific data. In February, City leadership had the opportunity to take part in a training session to honour commitments from Truth and Reconciliation Calls to Action, building capacity and understanding amongst employees and decision makers about Indigenous world views. Key to the dialogue was an awareness and understanding about Indigenous perspectives and connections to the environment and how reconciliation begins with the Land and the Rights of Indigenous Peoples.

The City engages with First Nations, through the Indigenous Relations Office, to foster relations, ensure collaboration, the incorporation of Traditional Knowledge, and ensure intersectional climate change strategies. The City of Calgary's Climate Strategy and Action Plans will support equitable environments for Indigenous Peoples living in Calgary and opportunities for shared learning will enhance discussions to support climate strategies and actions moving forward that are inclusive of Indigenous Peoples.

“With collective knowledge of the land, water and sky, Traditional Knowledge keepers are making decisions based on our children, our grandchildren and our great grandchildren, our great, great grandchildren, and the yet to be born,” concludes Lorna. “We consider the future of seven generations; we have the obligation to think that far ahead. We need to sustain our world views and our practices because we need the land and what the land has to offer to sustain us.”



### CHANGING THE YARDSTICK

“Until now, I have been asking if Indigenous science is truly science, and in so doing I have assumed that only one yardstick exists that provides a standard set of definitions – Western science. But this is not a question whether Indigenous exists in its own right, but to enquire how it measures up to Western science. As far as Indigenous people are concerned, there is no need for them to justify their spirituality, their traditions, or their science by reference to anything external to their society. It has no need to compare or authenticate itself against the standard Western science. Because it may not always accord with the dictionary definitions of science does not mean that it is not a valid discipline and way of knowing in its own right.”

~F. David Peat, *Blackfoot Physics*

## INNOVATIVE FINANCING FOR CLEAN ENERGY ON THE WAY

Many Calgarians are concerned about the climate crisis but unsure of how they can make an impact. There are many ways individuals and families can participate in reducing the impact of climate change.

Homeowners have the option of energy efficient improvements, renovations, and retrofits to make homes more efficient and reduce greenhouse gas emissions. The benefits are many - lowering utility costs, reducing emissions, climate-controlled, comfortable homes, and improving the community's overall energy efficiency.

However, many homeowners may not have access to the funds required to pay the upfront costs of these retrofits, or are concerned that they may move before seeing the full benefits of their investment.

"I think a lot of people are wanting to take this next step in energy efficient upgrades to their homes, but don't want to take out a bank loan or might not qualify for one," says Eric Timmins,

a Calgary homeowner and a Senior Lead of Projects for QUEST Canada, a national non-profit that supports communities in Canada on their journey to net zero.

"At this time of year, you can find lots of articles and advice about how to make your home more energy efficient and how to try to save on energy bills, but every single one of the suggestions cost money. The recommendations are good ones, but not something a lot of people are in the position to do," continues Eric.

The City of Calgary is working to implement a Clean Energy Improvement Program (CEIP) to make it easier for Calgarians to overcome barriers in accessing information and financing for energy efficient home improvements. CEIP is delivered by the Alberta Municipal Services Corporation (AMSC), a wholly-owned subsidiary of Alberta Municipalities, in partnership with municipalities across Alberta.



^ Eric and Alison Timmins

Lower your utility bill and enhance your property value. Invest in energy efficiency or renewable energy upgrades with the Clean Energy Improvement Program.

In December 2021, Calgary's Clean Energy Improvement Program Bylaw was passed by Calgary City Council, which enables The City to offer CEIP and provides guidelines for how the program should operate in Calgary. The program will be designed to make energy efficiency and renewable energy upgrades more accessible to residential property owners. It will offer access to flexible and competitive financing to cover up to 100 per cent of project costs with repayment collected through property tax bills.

"It's really exciting as this makes more options available to a bigger population," explains Eric. "When the project financing is tied to your property taxes and the physical property rather than to an individual, the costs are then tied to the benefit. If we are going to reach the ultimate goal of reducing demand for energy and investing in more energy efficient options such as appliances and heating and cooling systems, accessibility is key."

Upgrades that will be considered under the program include heating, ventilation and air conditioning, renewable energy sources such as solar PV or solar thermal, lighting, water heating, doors and windows, insulation and air sealing.

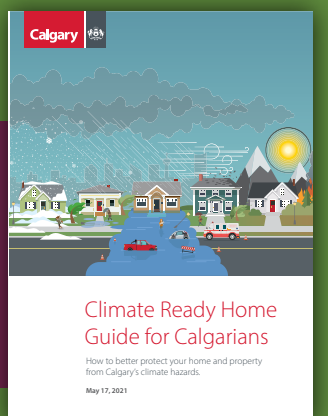
## CLIMATE READY HOME GUIDE FOR CALGARIANS

How to better protect your home and property from Calgary's climate hazards.

Climate change projections tell us that the risk associated with some extreme weather events is increasing. How can you protect your property from costly repairs?

This Guide informs choices you can make during a renovation or construction project, or to your home maintenance regime to make your home more resilient to current and future climate hazards.

Download the complete Guide to climate-proof your home.



"This program is meant for everyone – those who have the time or interest to research options, but importantly, it includes those people who don't," says Eric.

While CEIP is one of many tools needed to support greenhouse gas reductions, it also supports our local economy. Home improvement projects that qualify for CEIP will create work for local energy efficiency and renewable energy contractors as well as local manufacturers.

"The program provides that upfront information and reassurance that saves time and offers contractors who know how the program works," explains Eric. "A good energy audit will help homeowners determine where deficiencies exist and where to start. Upgrades offer not only energy security, but resilience to a changing utility marketplace."

The program will be designed and finalized for an anticipated launch in fall of 2022. Additional program offerings will also be explored for commercial and residential buildings.

"Setting targets is important but this is a really great way to show leadership and provide opportunities for all people to take action on climate change," continues Eric. "This is also a big step towards looking at energy poverty or inequities around energy. This might not solve the issues, but it could potentially better address situations and move us in the right direction."

More information about the Clean Energy Improvement Program:

- <https://www.myceip.ca/>
- [Calgary.ca/CEIP](http://Calgary.ca/CEIP)

# LOOK AHEAD

## APRIL

- [Roads Spring Clean-up](#)  
watch for signs starting mid-Apr
- [Parade of Wonders – Calgary Expo](#)  
Apr 21-24
- [Earth Day](#)  
Apr 22
- [Calgary Economic Development Report to the Community](#)  
Apr 28
- [Day of Mourning](#)  
Apr 28

## MAY

- [Bike to Work Day](#)  
May 2
- [Sport Chek Mother's Day Run, Walk & Wheel](#)  
May 8
- [Inglewood Night Market](#)  
May 13
- [World Day for Cultural Diversity](#)  
May 21
- [Mayor's Environment Expo](#)  
May 30 – Jun 3
- [Wildflower Mix Giveaway](#)  
May



## JUNE

- [Dog Jog](#)  
Jun 4
- [Firefighter Stairclimb Challenge](#)  
Jun 5
- [4th Street Lilac Festival](#)  
Jun 5
- [Inglewood Night Market](#)  
Jun 10
- [Neighbour Day](#)  
Jun 18

- [Aboriginal Awareness Week](#)  
Jun 20 – 25
- [National Indigenous Peoples Day](#)  
Jun 21
- [Sled Island](#)  
Jun 22 - 26
- [Great Outdoors Comedy Festival](#)  
Jun 24 – 26

## ANYTIME

- [Tree workshops](#)  
Download reference guides and follow learning modules.
- [Calgary AfterSchool programs calendar](#)  
Fun, safe and low-cost after school programs for children and youth.

*This list is not exhaustive.*

# HAVE YOUR SAY



## Riley Communities Local Area Plan

Online public engagement to work together to create a future vision for how land could be used and redeveloped in the area.  
**Until May 8**



## Greater Forest Lawn Local Area Plan

Online public engagement to work together to create a future vision for how land could be used and redeveloped in the area.  
**Until May 8**

## Playgrounds - Building Accessible and Inclusive Play Spaces

Seeking feedback on playground builds to inform potential features in future designs.  
**Until Aug 31**

Visit [calgary.ca/engage](http://calgary.ca/engage) to join the conversation.

