



Infill Challenge Design Competition 2.0

# DESIGN BRIEF

# 1. Introduction

The City of Kelowna is a strong supporter of broadening housing choices including infill housing. An Infill Challenge Design Competition was held in 2016 that resulted in the creation of a new infill housing zone. Now, the City is hosting a second Infill Challenge Design Competition (IDC 2.0) to generate infill housing ideas for new areas of the City. The key difference between IDC 2.0 and the 2016 Design Competition is that the City is now seeking design ideas for lots that do not have rear lane access.

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## 2. Background & Overview

The City of Kelowna is pleased to present a design competition for infill housing development in mature, inner city neighbourhoods. The design competition will foster ideas about how innovative infill housing design can help to increase affordability, diversity, resiliency, inclusivity, and livability in Kelowna's housing system.

### *Why Infill?*

Kelowna is one of Canada's fastest growing cities, and is being shaped by factors including shifting demographics, highly unaffordable housing, and a changing climate. Infill housing, defined as the addition of new housing units into existing neighbourhoods, has a critical role to play in meeting our community's housing needs.

Infill housing forms, such as small detached homes, row houses, multiplexes, and carriage houses, can increase affordability and housing diversity. That

said, infill housing, also known as 'missing middle housing', remains prohibited in many zoning districts across Kelowna. While currently approximately 80% of Kelowna's residential land is zoned for single dwelling housing, only about 20% of Kelowna residents can afford to purchase a median priced single dwelling home.

In addition to providing housing that is more attainable for Kelowna residents, infill housing is an important part of the City's strategy to combat the impacts of urban sprawl. Focusing growth in areas with existing infrastructure, such as roads, schools, parks, and transit, makes it possible to build resilient neighbourhoods with access to daily services. Overall, encouraging infill housing will help to welcome new people and homes into existing neighbourhoods and provide housing options for people at all stages of life and income levels.

Approximately 25% of Kelowna's future residential development will be through infill housing such as...



## *Background*

The City of Kelowna has historically shown strong leadership on infill housing, including allowing secondary suites, also known as accessory dwelling units, and carriage houses, often called coach houses, in some areas of the City as far back as the 1990s. As a result, many parts of Kelowna's Core Area already feature a mix of housing types beyond single detached homes.

In 2016, the City of Kelowna initiated an Infill Challenge Design Competition to promote housing diversity, encourage infill development, and combat urban sprawl by focusing growth in areas with existing infrastructure. The Infill Challenge was a big step forward in the evolution of infill housing in Kelowna.

Through the 2016 Infill Challenge, two winning designs were selected and formed the basis of a new sensitive infill zone (RU7). Over 800 parcels in Kelowna's central neighbourhoods were pre-zoned to RU7 and since 2017, approximately 300 units on



RU7 lots have received building permits. Many of the infill units developed were based on the winning designs, which were fast-tracked through the development process. Staff also shared lessons learned at conferences and events, encouraging further discussion on infill housing locally, as well as in other communities around the province.

## *Intended Goals*

Infill housing remains a key priority in Kelowna. To show continued leadership on infill housing, the City of Kelowna is now hosting a second Infill Challenge Design Competition (IDC 2.0). IDC 2.0 will build upon the 2016 Infill Challenge and investigate additional ideas for infill housing in Kelowna. A fundamental difference between the 2016 Design Competition and IDC 2.0 is that the subject lots do not have rear-access laneways.

City of Kelowna staff are looking forward to bringing together architects, designers, and developers to explore infill housing options for these neighbourhoods. Overall, this competition is envisioned to:

- Introduce new forms of infill housing not presently permitted in Kelowna
- Expand the supply and diversity of housing in new parts of Kelowna
- Demonstrate how infill housing can be well designed while meeting various community objectives including affordability, diversity, resiliency, inclusivity, and livability
- Provide area residents with examples of how infill housing could benefit their neighbourhoods
- Reinforce positive relationships between the City, the development and home building community, and area residents



### 3. Kelowna Context

The City of Kelowna is located on the traditional, ancestral, unceded territory of the Syilx/Okanagan people in the southern interior of British Columbia. Kelowna has a population of over 143,000 people and is the largest community in the Regional District of Central Okanagan. Kelowna is one of Canada's fastest growing cities and represents BC's third-largest metropolitan area.

#### *Demographics*

Over the last five years, Kelowna has seen growth of 2,000-3,000 residents per year. Other key demographic trends anticipated over the next 20 years include:

- **Smaller households.** The primary household types by 2040 will be single occupants or couples without children.

- **More compact housing forms.** Demand for townhouses and compact family-friendly housing options will outpace the demand for new single-detached housing.
- **More renters.** As more community members are unable to afford home ownership, the demand for long-term rental housing will increase.
- **An aging population.** Kelowna will experience a shift towards an overall older population, fueled by a decreasing fertility rate, rising life expectancy, and the region's attractiveness as a retirement destination.

#### *Climate*

Kelowna has an arid climate with low levels of precipitation. The region enjoys a four-season climate with hot, dry summers, and cool, cloudy winters. Kelowna boasts about 2,000 annual hours of sunshine and average temperatures above 20 degrees in the summer months.

## 4. Competition Subject Area

IDC 2.0 is focused on generating infill housing ideas in Kelowna's Core Area neighbourhoods. Across Canada, many mid-sized cities have large areas of inner-city suburbs, areas that were initially built at the outskirts of the City but are now centrally located. These inner or 'mature ring' suburbs as they are sometimes called are often well positioned for infill housing because of their larger lot sizes, proximity to services and amenities, and the growing demand for ground-oriented housing.

City staff estimate that there are 2,500-3,000 lots across Kelowna that have considerable potential for redevelopment over the next ten or more years. These lots can be found in neighbourhoods including Rutland, Lower Mission, and Glenmore. In the City's Draft 2040 OCP, these areas are envisioned to support a range ground-oriented housing types as redevelopment occurs.

These suburbs, as demonstrated below, were largely created in the post-war period of the 1960s and 1970s. Lots typically range from 20-25 metres wide and 30-50 metres deep (see [context model here](#), password: Infill). Homes in these areas were generally constructed with large front setbacks and are usually one and a half to two storeys in height. Housing of this era tends to be auto-oriented, and vehicle access is usually from the fronting street rather than from a rear lane – laneways in these suburbs are uncommon. In terms of street interface, garages and driveways are prominent features.

A legacy of Kelowna's history is that roads in these neighbourhoods were often not designed to be fully urbanized with curb, gutters, and a connected piped storm system, which remains a significant obstacle. As a result, unique approaches to managing increased imperviousness in infill areas, such as a mix of increased site permeability, green infrastructure, and storm retention, must be pursued to mitigate impacts of stormwater runoff.



## 5. Competition Outcomes

IDC 2.0 is intended to generate ideas for housing that will contribute to the following outcomes:

1. **Diversity:** Increase housing supply through a diverse range of ground-oriented infill housing options
2. **Affordability:** Improve housing affordability and reduce barriers to building affordable housing
3. **Creativity & Context:** Design infill housing that demonstrates innovation and creativity while acknowledging and complementing its existing context
4. **Resiliency:** Enhance the resiliency and sustainability of neighbourhoods in the face of climate change
5. **Inclusiveness & Livability:** Contribute to accessible, inclusive, complete neighbourhoods and ensure housing serves the needs of current and future residents

## 6. Eligibility to Participate

IDC 2.0 is open to anyone.

- Entries may be submitted by teams or individuals – diverse, multi-disciplinary teams are encouraged
- Participants do not need to be local to Kelowna
- Participants do not need to be registered professionals
- Competitors may submit more than one entry
- This competition is supported by the Architecture Institute of British Columbia, and AIBC members are encouraged to apply

City of Kelowna staff, jurors, and any employee, partner, or associate thereof are ineligible to compete. Individuals or firms that have any familial or business relationship with one or more members of the jury are also ineligible. Entrants who engage with or contact any of the jurors during the competition will be disqualified.



## 7. Design Competition Parameters

The following parameters must be addressed in all submissions to IDC 2.0:

- Lot size: 21 m wide, 38 m deep
- Floor Area Ratio (FAR): maximum 0.75
- Height: maximum 9.5 m / 2 storeys, basements are permitted<sup>1</sup>
- Site Coverage: maximum 50% (for buildings), 75% (for buildings, structures, and impermeable surfaces)
- Setbacks: minimum side yards of 2.0 m
  - No minimum front or rear yards, but the proposal must fit with the neighbourhood context
- Units: minimum three units, no one building with over four units, at least one unit must front the street
- On-site parking: one stall per unit, no visitor parking required
  - Up to one stall of on-site parking can be reduced where affordable housing is provided; approach must be clearly described in written rationale
- Access: from fronting street, one driveway only, minimum 4m wide, maximum 6m wide
- Landscaping: minimum four trees, at least one [large tree](#) fronting the street
- Include provisions for garbage, recycling, water meters, and mailboxes
- Proposal must meet all applicable standards of the BC Building Code and be Energy Step Code ready

## 8. Submission Requirements

The following items are required as part of the submission package:

- A written rationale that clearly explains how the submission aligns with the intended *Competition Outcomes* (see section 5) including the proposal's approach to affordability and stormwater management
- Summary table with number and size of units, key features, amenities, and other relevant information
- Site plan illustrating parking and all other major features
- Landscape plan including soft landscaping (planting) and hard landscaping (paving)
- Floor plans including all exterior and interior walls, doors, and windows
- Elevation drawings
- Materials board including roofing, siding, trim, windows, and doors
- 3D rendering that shows neighbourhood context – use the [context model](#), password: Infill
- Other supporting materials as deemed necessary by the applicant

Submissions must comply with these guidelines:

- Submission documents must be high-resolution PDF files; digital files only
- All plans should be to scale and clearly and fully dimensioned in metric; preferred scale is 1:200
- Submissions must not include personal names, affiliations, logos, or other forms of identification

Submissions are to be considered original works of the competitor. Competitors assume responsibility for any breach of intellectual property or copyright. Competitors retain ownership and copyrights of the materials submitted. Competitors grant the City of Kelowna the right to publish their work in whole or in part, to promote the competition and its outcomes, and for future City of Kelowna promotional purposes.

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<sup>1</sup>**Height** refers to the maximum vertical distance between finished grade and the highest point of the structure of a non-sloping roof, or the mid-point of a sloping roof. **Finished grade** means the elevation of the finished surface of the ground at the base of the outside walls of a building or structure. **Basement** means a portion of a building that is underground, which has more than one third of its height above finished grade but where the height above finished grade does not exceed 1.8m.





## 9. Design Competition Timeline

- Competition launch: Summer 2021
- Technical review period: Fall 2021
- Jury review period: Fall 2021
- Winners announced: Fall/winter 2021

## 10. Submission and Evaluation Process

All submissions are to be submitted online. City of Kelowna staff will receive submissions and ensure that all *Submission Requirements* have been included (see section 8). A technical committee of City staff will then review submissions against the *Design Competition Parameters* (see section 7). Submissions that meet all *Design Competition Parameters* will be anonymized and forwarded to a jury that will recommend the winners.

Jurors will be selected by staff and will have expertise in the areas of architecture, planning, and development as well as knowledge about Kelowna's community context. Jurors will use the *Jury Evaluation Criteria* (see section 12) and their expertise to evaluate the submissions.

## 11. Awards

The top three submissions will receive a cash award. The first place prize is \$10,000, second place is \$5,000, and third place is \$2,500. We thank our sponsors – including the Canada Mortgage and Housing Corporation, the Urban Development Institute Okanagan Chapter, David Alton, and Jesse East – for their generous support.

## 12. Jury Evaluation Criteria

Jurors will evaluate each submission based on how well it meets the following criteria. Scoring will be weighted as per the right-hand side of the table.

<b>Diversity:</b> <i>Increase housing supply through a diverse range of ground-oriented<sup>2</sup> infill housing options</i>	
<ul style="list-style-type: none"> <li>Does the proposal increase housing density by providing more housing units in existing neighbourhoods?</li> <li>Does the proposal provide diverse infill housing options including ground-oriented housing?</li> </ul>	/20 points
<b>Affordability:</b> <i>Improve housing affordability and reduce barriers to building affordable housing</i>	
<ul style="list-style-type: none"> <li>Does the proposal provide ground-oriented housing options that are affordable and/or attainable<sup>3</sup> for Kelowna residents?</li> <li>Does the proposal address displacement of existing residents?</li> </ul>	/20 points
<b>Creativity &amp; Context:</b> <i>Design new infill housing that demonstrates innovation and creativity while acknowledging and complementing its existing context</i>	
<ul style="list-style-type: none"> <li>Does the proposal promote architectural quality, innovation, and creativity?</li> <li>Does the proposal complement the neighbourhood context and enhance the relationship to the street?</li> <li>Does the proposal minimize the visual impact of driveways and parking areas?</li> <li>Does the proposal provide privacy for residents and neighbours?</li> </ul>	/20 points
<b>Resiliency:</b> <i>Enhance the resiliency and sustainability of neighbourhoods in the face of climate change</i>	
<ul style="list-style-type: none"> <li>Does the proposal address stormwater management through site permeability, green infrastructure, and storm retention?</li> <li>Does the proposal support the urban tree canopy and mature trees?</li> <li>Does the proposal enhance sustainability and resiliency through improved energy efficiency, amenities that support alternative modes of transportation, and/or other features?</li> </ul>	/15 points
<b>Inclusivity &amp; Liveability:</b> <i>Contribute to inclusive, complete neighbourhoods and ensure housing serves the needs of current and future residents</i>	
<ul style="list-style-type: none"> <li>Does the proposal ensure liveability for a range of residents such as individuals, couples, families with or without children?</li> <li>Does the proposal ensure accessibility for a range of residents regardless of age and ability?</li> <li>Does the proposal encourage social interaction?</li> </ul>	/15 points
<b>Other Criteria</b>	
<ul style="list-style-type: none"> <li>Is the proposal feasible and broadly applicable across Kelowna's Core Area?</li> </ul>	/10 points

<sup>2</sup> **Ground-oriented housing:** buildings typically three storeys or lower that offer individual entrances to residential units without the use of shared corridors, lobbies, or hallways. Examples include four-plexes and rowhousing.

<sup>3</sup> For more information about determining if housing is affordable and/or attainable in the Kelowna context, please consider the following resources: [Regional Housing Needs Assessment](#), [CMHC Housing Market Information Portal](#), [Association of Interior Realtors Market Statistics](#).



### 13. Post-Competition

Following the competition, winners will be featured by the City of Kelowna. This may include media releases, website postings, an exhibition of winners and/or being featured in a video.

The outcomes of the competition will inform updates to the City's infill policy and zoning. The City will consider opportunities for the winning designs to become pre-approved plans to expedite development of new infill housing options. The City recognizes that IDC 2.0 winning designs may be conceptual in nature and that further work may be needed to establish detailed planning necessary for implementation.

The outcomes of the competition could also inform infill housing approaches in other regions as many mid-sized cities are looking for creative ways to encourage a supply of ground-oriented housing.