Calgary

Naato'siyinnipi Area Structure Plan

(Aurora)

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Naato'siyinnipi Area Structure Plan

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Illustration by Kristy North Peigan

Story Behind the Name

Naato'siyinnipi
(Brings-down-the-Sun)

Naato'siyinnipi was a healer, revered elder, and ceremonial leader. His teachings echo through generations of his people – the Piikani and remain embedded within Akokatsin (sundance).

Born in 1830, Naato'siyinnipi lived until 1910. He had a long and spiritually fulfilling life at a time of great strife for his community. During his lifetime he witnessed the decline of the buffalo, colonization, the signing of Treaty 7, and the turmoil that followed the adoption of the land reservation system. Despite the many destructive events experienced by Indigenous peoples at this time, he lived his spiritual world, and practiced non-violence.

He was known to have frequently walked the Old North Trail. The Old North Trail is well known to Indigenous peoples and is thought of as the ancient route of the 'great tribe'. Naato'siyinnipi and others have said, that all tribes 'have, ever since, continued to follow their ancestors' on this trail.

To the Blackfoot and many Indigenous peoples, the lands known as West Nose Creek and the Aurora Business Park are not historical, but a living landscape of their ancestors. One of Naato'siyinnipi's walks led him to a bison hunt for an Akokatsin at West Nose Creek. He would go on to have many vision quests in the area.

On June 26, 2025 the name Naato'siyinnipi was gifted to The City by members of the Piikani Nation in a ceremony that took place within the Plan Area.

The City recognizes the Truth and Reconciliation Commission of Canada's Calls to Action and supports reconciliation and healing efforts, as well as the pursuit of mutual interests promoting environmental, social, and economic well-being of all our residents.

With the goal of fostering reciprocal respect and support between the City and Indigenous peoples through meaningful engagement and development of strong relationships and partnerships, this Naato'siyinnipi Area Structure Plan is to be read and implemented in conjunction with the City's Indigenous policy and strategy as amended from time to time.

Land Acknowledgment

The Plan acknowledges that the City of Calgary is situated within the ancestral lands and traditional territories of the people of the Nations that made Treaty 7. These Nations in Southern Alberta are: the Siksika, Piikani, and Kainai First Nations, who, altogether, form the Siksikaitsitapi (Blackfoot Confederacy); the Îethka Nakoda Wîcastabi (Stoney Nakoda) First Nations, comprised of the Chiniki, Bearspaw, and Goodstoney First Nations; and the Tsuut'ina First Nation of the great Dene Nations. The City of Calgary is also homeland to the historic Northwest Métis and to the Métis Nation Battle River Territory, Calgary Nose Hill Métis District 5 and Calgary Elbow Métis District 6. We acknowledge all Indigenous people who have made Calgary their home.

In response to the findings and calls to actions of the Truth and Reconciliation Commission, The City is beginning to explore how to better understand and act on our shared foundations with Indigenous peoples. While discussions continue regarding our own actions and efforts, The City is committed to actively exploring ways to redefine our understandings, our assumptions, our relationships and our abilities to build a more inclusive and equitable city based on our shared foundations.

Executive Summary

Naato'siyinnipi (Nah-too-see-yin-NEE-bee) Plan Area is located on the northern banks of the West Nose Creek. The site and the lands are part of the prairie grasslands that underpin Calgary's current urban environment.

Formerly known as the Aurora Business Park, Naato'siyinnipi Area Structure Plan (ASP) puts forward a new vision for the development of 234 hectares of land in the City's North as a transit focused mixed use community with vibrant public spaces. At full build out the Naato'siyinnipi Plan Area will be home to approximately 16,500 people, 7,300 dwelling units, and 5,700 jobs.

The Plan is rooted in the higher-level policies of the Municipal Development Plan, Calgary Transportation Plan and the New Community Planning Guidebook.

The policies, land use concepts and core development principles in this Plan are the result of extensive collaboration between City departments, landowners, technical experts, residents and other orders of government. This Plan also benefited from advice and guidance offered by Indigenous cultural advisors, who have safeguarded and shared knowledge of the lands that inspire new actions and ideas for the future.

How to Read this Plan

This Area Structure Plan is a statutory document adopted by bylaw, in accordance with Section 633 of the Municipal Government Act (MGA).

The policies and maps in this Plan are used to help guide decisions on the future development of approximately 234 hectares (578 acres) in Northeast Calgary. Residents, landowners, builders and developers, City departments and Councillors may refer to this Plan when new development is considered within the Plan Area.

This Plan includes the following sections:

1 Introduction

Outlines the statutory role of an Area Structure Plan, details the characteristics of the Plan Area and its history, and identifies the vision and core values that will inform future development.

2 Land Use Concept

Introduces a concept for future growth within the Plan Area.

3 Neighbourhood Framework

Provides policy direction for the core land use areas (Residential Areas, Mixed-Use Areas, and Special Policy Areas) identified within the Land Use Concept.

4 Community Framework

Provides policy direction for the secondary land use elements identified within the Land Use Concept.

5 Natural Systems

Provides policy direction for the protection and integration of the natural systems located within the Plan Area.

6 Park System

Provides policy direction for the creation of public spaces that support Calgarians ability to recreate, participate in sport and access nature.

7 Mobility

Provides policy direction on pedestrian and cycling circulation, the local transit network, and the local street network.

8 Infrastructure and Servicing

Provides policy direction on the core requirements for water and sanitary servicing, stormwater management, district energy, lighting, oil and gas infrastructure, and the location of a future emergency response station.

9 Implementation and Interpretation

Contains information regarding the Plan's policy framework, legal interpretation, status and limitations, and implementation and monitoring. Key interpretation information for the terms should/shall/encourage are provided.

10 Glossary

Outlines the abbreviations and definitions for terms identified in **bold font**.

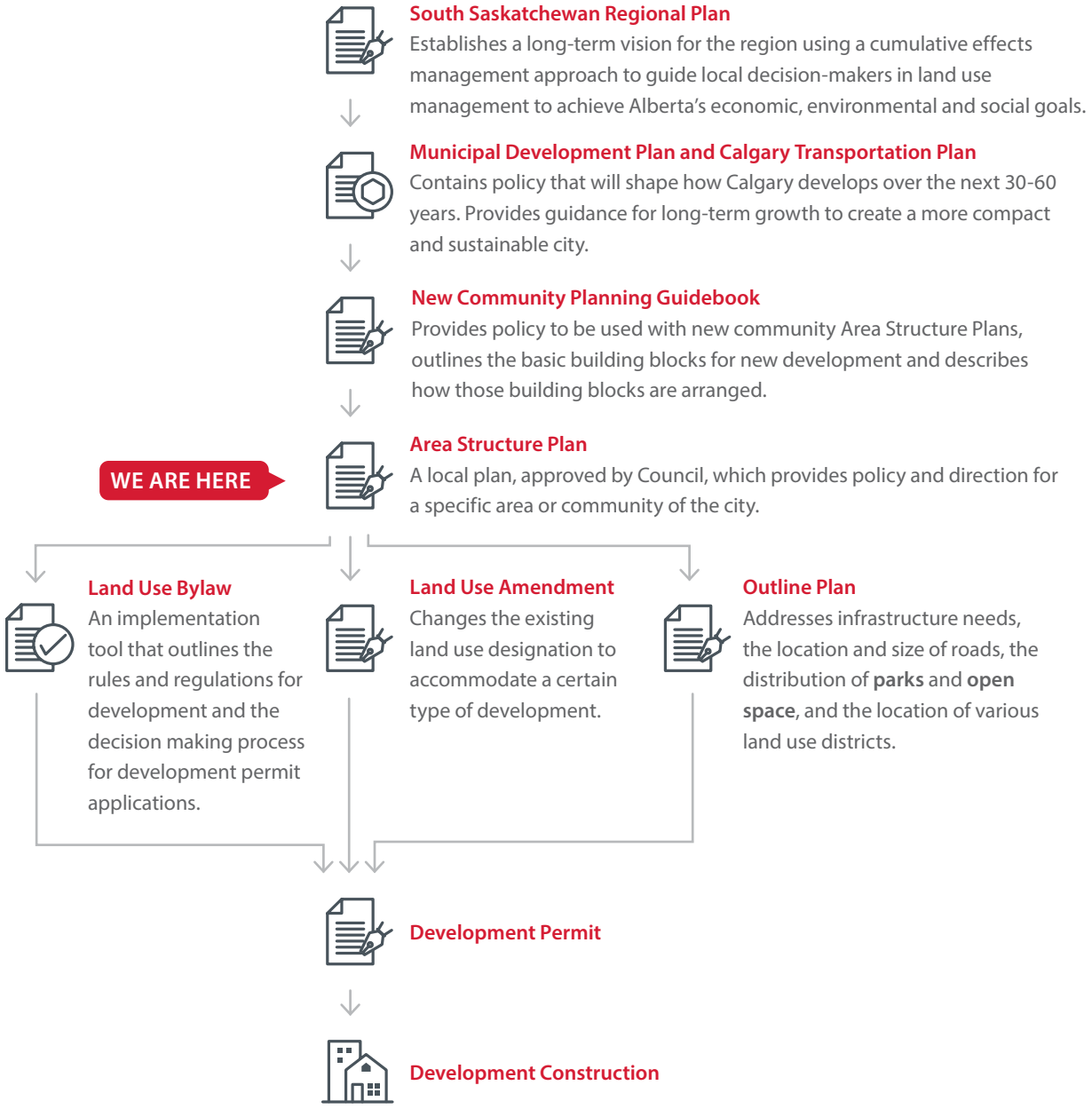
1 Introduction

1.1 Legislative and Policy Framework

This Plan has been prepared within the context of governing legislation, higher-level statutory plans, regional plans, and City policy. Accordingly, the Plan is to be read in conjunction with the documents listed below:

- Municipal Government Act (MGA);
- South Saskatchewan Regional Plan;
- Municipal Development Plan (MDP);
- Calgary Transportation Plan (CTP);
- New Community Planning Guidebook (NCPG);
- Calgary International Airport Zoning Regulations;
- Calgary International Airport Vicinity Protection Area (AVPA) Regulation; and
- Other City of Calgary documents and policies as posted on the City's website, and amended from time to time.

The provisions of the **NCPG** apply. Where the policies within the **NCPG** and the Plan differ, the difference is intentional and not an inconsistency as policy has been tailored to the **Plan Area**. Where there is an absence of a specific policy within the Plan, the **NCPG** prevails.



1.2 Plan Area

This Plan applies to approximately 234 hectares (578 acres) of land in the City's northeast (see **Map 1: Plan Area Location**). The **Plan Area** is surrounded by the established communities of Harvest Hills, Country Hills, Beddington Heights, and Huntington Hills, and is bound by 96 Avenue NE to the north, Beddington Trail NW to the south, Harvest Hills Boulevard N to the west, and the Canadian Pacific Kansas City (CPKC) railway to the east.

The southern portion of the **Plan Area** is occupied by West Nose Creek Park (formerly Confluence Park), which includes the West Nose Creek Valley and the confluence of West Nose Creek and Nose Creek. Portions of the remaining **Plan Area** adjacent to 96 Avenue NE, are currently developed with a mix of commercial, office, and institutional uses as well as a constructed dry pond that also serves as a recreational area. A driving range is also located northeast of the intersection of Harvest Hills Boulevard N and Beddington Trail NW.

The **Plan Area** is located immediately west of the Calgary International Airport. The area is subject to the Calgary International Airport Zoning Regulations and to NAV Canada Electronic Zoning restrictions.

1.3 Plan Area Features

The **Plan Area** contains several naturally significant features, as depicted in **Map 2: Plan Area Features**. These features were considered in the development of the Plan and must be considered when evaluating planning and development applications in the **Plan Area**.

Topography and Natural Features

The **Plan Area** is located at the confluence of West Nose Creek and Nose Creek. Terrain in the **Plan Area** generally drains into West Nose Creek with exception of a portion in the northeast draining directly into Nose Creek.

A large wetland complex including crown claimed wetland, intermittent stream and humid soils is located at the centre of the **Plan Area**. The southern portion of the **Plan Area** consists of the West Nose Creek valley and riparian area, which includes an escarpment, floodway, and flood fringe associated with West Nose Creek. This part of the **Plan Area** includes a well-known Glacial Erratic and sandstone cliffs. The West Nose Creek valley is of regional significance, serves as a natural corridor and is home to an abundance of wildlife species.

Existing and Historic Land Uses

The **Plan Area** is predominately vacant with the exception of existing development along the 96 Avenue NE frontage approved in accordance with the former Aurora Business Park **ASP** (see **Section 1.4**). Development along 96 Avenue NE consists of a mix of commercial, business, and institutional uses. A temporary golf driving range is located within the southwest corner of the **Plan Area**. The southern half of the **Plan Area** is occupied by West Nose Creek Park. Previously, the site was farmed and mined for sandstone and gravel. The lands held a now demolished homestead as well as a racetrack (speedway) and spur line.

Oil and Gas Infrastructure

Alberta Energy Regulator (**AER**) records indicate the presence of natural gas pipeline infrastructure within the **Plan Area** (see **Map 2: Plan Area Features**). Development in proximity to oil and gas facilities is subject to Plan policies and Provincial regulatory requirements and compliance. **Section 8.6** of this Plan outlines the applicable requirements for development within proximity to active and abandoned oil and gas facilities within the **Plan Area**.

Map 1: Plan Area Location

Map 2: Plan Area Features

Legend

- Wetland
- Crown Claimed Wetland
- Watershed Area
- Nose Creek/ West Nose Creek
- Floodway
- Flood Fringe
- Meanderbelt Area
- Intermittant Stream
- Top of Slope
- Glacial Erratic
- Sandstone Cliff
- Pressure Station
- Oil/ Gas Pipeline
- Collector Road
- Plan Area

Features outside the Plan boundary are provided for context only.

1.4 History of the Plan Area

The **Plan Area** is part of the traditional territory of the Blackfoot Confederacy (comprised of the Siksika, Piikani, and Kainai First Nations), as well as the Îethka Nakoda Wîcastabi First Nations (including the Chiniki, Bearspaw, and Wesley First Nations), the Tsuut'ina First Nation, and Calgary Nose Hill Métis District 5.

Historic Resources

There are known historic resource sites recorded within the **Plan Area** and there is potential for more undiscovered sites on lands that have not had Historic Resource Impact Assessment (**HRIA**) studies completed. Historic resources reflect human use of the site for the last several thousand years. **Map 3: Areas of Historic and Potential Historic Resources** identifies the lands as they appear in the current version of the Listing of Historic Resources. The known resources include sites that represent precontact Indigenous activities, post contact human activities, and paleontological evidence. Historic resources are governed by the Historical Resources Act, and the City is bound by the legislation in the management of these resources.

Archaeology

The archaeological sites provide evidence of the lands being utilized by Indigenous groups for the hunting and processing of bison through the presence of butchered bison bones and stone tools like projectile points and cutting tools. Many of the sites have multiple stone circle features outlining where tipis would have once stood, showing that Indigenous families were camping on the landscape. During these times people were using heated rocks to boil water to cook their food which is seen in the archaeological record through irregularly broken rocks that became cracked from the process of being repeatedly heated and cooled down when transferred between a hot fire and a cool hide lined pit of water. Stone tools were being manufactured at these campsites evident through the presence of lithic debitage (the stone waste material created when making stone tools), lithic cores (the stone material to make tools), and hammer stones used to hit lithic cores to produce the tools. These stone tools could have been used for immediate tasks or made for later use. Other cultural materials included ceramics and a single modified shell fragment.

Archaeology of historic activities include the quarrying of a sandstone outcrop, and evidence of a historic homestead.

Land Use History

Early History

Archeological studies completed in North Calgary and engagement with Treaty 7 First Nations have strengthened the understanding of the history of Nose Creek and West Nose Creek Valleys. The Blackfoot peoples view these Valleys as part of their ancestral lands as they were active areas for hunting, camping, ceremony and trade well before contact.

This area was also part of the homeland of the historic Northwest Métis, a post-contact Indigenous people who emerged from the interactions and intermarriages between fur traders and local First Nations in the northern plains and boreal forests of what is now western Canada. Throughout the 19th century, there was a small but stable Métis community in the lands between the Red Deer and Bow rivers, including Métis who settled in the 1870s along the Elbow River in the Calgary area.

The Old North Trail

Used for over 10,000 years, the Old North Trail was an overland travel route generally connecting Edmonton to Calgary. This travel route had both historical and spiritual significance to Indigenous peoples having been a well-known travel route for generations of First Nations prior to contact. The watersheds and historic travel route also carry deep meaning as a landscape of pilgrimage, meditation and ritual. The Old North Trail is well known to Blackfoot and is thought of as the ancient route of the 'great tribe'.

When non-Indigenous fur trade companies opened trading posts at Edmonton and Rocky Mountain House in the 1790s, the old trails evolved as travel routes for the semi-annual trade expeditions. Some modern city roads and rural highways derive from these original trade routes and traditional corridors. Example of these include Macleod Trail (which began as part of the Old North Trail) and Blackfoot Trail (which began as the route to the fur trade posts).

The **Plan Area** is located near the intersection of the Old North Trail (Calgary to Edmonton or further North) and the Dog Pound Trail (Calgary to Rocky Mountain House).

First Nations camp near the first Hudson's Bay Company store at Calgary, circa 1886. Alexander J. Ross, photographer. Glenbow Library and Archives Collection, Libraries and Cultural Resources Digital Collections, University of Calgary, CU1151627

Map 3: Areas of Historic and Potential Historic Resources

Legend

Historic Resource Value

- Historic Resource Value Area 3 - contains a significant historic resource that will likely require avoidance
- Historic Resource Value Area 4 - contains a historic resource that may require avoidance or assessment
- Historic Resource Value Area 5 - high potential to contain a historic resource
- Nose Creek/ West Nose Creek
- Crown Claimed Wetland
- Intermittant Stream
- Top of Slope
- Plan Area

Features outside the Plan boundary are provided for context only.

The Dog Pound Trail

A Red River cart trail used by Métis traversed the **Plan Area** westward along West Nose Creek (which early settlers called Beddington Creek), roughly parallelling present-day Beddington Trail. The cart trail was part of the longer Dog Pound Trail, a Métis trail that connected the Calgary–Edmonton Trail with three major trails to the west, all of which converged at Dog Pound – Morley to Edmonton, Morley to Rocky Mountain House, and Calgary to Rocky Mountain House.

Patrice Dumont and the Metis Community

Following a practice established by the federal government in 1870, Métis people in what became the prairie provinces were entitled to legal documents, known as scrip, that could be redeemed for land or for cash. The system was vulnerable to fraud that cheated Métis people out of their land.

Gabriel Dumont. Glenbow Archives (na-4635-1os)

One of the first homesteaders in the **Plan Area**, if not the very first, made his claim using Métis scrip. Patrice Dumont, who came from a Métis family with a long-established presence in the Calgary area, received title to 240 acres in 1887.

Patrice Dumont was likely part of a larger Métis community that coalesced around Nose Creek and West Nose Creek. Métis tended to settle along waterways such as lakes, creeks, and, especially, rivers. In the Calgary area, some preferred to settle along major or significant cart trails. In the 1880s, several Métis took out land along Nose Creek and West Nose Creek. These were the children of parents who had settled along the Elbow River in the 1870s but left the area in the 1890s.

By 1898, Patrice Dumont had moved to Saskatchewan. Like him, other Métis who settled along Nose Creek and West Nose Creek eventually relocated elsewhere, largely within a decade and a half.

Non-Indigenous Settlement

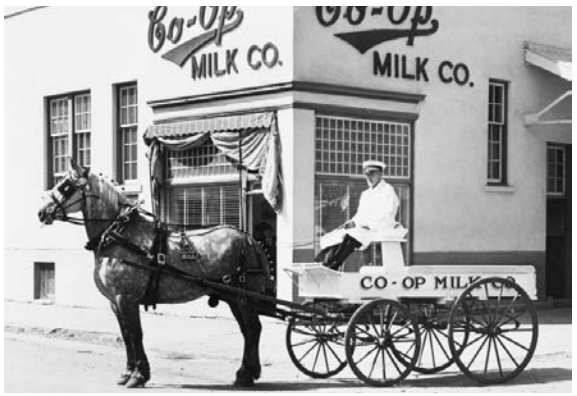
Apart from Patrice Dumont, the **Plan Area** was largely populated by settlers from Europe or of European descent. It was part of a wider agricultural district between Calgary and Airdrie that included cattle and dairy farms. The Calgary and Edmonton Railway (C&E), built in 1891–92, forms the **Plan Area**'s eastern boundary as the present CPKC rail corridor. In 1892, the C&E established and named its Beddington siding, a flag station just north of the **Plan Area**. The Beddington School District was then established in 1900 with the Beddington Post Office opening in 1912 – the same year the Municipal District of Beddington was formed.

Early Farmers and the Dairy Industry

Patrice Dumont's old farm eventually became the property of James Stephens Huggard, who had homesteaded in 1887 in what is now the Harvest Hills neighbourhood. Huggard's sister Jennie and her husband, Irish-born John Walter Stephens, homesteaded in the **Plan Area** in 1897, right at the convergence of the North, West, and Main branches of Nose Creek.

Another farmer, John Wellington (Jack) Hayes, bought a section of land in the **Plan Area** in 1901. Hayes had homesteaded nearby in 1883. During the Northwest Resistance in 1885, he served on the government side with the transport section of Steele's Scouts.

Hayes' brother Earl took over the farm around 1914. Like some other farmers in the area, Earl Hayes operated it as a dairy farm. William Allan Hunter began farming nearby around 1919, partly within the **Plan Area**, and his large dairy operation supplied milk to Calgary. In 1928, Hunter became president of the Calgary and District Milk Producers Association. He and Earl Hayes were involved in forming the Calgary-based Co-operative Milk Company in 1929, serving as its founding president and vice-president respectively. Co-op Milk later merged with the Central Alberta Dairy Pool to form the Alpha Milk Company.



Early Farming Dairy Industry Building Owned by Local Farmers. Glenbow Archives (na-2882-1os)

Map 4: Historical Overview of Plan Area, 1995

Other Industries

There is evidence of sandstone quarrying in West Nose Creek Park on land that Jack Hayes purchased from the Canadian Pacific Railway in 1901. The quarrying likely occurred at an outcrop below Split Rock, a glacial erratic near the western edge of the park.

The Calgary area had rich deposits of Paskapoo sandstone. Between the 1880s and the First World War, dozens of sandstone quarries operated within Calgary's present-day city limits. Following a devastating fire in 1886 that consumed 18 buildings – presumably wooden ones – Calgary became known as the "Sandstone City" for its intensive use of the locally-available stone as a building material up to the First World War. The brief time frame of the quarry's use, and the identity of the quarrier, are unknown.

In contrast to the sandstone quarry's short duration, a longtime gravel pit operated to the northeast, also within the **Plan Area**. Sometime after 1911, the CPR built a spur line from the gravel pit to Beddington siding, and it began extracting gravel for use on the railway line north to Edmonton. The tracks remained in place until 1948.

The provincial government and its contractors took over the pit around 1920, and the gravel was used for highway construction between Calgary and Edmonton. By 1949, the gravel pit was evidently operated by the Standard Surfacing and Gravel Co. Ltd. The municipal district used gravel from this pit to convert local mud roads into gravel. The gravel pit was the scene of at least two fatal industrial accidents, one in 1933 and another in 1949.

City Growth and Calgary International Airport

Calgary's growth after the Second World War, propelled by major Alberta oil discoveries in 1947 and 1948, pushed the city's influence and boundaries northward. Prosperity and automobile ownership made it practical to live in distant subdivisions connected by arterial roads and, eventually, highways.

In 1953, the northern city limit expanded to include the Calgary Municipal Airport, which was renamed the Calgary International Airport in 1961. That year, the first jet aircraft landed in Calgary. Also in 1961, the city limits pushed further north into farmland that was developed five years later as the Huntington Hills neighbourhood. The City established a buffer zone that limited residential development near the airport in 1963. In the 1970s, The City participated with the provincial and federal governments in establishing the Airport Vicinity Protection Area (**AVPA**), where land use is restricted by Noise Exposure Forecast (**NEF**) contours. The **Plan Area** falls within the **AVPA**.

The Racetrack

In 1965, construction began on the Stampede Speedway racetrack within what was then the airport's "clear zone" associated with noise and the possibility of accidents. The racetrack was owned by Stampede Speedway Ltd., which comprised a group of Calgary investors, joined by others in Edmonton. Former racecar driver Ron Ferworn managed the facility. The complex began as a quarter-mile dirt oval, and it was paved in 1967. Races were organized by the Stampede City Auto Racing Organization. Stampede Speedway operated from 1966 until 1970, when it was bankrupted. The facility reopened it in 1971 as the Circle 8 Speedway but closed permanently in 1980. In 1990, it became the home of a golf driving range.

Stampede Speedway. City of Calgary Archives (2013-032-039)

In 1976, The City annexed a limited area that was quickly developed as the Beddington Heights neighbourhood. This annexation included much of what later became the eastern portion of West Nose Creek Park. A larger annexation in 1979 included the remainder of the **Plan Area** and extended nearly as far north as present-day Country Hills Boulevard, resulting in the development of the Country Hills and Harvest Hills neighbourhoods. The new Beddington Trail was developed as a freeway following in part the route of historic Symons Valley Road.

The southern portion of the **Plan Area** became Confluence Park, which The City established in 1991 and later renamed West Nose Creek Park. The Calgary River Valleys Plan, established in 1978, had encouraged the acquisition of this site and development of the park.

City-owned land north of the park was retained for future industrial use once it became practical and met market demand. Before the construction of 96 Avenue NE, it remained impractical. In 2001, Denver-based Pauls Corp. partnered with The City to develop it as Aurora Business Park. The name Aurora was likely selected to evoke the aurora borealis (the northern lights) in reference to the property's situation in north Calgary. The project depended on construction of an overpass bridging the railway right-of way, which was not immediately forthcoming. Pauls Corp. pulled out of the project, and Aurora remained undeveloped.

Aurora Business Park Area Structure Plan

In 2008, City Council approved the Aurora Business Park (Aurora) **ASP**. The Aurora **ASP** was intended to facilitate the development of a mixed-use employment node for the area that would accommodate a projected 10,000 jobs at full build-out. Portions of the **Plan Area** were developed in accordance with the Aurora **ASP** however, much of the land remains undeveloped.

Changes were approved to the Calgary International **AVPA** (Alberta Regulation 177-2009) in 2021. The approved changes amended the boundaries associated with the 30 and 25 Noise Exposure Forecast (**NEF**) contours. Portions of the **Plan Area** previously located within the 30 **NEF** contour, which only permits non-residential development, now fall within the boundary of the 25 **NEF** contour, which permits residential development.

More recently, in 2022 Council endorsed the City's Planning Policy Roadmap, which identified projects to be initiated during the 2023-2026 Service Plan and Budgets Period. In 2023, The Aurora **ASP** was identified by administration for potential amendment to explore a mix of uses. This Plan is the culmination of work completed as part of the review of the previous Aurora **ASP** to explore the possibility of a mix of uses within the **Plan Area**.

Evolution of Transit

The Aurora **ASP** (2008) identified the alignment of future Light Rail Transit (**LRT**) infrastructure within the **Plan Area**. Since its approval in 2008, updates to existing infrastructure and planned transit investment within the City's north have identified a revised northern alignment for the Green Line **LRT**, as well as introduced locations for the **Airport Connector** and **Regional Rail Hub**.

As identified on **Map 5: Land Use Concept**, the latest alignment for the northern extension of the Green Line is planned along Harvest Hills Blvd N and includes a station at the NW corner of the **Plan Area**. To accommodate the infrastructure needs of a future **LRT** system in the north, the need for a Maintenance and Storage Facility (MSF) was identified in 2008. To ensure compatibility with the updated alignment of the Green Line **LRT**, a location adjacent to Harvest Hills Blvd. N was selected as the preferred area for the MSF.

In addition to an updated northern alignment for the Green Line **LRT**, the Council-approved Airport Transit Line Study (2020) identified a future transit connection between the Blue and Green Line **LRT** on Airport Trail/ 96 Avenue NE via the Calgary International Airport. It would also serve as a point of transfer for a future **Regional Rail Hub** within the **Plan Area** that would provide access to a Regional rail network with possible connections with Regional municipalities such as Edmonton and Bow Valley.

The objectives and key policy direction of this Plan are reflective of the ongoing work associated with the Green Line **LRT**, **Airport Connector**, and **Regional Rail Hub**.

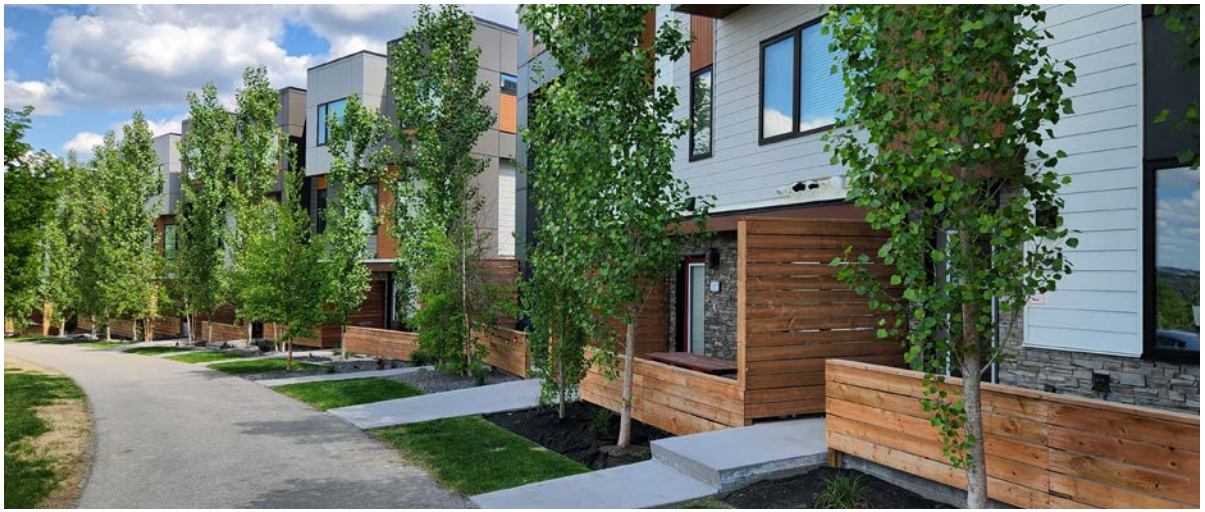
1.5 Vision

This Plan envisions a new transit oriented mixed-use community in Northern Calgary.

With an easy walk to transit, and a diversity of housing forms, the **Plan Area** will be desirable and accessible to all Calgarians. The new neighbourhood has an abundance of **parks**, **regional pathway**s, sidewalks and unique streets making it easy and fun to walk, cycle and play outdoors. The area's significance to Indigenous peoples is celebrated and reflected in the community's place names, urban design and public art.

1.6 Core Ideas

The Core Ideas outline the aspirations for the Plan Area to effectively implement the Plan's vision.

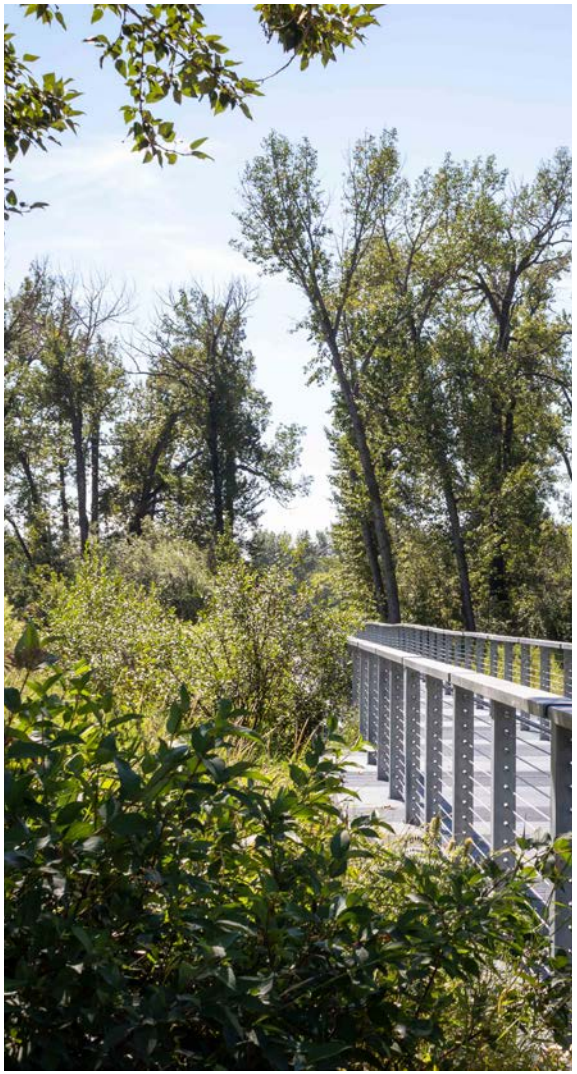


Develop a Transit-Oriented Community

Capitalize on investment in higher-order transit infrastructure and a robust pathway network to provide increased mobility choices for citizens, promote a vibrant and connected community, and provide more opportunities to live, work, and play within proximity to transit and active transportation routes.

Create New Housing Opportunities

Enhance housing diversity and sustainability by offering a variety of housing options that support affordable home ownership and rental opportunities, ensuring that residents of all ages can continue to live within the community.



Foster Sense of Place

Ensure the continued celebration of the **Plan Area** by incorporating historical matters of significance in the design of the community and its streets to facilitate greater connections between residents, their community, and the environment and exploring opportunities for reconciliation.

Model Sustainable and Environmentally Responsible Development

Encourage sustainable design solutions by developing a climate resilient community that minimizes energy and resource use, and incorporates green building methods and alternative energy solutions, such as **district energy**, to reduce emissions.

Preserve Ecological Features and their Functions

Protect, connect, and enhance the **Ecological Network** to ensure biodiversity is conserved, **ecosystem** services are maintained, and to create a resilient, sustainable community that celebrates the rich history of the **Plan Area**.

2

Land Use Concept

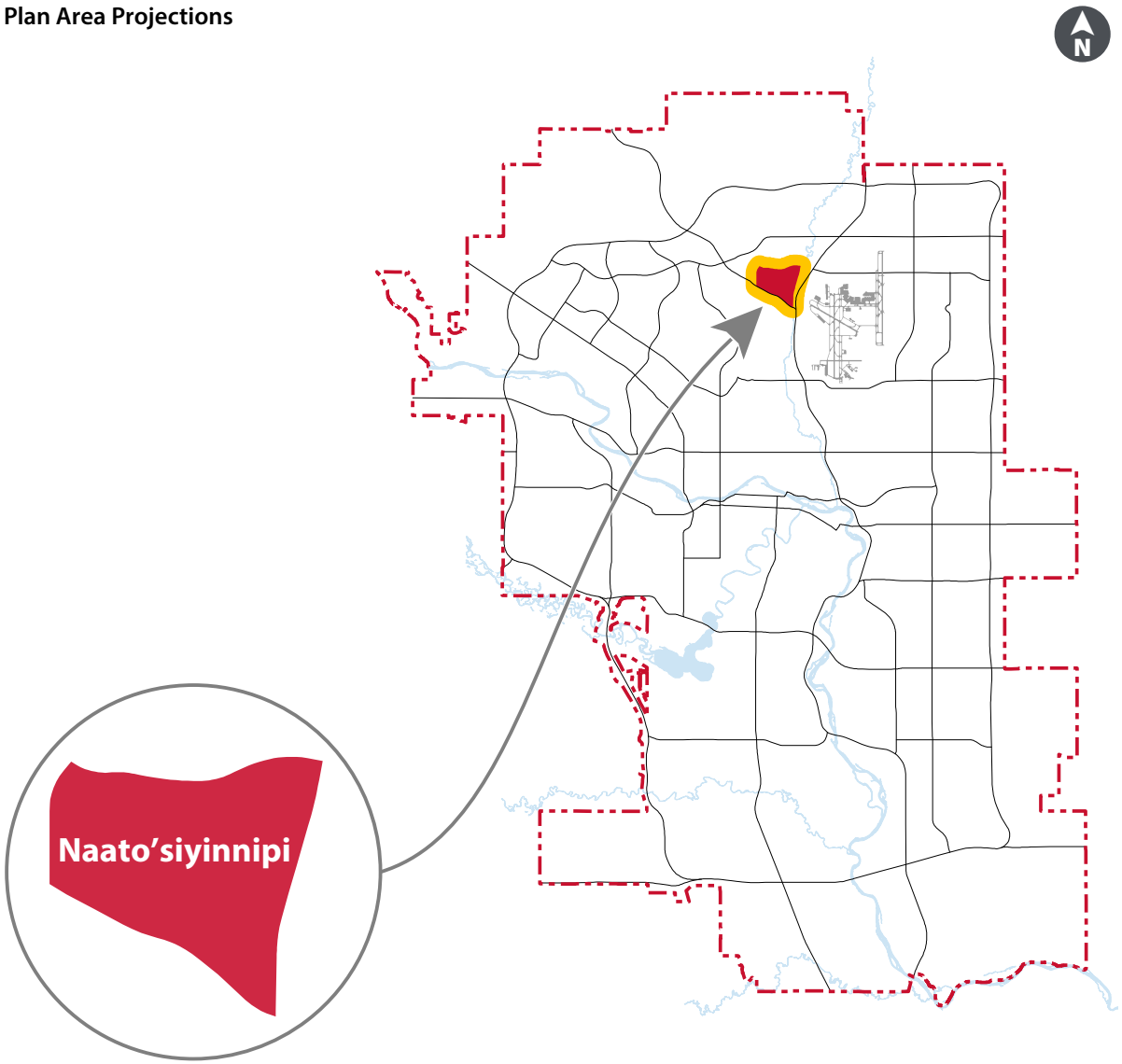
The Land Use Concept sets the framework for the development of a complete transit-oriented community that at full build-out will provide a mix of land uses consistent with planning and growth objectives for development along the City's Primary Transit Network.

2.1 General Policies

1. The elements on **Map 5: Land Use Concept** should be located as depicted.

2. Refinements to boundaries or locations of land use elements may occur at the outline plan/land use amendment application stage in accordance with **Section 9.0 Implementation and Interpretation**.

Plan Area Projections



234 Hectares

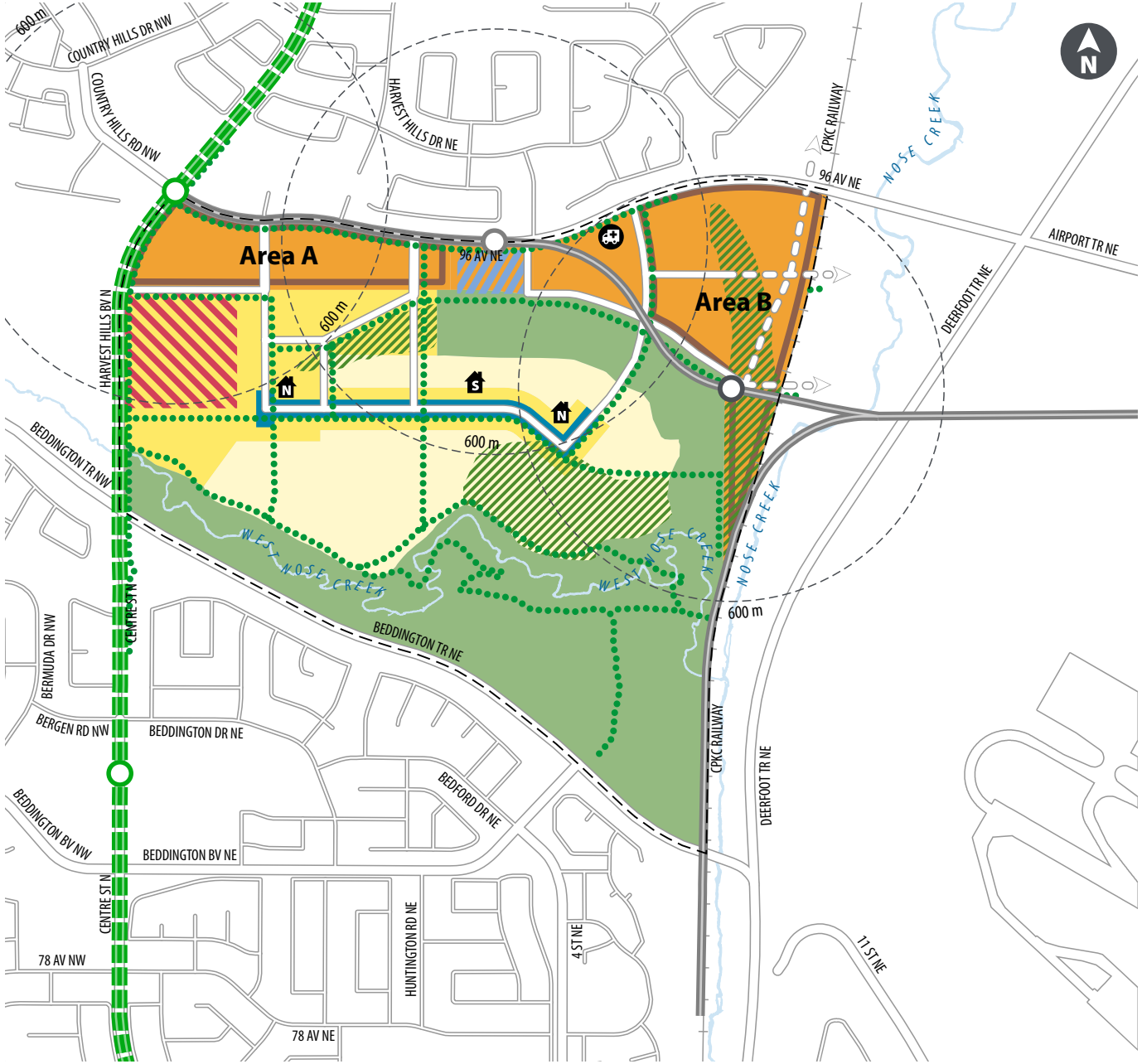
16,500 people

7,300 dwelling units

5,700 jobs

1 high school

Map 5: Land Use Concept



Legend

- Mixed Use
- Multi-Unit Residential
- Ground-Oriented Residential
- Parks and Natural Areas
- Environmental Open Space Study Area
- Regional Pathway
- Transit Station Planning Area (600m)
- Neighbourhood Corridor
- Future Green Line / Airport Connector Station
- Future Airport Connector Station
- Future Regional Rail Hub
- Maintenance and Storage Facility
- Dry Pond
- Neighbourhood Activity Centre
- Emergency Response Station
- High School Site (JUS)
- Plan Area Boundary

Features outside the Plan boundary are provided for context only.

2.2 Land Use Elements

Mixed-Use Areas

Developments within the Mixed-Use Areas will provide greater intensity of jobs or people with a mix of residential and non-residential uses in proximity to existing and planned transit stations.

Ground-Oriented Residential Areas

Future development within Ground-Oriented Residential Areas will provide a transition in density from Multi-Unit Residential Areas and offer a greater variety of lower-density building forms (3 storeys and lower) with at-grade accesses.

Primary Transit

The **Primary Transit Network** (PTN), an enhanced corridor of frequent, fast and reliable transit service, is located along Harvest Hills Boulevard and 96 Avenue NE.

Multi-Unit Residential Areas

Multi-Unit Residential Areas will prioritize residential developments with shared primary accesses in the form of taller buildings (typically 4 storeys and greater) to increase housing choices in proximity to existing and planned transit stations. Multi-unit residential buildings may include additional separate grade-oriented accesses in addition to shared primary accesses, such as building lobbies.

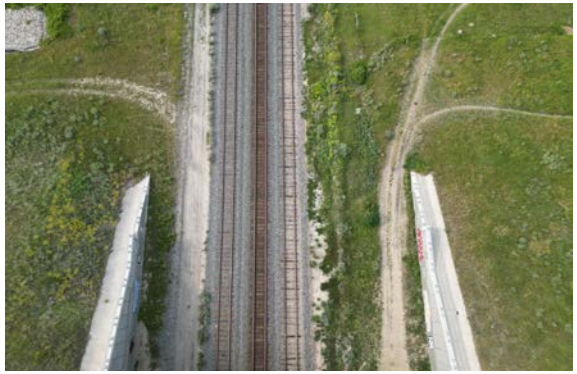
Environmental Open Space Study Area

Environmental Open Space Study Area identifies environmentally significant areas to be evaluated at the outline plan/land use amendment stage. Where lands do not qualify as **Environmental Reserve**, development may occur, provided no other limitations exist.

Maintenance and Storage Facility

Land identified as the location for a future Maintenance and Storage Facility for the Green Line **LRT**.

Regional Rail Hub



Represents the planned location for a multi-modal transit hub that would provide a transfer station between regional rail services and inner-city connections between the Green Line, Blue Line, and Calgary International Airport.

Neighbourhood Activity Centre

Neighbourhood Activity Centres will serve as central destination points containing a mix of transit supportive residential and non-residential uses. These areas will be designed to have a pedestrian-oriented environment and active public realm.

Regional Pathways

The **Regional Pathway** Network provides cycling and walking connections within the **Plan Area** and to surrounding communities.

High School Site (JUS)

The high school site will provide space for education as well as public recreation and community uses.

Parks and Natural Areas

A network of **natural areas** and **parks** throughout the **Plan Area**.

Neighbourhood Corridor

A liveable street offering a sense of place for the community through an enhanced pedestrian environment with access to a mix of services and amenities.

3

Neighbourhood Framework

3.1 Residential Areas

Intent

The **Plan Area** is to be comprised of Ground-Oriented and Multi-Unit Residential areas that promote a variety of residential typologies to accommodate different household types and lifestyles, encourage social diversity, and the opportunity for aging in place.

Policies

3.1.1 General

1. Densities in the Residential Areas should achieve the upper range of intensities to meet the objectives of this Plan, as noted in **Sections 3.1.4** and **3.1.5**.
2. Residential development is encouraged to contribute to a diverse housing stock by providing the following in addition to market housing:
    a. **non-market housing** (e.g. social or subsidized housing, market and nonmarket rental and ownership units);
    b. **Supportive Housing**; or
    c. a combination of the above.
3. Land use designations should be consistent with the general land use identified on **Map 5: Land Use Concept**.
4. **Secondary Suites** shall not contribute to the achievement of density targets identified in this Plan.

3.1.2 Built Form and Site Design

1. Building massing and orientation should mitigate shadow impact on surrounding **parks**, **natural areas**, Ground-Oriented Residential Areas, **Neighbourhood Corridors**, and shared amenity spaces within a development.
2. Development shall provide for a contextually sensitive transition to adjacent Ground-Oriented Residential Areas, using design strategies such as building massing and scale transition and landscape setbacks.
3. Development should provide a strong emphasis on street orientation and activation, which involve finer-grain frontage design elements such as unit entrances, front porches, building corners, building colours, building materials, and textures.
4. Buildings on corner sites should be oriented towards both public streets.
5. **Comprehensively planned** sites with multiple buildings should incorporate centrally located, shared outdoor amenity spaces accessible by all residents.
6. At-grade units should have individual and direct access to the street.
7. Individual buildings should front onto public streets, **parks** and **open space**, school sites, or private streets that look and function like public streets.
8. Developments should contribute to a sense of privacy through a variety of design measures (e.g. window location and orientation, recessed balconies, layered landscaping, and architectural screening).
9. All development should provide direct and convenient connections to the pedestrian network.
10. Passive solar design and energy demand reduction is encouraged to be maximized by:
    a. allowing for lot orientation, building orientation and internal layout, to capitalize on sunlight access for the main living areas of residential, commercial and retail development, and pedestrian sitting areas during cold periods of the year, while minimizing it during warm periods of the year; and
    b. addressing the roof space available for the efficient use of photovoltaic and solar thermal panels to be coincident with building orientation.
11. Street design pattern in outline plan applications should maximize use of east-west streets for optimal solar orientation.
12. Multi-Unit Residential and non-residential development are encouraged to complete a Climate Risk Screening Assessment, to assess climate risk and identify priority action measures to reduce risks. Development is strongly encouraged to implement climate risk reduction recommendations from a Climate Risk Screening Assessment.
13. Development is encouraged to provide shading and cooling amenities for people on private and public land, especially at:
    a. heavily paved areas and contiguous paved spaces, such as large parking lots and near wide roadways;

b. high traffic pedestrian and cycling corridors;

c. areas with lower tree canopy coverage; and

d. locations that experience higher surface temperatures.

3.1.3 Parking

1. Access to parking areas should be located and designed to minimize the number of interruptions to sidewalks and the pathway network.

2. Street access points should be consolidated.

3. For development with Multi-Unit Residential areas, parking areas should not be located between a building and a street:

   a. where service or parking access are located facing a street, it should be integrated architecturally with the rest of the building and streetscape to reduce the visual impact of these areas (e.g., screening with quality architectural treatments).

4. The majority of multi-unit residential parking should be provided within a structure, which may be located above or below grade and integrated with the primary building.

   a. where a parking structure cannot be integrated with the primary building, enhanced façade treatments should be used to minimize visual impact on the public realm; and

   b. vehicle accesses for parking structures should be designed and located to minimize disruptions with the pedestrian network.

5. Limited surface parking may be permitted for commercial uses and short-term visitor parking where appropriate.

6. Where surface parking areas are considered, they should:

   a. be located at the rear or side of buildings, and screened with landscaping, to improve permeability and improve the quality of the space for users;

   b. provide smaller convenience parking areas in proximity to the primary access point of a use; and

   c. incorporate Low Impact Development (**LID**) treatments to reduce environmental impacts, where feasible.

7. Design of bicycle parking should encourage year-round use and be integrated into the overall architecture of building and site design.

8. Development is encouraged to provide solar photovoltaic (**PV**) canopies on all or a portion of parking areas that are at or above grade.

3.1.4 Ground-Oriented Residential Areas

Neighbourhood areas will be composed of residential uses at a variety of densities to allow for appropriate intensity and a diverse housing stock, as well as for specific pockets that support small, local commercial and service uses. Residential buildings should be ground-oriented and provide pedestrian access oriented towards the street.

1. Development with Ground-Oriented Residential Areas should achieve a minimum density of 25 units per gross developable residential hectare.

Ground-Oriented Residential Areas concept

2. Development should accommodate a mix of dwelling types comprised of single-detached, semi-detached, and rowhouses.

3. Building heights within the Ground-Oriented Residential Areas should be a maximum of three storeys.

4. Notwithstanding **Section 3.1.4.3**, increased building height may be considered for sites that meet all of the following criteria:

    a. located in a Transit Station Planning Area;

    b. located along a Collector Road;

    c. topographic conditions permit increased building height in proximity to the Calgary International Airport (See **Section 9.4**); and

    d. impacts and compatibility with surrounding built form can be addressed (e.g. shadow impact, privacy concerns).

3.1.5 Multi-Unit Residential Areas

Multi-Unit Residential Area will contain three or more dwelling units on one parcel of land. Developments within the Multi-Unit Residential Area are encouraged to integrate with various types of housing throughout the neighbourhood in a manner that provides inclusion and good access to public services and amenities.

1. Development within Multi-Unit Residential areas should achieve densities between 70 and 90 units per gross developable residential hectare.

2. Development should accommodate a mix of multi-unit dwelling types comprised of multi-unit residential apartment buildings.

3. Notwithstanding **Section 3.1.5.2**, Ground-Oriented Residential uses may be allowed as part of a **comprehensively planned** Multi-Unit Residential development whereby such uses do not exceed the majority of the development.

4. At-grade retail/commercial uses are strongly encouraged as part of Multi-Unit Residential developments at street corners, along a **Neighbourhood Corridor**, and within **Transit Station Planning Areas**.

5. Multi-Unit Residential development should:

    a. provide direct, convenient and accessible pedestrian connections across larger sites, connecting to transit service, **parks**, **open space** and other community services and amenities;

    b. contribute to age-friendly housing and support multigenerational living through innovative housing design such as units with lock-off suites, two primary bedrooms and accessible washrooms; and

    c. support the diversification of the housing stock to meet the needs of larger families by encouraging housing that offer units with two and three or more bedrooms.

Multi-Unit Residential Areas concept

6. Building heights within the Multi-Unit Residential Areas shall be a minimum of four storeys and a maximum of six storeys.

7. Notwithstanding **Section 3.1.5.6**, increased building height may be considered for sites that meet all of the following criteria:

    a. located in a Transit Station Planning Area;

    b. located along a **Primary Corridor**;

    c. topographic conditions permit increased building height in proximity to the Calgary International Airport (See **Section 9.4**); and

    d. impacts and compatibility with surrounding built form can be addressed (e.g. shadow impact, privacy concerns).

8. To improve access to healthy and affordable food, private communal gardening spaces and/or edible landscaping opportunities, such as fruit bearing trees and shrubs, are encouraged to be incorporated, where feasible.

3.2 Mixed-Use Areas

Intent

Mixed-Use Areas will be vibrant places where the greatest concentration of activity (working, shopping, and living) occur. The Mixed-Use Areas define locations where a high-quality living environment will be supported by active transit service, amenities, and employment uses. Strategic intensification through a variety of building forms and heights are encouraged for certain sites along 96 Avenue NE that have previously developed.

Policies

3.2.1 General

1. Mixed-Use Areas should achieve a minimum density of 150 people and jobs per gross developable hectare.

2. The built form of Mixed-Use Areas should be:

    a. vertically integrated Mixed-Use buildings; or

    b. a **comprehensively planned** area consisting of multiple buildings within a **Development Block**, in which the building(s) may have a single use, where it is demonstrated that there exists a diversity of uses within the **development block**.

3. Development consisting of one or more sites within Mixed-Use Areas should include a mix of residential and non-residential uses consisting of two or more of the following:

    a. employment Uses, including offices;
    b. residential Uses;
    c. commercial, including hotels;
    d. small- or **Medium-Format Retail** Uses; or
    e. institutional, Cultural and Civic Uses.

Mixed-Use Areas concept

4. Opportunities to promote diverse housing supply should be explored for all Residential development in accordance with **Section 4.4**.

3.2.2 Built Form and Site Design

1. Buildings should be no greater than a maximum of 12 storeys.

2. Notwithstanding **Section 3.2.2.1**, increased building height may be considered for sites that meet the following criteria:

    a. located in a Transit Station Planning Area;

    b. located along a **Primary Corridor**;

    c. topographic conditions permit increased building height in proximity to the Calgary International Airport (See **Section 9.4**); and

    d. impacts and compatibility with surrounding built form can be addressed (e.g. shadow impact, privacy concerns).

3. Buildings on corner sites should be oriented towards both public streets.

4. Buildings should provide a transition between the Mixed-Use Area and adjacent residential areas that are complimentary to the form and scale.

5. Each block within the Mixed-Use area should be **comprehensively planned**.

6. Buildings six storeys and taller should provide well-articulated street walls with upper level stepbacks to ensure pedestrian scale and appropriate transition in built form and to minimize shadowing impacts on **parks**, **natural areas** and **open space**.

7. Development should provide a well defined, continuous frontage and improve the pedestrian experience using varied textures, high quality building materials and landscaped setbacks.

8. At-grade uses should contribute to a strong pedestrian experience and a vibrant and active street frontage.

3.2.3 Parking

1. The majority of parking should be provided within a structure, which may be located above or below grade and integrated with the primary building.

    a. where a parking structure cannot be integrated with another use, enhanced façade treatments should be used to minimize visual impact on the public realm; and

    b. vehicle accesses for parking structures should be designed and located to minimize disruptions with the pedestrian network.

2. Limited surface parking may be permitted for commercial uses and short-term visitor parking where appropriate.

3. Where surface parking areas are considered, they should:

    a. be located to the rear or side of buildings, and screened with landscaping, to improve permeability and improve the quality of the space for users;

    b. provide smaller convenience parking areas in proximity to the primary access point of a use; and

    c. incorporate Low Impact Development (**LID**) treatments to reduce environmental impacts, where feasible.

4. Opportunities to reduce the size of existing parking areas should be explored as part of any future outline plan/land use amendment or Development Permit application.

3.2.4 Mixed-Use Area A

1. The redevelopment of existing built-up areas shall contribute to intensification by complimenting existing uses and services along the 96 Avenue NE and Harvest Hills Boulevard N corridors.

2. Opportunities to incorporate new residential development within Mixed-Use Area A should be explored as part of any future intensification of developed lands.

3. Intensification of sites within Area A should be **comprehensively planned** and reviewed through an outline plan/land use amendment application.

4. Future development shall enhance existing pedestrian pathways and accommodate additional pedestrian linkages to and from Transit Stations.

5. Future development shall incorporate linkages to adjacent residential and employment areas.

6. To support with future intensification efforts, the following new uses should not be allowed within Mixed-Use Area A:

    a. drive through facilities;
    b. fuel stations; and
    c. auto shops.

3.2.5 Mixed-Use Area B

1. Development within Mixed-Use Area B should employ Slope Adaptive Design principles in Site Planning and Design where necessary, such as:

    a. providing development that minimizes potential soil, drainage, and geological problems;

    b. locating pedestrian linkages along existing contour lines in lieu of stairs;

    c. promoting development that minimizes grading, maximizes views, and maintains access to solar energy;

    d. designing roadways and points of ingress and egress to compliment the natural topography and conform to existing grades where possible;

    e. utilizing single-loaded roadways to create building frontages and pathway connections integrated with the park system and enhance significant environmental features;

        i. in the event that the **Airport Connector** alignment conflicts with parcel orientation and a single-loaded roadway is not feasible, at a minimum, an active modes pathway connection shall be provided;

    f. reducing cul-de-sac and hammerhead road configurations to avoid excessive cut and fill, while maintaining access for emergency vehicles;

    g. incorporating stepped building design and terraced retaining walls into development that can accommodate landscaped areas;

    h. incorporating manufactured slopes to reduce visual impacts;

    i. phasing site grading; and

    j. protecting key topographic features (i.e. knolls, ridgelines, rock outcroppings, cliffs, and ravines).

2. Developers shall demonstrate at the outline plan/ land use amendment as well as subsequent Development Permit application stages how Slope Adaptive Design principles have been incorporated into the development, where necessary.

3. Development shall incorporate direct pedestrian linkages to and from Transit Stations.

3.3 Special Policy Areas

Intent

Provide a site-specific policy framework for the development of lands identified for the Maintenance and Storage Facility and **Regional Rail Hub** on **Map 5: Land Use Concept**. Development in the Special Policy Areas should be sensitively integrated within the existing context on adjacent lands.

Policies

3.3.1 Maintenance and Storage Facility

1. A Maintenance and Storage Facility (MSF) for transit should be located as identified on **Map 5: Land Use Concept**:

    a. should a MSF not materialize at the identified location, then another location with the **Plan Area** will be identified; and

    b. the ultimate size and location of the MSF shall be confirmed through the outline plan/ land use amendment process in collaboration with Calgary Transit, but shall be no less than 11 hectares.

2. If lands comprising the MSF are not utilized for its development, the underlying land use and policies shall apply to those lands without requiring an amendment to this Plan.

3. The operational efficiency of the MSF must be prioritized over housing, road alignment, and other uses or conflicts.

4. Access and egress tracks should be separated from general traffic to minimize interference.

5. The development of the MSF should implement the following design principles:

    a. utilize enhanced landscape buffering between the MSF and adjacent residential uses;

    b. incorporate **regional pathways** into landscape buffers;

    c. minimize the visual impact of the building and site on surrounding land uses by incorporating unique façade treatments, glazing, and other design elements;

    d. employ grading techniques to minimize the visual impact of structures and site operations on adjacent uses;

    e. provide lighting solutions that minimize light pollution and impact on adjacent uses;

    f. provide landscaping elements that provide natural screening;

    g. incorporate noise-reducing design features;

    h. apply Crime Prevention Through Environmental Design (**CPTED**) measures, where necessary; and

    i. avoid the use of chain-link and galvanized chain-link fencing along street interfaces and shared property lines, where possible.

6. The MSF may:

    a. integrate and optimize viable clean and renewable energy sources to service the site and community; and

    b. include opportunities to produce food on site.

7. A study exploring opportunities for interim uses, the duration of those uses, and plans for removal of same prior to the development of the MSF should be submitted to determine the suitability of proposed land use district(s) as part of a future land use amendment/outline plan application for the MSF area, at the discretion of Calgary Transit. Interim uses may include the following:

    a. temporary sports fields and recreation (outdoor);

    b. urban agriculture (greenhouse, community garden); or

    c. farmers' market.

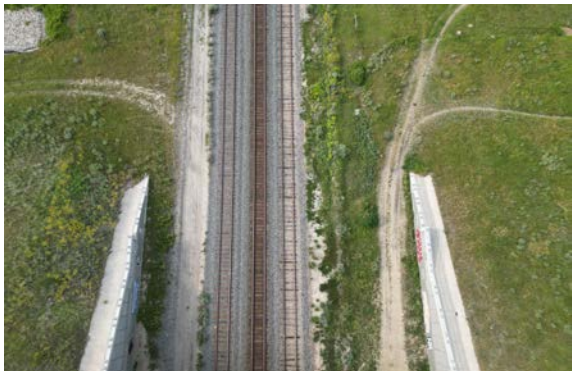
8. Notwithstanding **Section 3.3.1.7**, interim uses shall not include any use that that may result in hazardous or contaminated uses on site.

3.3.2 Regional Rail Hub

1. A **Regional Rail Hub** may be located as identified on **Map 5: Land Use Concept**.

2. Vehicle access and egress from the **Regional Rail Hub** should be prioritized.

3. Development should consider local transit routing and accessibility in site and building design.



4. Lands immediately south of the **Regional Rail Hub** should accommodate pedestrian amenity areas that are compatible with topographic conditions:

    a. amenity areas are strongly encouraged to incorporate interpretive amenities celebrating the cultural heritage of the **Plan Area**.

5. Parking should be located within a parking structure and integrated with another use.

6. Parking at-grade should be limited, located at the rear or side of buildings, and screened with landscaping.

7. Development should incorporate connections to the **Regional Pathway** Network and the park system.

8. Development adjacent to the **Regional Rail Hub** should include design measures that enhance the transit interface.

4 Community Framework

4.1 Transit Station Planning Areas

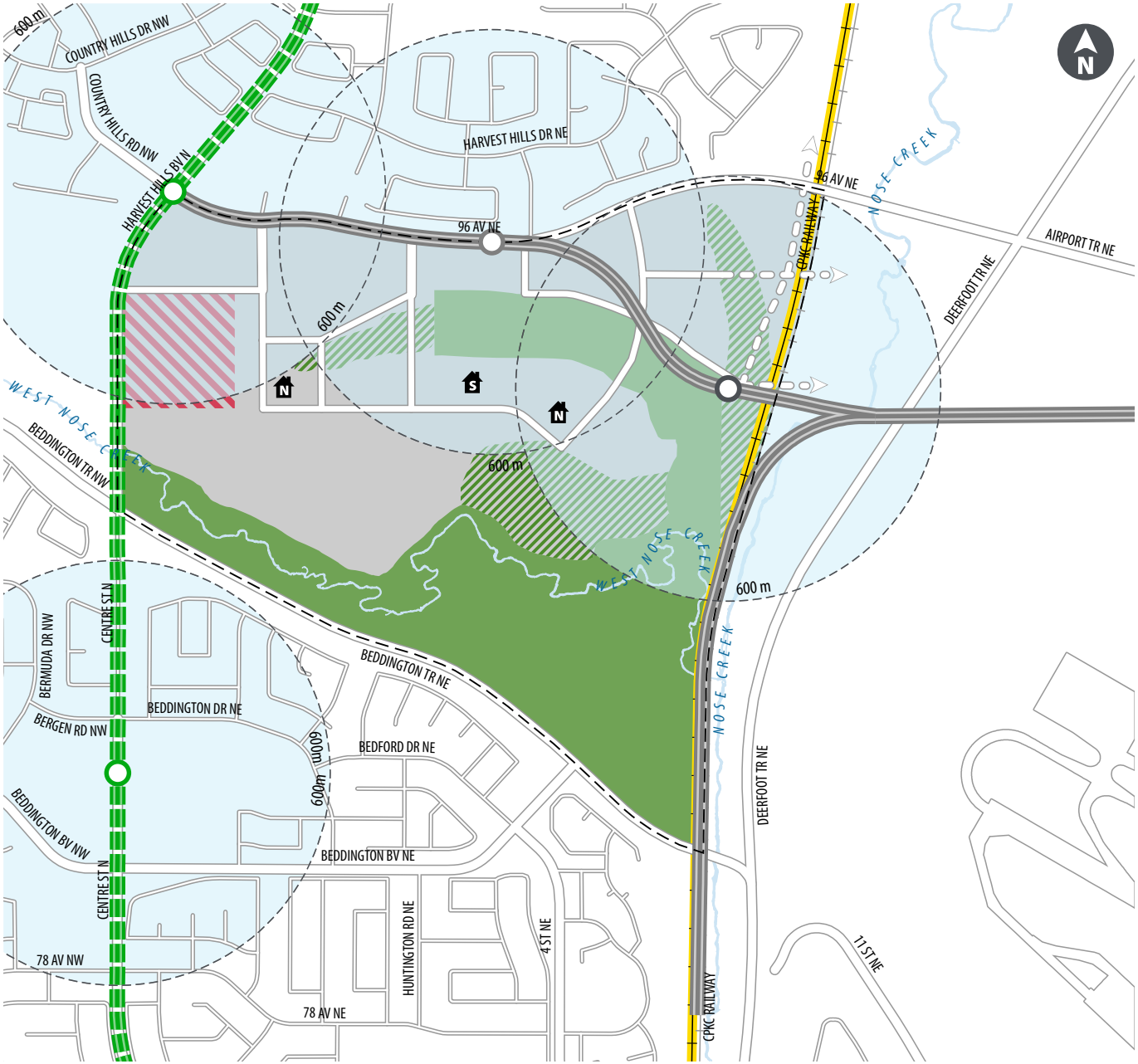
Intent

Transit Station Planning Areas (**TSPA**s) will accommodate a greater concentration of higher-density, walkable, and mixed-use development in close proximity to transit infrastructure. Lands located within **TSPA**s are identified on **Map 6: Transit Station Planning Areas**.

4.1.1 Policies

1. **TSPA**s include all lands within 600 metres of existing and planned BRT, **LRT**, **Airport Connector**, and Regional Rail stations, as identified on **Map 6: Transit Station Planning Areas**.
2. **TSPA**s should achieve a minimum intensity of 150 people and jobs per gross developable hectare.
3. Sites should be **comprehensively planned** to manage parking to reduce negative impacts on the public realm and particularly on the pedestrian-oriented streets. Strategies may include, but are not limited to:
    a. locating surface parking lots away from primary retail streets; and
    b. providing structured or underground parking where feasible.
4. The majority of parking should be provided within a structure, which may be located above or below grade, and integrated with the primary building:
    a. where a parking structure cannot be integrated with the primary building, enhanced façade treatments should be used to minimize visual impact on the public realm; and
    b. vehicle accesses for parking structures should be designed and located to minimize disruptions with the pedestrian network.
5. Limited surface parking may be permitted for commercial uses and short-term visitor parking where appropriate.
6. Where surface parking areas are considered, they should:
    a. be located to the rear or side of buildings, and screened with landscaping, to improve permeability and improve the quality of the space for users;
    b. provide smaller convenience parking areas in proximity to the primary access point of a use; and
    c. incorporate Low Impact Development (**LID**) treatments to reduce environmental impacts, where feasible.
7. Development within **TSPA**s should:
    a. support shared mobility options, where appropriate; and
    b. provide active transportation supportive amenities.
8. Development adjacent to a BRT or **LRT** station should provide for a high-quality public space that encourages social gathering, user comfort, and recreational activities through elements such as:
    a. publicly-accessible private **open space** or plazas;
    b. street furniture, lighting, and seating areas;
    c. secure bicycle parking and other active mode amenities;
    d. public art;
    e. access to shade and cooling;
    f. **regional pathway** connections;
    g. publicly-accessible, privately-owned infrastructure including drinking fountains and electrical servicing; and
    h. enhanced landscaping, including public trees.
9. Development within **TSPA**s should employ **Transit-Oriented Development** (**TOD**) measures, such as:
    a. transit-supportive land uses;
    b. increased density adjacent to transit stations;
    c. contribute to a strong pedestrian environment; and
    d. reduce opportunities for automobile and pedestrian interactions.

Map 6: Transit Station Planning Areas



Legend

- Transit Station Planning Area (600m)
- Future Green Line
- Future Airport Connector
- Future Regional Commuter Rail Corridor
- Future Green Line / Airport Connector Station
- Future Airport Connector Station
- Future Regional Rail Hub - Airport Connector and Passenger Rail Terminal
- Maintenance and Storage Facility
- Neighbourhood Activity Centre
- High School Site (JUS)
- Parks and Natural Areas
- Environmental Open Space Study Area
- Plan Area

Features outside the Plan boundary are provided for context only.

4.2 Neighbourhood Activity Centres

Intent

To create areas that will become the focal point of the neighbourhood with distinct elements and local characteristics that enhance the public realm and contribute to a pedestrian-oriented environment.

4.2.1 Policies

1. Each Activity Centre should be located as depicted on **Map 5: Land Use Concept**.

2. Notwithstanding the **NCPG**, Activity Centres should be located:

    a. central to the surrounding Neighbourhood Area where all neighbourhood residents live within 600-800 metres walking distance via the pedestrian network; and

    b. along a transit route.

3. Activity Centres should be cohesively and comprehensively designed to ensure that strong and attractive pedestrian connections and circulation is provided.

4. Development within an Activity Centre should:

    a. integrate larger commercial or residential uses behind or above smaller commercial units facing the street; and

    b. include additional building setbacks to accommodate an extension of the use outside of the building, such as patios and display areas.

5. Outdoor amenity spaces within Activity Centres should be integrated with the natural features of the **Plan Area** where possible.

6. Activity Centres shall support pedestrian, bicycle, and transit accessibility by:

    a. providing pedestrian routes that are clearly connected to transit and minimize conflicts with vehicles; and

    b. provide direct linkages to the **Regional Pathway** Network, where possible.

7. Drive-through commercial development shall not be permitted within Activity Centres.

8. Street furniture, site landscaping, and pathways should be utilized to support pedestrian circulation to and through Activity Centres to promote activity and interaction.

9. Residential development should:

    a. provide for a range of housing types and tenures; and

    b. include opportunities for local commercial and retail uses.

10. The majority of parking should be provided within a structure, which may be located above or below grade and integrated with the primary building:

    a. where a parking structure cannot be integrated with the primary building, enhanced façade treatments should be used to minimize visual impact on the public realm.

11. Limited surface parking may be permitted for commercial uses and short-term visitor parking where appropriate.

12. Where surface parking areas are considered, they should:

    a. be located to the rear of buildings, and screened with landscaping to improve permeability and improve the quality of the space for users;

    b. provide smaller convenience parking areas in proximity to the primary access point of a use; and

    c. incorporate **LID** treatments to reduce environmental impacts, where feasible.

13. Vehicular access and parking lots should be located in a manner so as to minimize the impact of parking and driveways on the pedestrian environment, adjacent properties, and pedestrian safety. Parking should be located to the rear or side of commercial buildings and not in the front of commercial buildings to reinforce the pedestrian orientation of the area.

14. A **Concept Plan** for the Activity Centre should be submitted as part of an outline plan/land use application to demonstrate the integration of land uses, the relationship between the buildings and the street, landscaping, amenity spaces, and street character.

15. Activity Centre concept and design is encouraged to provide opportunities for continued celebration of the lands by Indigenous peoples.

16. Amenity spaces in Activity Centres are encouraged to include community gardens and edible landscaping.

4.3 Neighbourhood Corridor

Intent

The **Neighbourhood Corridor** provides a unique destination for residents with wide sidewalks and pedestrian-scaled development.

4.3.1 Policies

1. **Neighbourhood Corridor** should be generally located as depicted on **Map 5: Land Use Concept**.

2. Notwithstanding **Section 3.1.5.6**, building heights within Multi-Unit Residential Areas adjacent to a **Neighbourhood Corridor** shall range between three and six storeys to accommodate a mix of townhouses, rowhouses, and multi-unit residential apartment buildings.

3. New **Neighbourhood Corridors** should be considered in identified **TSPA**s to facilitate active pedestrian connections between 96 Avenue NE and areas of high pedestrian activity.

    a. new **Neighbourhood Corridors** in the NE portion of the **Plan Area** shall take into consideration the detailed design of the **Airport Connector**.

4. The **Neighbourhood Corridor** should be designed with a high-quality pedestrian realm (e.g. clear and unobstructed walkways, pedestrian-scaled lighting, street furniture treatment) and supported by on-street parking and transit-supportive uses.

5. Buildings should be designed to animate the pedestrian realm (e.g. greater façade articulation, frequent entries, transparent and unobscured glazing, outdoor patios).

6. The street network should be designed to minimize interruptions to the pedestrian environment.

7. **Parks** and **open space** adjacent to the **Neighbourhood Corridor** should be accessible and well integrated with the sidewalk and **Regional Pathway** Network.

8. Amenity space along the **Neighbourhood Corridor** shall be designed as one or more multi-functional spaces, such as a plaza or park, to create a point(s) of interest and/or enhance the design of prominent intersections or buildings.

9. Development along the **Neighbourhood Corridor(s)** areas should:

    a. have a minimum ground floor-to-ceiling height of 4.0 metres to support a range of active uses over time, within multi-unit residential apartment buildings, where feasible;

    b. provide frequent entrances and windows that maximize views to and from the street;

    c. use building articulation to provide a well-defined, continuous street wall;

    d. mitigate shadowing impact on the **Neighbourhood Corridor**(s) and adjacent Ground-Oriented Residential Areas; and

    e. use varied building textures and high-quality building materials to improve the pedestrian experience.

10. Development along the **Neighbourhood Corridor** located at street corners should articulate the corner space by locating entrances and/or wrapping active uses around the building. This articulation should be carried from ground level through to the upper levels of the street wall.

4.4 Housing For All

Intent

Supporting a diverse housing stock will allow more people to live in the area and help support businesses, transit, schools, services, and amenities. This also recognizes that a range of housing types, including **supportive housing** opportunities are needed to allow a diverse population to live in the area and to allow for residents to age in place within their community.

To provide greater access to safe and stable housing to create inclusive communities and add to the overall health, prosperity and safety of our city. People in **non-market housing** have greater chances to find and keep jobs, to learn and build skills and be active participants in their communities. **Non-market housing** also helps boost the local economy through the creation of construction jobs.

Policies

4.4.1 Non-Market Housing

1. **Non-market housing** should be incorporated within **comprehensively planned** areas within Ground-Oriented Residential areas located within a **TSPA**, all Multi-Unit Residential Areas, and all Mixed-Use areas.

4.4.2 Supportive Housing

1. **Supportive Housing** should be incorporated within **comprehensively planned** areas within Mixed-Use and Multi-Unit Residential Areas in a manner that provides for inclusion and access to services and amenities.

2. **Supportive Housing** should be:

    a. located in proximity to green space, **parks** and pathways;

    b. complemented with active neighbourhood uses such as day cares, local retail, schools, and/or public **parks**;

    c. flexibly designed with changing mobility needs in mind to provide opportunities for Calgarians to age in place;

    d. notwithstanding the **NCPG**, located within 100 metres of a transit stop;

    e. universally accessible to Calgarians and visitors of all abilities – the implementation of the Access Design Standards when designing **Supportive Housing** is strongly encouraged; and

    f. provide a central outdoor amenity space that is safe and accessible for all mobility levels, and provides an abundance of landscaping features and protection from the elements.

4.5 High School Site (Joint Use Site)

Intent

Provide for a **Joint Use Site** (**JUS**) and associated play fields for the purpose of a high school that will be dedicated as reserve land.

4.5.1 Policies

1. The **JUS** should be located as shown on **Map 5: Land Use Concept**, unless another suitable location is identified through the outline plan/land use amendment process in collaboration with the School Board(s).

2. The **JUS** should be provided as one contiguous site and shall be a maximum of 7.58 hectares (18.75 acres), for the purpose of a high school that will serve the **Plan Area** and regional requirements:

    a. opportunities to minimize the area of the **JUS** should be explored through the outline plan/land use amendment process to enable allocation of Municipal Reserve (**MR**) elsewhere in the **Plan Area** for the purpose of preserving natural and/or cultural heritage assets.

3. Alternative school building formats should be explored in collaboration with the School Board(s).

4. The **JUS** should be located on a transit route however, if not possible, enhanced pedestrian corridors (wider and more direct connections) should be provided between the **Primary Transit Network** and **JUS**.

    a. no additional express transit service will be provided to support the **JUS**.

5. School buildings should offer direct pedestrian access to primary entrances from the sidewalk without crossing a parking lot or drive aisle.

6. The **JUS** should be designed to accommodate pedestrian connectivity through the site.

7. Parking associated with the **JUS** should be located at the sides or rear of the building.

8. Opportunities to co-locate and/or share facilities with a Community Association, Optimized Recreation Facility and Library, or **NAC** should be explored at the land use amendment and outline plan stage.

9. The **JUS** should have direct access to the **Regional Pathway** Network.

10. Solar **PV** systems are encouraged for the school.

11. Food growing on the future school site is encouraged:

    a. as an interim use, pending analyses and approval of the School Board(s); and

    b. to be incorporated into school site design and operations where feasible.

12. Development adjacent to the **JUS** should front the school site.

4.6 Emergency Response

Intent

Ensure fire protection and other emergency coverage for the **Plan Area** is in place to meet Council directed response time targets. Emergency coverage is required as an essential service to meet the needs of a safe and Complete Community, promote and maintain safe and healthy behaviours, provide emergency response and offer protection to people and their property.

4.6.1 Policies

1. Emergency access and egress to the neighbourhood shall be provided as per the City of Calgary's Design Guidelines for Subdivision Servicing and Fire Department Access Standards:

    a. the number and location of the access/egress points will be determined at the outline plan/land use amendment stage.

2. An Emergency Response station should be located within the NE corner of the **Plan Area**, with access to 96 Avenue NE, as shown on **Map 5: Land Use Concept**:

    a. should direct access to 96 Avenue NE be required, it shall be coordinated with the Manager of Development Engineering to permit all-direction turns for emergency vehicles but discourage u-turns by the public; and

    b. another suitable location may be identified through the outline plan/land use amendment process in collaboration with Emergency Services.

5

Natural Systems

Supporting Natural Systems requires two approaches. The first is identifying and protecting the Ecological Network to create a system of connected natural areas. The second is to protect and integrate nature throughout the city, outside of the Ecological Network. Natural Systems, which include nature within and outside the Ecological Network can enable healthier ecosystems and brings access to nature to more Calgarians in more parts of the city.

5.1 Environmental Open Space Study Area (EOSSA)

Intent

To protect and preserve lands within the **Ecological Network**, waterbodies, landforms and environmentally significant areas through **Environmental Reserve** (**ER**) dedication, where possible.

Policies

1. Lands identified as **Environmental Open Space Study Area** (**EOS**SA) shall be evaluated for ecological significance and potential integration into the **open space** network. This evaluation shall be supported by a **Biophysical Impact Assessment** (**BIA**) at the time of outline plan/land use amendment to determine appropriate use, dedication, or protection strategies.
2. Where lands within the **EOS**SA, as identified in **Map 5: Land Use Concept**, do not qualify as **ER** through the Outline Plan process:
    a. they may be dedicated as **MR** or acquired by The City through other means (e.g. ecological gifting, Conservation Easement, **Conservation Reserve**);
    b. they may be protected through incorporation into community design through sensitive site and building design; or
    c. they may be considered for development and the policies of the adjacent policy area shall apply to these lands without requiring an amendment to this **ASP**.

5.2 Ecological Network

Intent

To provide opportunities to enhance biodiversity and habitat connectivity of the Nose Creek and West Nose Creek valleys by retaining environmentally significant areas and undevelopable land in a connected **Ecological Network**, promoting sustainable development by balancing ecological health with community needs, ultimately improving the quality of life for residents.

5.2.1 Policies

1. Development should protect, conserve, restore and enhance the **Ecological Network**, specifically retaining the connection between the wetland located at the north of the **Plan Area** using the ravine and intermittent stream with the **Ecological Network** located along Nose Creek and West Nose Creek.

2. Development should limit fragmentation of, and minimize cumulative impacts on, the **Ecological Network** by incorporating ecological features such as natural vegetation, topography and water bodies into the design at the Outline Plan, Land Use Amendment, and Development Permit stages.

3. Natural habitats, including the wetland located at the north end of the plan, the ravine, major drainage corridor, intermittent streams and both Nose Creek and West Nose Creek will be retained in the **Plan Area** to protect and connect the **Ecological Network**.

4. An Ecological Inventory/Biological Impact Assessment, in addition to any other studies deemed necessary, shall be completed for lands adjacent to the CPKC mainline.

5. Integrate and link land use components, such as locating green stormwater infrastructure adjacent to the **Ecological Network** to provide habitat and maintain ecological connectivity.

6. Public access within the **Ecological Network** should be provided in ways that do not negatively impact habitat condition or ecological function.

7. Natural landforms should be conserved within the **Ecological Network**.

8. Streets and associated road right-of-way should be designed to minimize fragmentation of the **Ecological Network**. Any impacts to the **Ecological Network**, including back-sloping for any roads, should be identified at the outline plan/land use amendment application stage.

9. Development should consider the placement and design of water course crossings over Nose Creek and West Nose Creek, the ravine and intermittent streams to minimize the fragmentation of the **Ecological Network** and any negative hydrological and water quality impacts.

10. Lands that qualify as **ER** shall be dedicated as **ER** unless, at the discretion of the **Approving Authority**, disturbance of these lands is supported by technical studies completed by registered professionals:

    a. utilities, roads or other infrastructure, excepting trails and **regional pathways**, that cross **ER** should be avoided. Where no other alternative exists to a crossing of **ER** for these items a **Biophysical Impact Assessment** must be submitted during the design process to inform the location and design.

11. Development directly adjacent to the **Ecological Network** should implement the following design principles:

    a. include appropriate drought-tolerant, native, and/or climate adaptive species in landscaping;

    b. minimize the use of artificial light to reduce the negative impacts to wildlife and habitat; and

    c. incorporate bird-friendly urban design standards.

12. Multi-unit residential development and commercial development adjacent to the **Ecological Network** should:

    a. provide pedestrian access between the private property and the **Ecological Network**;

    b. provide a shadow study at the Development Permit stage to avoid shadowing impacts on the **Ecological Network**;

    c. avoid solid fencing along the property line between the development and the **Ecological Network**; and

    d. privately owned, publicly accessible gathering space should be integrated with the **Ecological Network**, where possible.

5.3 Water

Intent

To support the protection of significant wetlands, drainage courses, and source water.

5.3.1 Policies

1. Naturally occurring wetlands and wetland complexes should be protected in place.

2. The wetland located in the north area of the **ASP**, as identified in **Map 2: Plan Area** Features, must not be modified unless the modification can be shown to improve the ecological function, increase the wetland size, or cannot be avoided in community design, as determined by The City.

3. Wetlands and natural drainage courses within the **Ecological Network** shall be studied further at the land use amendment/outline plan stage.

4. Pre-development flows within the **Plan Area** should be maintained where feasible to support the long-term protection of retained environmental features, with particular emphasis on preserving the intermittent stream that connect the central wetland complex to West Nose Creek.

5.4 Land

Intent

To ensure that environmentally significant areas within the **Plan Area** are protected and restored where possible and that development adjacent to protected lands create a suitable interface and minimize negative impacts.

5.4.1 Policies

1. Environmentally significant areas should be protected and restored on public land.

2. Landscaping should incorporate drought-tolerant, native, and/or climate-adaptive species.

3. An 18-metre building setback should be applied to the top-of-slope for all slopes greater than 15 per cent.

5.5 Urban Forest

Intent

To ensure that the urban forest is planned, managed, and protected in a manner that promotes the long-term viability of trees in the area.

5.5.1 Policies

1. Development should protect and enhance the urban forest on both public and private lands.

2. Large canopy trees should be planted adjacent to paved infrastructure and buildings.

3. Development should ensure the composition of the urban forest is diversified, increasing underrepresented and climate appropriate species.

6

Park System

The park system includes public spaces that support Calgarians ability to recreate, participate in sport and access nature. The park system includes parks, Natural Areas, and Open Space. The Ecological Network, urban forest, and cultural landscapes are identified as elements within all park system categories as well as lands outside of the park system. The park system must be integrated within communities and connected to walking and wheeling networks.

6.1 Parks

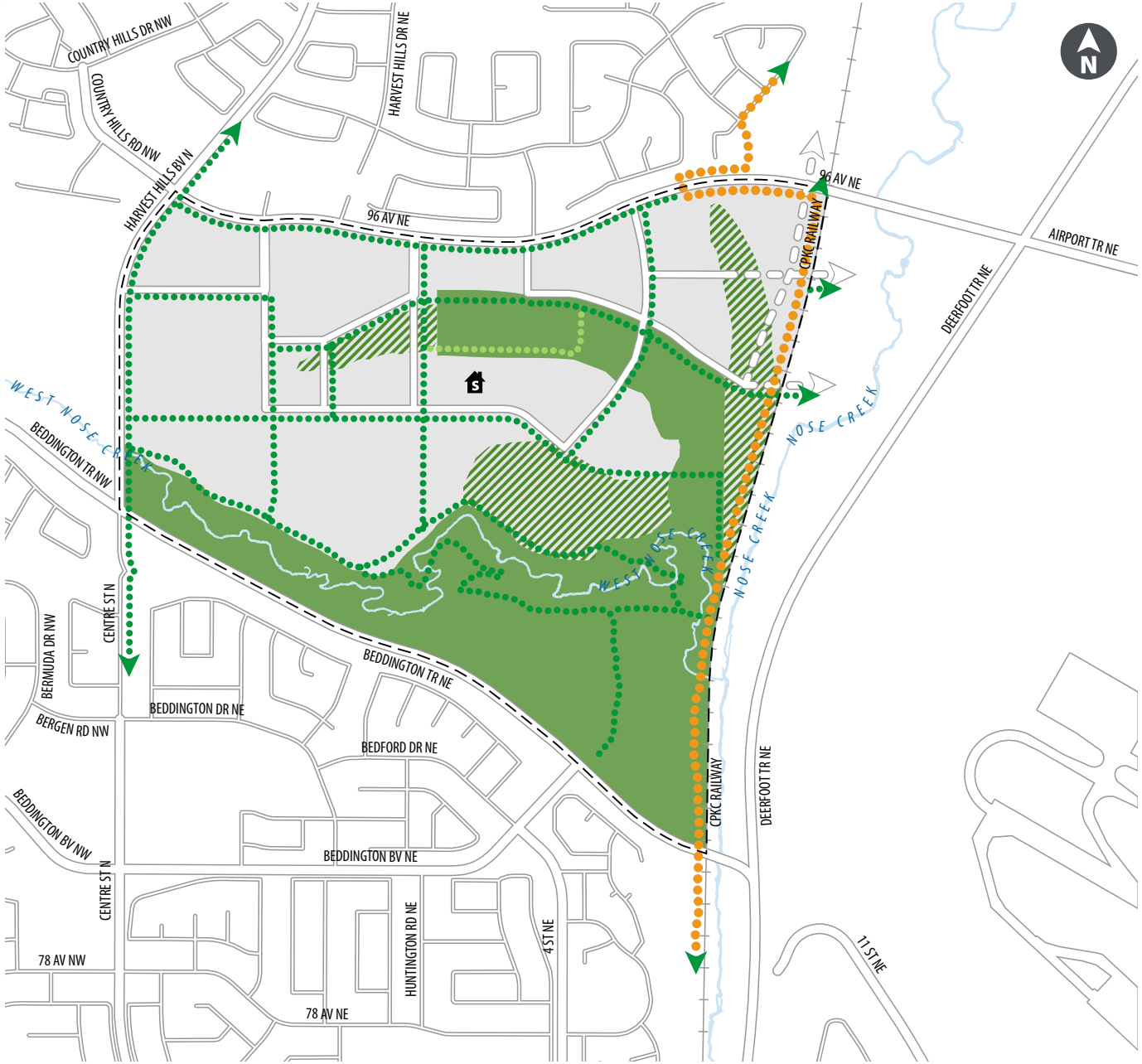
Intent

To ensure that the community is designed with a well-connected park system to provide equitable access to amenities, recreation and sport programming and **natural areas** or naturalized spaces.

6.1.1 Policies

1. **Parks** should be designed in accordance with Connect: Calgary's **Parks** Plan policy.
2. The community should be designed with an interconnected system of **parks**, **natural areas** and **open space**.
3. **Parks** are encouraged to be situated at visible focal points and/or terminating vistas of streets.
4. In the event existing **MR**/stormwater management facility is disposed of to accommodate other land uses, a disposition of reserve must occur and an equal amount of land should be provided as **MR** elsewhere within the **Plan Area**.
5. Neighbourhood and sub-neighbourhood **parks** should be designed to be multifunctional spaces that include at least two of these three functions:
    a. recreation;
    b. sports; and/or
    c. environment.
6. Linear **parks** should be designed to connect the park system, the **Ecological Network** and other neighbourhood destinations, allowing for access to people of all ages and abilities, and provide opportunities for passive recreation.
7. Key viewsheds should be identified at the outline plan/land use amendment stage and should be incorporated into the design of the park system.
8. The park system should be designed to convey unique themes through the appropriate use of park naming, signage, wayfinding, planting, landscaping, and other design features.
9. Development adjacent to **parks** and **natural areas** should implement a combination of the following design principles:
    a. use visually permeable fencing to increase the perceived amount of space (e.g. chain-link, post and cable, wrought iron, or vegetation);
    b. connect internal pathways of multi-unit residential developments to nearby **regional pathways**;
    c. provide space to support interconnected corridors of urban forest and natural habitat;
    d. integrate multi-unit residential development adjacent to the **parks** system by incorporating design elements that provide pedestrians with access and views to the **natural areas**;

Map 7: Park System



Legend

- Parks and Natural Areas
- Environmental Open Space Study Area
- Regional Pathway
- Trans Canada Trail
- Boardwalk/Trail
- High School Site
- Plan Area

Features outside the Plan boundary are provided for context only.

e. locate private amenity spaces near the park system to capitalize on the natural characteristics of the **Plan Area** and provide an increased landscaped buffer;

f. provide access and views from residential areas by establishing a permeable block design that allows for green pockets to open onto adjacent **parks**, **natural areas**, and **open space**;

g. incorporate bird-friendly design standards;

h. mitigate shadowing and minimize negative impacts to habitat; and

i. include appropriate drought-tolerant, native, and climate-adaptive species in landscaping.

10. Development within the **Plan Area** shall consider the impacts on existing **parks** and off-leash areas within the **Plan Area** and explore opportunities to enhance these features in collaboration with the City.

11. Where Historic Resources are located within the park system, there should be no impacts from construction and/or infrastructure projects within proximity of these areas:

    a. where avoidance of development impact to historic resources is not possible, historic resources investigations may be required by Alberta Arts, Culture and Status of Women to mitigate development impacts.

    b. development may not proceed in these areas until all Historical Resources Act requirements have been completed to the satisfaction of Alberta Arts, Culture and Status of Women.

12. Celebration and preservation of Historic Resources and pre-contact land use associated with such sites is encouraged, in accordance with The City's Cultural Landscape Strategic Plan.

6.2 Natural Areas

Intent

Ensure that the **natural areas** protect, restore, and enhance the ecological health of the city and provide Calgarians with access to nature. These areas include lands with significant habitat protected within the designated natural area, **ER**, **Conservation Reserve** (**CR**), as well as lands that have been naturalized.

6.2.1 Policies

1. **MR** dedication is encouraged within the Park System for **Natural Areas** that do not qualify as **ER**, provided that:

    a. adequate **MR** dedication has been provided for the **JUS** and **CA** site;

    b. adequate **MR** dedication has been provided to accommodate a neighbourhood park; and

    c. adequate **MR** dedication has been provided to ensure local park spaces are accessible within 400 metres of all residents.

2. **Natural Areas** shall be designed with consideration for the movement needs of wildlife.

3. Development should enhance **Natural Areas** by retaining and integrating natural features into community design.

4. **Natural Areas** should not be modified unless the modification can be shown to improve the ecological function with minimal disturbance.

6.3 Open Space

Intent

Ensure that **Open Space** areas are located effectively to provide a specific utilitarian purpose in addition to the secondary benefit of providing recreation, sport, or environmental functionality.

6.3.1 Policies

1. Where possible, locate **open space**, such as Public Utility Lots, where they enhance connectivity of the park system.

2. Prioritize naturalization of **open space** within the community including within road right of ways and public utility lots.

6.4 Regional Pathway

Intent

Incorporate pedestrian and cyclist connections throughout the **Plan Area** with the existing **Regional Pathway** Network and to accommodate a mix of recreational and commuter uses.

6.4.1 Policies

1. **Regional pathways** should be located as shown on **Map 7: Park System**.

2. **Regional pathway** alignment may be refined, but not removed, at the outline plan/land use amendment stage.

3. New **Regional Pathway** Network should connect to the existing **Regional Pathway** Network in West Nose Creek Park.

4. **Regional pathways** or the wheeling network should avoid being located in **ER**.

5. Where the **regional pathway** is located within **MR** lands, the associated linear park should be a minimum of 13 metres wide but may be reduced in width if it is located directly adjacent to a Natural Area.

6. Where a **regional pathway** is shown on **Map 7: Park System** adjacent to a street, it may be accommodated in the standard street cross section as a multi-use pathway.

7. **Regional pathways** shall be located outside of the floodway and any areas of slope stability concern.

8. The **regional pathway** shall provide direct access to **NAC**s, the **CA** site(s), **LRT** stations and the **Ecological Network**.

9. Frequent physical public access should be provided to the **regional pathway** along Nose Creek and West Nose Creek through parallel single-loaded street, public walkways, and/or public **open space** entry points.

6.5 Historic and Contemporary Matters of Significance

Intent

To recognize, understand, respect, and celebrate the **Plan Area** for its spiritual and traditional connects for Indigenous peoples. The processes of preserving and celebrating these elements emphasize traditional and cultural history and its practices, acknowledge the importance of the land and landscapes, preserve storytelling, and offer Indigenous perspectives to identified archaeological sites.

Policies

6.5.1 Historic and Archaeological Resource Protection

1. Given the conceptual nature of the Plan, areas of historic and potential historic resources are shown in accordance with the Listing of Historic Resources 2025 Edition on **Map 4: Areas of Historic and Potential Historic Resource**s.
2. Historical Resources Act approval is not granted at the **ASP** stage based on conceptual plans that may be subject to change at the outline plan/land use amendment stage. Any outline plan/land use amendment applications, Master Drainage Plan(s), utility or other developments within the **Plan Area** must be submitted for review by the Province, and may be assigned Historical Resources Act requirements or conditions. Documentation submitted for City approvals shall be consistent with plans submitted to the Province for Historical Resources Act approval. Historical Resources Act response letters outlining any requirements or conditions should be included with the City application(s).
3. Concurrent with any outline plan/land use amendment application, information of any **HRIA** undertaken/underway and historic resources identified will be disclosed to The City to assess opportunities for conservation of those resources within the park system.
4. In the event archaeological resources are discovered within the **Plan Area**, resulting from **HRIA** studies, conservation within the park system should be considered.
5. An avoidance plan must be prepared for all archaeological sites that lie within the **Plan Area** that will not be impacted by development activities. This avoidance plan, as required and approved by the Province must be updated and resubmitted for approval when there are changes to the land use/ownership. Any avoidance plan(s) and proof of provincial acceptance must be shared with The City.
6. Utility alignments should avoid historic resources identified by The City or the Province for preservation, ensuring their protection during development activities.
7. Where avoidance of historic resources is not feasible the applicant shall, as required and to the satisfaction of the Province, undertake mitigative measures, sharing the scheduling of such field studies with The City for archival documentation for future interpretive elements. Results of such studies will be requested from the Province directly. Applications that result in imminent ground disturbance (i.e. Stripping and Grading) submitted to The City shall include proof of Historical Resources Act approval specific to the subject site area. Approval must be provided prior to the initiation of ground disturbance activities.
8. Historic Resources located within **EOS**SA, Natural Systems, and/or the park system identified should be protected.

6.5.2 Indigenous Heritage and Cultural Recognition

1. **Placekeeping** is encouraged through long-term stewardship models, including intergenerational learning and cultural programming, where feasible.
2. The City should consider significant sites identified through traditional knowledge shared by Indigenous knowledge keepers.

6.5.3 Integration with the Public Realm

1. When interpretive amenities celebrating the heritage of the **Plan Area** are planned for **parks** and **open space**, they should be developed in collaboration with The City.

2. Development within the **Plan Area** is encouraged to provide opportunities for the celebration of Historic and Contemporary Matters of Significance by incorporating a combination of the following:

    a. incorporating unique design techniques into building design;

    b. designing place-based public art and monuments;

    c. integrating wayfinding that accounts for Treaty 7 First Nations and/or Métis languages;

    d. incorporating Indigenous elements into the names of streets and **parks**, in accordance with The City Naming Policy;

    e. providing visual and physical connections to key natural landscape features through ecological corridors;

    f. providing open areas for gathering; or

    g. preserving lands.

3. Trails, **parks**, **open space** linkages, and key gathering areas are encouraged to incorporate storytelling elements, supporting opportunities for land-based learning and intergenerational knowledge-sharing.

4. Development is encouraged to be planned and designed with collaborative input and insight from Treaty 7 First Nations, Nose Hill Métis District 5, and Elbow Métis District 6.

7 Mobility

7.1 Active Modes Connectivity

Active modes connectivity is essential to creating a vibrant and healthy community. Safe and accessible pedestrian and cyclist circulation provides residents, employees, and visitors to the **Plan Area** with increased mobility options.

Intent

To provide safe, direct, well-connected, convenient and attractive pedestrian and cyclist connections within the **Plan Area** that connect to the broader pedestrian and cycling network.

7.1.1 Policies

1. The pedestrian and cyclist network should be located as shown on **Map 7: Park System**.
2. All streets within the **Plan Area** should accommodate active modes.
3. A wayfinding system should be implemented throughout the **Plan Area** to provide directions to destinations for pedestrians and cyclists in accordance with **Section 6.5.1.13.c**.
4. Pedestrian boardwalk connections across wetlands should be explored to alleviate safety concerns and provide opportunities for lookout points.
5. Direct pedestrian crossings shall be provided from the sidewalk to bus pads and comply with Design Guidelines for Subdivision Servicing (DGSS) accessibility requirements.
6. At the time of detailed design of the Greenline station at the intersection of 96 Avenue NE and Harvest Hills Boulevard N, opportunities for grade-separated pedestrian crossings should be explored that provide a safe connection between the Greenline station and adjacent pedestrian network.
7. Active Mode Connections should be provided in areas where typical roadways connections are not feasible to contribute to the pedestrian network.
8. Pedestrian access to lands east of the plan boundary shall:
    a. be via a grade-separated crossing of the CPKC rail corridor;
    b. be designed and funded by the applicant(s); and
    c. be integrated with any grade separated cross over with the **Regional Rail Hub**, where feasible.

7.2 Transit Network

Transit service is a critical element of a well-connected community as it provides affordable and sustainable mobility options for residents, employees, and visitors. The **Plan Area** is adjacent to planned Light Rail Transit (**LRT**) infrastructure that will offer direct access to areas across the city.

Intent

To provide direct, convenient, and efficient transit service within the **Plan Area** that also connects to the broader transit network.

7.2.1 Policies

1. **Map 8: Transit Network** provides a concept of the Transit Network within the **Plan Area**.

2. Final routing and bus zones shall be determined at the outline plan/land use amendment stage.

3. In addition to the requirements of **Section 7.3.1.2**, the **Transportation Impact Assessment** (**TIA**) shall include transit impacts and provide recommendations for transit priority measures.

4. Enhanced transit amenities should be integrated with bus stops that are adjacent to commercial, institutional, or Multi- Unit Residential uses, such as:

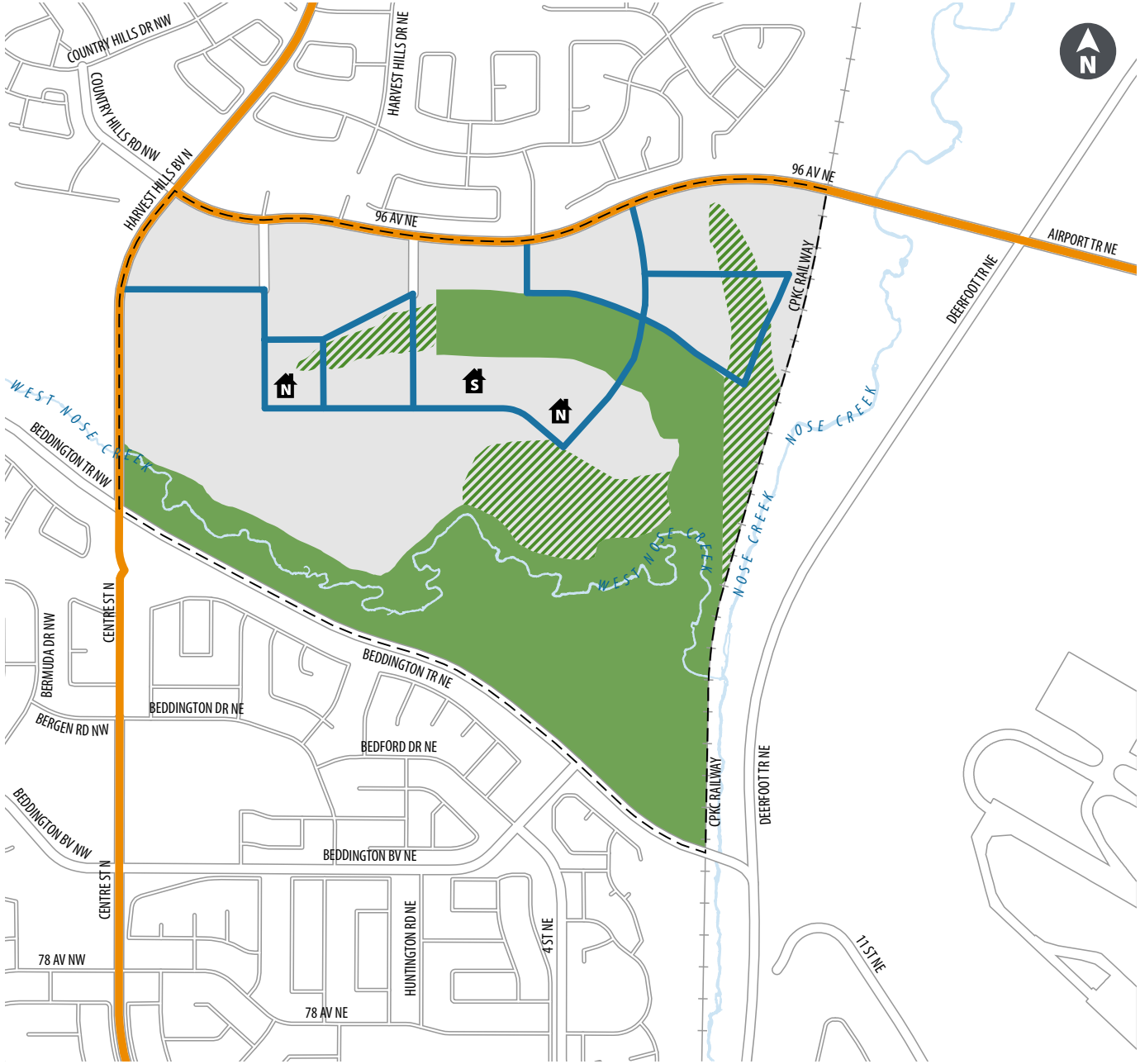
    a. benches;
    b. shelters; and
    c. bus pads.

5. Transit routes should minimize the number of turns while providing maximum coverage.

6. Transfer points between Local and Regional Transit shall provide enhanced transit amenities that would contribute to a strong pedestrian experience.

7. All street connections with Regional Transit Stations should be designed to accommodate bus operations.

Map 8: Transit Network



Legend

- Primary Transit Service
- Local Transit Supportive Street
- Parks and Natural Areas
- Environmental Open Space Study Area
- Neighbourhood Activity Centre
- High School Site (JUS)
- Plan Area

Features outside the Plan boundary are provided for context only.

7.3 Street Network

Intent

The street network within the **Plan Area** will be an integrated, multi-modal transportation system that supports land use, provides increased mobility choices for citizens, promotes vibrant and connected Neighbourhoods, minimizes negative impacts on the natural environment and supports a local and prosperous economy. **Map 9: Street Network** identifies the collector streets and **Neighbourhood Corridor**s within the **Plan Area**. The residential street network will be delineated at the land use amendment/outline plan stage.

Policies

7.3.1 General

1. The street network should be located as depicted on **Map 9: Street Network**.

2. A **TIA** shall be submitted with any outline plan/ land use amendment applications within the **Plan Area** that propose significant changes to approved densities (see **Appendix A**) to confirm street classifications and intersection treatments.

Figure 1: Preliminary Street Network Improvements

Intersection	Recommended Improvements *	Timing of Improvements
Country Hills Road NW & Country Hills Landing NW	Conversion to Roundabout	Prior to 50 per cent completion of the development
96 Ave NE & Harvest Hills Blvd	Eastbound Right Turn Bay Westbound Right Turn Bay Northbound Additional Through Lane Northbound Right Turn Bay Southbound Left Turn and Right Turn Bay	Prior to 50 per cent completion of the development
96 Ave NE & Aurora Park Drive	Eastbound Right Turn Bay Northbound Left Turn Lane Southbound Left Turn Lane	Prior to 50 per cent completion of the development
96 Ave NE & Harvest Rose Park NE	Eastbound Right Turn Bay Northbound Left Turn Lane Southbound Left Turn Lane	Prior to 75 per cent completion of the development
96 Ave NW & Aurora Park Link NE	Eastbound Right Turn Lane	Prior to 50 per cent completion of the development
96 Ave NE & Harvest Hills Link NE	Eastbound Right Turn Lane Northbound Left Turn Lane and a Shared Through and Right Turn Lane Southbound Left Turn Lane and a Shared Left Turn, Through, and Right Turn Lane	Prior to 50 per cent completion of the development
96 Ave NE & Collector Road A	Westbound Additional Left Turn Lane	Prior to 50 per cent completion of the development
96 Ave NE & Deerfoot Trail West Ramp	Eastbound Additional Through Lane Westbound Additional Through Lane	Prior to 100 per cent completion of the development
96 Ave NE & Deerfoot Trail East Ramp	Eastbound Additional Left Turn Lane Eastbound Additional Through Lane Westbound Additional Through Lane	Prior to 75 per cent completion of the development
South Road & Harvest Hills Blvd	Northbound Right Turn Bay	Prior to 100 per cent completion of the development

*Improvements shown in this table are approximate and shall be verified through further analysis at later stages of development once detailed development information is better understood. Further refinements to timing, access connections, road network upgrades will occur through future approval stages, and updated Transportation Impact Assessment submitted at subsequent planning stages. The City of Calgary may require additional studies or adjust thresholds based on updated network conditions, regional growth patterns, or City-wide mobility planning.

Map 9: Street Network

Legend

- Skeletal Road
- Arterial Street
- Collector
- Proposed Collector
- Neighbourhood Corridor
- Active Mode Connection
- Parks and Natural Areas
- Environmental Open Space Study Area
- Plan Area

Features outside the Plan boundary are provided for context only.

3. The infrastructure triggers and thresholds outlined in this **ASP** represent preliminary guidance. Further refinement of development thresholds, access connections, road network upgrades shall occur through future approval stages, and updated **TIA** submitted at subsequent planning stages. The City of Calgary reserves the right to require additional studies or adjust thresholds based on updated network conditions, regional growth patterns, or City-wide mobility planning.

4. Alternate street classifications and alignments for the internal street network may be approved at the outline plan/land use amendment application stage without requiring an amendment to the Plan.

5. A developer shall demonstrate a functional road network connection to the Regional Hub through the outline plan/land use amendment application process.

6. Where a street is proposed to cross **natural areas** or **EOS**SA, studies may be required at the outline plan/land use amendment stage to:

    a. ensure that any potential changes to existing natural conditions are minimized;

    b. consider the most appropriate environmentally beneficial technique to maintain the ecological quality of the area; and

    c. mitigate negative impacts, both during construction and in the final design.

7. The street network should be designed to shorten block lengths, minimize single access cells, provide sidewalks, walkways, bus stops, bikeways and pathways, and encourage the continuity of streets among neighbourhoods to facilitate access, increase connectivity and support safe pedestrian, bicyclist, transit and vehicular movement in residential neighbourhoods, with consideration of grades, natural constraints, and road dedication.

8. Single loaded residential roads, as appropriate, or other public entry points (such as **parks**, **open space**, green fingers, pathway connections, etc.) should be provided at strategic portions of natural area or retained **Environmental Open Space Study Area** to protect views and ensure public access to these areas.

9. Vehicular access to lands east of the plan boundary shall:

    a. be via an ultimate grade-separated crossing of the CPKC rail corridor;

    b. be designed and funded by the applicant(s); and

    c. be integrated with any grade separated cross over with the **Regional Rail Hub**, where feasible.

10. Additional connections to Harvest Hills Blvd. N may be explored should the MSF not be required.

7.3.2 Collector Streets

1. Collector Streets through the **Plan Area** should be designed to provide east-west connections that frame the park system. The final alignment of the Collector Streets will be confirmed at the outline plan/land use amendment stage.

2. Opportunities to incorporate enhanced streetscape features such as boulevard trees, landscaping, decorative flags and banners, enhanced utility boxes, lighting and custom street signage should be explored along the collector streets that run east-west through the **Plan Area**.

3. Development along collector streets should be street-oriented, with access from the rear lane where a rear lane is present.

4. Front driveways should not be permitted along collector streets, where developments have access to a rear lane.

8

Infrastructure and Servicing

8.1 Water Servicing

Intent

Population projections, topography, land uses, and the mobility network together inform the water servicing concept for the **Plan Area**. These policies aim to ensure a potable water system that is suitable, efficient, and integrated with these broader planning elements to support the full build-out and long-term sustainability of the **Plan Area**.

8.1.1 Policies

1. The **Plan Area** is located within the North Hill Pressure Zone. Water shall be provided through existing distribution mains in 96 Avenue, which connect to the feedermains along Harvest Hills Boulevard and near the CPKC railway on the east boundary of the **Plan Area**. Conceptual locations are shown on **Map 9: Water Servicing**. Capital-sized infrastructure is not anticipated, and additional connections to adjacent feedermains are not expected to be necessary to meet the servicing requirements of the **Plan Area**.

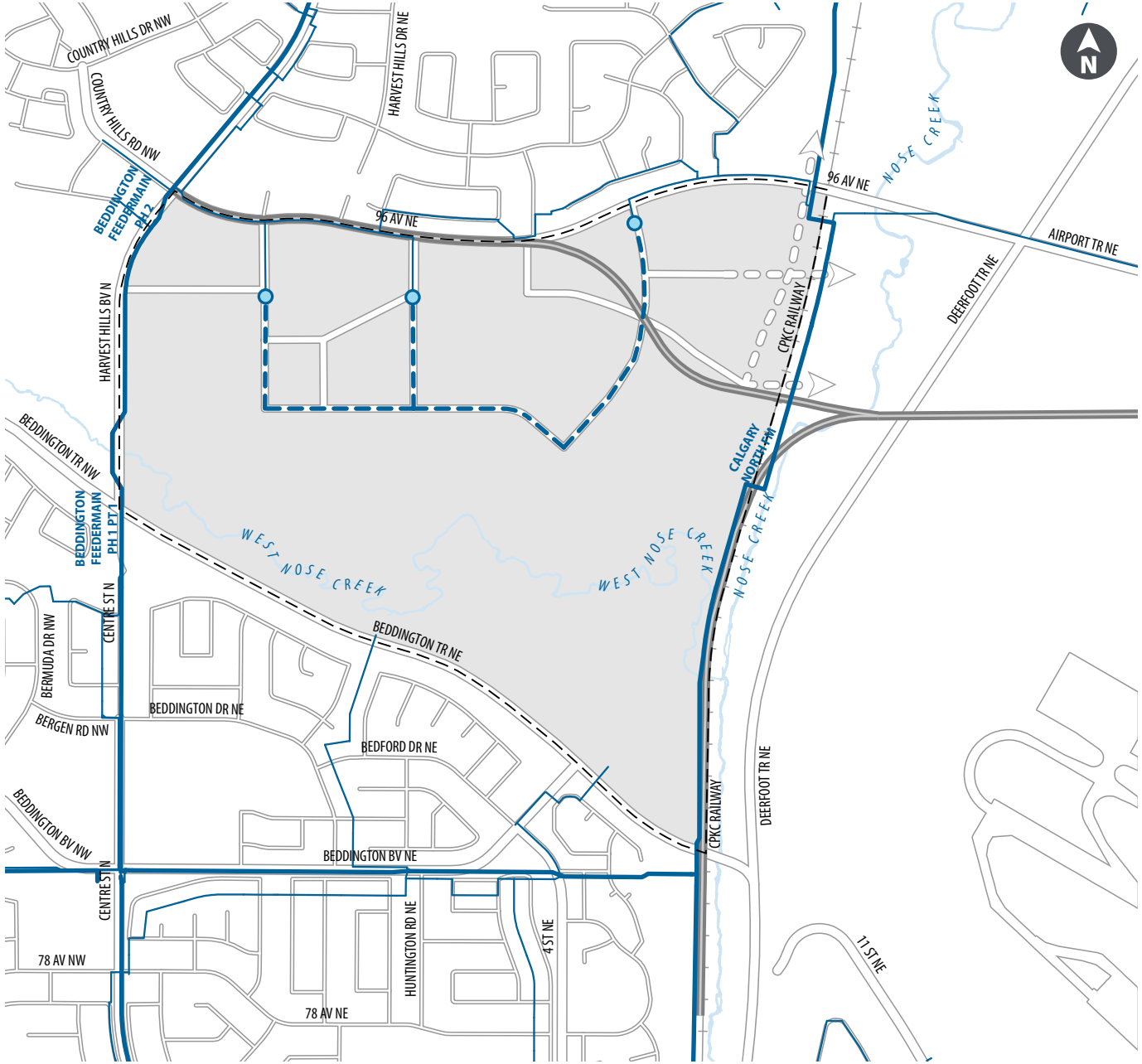
2. Infrastructure alignments identified in **Map 9: Water Servicing** are conceptual and shall be subject to further review during subsequent planning stage, with final confirmation to occur during detailed design.

3. The existing development along the 96 Avenue NE frontage is serviced by connections to the mains in 96 Avenue and main extensions in Aurora Park Drive and Aurora Park Link. This infrastructure may require re-alignment in the future to accommodate the **Airport Connector**. Future development of the network should connect to these existing mains as part of the overall servicing plan.

4. The current utility planning within this **ASP** considers the conceptual alignment of the future **Airport Connector**. Any proposed changes to these conceptual alignments or their associated infrastructure shall be re-evaluated by The City for potential impacts on utility services.

5. Continued growth in the North Hill Pressure Zone is dependent on the completion of the North Calgary Water Servicing Project.

Map 10: Water Services



Legend

- Proposed Water Connection Point
- Proposed Distribution Main
- Existing Feedermain
- Existing Distribution Main
- Future Proposed Airport Connector Alignment
- Plan Area

Features outside the Plan boundary are provided for context only.

Note: The entire plan area is located in the North Hill Pressure Zone.

8.2 Sanitary Servicing

Intent

Population projections, topography, land uses, and the mobility network together inform the sanitary servicing concept for the **Plan Area**. The policies aim to ensure a sanitary sewer system that is suitable, efficient, and integrated with these broader planning elements to support full build-out and long-term sustainability of the **Plan Area**.

8.2.1 Policies

1. The **Plan Area** is in the sanitary catchment of the Bonnybrook Wastewater Treatment Plant, with ultimate servicing via the existing Nose Creek Sanitary Trunk. The general delineation of sanitary catchments and alignment of the sanitary network required to service the **Plan Area** are identified on **Map 10: Sanitary Servicing**.

2. Infrastructure alignments and connection point locations shown in **Map 10: Sanitary Servicing** are conceptual and shall be subject to further review during subsequent planning stages, with final confirmation to occur during detailed design.

3. Sanitary servicing for the **Plan Area** shall be based on four proposed sanitary catchments:

    a. ultimate sanitary servicing for the lands within Catchments A, C & D shall be provided through an on-site sanitary collection network with a new connection to the Nose Creek Sanitary Trunk along the eastern side of the **Plan Area**.

    b. Catchment B shall be serviced with a connection to the local system in 96 Avenue NE, which ultimately discharges to Nose Creek Sanitary Trunk.

    c. the existing development along the 96 Avenue NE frontage in Catchment D is currently serviced by connections in 96 Avenue NE, as well as existing main extensions in Aurora Park Drive and Aurora Park Link. Flows from this area discharge through the Harvest Hills collection system to the north, with ultimate discharge to the Nose Creek Sanitary Trunk. Additional growth shall not be serviced by this collection system due to identified capacity constraints. Furthermore, the alignment of the future **Airport Connector** is anticipated to conflict with the gravity servicing elevations for these parcels. At the time of redevelopment, or upon delivery of the **Airport Connector**, sanitary servicing for these parcels should be redirected to the south through Catchment C.

    d. in the event of redevelopment of the existing dry pond site, all servicing for the development shall be incorporated into the local network and captured within Catchment C.

4. Servicing for catchments A, C and D shall be accommodated by connecting the local sanitary collection network to a new connection with the Nose Creek Sanitary Trunk. The preferred alignment is shown on **Map 10: Sanitary Servicing** as to avoid crossings of Nose Creek and the CPKC railway. Servicing should be achieved through a single connection, if deemed feasible. Alternative connection locations are outlined in the Sanitary Servicing Study for the Area Structure Plan (**ASP**). At the time of Outline Plan submission, final growth projections shall be used to determine downstream sanitary collection network sizing. Where required to accommodate projected flows, downstream segments shall be designed and sized as capital-sized infrastructure.

5. The existing Beddington Sanitary Trunk runs south of West Nose Creek within the **Plan Area**. Due to the challenging grades and the presence of the creek, this trunk shall not be utilized to service the **Plan Area**.

6. The current utility planning within this **ASP** considers the conceptual alignment of the future **Airport Connector**. Any proposed changes to these conceptual alignments or their associated infrastructure shall be re-evaluated for potential impacts on utility services.

Map 11: Sanitary Services

Legend

- Existing Sanitary System Connection
- Proposed Sanitary Trunk Connection
- Proposed Local Sanitary Collection Network
- Proposed Local Sanitary Collection Network with Potential for Capital-Sized Segment
- Catchment A
- Catchment B
- Catchment C
- Catchment D
- Future Proposed Airport Connector Alignment
- Plan Area

Features outside the Plan boundary are provided for context only.

8.3 Stormwater Management

Intent

Topography, natural drainage channels and springs, floodplains, riparian areas, wetlands and groundwater flow patterns together inform the stormwater servicing concept for the **Plan Area**. These policies aim to ensure a stormwater management system that is suitable, efficient, and integrated with the broader hydrological framework and planning elements, addressing runoff, flow rate, volume, and quality in alignment with the Nose Creek Watershed Water Management Plan. The system will be designed and land dedication made to support the full build-out of the **Plan Area** and its contributing upstream areas while promoting long-term environmental sustainability and resilience.

The existing conditions within the **Plan Area** are characterized by a diverse hydrological system, including a central wetland, an existing dry pond site originally conceived as an interim servicing solution, a major drainage corridor flowing from the central wetland to West Nose Creek, and several intermittent streams discharging into either West Nose Creek or Nose Creek. The **Plan Area** is located within the West Nose Creek watershed, which forms part of the greater Nose Creek watershed. An existing outfall connects the dry pond site to the central wetland, and another outfall conveys water from 96 Avenue along Aurora Park Drive to the wetland. A third existing outfall discharges to West Nose Creek, collecting runoff from Harvest Hills Boulevard and a portion of the **Plan Area**. At the time of the approval of this **ASP**, confirmation of the conditions of an existing culvert under the CPKC railway is pending a survey. The culvert conveys water to Nose Creek. The **Plan Area** is located within the Nose Creek Watershed and is subject to the policies and guidelines of the Nose Creek Watershed Water Management Plan and City of Calgary's Nose Creek Watershed targets.

In alignment with these policies, the stormwater management strategy for the **Plan Area** will incorporate a series of facilities and other infrastructure designed to manage runoff. The system shall incorporate controlled discharge mechanisms that provide storage during peak events and ensure proper management of stormwater quality, rate, volume, and flow duration before it reaches West Nose Creek and Nose Creek.

8.3.1 Policies

1. Stormwater management infrastructure should be generally located as depicted on **Map 12: Stormwater Servicing** and shall be in accordance with an approved Master Drainage Plan. Capital-sized infrastructure is not anticipated to be required to service the **Plan Area**.

2. Proposed storm infrastructure shown in **Map 12: Stormwater Servicing** are conceptual and shall be subject to further review during subsequent planning stages, with final confirmation to occur during detailed design.

3. An approved Master Drainage Plan shall guide the overall stormwater management strategy for the **Plan Area**, including existing and future drainage conditions. Outline Plans and Land Use Amendments shall not be approved prior to approval of a Master Drainage Plan by The City and, where applicable, the provincial regulator. The Master Drainage Plan may identify requirements for monitoring natural drainage systems at or before the Outline Plan stage. All Staged Master Drainage Plans shall conform to the approved Master Drainage Plan and follow City guidance on low-energy release modelling.

4. Stormwater management for this area shall control the quality, rate, flow duration, and volume of runoff entering West Nose Creek and Nose Creek, in accordance with provincially regulated targets for stormwater runoff and City directives for low-energy release applicable at the time of review. Stormwater reuse may be implemented within the **Plan Area** to support wetland hydroperiods and contribute to meeting The City's stormwater targets.

5. The central wetland complex and existing drainage corridor are ecologically significant features recognized by The City and shall be prioritized for retention and integration within the stormwater management system for the **Plan Area**, with a strong preference for avoiding impacts to these features. Any changes to pre-development drainage patterns, wetlands, or watercourses must be evaluated through the Master Drainage Plan to ensure the long-term health and function of the system.

6. Prior to any Outline Plan approval, Water Services shall confirm whether the alternate location for the 96th Avenue dry pond presented in **Map 12: Stormwater Servicing** is required and determine if a Utility Right-of-Way and/or Public Utility Lot is needed to support the relocation. This evaluation shall consider the impacts of the proposed mobility network, proposed land use, and/or any potential disposition of the 96th Avenue **MR** site.

Map 12: Stormwater Servicing

Legend

- Alternate Dry Pond
- Proposed Storm Pond
- Existing Culvert
- Existing Outfall
- Proposed Outfall
- Proposed Storm Pipe
- Existing Storm Pipe
- Existing Major Drainage Corridor
- Existing Dry Pond
- Central Wetland Complex
- Parks and Natural Areas
- Major Drainage Corridor Subcatchment (Existing Development)
- Major Drainage Corridor Subcatchment
- West Nose Creek Subcatchment
- Nose Creek Subcatchment
- Future Proposed Airport Connector Alignment
- Plan Area

Features outside the Plan boundary are provided for context only.

Note: No capital storm infrastructure is required to service the ASP lands

7. Applicants pursuing alterations to the stormwater servicing concept, such as changes in catchments, modifications to drainage patterns, increases in stormwater runoff volume or duration, or alterations to stormwater management infrastructure, shall require City endorsement and, where deemed required by The City, an approved amendment to the Master Drainage Plan subject to provincial approval prior to Outline Plan approval.

8. The stormwater planning within this **ASP** should accommodate the alignment of the future **Airport Connector** and Green Line **LRT**. Any proposed changes to these alignments or their associated infrastructure shall be re-evaluated for potential impacts on the approved stormwater management system.

8.4 District Energy

Intent

District energy provides a more efficient approach to provide heating, cooling, and/or power than conventional approaches. Opportunities for **district energy** should be explored and supported where they can demonstrate environmental (e.g. greenhouse gas reduction) and economic benefit.

8.4.1 Policies

1. Where municipal-owned portions of **district energy** systems already exist, new developments are encouraged to connect to them, unless a lower emissions option for the project can be demonstrated. Development is encouraged to connect to privately-owned **district energy** systems unless a lower emissions option is utilized.

2. If deemed technically and economically feasible, **district energy** may be considered encouraging the lowest carbon source readily available, and a design that accommodates fuel switching and testing.

8.5 Lighting

Intent

Light pollution can disrupt **ecosystem**s, have adverse health effects, interfere with astronomical observation, and could represent a source of glare to pilots. Exterior lighting in the **Plan Area** should employ dark sky principles to reduce light pollution to conserve energy, reduce glare, safeguard wildlife and maximize views of the night sky for residents.

8.5.1 Policies

1. Development within areas adjacent to the Nose Creek, West Nose Creek, and West Nose Creek Park should apply dark sky principles to mitigate light pollution, including the following considerations:

    a. a luminaire Backlight, Uplight and Glare value of 0 should be used for public infrastructure in consultation with The City's **Parks** and Roads departments;

    b. post-top lighting, column lighting, in-pavement lighting and specialty lighting should not be used due to glare, backlight and other light pollution concerns; and

    c. development should implement time of day restrictions and other best dark sky practices to ensure light spill into adjacent properties or the surrounding environment is minimized.

2. All private lighting, including security and parking area lighting, shall be downward directed, designed to conserve energy, reduce glare, and minimize light trespass onto surrounding properties.

3. Site and building lighting should ensure safe and well-lit pedestrian areas, including parking areas and building entrances.

4. Lighting for all development should apply **CPTED** measures, where necessary.

8.6 Oil and Gas

Intent

Oil and gas facilities, infrastructure, and operations have the potential to affect public safety, quality of life, and the natural environment. It is the goal of this Plan to minimize potential hazards associated with urban development in proximity to oil and gas infrastructure.

Policies

8.6.1 General

1. Applicants proposing to develop land in the vicinity of oil and gas facilities and wells shall adhere to the setback requirements and policies of this Plan, the Alberta Matter Related to Subdivision and Development Regulation, and the Directives and Bulletins of the Alberta Energy Regulator.

2. At the time of subdivision or development, a restrictive covenant shall be registered that prevents the construction of any building within the setback area and applicable access associated with an active, suspended, or abandoned well.

3. A **Risk Assessment** shall be required prior to, or in conjunction with, an Outline Plan/Land Use Amendment application for land on which oil and gas facilities and their associated setbacks are present.

8.6.2 Pipelines

4. All land uses on pipeline rights-of-way shall have regard for the safe, ongoing operations of these facilities.

5. If applicable, crossing and access agreements shall be in place prior to subdivision endorsement approval over lands encumbered by a pipeline rights-of-way.

6. Pathways and other recreational uses may be permitted on pipeline rights-of-way with the consent of the easement holder and at the discretion of the **Approving Authority**.

9

Implementation and Interpretation

9.1 Area Structure Plan Interpretation

Intent

To clarify the intent of policy and mapping within this Plan.

Policies

9.1.1 Policy Interpretation

1. Policies that use the words "shall," "will," "must," or "require" apply to all situations, without exception, usually in relation to a statement of action, legislative direction or situations where a desired result is required.

2. The word "should" is explicitly used to further clarify the directional nature of the statement. Policies that use "should" are to be applied in all situations, unless it can be clearly demonstrated, in the **Approving Authority**'s opinion, that the policy is not reasonable, practical, or feasible in a given situation. Proposed alternatives will comply with the applicable policies and guidelines with regard to design and performance standards.

3. Where an intent statement accompanies a policy, it is provided as information only, and to illustrate the intent and enhance the understanding of subsequent policies. If an inconsistency arises between the intent statement and a policy, the policy takes precedence.

9.1.2 Map Interpretation

1. Unless otherwise specified in the Plan, the boundaries or locations of any symbols or areas depicted on maps within the Plan and its appendices are approximate, not absolute, and must be interpreted as such. The locations of symbols are not intended to define exact locations, except where they coincide with clearly recognizable physical features or fixed boundaries, such as property lines or road or utility right-of-way. The precise location of these boundaries, for the purpose of evaluating development proposals, will be determined by the **Approving Authority** at the time of application.

2. Measurements of distances or areas are estimates and must not be taken from the maps in the Plan and its appendices.

3. Land Use Areas, Development Areas, street alignments and classifications, and utility alignments may be subject to further study and may be further delineated during the Outline Plan process, in alignment with applicable policies. Any major textual or mapping changes will require an amendment to the Plan.

4. In the case of the **EOS** Study Area, where adjustments to the extent of the **EOS** Study Area are made during the Outline Plan process, the policies of the adjacent Land Use Area apply without requiring an amendment to the Plan, including but not limited to **Map 5: Land Use Concept**.

9.1.3 Illustrations and Photo Interpretation

1. All illustrations and photos are intended to illustrate concepts included in the Plan and are not an exact representation of intended development. They are included as examples of what might occur after implementation of the Plan's policies and guidelines.

9.1.4 Appendix Interpretation

1. The appendices do not form part of the statutory portion of the Plan. The intent of the appendices is to provide information and illustrate the policies of the Plan.

9.2 Application Requirements

Intent

To outline the requirements for amendments to the Plan as a result of a future land use amendment/outline plan application as well as the Plan's limitations.

Policies

9.2.1 Plan Amendments

1. The policies within the Plan will be monitored over time in relation to development and monitoring of the **MDP**. The Plan may be amended from time to time, either in relation to a City initiative or an outline plan/land use amendment application.

2. To ensure the Plan is a living document that reflects new policies adopted by Council over time, the Plan should be reviewed and/or updated every 10 years from the time it is initially adopted by Council.

3. Any changes to the text or maps in this **ASP** require an amendment, in accordance with the **MGA**. Where an amendment to this **ASP** is requested, the applicant shall submit the supporting information necessary to evaluate and justify the potential amendment and ensure its consistency with the **MDP** and other relevant policy documents.

4. Where an amendment to the Plan is requested, an applicant shall submit the supporting information necessary to evaluate and justify the potential amendment and ensure its consistency with the **MDP** and other relevant policy documents.

5. Updates to community **GHG** emissions modelling may be required in response to plan amendments.

9.2.2 Plan Limitations

1. The Plan provides direction for the development of the **Plan Area** over an extended time period through a series of public and private sector initiatives. The time frame of this Plan will be determined by the criteria for prioritization and sequencing of growth areas determined as part of the **MDP** and the policies within the Plan.

2. Policies and guidelines in the Plan must not be interpreted as approvals for specific uses on specific sites. No representation is made herein that any particular site is suitable for a particular purpose. Site conditions or constraints, including environmental constraints, must be assessed on a case-by-case basis during the Outline Plan, Land Use Amendment, Subdivision or Development Permit application stage.

9.2.3 Outline Plans and Growth Projections for Infrastructure Planning

1. A growth projection has been derived for the **Plan Area** that takes into account the land use concept, historical development trends, and the anticipated development within the **Plan Area**. By analyzing these factors, an estimate of the future population and employment levels has been developed. These projections provide a basis for understanding the potential scale of future demand for infrastructure servicing within the **Plan Area**. This growth projection is used to inform decisions regarding the provision of utilities, transportation, and other infrastructure to ensure that development is appropriately supported over time.

2. Based on the assumptions outlined in **Appendix A**, the total anticipated population for the **Plan Area** is approximately 16,543 people, 5,710 jobs, and 7,381 dwelling units. This corresponds to an overall residential density of 55 dwelling units per hectare (gross residential area) and an intensity of 152 people and jobs per hectare (gross developable area).

3. Outline Plan submissions shall include a table of land use statistics that provides the anticipated and maximum dwelling units for each proposed land use district. Anticipated dwelling units shall reflect the applicant's intent for each land use district and shall be subject to validation through City review.

4. A maximum number of dwelling units shall be determined in accordance with the provisions of the applicable land use district, recognizing that some districts may regulate density through built form parameters rather than explicit density limits. Where appropriate, maximums may be estimated based on the built form performance of comparable developments in similar land use districts.

5. Outline Plans and Land Use Amendment applications that propose a scale of development that significantly deviates – whether higher or lower – from the anticipated growth projections outlined in **Section 9.2.3.2** may require a re-evaluation of both the anticipated growth and the overall infrastructure servicing strategy for the **Plan Area**.

    a. prior to Outline Plan approval, the City shall re-evaluate the infrastructure servicing strategy where it determines that deviations from anticipated growth would result in material impacts to infrastructure capacity, phasing, or financial sustainability. This assessment shall include impacts to downstream and off-site systems.

9.2.4 Development Review

1. A **Concept Plan** shall be required at the outline plan/land use amendment stage to assist in the evaluation of a proposal adjacent to 96 Avenue NE and Harvest Hills Boulevard N, or within the **TSPA** of the **Regional Rail Hub**.

    a. the **Concept Plan** shall be reviewed and endorsed by the Calgary Planning Commission (CPC) and the Urban Design Review Panel (UDRP).

9.3 Strategic Growth

Intent

To guide the efficient development of the **Plan Area**.

9.3.1 Policies

1. Phasing of development within the **Plan Area**, through the outline plan/land use amendment approval process, should occur in a contiguous manner.

2. An outline plan/land use amendment should, when possible, comprise an entire neighbourhood area.

3. When conformity with **Section 9.3.1.2** is not possible, the developer shall demonstrate through a conceptual design of a logical planning cell that these areas can be developed in a logical and comprehensive manner.

4. Notwithstanding **Section 3.1.1.1**, consideration for lower intensities may be given to areas where significant topographical or environmental constraints exists.

5. An update to **GHG** emission modelling (**Appendix B**) will be required when particulars about development timelines, phasing, units or floorspace, and jobs are known.

9.4 Calgary International Airport

Intent

The **Plan Area** is located in proximity to Runway 11-29 of the Calgary International Airport and lies beneath the imaginary surfaces (Approach, Transitional, and Outer Surfaces) established to protect the airspace associated with the runway. It is vital that development within the **Plan Area** complies with Federal and Provincial aviation regulations as applicable to the lands in the vicinity of the airport. These regulations include the Airport Zoning Regulations (intended to protect airspace over the airport) and the Airport Vicinity Protection Area (**AVPA**) (intended to protect communities from aircraft noise exposure).

In addition, development should not interfere with the airport's Instrument Approach Procedures, Instrument Department Procedures, and Communication, Navigation, and Surveillance systems, which are managed by Nav Canada to ensure safe aircraft operations.

Policies

9.4.1 Noise Exposure Forecast (NEF)

1. All development shall comply with **AVPA** Regulation in accordance with the appropriate **NEF** contours, as amended from time to time.

9.4.2 Height Restrictions

1. Notwithstanding the building heights outlined in **Sections 3.1** and **3.2**, heights of permanent and temporary buildings, structures, and objects (including natural growth) shall be subject to restrictions, as determined by Nav Canda and federal Airport Zoning Regulations, where applicable, to ensure that development does not interfere with the safety and efficiency of operations of the Calgary International Airport and its flight paths.

2. Heights of permanent and temporary buildings, structures, and objects (including natural growth) shall be restricted in accordance with the **Map 14: Calgary Airport Zoning Regulations** .

3. All development shall consider the impacts of temporary objects during construction periods, such as:

    a. temporary buildings, or trailers such as construction trailers, project site offices, and fences;

    b. cranes, including the height and radius of the crane boom/jib; and

    c. any construction equipment that may be staged or operated on site.

4. When evaluating building height, the total height shall consider all features on top of a building that could contribute to overall structure height including, but not limited to:

    a. mechanical equipment;

    b. antennas;

    c. parapets; and

    d. elevator shafts.

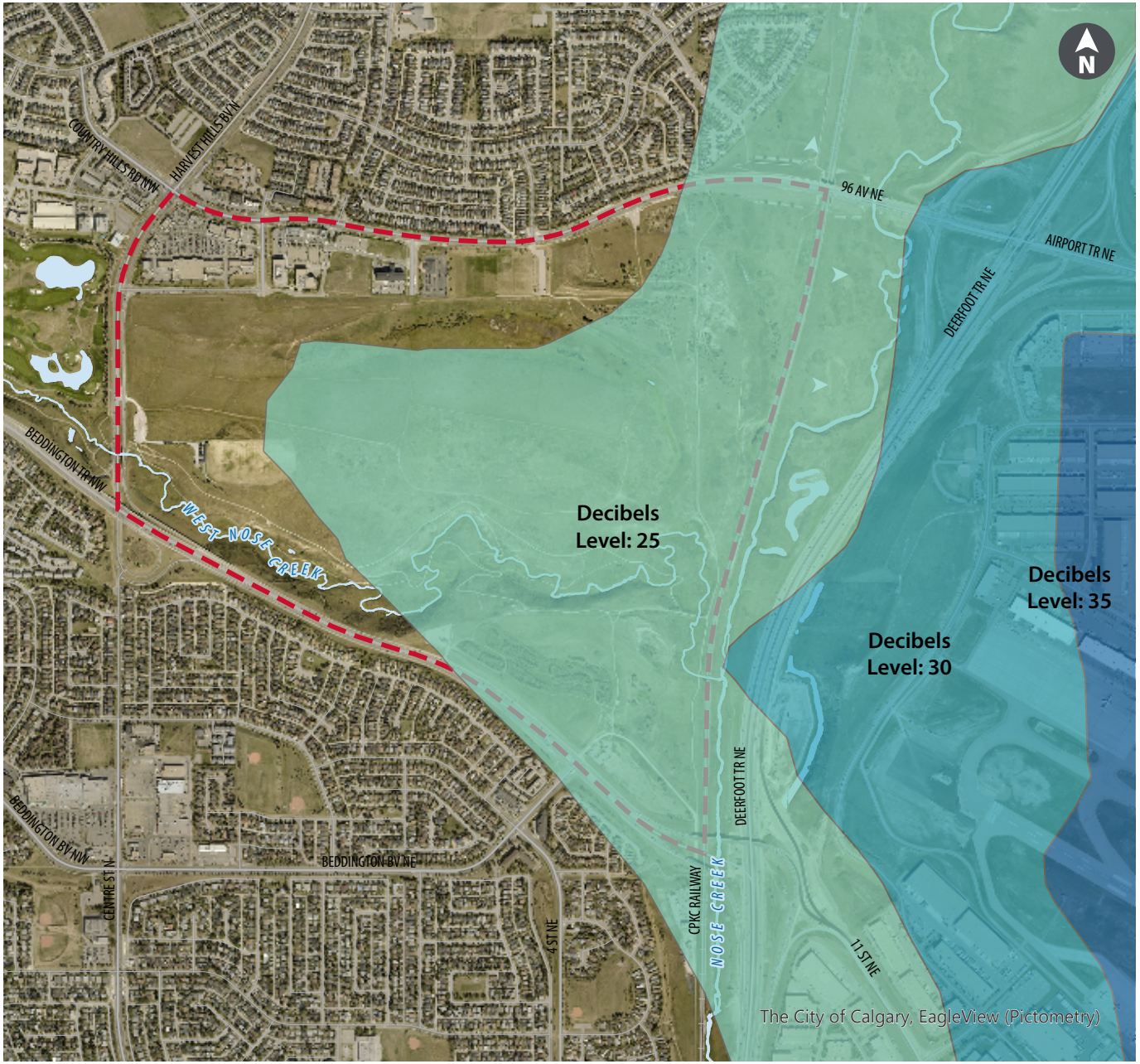
5. The highest point above sea level of any building, structure, or object shall be used when calculating the final height of development.

6. At the time of outline plan/land use amendment, a plan identifying proposed building locations and heights should be submitted to NAV Canada for review, using the Land Use Proposal (LUP) submission form.

7. Developers shall coordinate with the approving agency, Transport Canada, and NAV Canada for their respective reviews and confirmation prior to construction.

8. It is strongly encouraged that developers submit LUP and Aeronautical Assessment Forms to Nav Canada and Transport Canada early in the outline plan/land use amendment process, even if minimal information on exact building location and heights are known. Early submission of the forms would allow developers to understand the potential impacts of development prior to detailed design stage and enable collaboration between developers, Nav Canada, and Transport Canada.

Map 13: Noise Exposure Forecast Contours



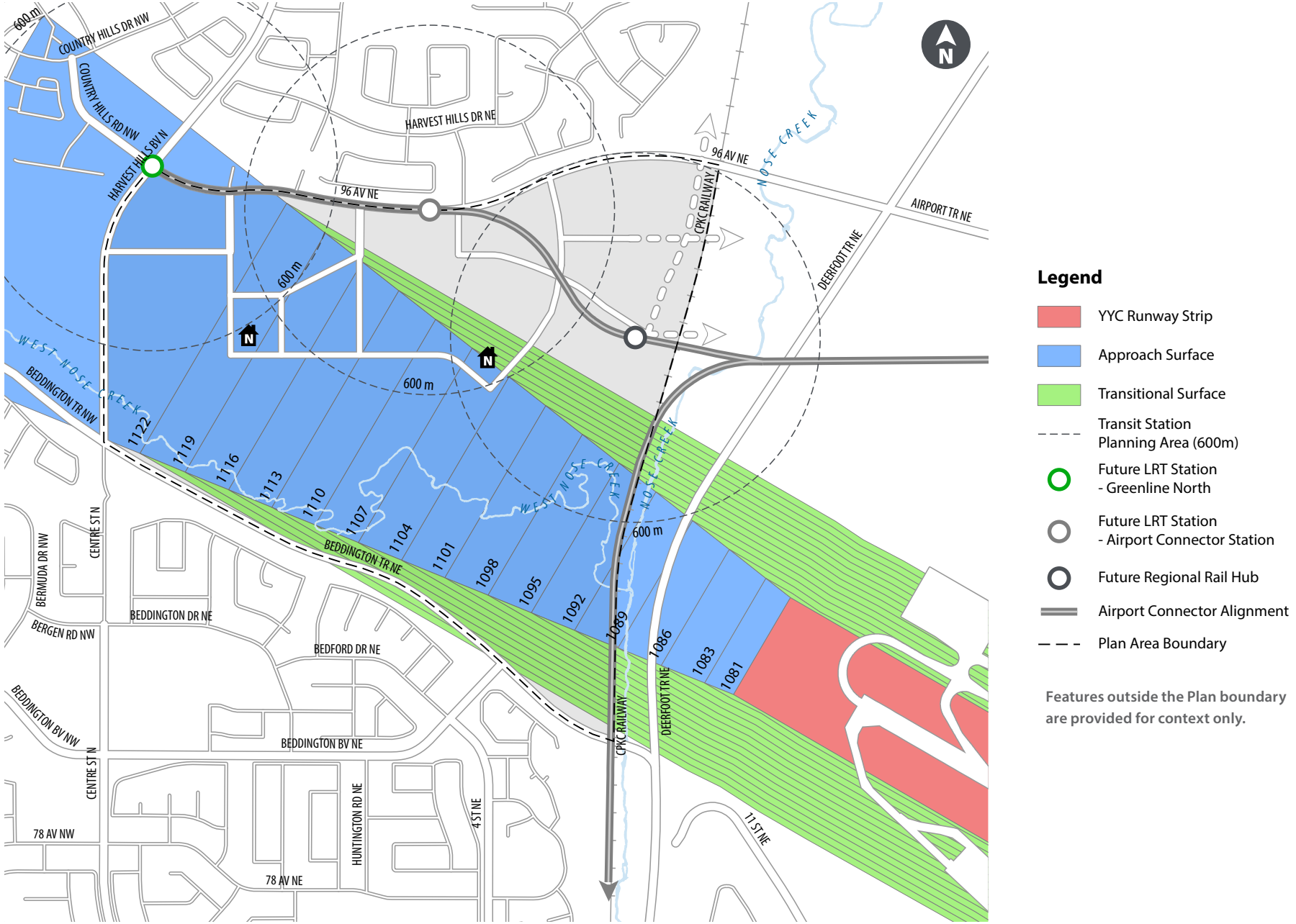
Legend

NEF DBLEVEL

- 25
- 30
- 35
- Plan Area

Features outside the Plan boundary are provided for context only.

Map 14: Calgary Airport Zoning Regulations



9.5 Development within Proximity to Railways

Intent

To ensure that development adjacent to active railway corridors minimizes interactions between the public and rail infrastructure.

9.5.1 Policies

1. Development adjacent to railways shall occur in accordance with The City's Development Next to Freight Rail Corridor Policy.

2. All outline plan/land use amendment, Subdivision and Development Permit applications adjacent to a rail right of way shall be circulated to the Rail Operator for review.

    a. any changes between Outline Plan and Tentative Plan circulations may require circulation to the Rail Operator.

3. A **Risk Assessment**/Vibration Study shall be required for development adjacent to railways in accordance with The City's Development Next to Freight Rail Corridor Policy.

9.6 Environmental Assessment

Intent

As part of the planning process, Environmental Site Assessments (ESAs) were completed for the **Plan Area**. However, considering the historical activities in the **Plan Area** included a racetrack and gravel extraction, there is potential for deleterious materials and/or buried refuse to be present that was not identified.

9.6.1 Policies

1. Additional assessment as recommended in the ESAs and/or required by The City as part of the Environment Development Review process may be necessary to ensure a site is suitable for its intended use.

2. All documentation is to be prepared by a qualified environmental professional and reviewed to the satisfaction of The City, Climate and Environment (Contaminated Sites). If required, documents may also be circulated to the appropriate external agencies for review and comment.

9.7 Historical Resources Approvals

Intent

To preserve, conserve, and celebrate historic resources within the **Plan Area**, where possible.

9.7.1 Policies

1. Concurrent with an outline plan/land use amendment application submission, a **HRIA** shall be submitted to The City to assess opportunities for conservation of archaeological resources within the park system.

2. Where avoidance of Historic Resources is not feasible, the applicant shall, as required by and to the satisfaction of Alberta Arts, Culture, and Status of Women, undertake protective or mitigative measures.

3. Modifications to development plans will require the submission of accompanying Historical Resources Act approval documentation.

9.8 Design for a Changing Climate

Intent

Residents and employers in the **Plan Area** will benefit from durable, lower maintenance buildings and enhanced landscaped areas that are well designed for long-term cost savings and environmental sustainability. Decarbonization opportunities in the **Plan Area** will be informed by community **GHG** emission modelling (see **Appendix B**).

Policies

9.8.1 Building and Site Design

1. Development is encouraged to use durable and climate resilient building materials.
2. Development is strongly encouraged to reduce:
    a. surface to volume ratio; and
    b. energy consumption by integrating high performance mechanical systems and building envelope wall-assemblies.
3. Development is encouraged to lower greenhouse gas emissions and waste production caused by new construction through supporting adaptive reuse of existing buildings and through the use of locally sourced, recycled and/or low carbon materials.
4. Where parking is proposed, development is encouraged to provide electric vehicle (EV) parking stalls that enable an electric vehicle to be charged.
5. Development is encouraged to be designed as solar ready and/or integrate on-site renewable energy generation, such as solar photovoltaic systems like rooftop solar, solar walls, solar canopies above surface parking lots, and/or geothermal or geo-exchange heating and cooling.
6. Development is strongly encouraged to incorporate low impact development features to help manage water onsite, such as rain gardens, bioswales, rainwater harvesting infrastructure, and permeable pavement.
7. Roofing on new developments are encouraged to reduce urban heat island effect using cool and/or green designs that include but are not limited to rooftop gardens or vegetated roof surfaces (green or brown roofs).
8. Publicly accessible and shared private amenity spaces are encouraged to provide opportunities to produce food.
9. Development is encouraged to be net-zero or net-zero ready.
10. Non-residential, mixed-use and multi-unit residential development, major renovation, and retrofits are encouraged to participate in measuring and disclosing their energy performance to BenchmarkYYC.
11. Development is encouraged to consider opportunities to reduce water demand.
12. Discretion to allow relaxations to the rules of the Land Use Bylaw is encouraged to be exercised to further the goals of:
    a. the policies set out in **Section 9.8.1** items 1-4 and 7-11; and
    b. the implementation of refuge spaces that provide shelter, heating, power, and potable water to community members during climate hazard events.
    c. Development is encouraged to use existing clean energy studies as a guide for low carbon energy solutions.

9.8.2 Landscape Design

1. Landscaped areas of a development are encouraged to:

    a. preserve existing healthy native grasses, shrubs and trees.

    b. provide shade for people, pets and wildlife.

    c. use plant species that are climate resilient (native, drought-tolerant, future climate-appropriate), pollinator friendly, and/or food producing.

    d. conserve water through efficient irrigation systems, rainwater collection/infiltration features and by strategically redirecting runoff to landscaped areas.

9.9 Climate Innovation Area

Intent

The purpose of these policies is to promote low carbon and resilient community design. Implementation of these policies is on a voluntary basis. The policies will include the following steps:

1. Identify an area subject to the Climate Innovation Area; and,

2. Establish a review process for monitoring success of the innovation.

Policies

9.9.1 Development within a Climate Innovation Area

1. Design innovations achieve one or more of the following:

    a. net zero carbon emissions;

    b. all or a portion of buildings exceed energy code minimum performance by 20 per cent; or

    c. buildings and landscaped areas demonstrate a strong commitment to walking, wheeling, and transit as preferred methods of transportation

2. Designating a Climate Innovation Area includes:

    a. where climate innovations involve the introduction of the new standards, the applicant may request that Council Identify the area that is subject of the innovation as a Climate Innovation Area through an amendment to the **ASP**.

    b. where a Climate Innovation Area is identified:

        i. new standards for public improvements or private development may be applied within the area that are not available city-wide, where standards are determined to be practically, financially, and legally acceptable; and

        ii. new public or private sector financing and/or funding methods for dealing with the maintenance or operational costs of the innovations may be introduced.

10

Glossary

10.1 Abbreviations

AAF
Aeronautical Assessment Form

AER
Alberta Energy Regulator

ASP
Area Structure Plan

AVPA
Airport Vicinity Protection Area

BIA
Biophysical Impact Assessment

CA
Community Association

CPTED
Crime Prevention Through Environmental Design

CR
Conservation Reserve

CTP
Calgary Transportation Plan

EOS
Environmental Open Space

EOSSA
Environmental Open Space Study Area

ER
Environmental Reserve

GHG
Green House Gas

HRIA
Historical Resource Impact Assessment

IDP
Intermunicipal Development Plan

JUS
Joint Use Site

LID
Low Impact Development

LRT
Light Rail Transit

LUB
Land Use By-law

MDP
Municipal Development Plan

MGA
Municipal Government Act

MR
Municipal Reserve

MSR
Municipal and School Reserve

NAC
Neighbourhood Activity Centre

NCPG
New Community Planning Guidebook

NEF
Noise Exposure Forecast

PV
Photovoltaic

TIA
Transportation Impact Assessment

TOD
Transit-Oriented Development

TSPA
Transit Station Planning Area

10.2 Definitions

Active Modes Connection means a paved laneway with restricted vehicle access that contributes to the active transportation network and provides for emergency vehicle routing.

Airport Connector means a cross-town transit connection between the Green Line and Blue Line, with a connection to the Calgary International Airport (YYC).

Approving Authority means the Subdivision Authority, Development Authority, or Subdivision and Development Appeal Board of The City, as the context applies.

Biophysical Impact Assessment means a report used to define the environmental impact of a project on the biophysical features of an area. In preparing a BIA, baseline data is usually collected on soil, vegetation, wetlands, wildlife, and hydrology.

Climate Adaptation means the actions, policies, programs, tools and strategies intended to reduce the negative impacts of climate change on our city's infrastructure, natural assets, economy, and people.

Climate Change means a change in climate patterns, both globally and locally, caused by a dramatic increase in the concentration of greenhouse gas emissions in the atmosphere. These emissions are produced by humans burning fossil fuels such as coal, oil and gas, which began at the start of the Industrial Revolution in the mid-1700s.

Climate Mitigation means the process and actions that stabilize or reduce the greenhouse gas concentration in the atmosphere. Taken from Climate Resilience Strategy.

Comprehensively Planned means a method that guides the future development of an area and links together planning elements such as, but not limited to, land use, transportation, transit, housing, parks, and sustainability.

Concept Plan means a non-binding plan that identifies land use areas, building locations, vehicular access, parking areas, public roads, transit stops, pedestrian connections, regional pathways, utility alignment, public parks, stormwater ponds, and adjacent roads and development. The extent of details required to be included in a Concept Plan may vary depending on the specifics of a proposal, in the discretion of the Approving Authority.

Conservation Reserve means a tool under the Municipal Government Act for subdivision authorities to acquire environmentally significant features to protect and conserve the land during subdivision. CR can only apply for those lands which, under the opinion of the subdivision authority, do not qualify as land that could be required to be provided as Environmental Reserve. Compensation for CR must be paid to the landowner in an amount equal to the market value of the land at the time the application for subdivision approval was received by the subdivision authority.

Development Block means a portion of land enclosed by streets that is intended to accommodate a large structure or collection of structures.

Development Site means a parcel or parcels of land where construction or other improvements are proposed or underway.

District Energy also called low-carbon thermal energy networks, means systems that distribute thermal energy to multiple buildings in an area or neighbourhood. These systems typically consist of a heating and cooling centre, and a thermal network of pipes connected to a group of buildings.

Ecological Network means a network of ecological components (core areas, corridors and buffer zones) which provides the physical conditions necessary for ecosystems and species populations to survive in a human-dominated landscape.

Ecosystem means processes that are necessary for the self-maintenance of an ecosystem such as primary production, nutrient cycling, decomposition, etc. The term is used primarily as a distinction from values.

Emergency Response Station means a building containing equipment for fire and emergency response as determined by Council.

Employment-Supportive means restaurants, retail sales, childcare, health services, financial institutions; and other uses to support local employees.

Environmental Open Space Study Area means lands within the Ecological Network, waterbodies, landforms and environmentally significant areas in the Plan Area. Where land identified within this area is not protected or acquired by the City, it may be developable in accordance with the policies of this Plan.

Environmental Reserve means land that is not suitable for development and contains features such as swamps, gullies, ravines, coulees, floodplains or is adjacent to a body of water designated as environmental reserve as defined under the Municipal Government Act or previous planning legislation.

Joint Use Site means lands set aside for or including a school building, a location for a school building or a school playing field and community playing fields with facilities and grounds accessible to both school and non-school users.

Large-Format Retail means a retail use that that provides services to residents and employees within the immediate area and surrounding communities and is typically 15,000 sq.ft. or greater in size.

Light Industrial means the use of land, buildings or structures for the purpose of manufacturing, processing, fabricating, assembly, warehousing, storage and distribution of goods or materials that does not create conditions that are determined to have a significant adverse impact or are dangerous beyond the boundaries of the site by way of noise, odours, airborne emissions, outdoor lighting or vibration, conducts its operation primarily within an enclosed building and is not dependent to a significant extent upon outdoor storage of goods or materials as part of its operation, and may include, but is not limited to, indoor storage depots, warehouses, distribution centres and laboratories.

Medium-Format Retail means a retail use that attracts a customer base in the immediate area and surrounding communities and are typically between 7,500 and 14,999 sq. ft. feet in size.

Mixed-Market Housing means rental or for-sale housing that has a mix of non-market housing and market housing.

Municipal/Municipal School Reserve means land designated as municipal reserve or municipal and school reserve under the Municipal Government Act or previous planning legislation.

Natural Areas means a City-owned park or portion of a park or open space where the primary role is the protection of an undisturbed or relatively undisturbed parcel or parcels of land with characteristics of a natural/ native plant community.

Neighbourhood Activity Centre means a centre providing opportunities for residential intensification, local jobs, retail services, and civic activities

Neighbourhood Corridor means a liveable street offering a sense of place for the community through an enhanced pedestrian environment with access to a mix of services and amenities.

Non-Market Housing means rental or for-sale housing that is subsidized for needs not served by the private market. This type of housing includes transitional housing, social housing, and affordable housing.

Open Space means land that has a primary purpose that is utilitarian or to provide a recreational activity with managed access but has a secondary purpose that provides park system functions. Examples include roadway boulevards, public utility lots, transportation and utility corridors and regional amenities such as regional sport fields, athletic parks, cemeteries and public golf courses.

Parks means publicly accessed land set aside for human enjoyment, recreation, education, cultural or aesthetic use without restricted access.

Placekeeping means the practice of integrating culture, language, values, and history into planning and design.

Plan Area means all lands within the confines of the Plan Area Boundary as shown on **Map 1: Plan Area**.

Primary Corridor means the main circulator collector roadways identified on **Map 8: Street Network**.

Primary Transit Network means a permanent network of high-frequency transit services, regardless of mode, that operates every 10 minutes or better, 15 hours a day, seven days a week.

Regional Pathway means a city-wide linear network that facilitate non-motorized movement for recreation and transportation purposes. It connects communities by linking major parks, recreation facilities, and natural features. The regional pathway system may also link other major community facilities such as schools, community centres, and commercial areas.

Regional Rail Hub means a multi-modal transit hub that would act as a transfer station between regional rail services and inner-city connections between the Green Line, Blue Line, and Calgary International Airport.

Risk Assessment means an evaluation of the potential long- and short-term risks associated with urban development in proximity to rail infrastructure and identified oil and gas infrastructure. The Risk Assessment identifies and documents actual and perceived risks to human health and/or the environment, their likelihood, their consequences, and any required mitigation.

Secondary Suites means a self-contained living accommodation for an additional person or persons in a separate single housekeeping unit, located in and subordinate to a primary residence.

Sensitive Use means a building, amenity area, or outdoor space where routine or normal activities occurring at reasonably expected times would experience one or more adverse effect(s) generated by a nearby facility, such as:

a. residences or facilities where people sleep (e.g. single and multi-unit dwellings, long term care facilities, hospitals, trailer parks, campgrounds, etc.).
b. a permanent structure for non-facility related use, particularly of an institutional nature (e.g. schools, churches, community centres, day care centres);
c. Outdoor recreation areas; and
d. Wildlife habitats.

Small-Format Retail means a retail use that attracts a customer base in the immediate area and are typically less than 7,500 sq. ft. in size.

Supportive Housing means a use where a building, or part of a building, provides accommodations and on-site support services such as social services, provision of meals, housekeeping, and social and recreational activities, in order to maximize residents' independence, privacy, and dignity to facilitate aging in place. Such uses may include Assisted Living, Residential Care, and/or Custodial Care.

Transit-Oriented Development means the planning, design, and implementation of mixed-use, pedestrian oriented developments centred around primary transit networks. Successful TOD allows for residents to safely and conveniently access employment areas, amenities and services across the city whether it is by transit, or locally by foot or bicycle.

Transit Station Planning Areas means all lands within 600-metres of a light-rail transit, bus rapid transit, or other higher-order transit station along the Primary Transit Network.

Transportation Impact Assessment means a study to support the transportation aspects of a proposed development that has the potential of generating significant amounts of new transit users, pedestrians, and bicycle and vehicular traffic, or that could potentially change the mobility patterns in the area where development is proposed.

11 Appendices

APPENDIX A:
Growth Projection Assumptions

The growth projection for the **Plan Area** was developed using a gross developable residential area of 135.7 hectares. This figure was derived from the total **Plan Area** of 233.8 hectares, of which 87 hectares were identified as non-developable due to anticipated **environmental reserve** requirements. After subtracting this non-developable land, 146.8 hectares remained as gross developable area. From this, the Green Line Maintenance Storage Facility – considered a regional use – was excluded, resulting in a gross developable residential area of 135.7 hectares.

The breakdown of this gross developable residential area is as follows:

- Multi-Residential: 27.1 hectares
- Ground-Oriented Residential: 51.4 hectares (of which 41.1 hectares are assumed to be single and semi-detached housing)
- Mixed-Use: 55.1 hectares

These land use categories formed the basis for estimating future population and employment levels used in infrastructure servicing analysis.

It was assumed that 28 per cent of the gross developable area would be dedicated to roads, leaving 72 per cent as net developable area. The following density assumptions were applied to net developable area to calculate units and anticipate the future population and employment:

- Multi-Unit Residential Areas: A net density of 120 units per hectare.
- Ground-Oriented Residential Areas: A lot size of 330 m^2 per unit of single/semi-detached housing. Single/Semi-Detached housing was assumed to materialize in 80 per cent of the ground-oriented residential area. A lot size of 225 m^2 per row housing unit. Row housing was assumed to materialize in 20 per cent of the ground-oriented residential area.
- Mixed-Use Areas: A net density of 96 units per hectare.
- Occupancy rates were also factored in to calculate the anticipated population:
- Multi-Unit Residential and Mixed Use Areas: 2.06 people per unit.
- Row Housing: 2.39 people per unit.
- Single/Semi-Detached: 3.42 people per unit.
- In terms of employment, the following assumptions were made:
- For multi-unit residential and ground-oriented residential areas, an average of 38 home-based jobs per 1,000 people.
- For mixed-use areas, an average of 50 m^2 per job.

Based on these assumptions, the total anticipated population within the **Plan Area** is approximately 16,543 people, with an estimated 5,710 jobs and 7,381 dwelling units projected at full build-out.

APPENDIX B: GHG Assessment for Buildings

As the community grows, the carbon impacts of the development will also change. This assessment estimates the carbon associated with built form development as guided by the Area Structure Plan (**ASP**) and identifies opportunities to reduce greenhouse gas (**GHG**) emissions to bring the community in line with the net-zero by 2050 City target.

Emissions in the community will be primarily driven by buildings, which use electricity for lights and appliances and often use natural gas for heating and cooling. Other major sources of emissions include transportation, including gasoline, diesel, and electricity used for vehicles; waste management; and embodied carbon from the construction and deconstruction of buildings and infrastructure. These emissions sources are not included as part of this analysis.

Methods

Using projections for units and jobs accommodated by the community design, the **GHG** assessment calculates how much floorspace will be developed under each use. Each use is then assigned a mix of buildings likely to be seen under that land use concept. For example, ground-oriented residential development includes a mix of single-detached and multiplex style dwelling units. This mix of buildings is developed using the land use policies and guidance provided in the LAP.

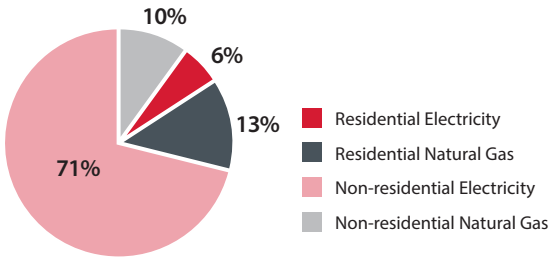
Using data on the existing **GHG** emissions produced by each type of building, an average per unit **GHG** intensity is calculated and multiplied by the number of units of that type in the building mix. These emissions intensities are assessed by their source; electricity and natural gas. Future emissions are based on Environment and **Climate Change** Canada projections for Alberta.

Results

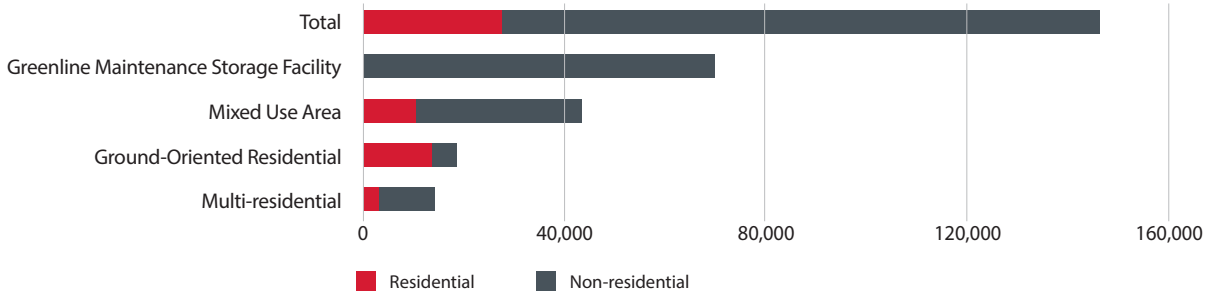
The modelled scenario is for full build out of the community. The pace of this build-out will be governed by a number of market forces, including supply of materials and demand for development. Using a baseline year of 2024 for the emissions values for electricity and natural gas, the full build out would result in the generation of 146,275 tonnes of carbon dioxide equivalent per year (CO2e/year).

Almost three quarters of these emissions are produced by electricity used by employment sectors, retail uses in the multi-residential, ground-oriented residential, and mixed-use areas and industrial uses in the Greenline Maintenance Storage Facility. Natural gas used for heating produces 19 per cent of annual emissions under this model, though residential natural gas emissions (13 per cent) exceed residential electricity emissions (6 per cent).

Emission Sources under Baseline Emissions Intensity



Total Emissions Under Baseline Emissions Intensity



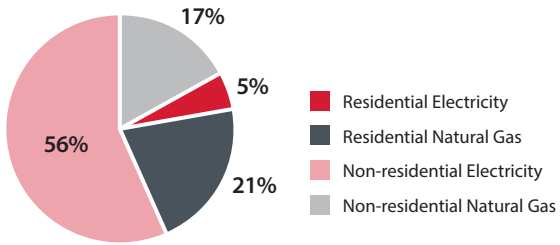
The full build out of the community will take many years, during this time the emissions intensity of electricity is projected to change significantly. These changes are the result of further renewable energy development, the introduction of alternative energy generation, and declining emissions from fossil energy via carbon capture and storage. Using an emissions forecast for 2038, aligning with a horizon year under the **CTP MDP** Scenario Series, the following model presents results of annual emissions of a full build out of the development.

Under this model, the communities produce 86,069 tonnes of CO2e/year, approximately 59 per cent of the emissions produced under the 2022 emissions intensity model.

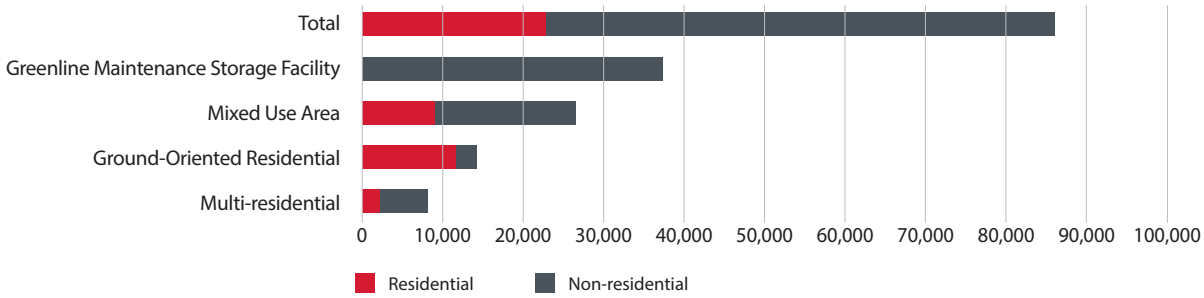
Non-residential electricity emissions still form the largest source of **GHG** production, 56 per cent of total annual emissions. Natural gas emissions produce 38 per cent of total emissions from both residential and non-residential uses.

A model was also produced for 2050, when the design concept will be fully built out and the target timeframe for all communities in Calgary to achieve net-zero emissions. The long-term horizon for this forecast challenges the ability to accurately forecast emissions intensities, though it is anticipated that electricity emissions intensities will continue to fall. As the Environment and **Climate Change** Canada electricity projection ends in 2043, the final emissions electricity value projected is also applied to 2050. Under this model, electricity emissions across both residential and non-residential sectors fall to under 40 per cent of community annual emissions, while natural gas emissions remain constant, i.e. rise in relative to total emissions.

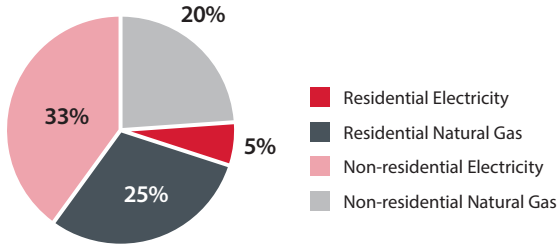
Emission Sources under 2038 Emission Intensity Projections



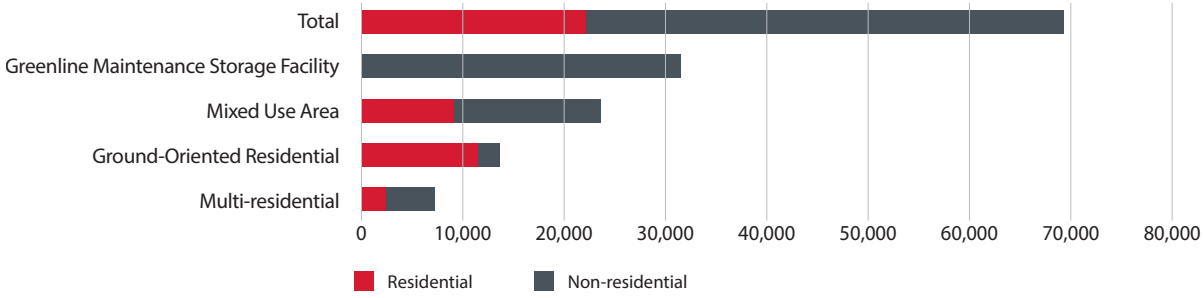
Total Emissions Under 2038 Emissions Intensity Projections



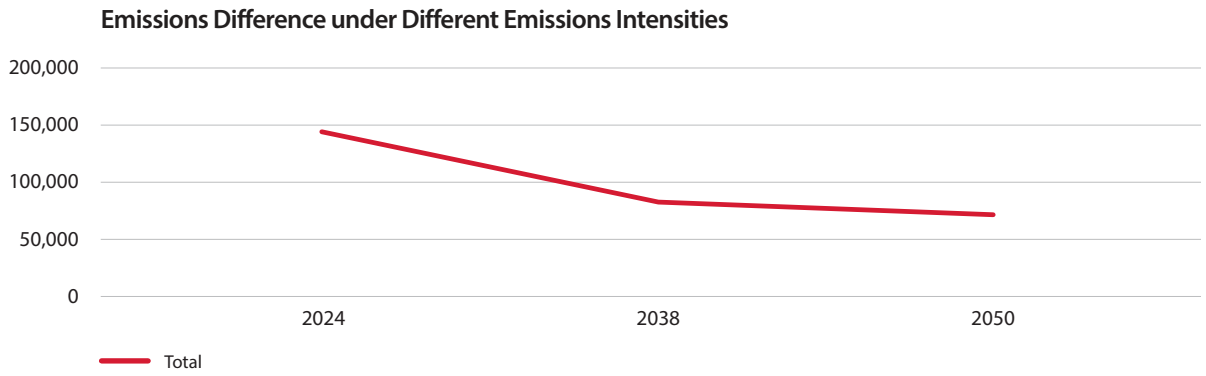
Emission Sources under 2050 Emission Intensity Projections



Total Emissions Under 2050 Emissions Intensities



Land Use	2024	2038	2050
Multi-residential	14277.76	8047.71	6879.57
Ground-Oriented Residential	18774.90	14232.00	13380.21
Mixed Use Area	43375.12	26458.12	23286.18
Greenline Maintenance Storage Facility	69846.80	37331.31	31234.65
Total	146274.58	86069.14	74780.62



Assumptions

A number of factors that could and will affect the annual emissions of the community are not included in the model. These include, but are not limited to:

- Building Code changes: Minimum energy use is regulated under provincial and national building codes. Historically, building codes have improved energy performance minimum requirements. If new building codes are adopted during the buildout of the community, electricity and heating emissions will be lower than modelled
- Voluntary improved building construction: while the emissions intensities for the building types are based on existing buildings, not energy code minimums, future development may voluntarily choose to push for better energy performance. This choice could be motivated by a rising demand for sustainable buildings and rising concern over energy costs and volatility; to achieve corporate emissions targets; and/or to achieve funding or grants that include emissions performance metrics. If development choses to pursue a higher development standard, emissions would be lower than modelled
- Behavioural changes: Energy demand is directed by consumers' behaviour. Over time, energy demand can fluctuate as a result of personal choices. For example, a more energy conscious society can reduce demand by reducing unnecessary or underutilized energy use.
- Technologies changes: New technologies that are mass adopted can have a significantly increase or decrease energy demand.

Decarbonisation Opportunities and Plans

The results of the GHG modelling also suggests opportunities to reduce annual GHG emissions based on the sources of emissions.

- Generating clean energy: While electricity generation is projected to become less carbon intensive over time, generating clean energy on-site can greatly accelerate the decline in GHG emissions per year, especially in the short term, where electricity generation is GHG intensive and comprises 80 per cent of emissions with existing emissions intensities. The value of clean energy generation is also compounded with actions that encourage electrification, like incorporating heat pumps by both reducing the need for natural gas combustion and ensuring the electricity used is as clean as possible. On site energy generation can be structured as microgeneration, where buildings produce energy to offset their own energy demand. While small-scale community generation opportunities also exist, these either rely on technologies not appropriate for the site (e.g. wind, run-of-river hydro) or require significant amounts of space (i.e. solar)
- Minimising natural gas use: As electricity generation decarbonizes, natural gas emissions form a larger proportion of total emissions. Natural gas combustion has significantly fewer opportunities to decarbonize, largely because combustion occurs in each home where CCUS opportunities are not possible. GHGs from natural gas heating can be reduced by:
  - Improved building envelopes and efficiencies: Higher efficiency buildings require less energy to heat and to stay warm, lowering energy demand
  - Electrified heating and cooling: heat pumps use electricity to warm buildings and will therefore reduce their emissions over time with grid decarbonization. Heat pumps also provide cooling, which is an increasingly essential feature for health and well-being as Calgary summers become warmer
  - District Energy: District energy systems centralize heating for multiple buildings in one location. District energy systems can use either fossil fuel or electricity, but even with fossil energy, centralized mechanical systems are larger than individual furnaces and can therefore achieve greater efficiencies. Replacing a district energy fossil fuel powered system with a renewably sourced system in the future also cleans the emissions intensity of multiple buildings at a time, rather than requiring many individual retrofits. District energy systems are able to utilize resources like geo-exchange and sewer heat recovery at greater efficiencies than an individual building.
- Incorporating green opportunities into the Greenline Maintenance Storage Facility: As the sole industrial use on the site, the Greenline Maintenance Storage Facility is a large contributor to GHG emissions for the site. Incorporating energy efficiency measures into this building is likely the single building action with the greatest impact on emissions. Considering the high emissions from electricity use (90 per cent using 2022 emissions intensity values), incorporating renewable energy generation into this site through rooftop solar photovoltaics and/or solar canopies can also greatly reduce emissions.
- Higher densities: While the multi-residential and mixed-use areas have higher total emissions than the ground-oriented residential area, they also accommodate a greater number of units, resulting in less emissions per unit. Generally, higher densities are correlated to lower GHG emissions. Setting requirements to minimize the number of single detached homes particularly, as the most GHG intensive form of development modelled, can reduce per capita emissions.