BOWER WOODS

Neighbourhood Area Structure Plan

City of Red Deer

Adopted Month XX, XXXX

Bylaw XXXX/X-XXXX

MELCOR

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01. Introduction

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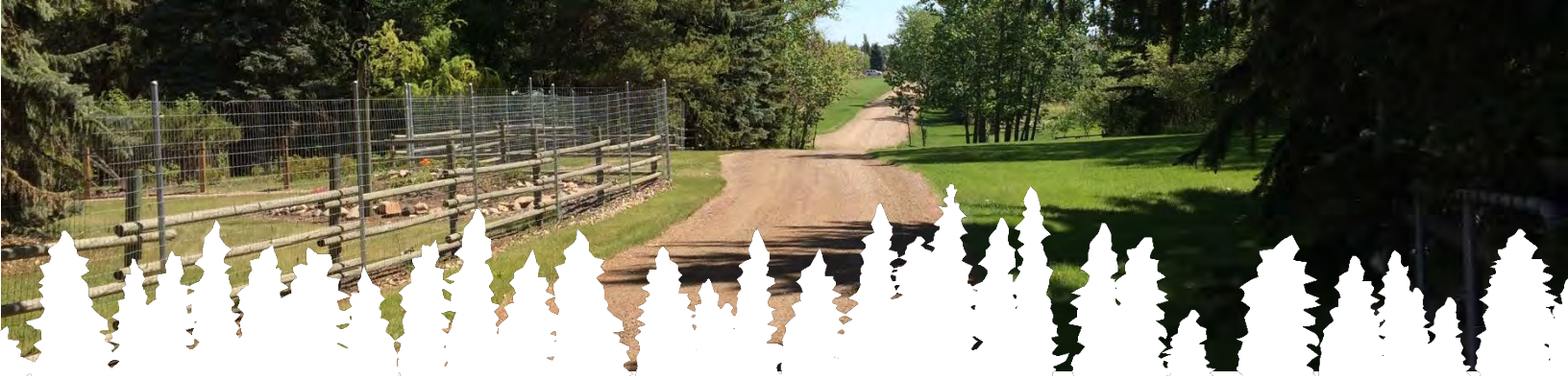

1.1 Overview

1.1.1 Purpose and Background

In accordance with the *Municipal Government Act* and City of Red Deer's neighbourhood planning policies, the purpose of the Bower Woods Neighbourhood Area Structure Plan (NASP) is to provide a framework for subsequent subdivision and development of the land shown in **Figure 1 Location Plan**. This NASP describes the vision, development objectives, and proposed land uses for the land, hereafter known as the "Plan Area", located in the southeast portion of Red Deer; hereafter known as "the city", south of the Sunnybrook neighbourhood and north of the Southbrook neighbourhood, northwest of the 40th Avenue/ 22nd Street intersection.

The Bower Woods NASP has been prepared using all the City of Red Deer (the City, City) planning and development policies and guidelines, with specific directions given from *The City of Red Deer Neighbourhood Planning and Design Standards* and its associated nine Neighbourhood Planning Principles. In accordance with the standards, each principle has been carefully considered to create a neighbourhood that will provide a range of housing types and strong open space connections which can be enjoyed by residents and visitors.

Stantec Consulting Ltd. (Stantec) has prepared the Bower Woods NASP on behalf of the Developer, Melcor Developments Ltd. (Melcor). Within the context of this NASP, Stantec and Melcor collectively form the Bower Woods "Development Team". For several years, the Development Team collaborated with City administration to refine a vision for Bower Woods and determine how the neighbourhood could achieve the overall objectives held by both the Development Team and City.

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1.1.2 Boundary

As shown on **Figure 1 Location Plan**, the Bower Woods Plan Area consists of approximately 63.28 hectares (156.35 acres) of land located at the NE quarter of Section 04-38-27-W4M.

1.1.3 Surrounding Development

Land surrounding the Plan Area is primarily residential in nature with the Bower neighbourhood located west of the Plan Area, across Piper Creek, Sunnybrook to the north, Southbrook to the south, and Anders on the Lake to the east. In addition to the residential uses, Bower Mall is located adjacent to the Plan Area's northwest boundary, west of Piper Creek. While the Bower Mall area is near the Plan Area, it is most easily accessible by car via 19th Street to the south or 32nd Street to the north due to the presence of Piper Creek; however, there is a pedestrian-scaled creek crossing for the Waskasoo Trail which is located southwest of the Plan Area that allows convenient access for both pedestrians and cyclists. An additional commercial area is located southeast of the Plan Area at the intersection of 40th Avenue and Ironside Street which has a small convenience store, personal service clinics, and small restaurants.

Westerner Park, which hosts a variety of community events such as WHL hockey games and conventions, and Oxbows Off-Leash Dog Park are both located directly south of the Plan Area, approximately 1km away within a convenient walking distance.

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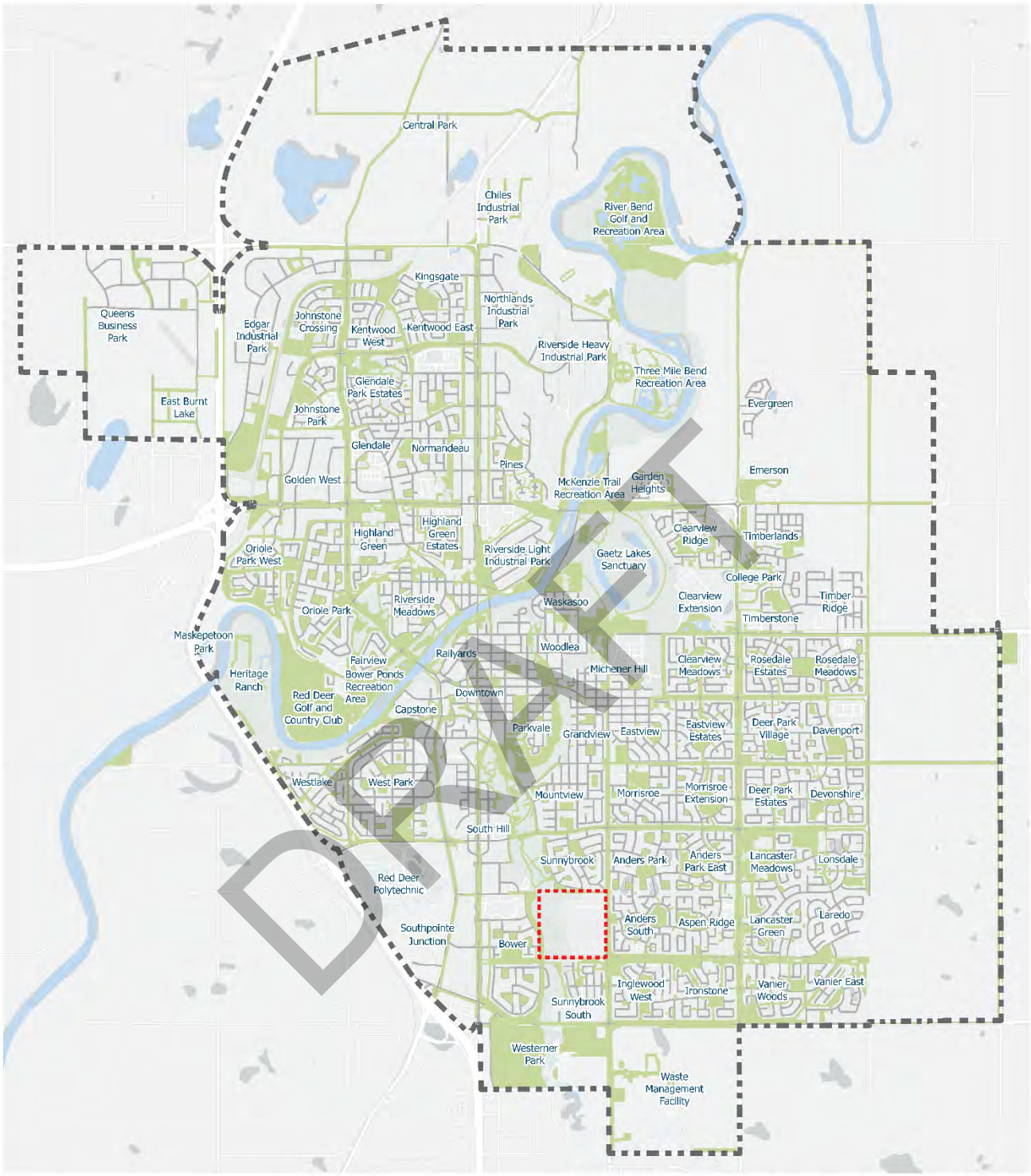

Adapted from City of Red Deer's "Neighbourhood Listings" Map

Plan Boundary

City of Red Deer Boundary

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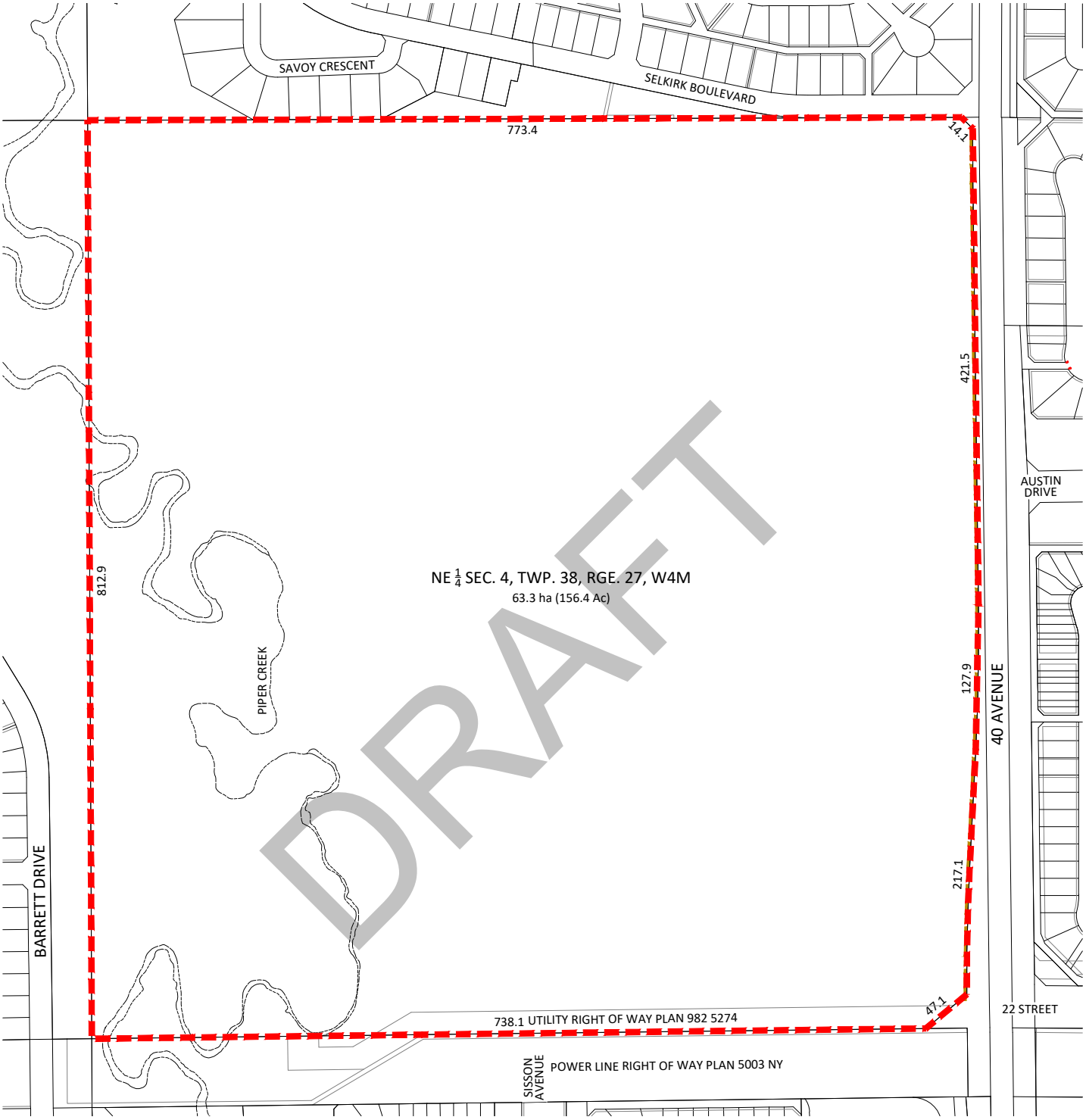
FIGURE 1

Location Plan

Stantec — BOWER WOODS NEIGHBOURHOOD AREA STRUCTURE PLAN



Plan Boundary

FIGURE 2

Legal Conditions

Bower Woods Neighbourhood Area Structure Plan

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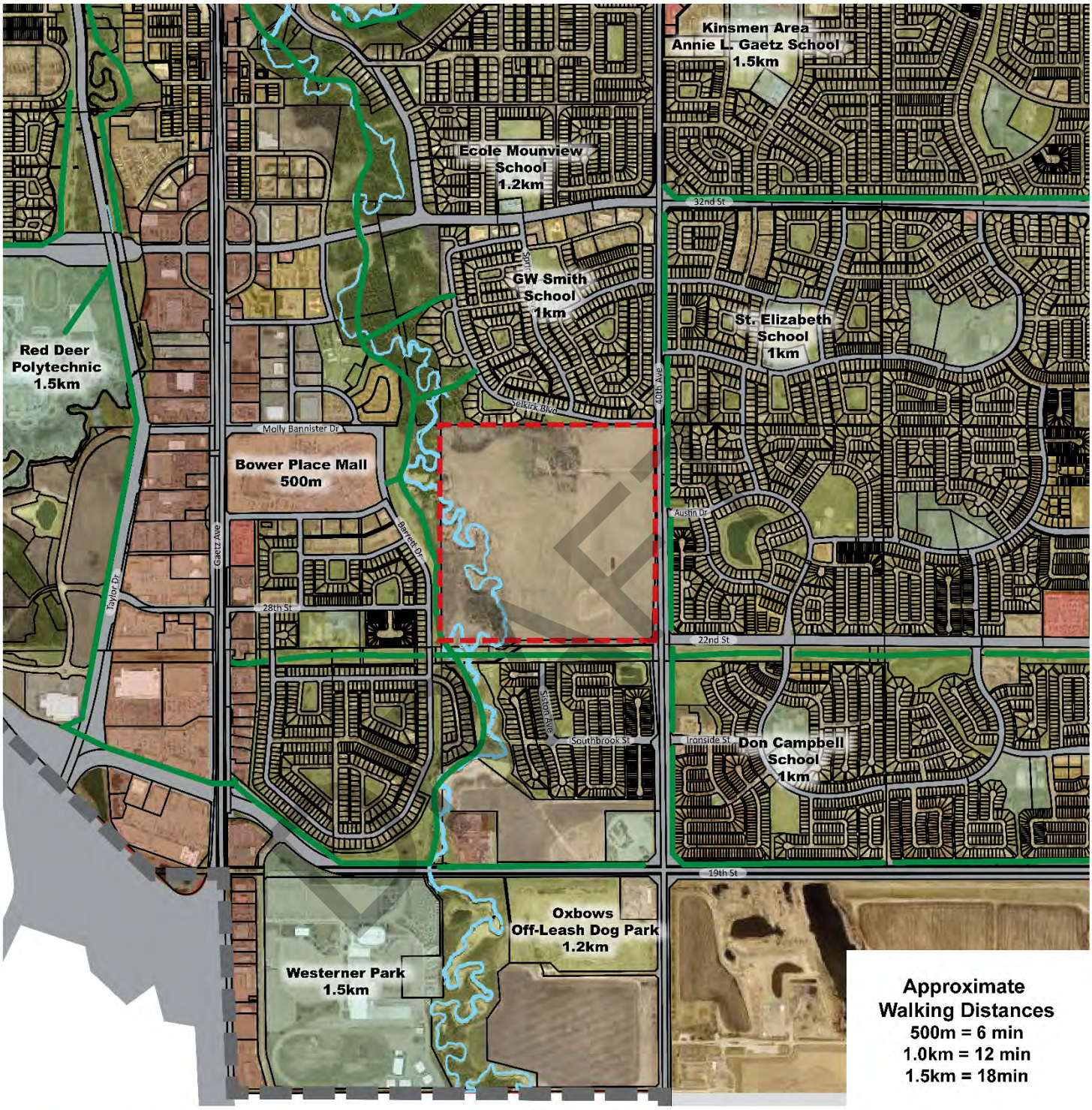

Residential Uses
Commercial Uses
Public Uses
Open Spaces
Major Trail Route
Water Course
Plan Boundary
City of Red Deer Boundary

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FIGURE 3

Surrounding Development

Stantec — BOWER WOODS NEIGHBOURHOOD AREA STRUCTURE PLAN

1.1.4 Plan Area History

Bower Woods is named after the Bower family, a prominent Central Alberta family to have lived on the land. Initially settled in the early 1900s, this quarter section was held by the Bowers for three generations and over 100 years. While its use as an agricultural homestead has remained relatively unchanged since its settlement, the story of the Bower family sheds light on what life was like for earlier settlers. To pay homage to the family, a brief description of those who held the land has been provided below, as stated in chronological order.

As will be described through the NASP, it is the intention of this neighbourhood to honor the Bower family as long-term contributors to the Red Deer community and to keep the history alive through the built environment. To do this, Melcor is committed to preserving and sharing the history of the land and its most prominent family by incorporating details into the open space network, place-making, and architectural elements.

PRE-SETTLEMENT

Bower Woods is located within the Traditional Territory for the Stoney, Blackfoot, Tsuu T'ina, and Cree; this territory is also a historic Metis gathering site. Before contact with Europeans in the 1790s, these lands were occupied and used collectively by Indigenous peoples. While many areas of what is now known as Canada had encountered Europeans before, it was the colonization efforts of the British around 1800 that changed the landscape of the west forever and resulted in the formation of Canada.

SETTLEMENT PROCESS

Through the creation of the *Dominion Lands Act* in 1872, standardizations were outlined by the newly formed Dominion of Canada to measure, survey, subdivide, and settle the prairies; an area known as Rupert's Land which was recently purchased from the Hudson's Bay Company. Also included in the *Dominion Lands Act* were provisions to grant homesteads to settlers: 160 free acres of land (one quarter of a section), offered to heads of household or anyone over 25. This offer was widely advertised across targeted areas of Europe boasting the prairies as, "the last best west" claiming that, "living is cheap, climate is good; education and land are free". As settlement moved west, land was surveyed, and newcomers were able to claim properties by showing that the land they intended to homestead was improved upon and had increased in value or use by either constructing a dwelling or cultivating the land. Upon receipt of an application, the Dominion Lands Board screened and validated their application, then awarded them with a letter of homestead.

During this similar time, the Dominion of Canada was pressuring local Indigenous representatives from the Blackfoot Confederacy (Kainai, Piikani, and Siksika), Stoney-Nakoda, and Tsuu T'ina First Nations to negotiate a treaty. This treaty sought to obtain control over all lands within its boundary to facilitate the settlement of lands for newcomers, as outlined in the *Dominion Lands Act*. After Treaty 7 was signed in 1877, one year after the *Indian Act* came into effect, it became apparent to the Indigenous peoples who were part of the negotiations that there had been a severe misunderstanding between oral and written agreements. As made worse by poor to no translation during the negotiations, signing First Nations inadvertently surrendered all the lands within the Treaty 7 boundary and had agreed to have all Indigenous persons reside on First Nation reserves set out through the *Dominion Lands Act*; an agreement they did not intend to make.

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SETTLER HISTORY

The first European settlement of the Red Deer area occurred in 1882 where the old Calgary-Edmonton Trail crossed the Red Deer River, roughly where Fort Normandeau is now located. It was Reverend Leonard Gaetz that settled his family along Waskasoo Creek in 1884 and later convinced the Canadian Pacific Railway to build its river crossing closer to his land, which resulted in the formation of the Red Deer townsite in its current location[1]. The arrival of the railway in 1893 dramatically increased the number of settlers in the region with a census of Red Deer from 1898 recording a total of 125 residents.

Carl Christian Hansen Approx. 1885 – 1904

The first known settler of the Bower Woods land was Carl Hansen who successfully obtained a homestead registration of the property in March of 1902. This land transfer was completed under the *Dominion Lands Act* through the process previously described which meant he either constructed a building on the property or cultivated it. While minimal information regarding Carl Hansen is available, it is understood that he immigrated to Canada from Denmark with his wife and children. At the time of the granting of the homestead, Red Deer was becoming an increasingly popular settlement with around 350 residents. In 1904 the property was purchased from Mr. Hansen by James and Catherine Bower.

James and Catherine Bower 1904 – 1920's

James was the first of the Bower family to come to Alberta; he was the youngest of seven children, born in 1860 in Mono Township, Upper Canada (now the Town of Mono, located northwest of Toronto). Both of James's parents were Irish and had immigrated to Canada during the Napoleonic Wars. James was a leader and entrepreneur from the start, he had many different pursuits and business ventures; unfortunately, after two accidents struck his businesses, him, and his wife Catherine (McLean) sought a new frontier by heading out west in 1899. James and Catherine had seven sons and two daughters: John, James, Hugh, Aldon, William, Charles, Norman, Grace, and Flora.

James and Catherine Bower with some of their children: John, James Jr, Don, Hugh, Charles, Grace, and Norman. Taken in 1912 by Falkner, W.B. Courtesy of Glenbow Library and Archives Collection, Libraries and Cultural Resources Digital Collections, University of Calgary.

Described as a bushy-moustached pioneer, James did not originally intend to homestead in Red Deer but quickly became a leader in the farming community raising a variety of livestock including horses imported from France and shorthorn cattle. James was a successful and progressive farmer, and

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[1] (1987) *The little village that grew: a history of North Red Deer*. North Red Deer 75th Anniversary Committee of the Northside Community Association, Red Deer –accessed January 3, 2024 https://digitalcollections.ucalgary.ca/archive/The-little-village-that-grew---a-history-of-North-Red-Deer-2R3BF1O3IIPPR.html

active member of the Central Alberta Stock Growers' Association, Alberta Farmers' Association, and was the first president of the United Farmers of Alberta, a role which he held from 1909 to 1912. In 1910 he even had the opportunity to present the UFA's ideas on marketing reform directly to then Prime Minister Sir Wilfred Laurier. His zest for agricultural improvement was reflected in his family of enthusiastic farmers who also themselves contributed to the rich heritage of Alberta. [2]

Though the Plan Area was farmed by James Bower during this period, their family home –which was a quite grand two-storey brick house, was located at the current Sunnybrook Farm.

Charles and Olga Bower 1920's – 1987

In carrying along with the legacy of the Bower Woods property, it was James and Catherine's son Charles Bower who took over ownership of the property in 1945, along with his wife Olga (Hansen). During this time, they constructed a house on the property, with other buildings added over the years.

Dorothy and Ruth Bower 1987 – 2021

After their father's death in 1986, sisters, Dorothy and Ruth owned and lived on the property for many years. During this time, they became known in the community for their generous and quiet philanthropy, including but not limited to the donation of 193 hectares of land along the west bank of the Red Deer River to form the Bower Wildlife Sanctuary, as well as millions of dollars in local scholarships and charity donations.

Throughout all the years, the sisters lived on the property in an agricultural state as the City of Red Deer's residential neighbourhoods emerged around it. For years, Red Deerians recognized this property as sticking out amongst an increasing urban landscape and either knew the property as "the Bower lands" or simply the farmland on 40th. Many Red Deer residents identify the lands based on the seasonal cattle grazing.

After building a relationship with Melcor over the last 15 years, Dorothy and Ruth decided to sell the property to Melcor in 2019.

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[2] Bradford J. Rennie, "BOWER, JAMES," in *Dictionary of Canadian Biography*, vol. 15, University of Toronto/Université Laval, 2003–, accessed January 3, 2024, http://www.biographi.ca/en/bio/bower_james_15E.html.

1.2 Planning Context

As a statutory plan, the *Bower Woods NASP* must be consistent with all currently approved and adopted planning documents held by the Province of Alberta and City of Red Deer. The following relevant documents (listed in alphabetical order) have been reviewed and referenced in preparation of this NASP.

- City of Red Deer - 2004 Growth Study (2005)
- City of Red Deer - 2023-2026 Strategic Plan (2022)
- City of Red Deer - Commercial Opportunities Study (2010)
- City of Red Deer - Community Asset Needs Assessment (2018)
- City of Red Deer - Community Housing and Homelessness Integrated Plan (2019)
- City of Red Deer - Crime and Community Safety Strategy (2017)
- City of Red Deer - East Hill Major Area Structure Plan (2013, consolidated to August 2021)
- City of Red Deer - Environmental Master Plan
- City of Red Deer - Engineering Services Design Guidelines (ESDG)
- City of Red Deer - Intermunicipal Development Plan (2007, consolidated to January 2015)
- City of Red Deer - Zoning Bylaw (2024)
- City of Red Deer - Mobility Playbook (2013)
- City of Red Deer - Municipal Development Plan (2008, consolidated to August 2021)
- City of Red Deer - Neighbourhood Planning and Design Standards (2022)
- City of Red Deer - Residential Attraction Strategy (2018)
- City of Red Deer - Red Deer River Valley and Tributaries Park Concept Plan (2010)
- City of Red Deer - Trails Master Plan (2005)
- City of Red Deer – Transportation Impact Assessment Memo (2024)
- Province of Alberta - Municipal Government Act (2000, current as of April 2023)

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1.2.1 Relevant Planning Documents

The following relevant documents have been reviewed and referenced in preparation of the Bower Woods NASP. Notwithstanding other plans as identified below, the development of Bower Woods will conform to applicable provincial legislation including but not limited to the *Environmental Protection and Enhancement Act* and the *Water Act*.

1.2.1.1 STATUTORY PLANS AND REGULATORY FRAMEWORK

The following are listed in hierarchical order.

MUNICIPAL GOVERNMENT ACT (2000)

The Province of Alberta *Municipal Government Act* (MGA) outlines the purpose and powers of Alberta municipalities. One of the powers granted to municipalities through the MGA is to require that an Area Structure Plan (ASP) be prepared to provide a framework for subdivision and development of an area of land. Section 632(2)(a) of the MGA states that an ASP must describe:

(i) the sequence of development proposed for the area,

(ii) the land uses proposed for the area, either generally or with respect to specific parts of the area,

(iii) the density of population proposed for the area either generally or with respect to specific parts of the area, and

(iv) the general location of major transportation routes and public utilities.

Municipalities may require that ASPs include additional information as section 632(2)(b) of the MGA provides that an ASP may contain any other matters, including matters relating to reserves, as council considers necessary.

INTERMUNICIPAL DEVELOPMENT PLAN (2007, CONSOLIDATED TO JANUARY 2015)

The *City of Red Deer/ Red Deer County Intermunicipal Development Plan* (IDP) establishes a broad growth framework for lands within the general context of its share boundary. It provides policy direction for the preservation of natural capital, areas of common land use planning interest, long range planning, infrastructure, and services provision (including opportunities for cooperation), and Annexation Areas for the City.

The Bower Woods Plan Area is not located within the IDP joint-planning area; as such, its policies do not apply.

MUNICIPAL DEVELOPMENT PLAN (2008, CONSOLIDATED TO AUGUST 2021)

The *City of Red Deer Municipal Development Plan* (MDP) outlines broad policies for guiding growth and changes in the City for the next twenty-five years. Among many other things, the MDP sets out the following policies regarding neighbourhood designs which have influenced the design of the Bower Woods neighbourhood:

- The residential density for new neighbourhood shall be a minimum of 17.0 dwelling units per net developable hectare.
- The design of the parks and open space system provides:
  - linkages to the major open space, including along the Red Deer River and its tributaries,
  - linear corridors and pedestrian connections within and between neighbourhoods; and
  - consider continuous wildlife corridors and key wildlife habitat areas.
- The City shall continue to require a mix of housing types and forms in all residential neighbourhoods.
- The Bower Woods Plan Area is identified in the MDP for future residential development; there are no constraints listed for the development.

EAST HILL MAJOR AREA STRUCTURE PLAN (2013, CONSOLIDATED TO 2021)

The *City of Red Deer East Hill Major Area Structure Plan* (MASP) sets out the broader transportation and land use objectives for multiple quarter sections in east Red Deer. The following elements were included

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within the MASP, as shown on **Figure 4 East Hill MASP Context**, which may affect the planning of the Bower Woods Plan Area (labelled in the East Hill MASP as “Sunnybrook Extension”).

Transportation

- Road Layout
  - 40th Avenue, an arterial roadway runs along the east boundary of the Plan Area.
  - A conceptual collector roadway layout has been shown as an extension of Austin Drive collector roadway, into the Plan Area, with a signalized intersection at 40th Avenue.
  - Space for a four-lane collector roadway that would extend from Molly Banister Drive to 22nd Street if it is deemed required for transportation connections in the future.

Natural Areas

- A large natural area has been shown surrounding Piper Creek and along the northern boundary of the Plan Area surrounding a stand of existing trees.

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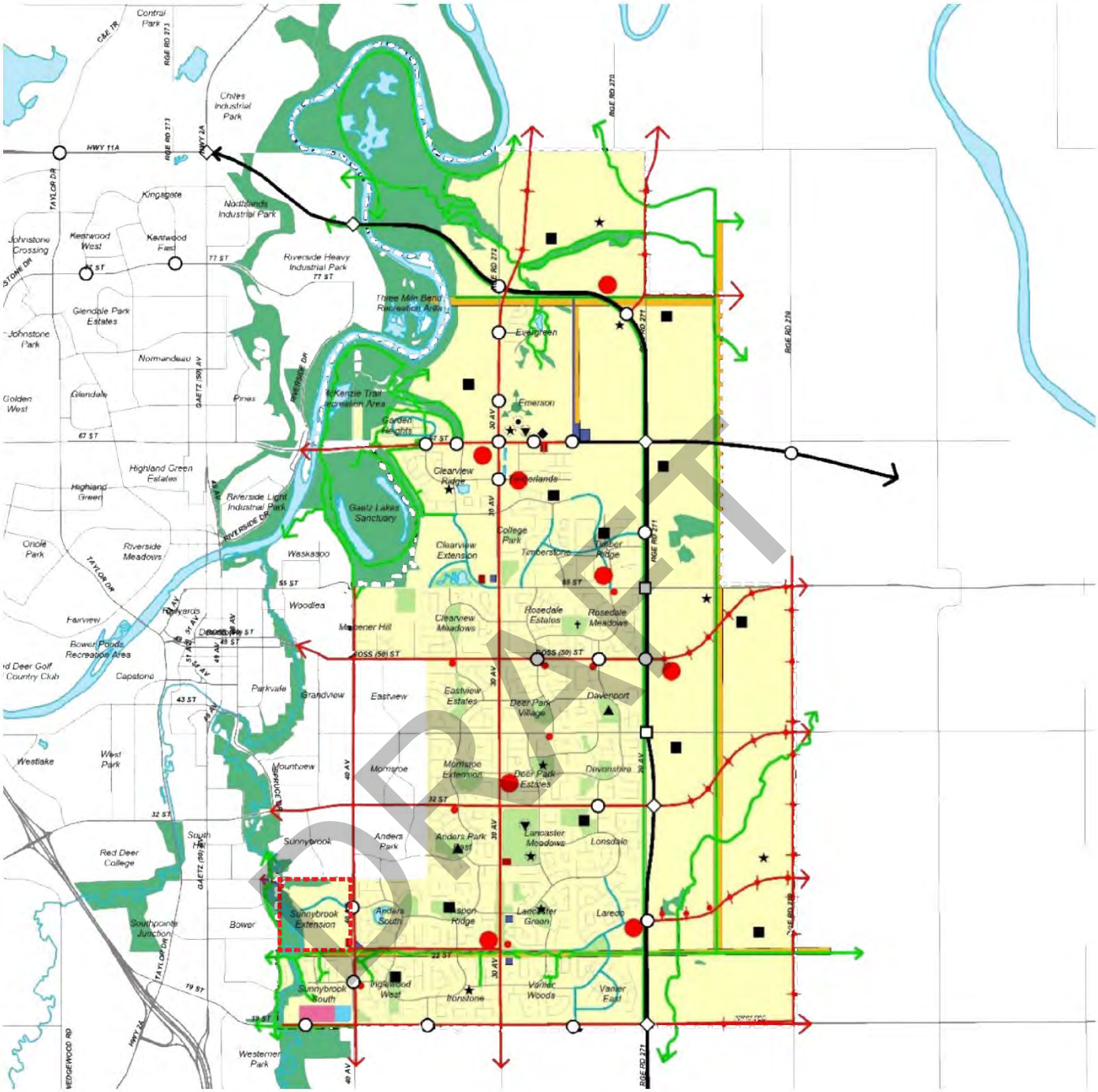

Expressway and Grade Separation (Gradual build-out starting with two lanes)

Arterial Road

Piper Creek Protected Crossing (Molly Banister Drive)

Collector Road

Proposed Regional Park

Potential Emergency Services Location

Existing Parks & Natural Areas

Restricted Commercial

Potential Natural Areas

Major Electrical Transmission Corridor

Public Utility Site

Public Service

Residential

Arterial Commercial

Regional Trail

Neighbourhood Commercial Centre

District Commercial Centre

Public K-9 School

Catholic Elementary School

Catholic High School

Catholic K-9 School

Public High School

Public Elementary School

Francophone Co-located High School

Interchange

Right In Right Out

Signal

Intersection

MASP Boundary

Plan Boundary

* Locations shown are conceptual

Red Deer

August 2021

FIGURE 4

East Hill MASP Concept

Stantec — BOWER WOODS NEIGHBOURHOOD AREA STRUCTURE PLAN

ZONING BYLAW (2024)

The *City of Red Deer Zoning Bylaw* (ZBL) describes all available land use districts to be utilized throughout the city and identifies any potential land use constraints available at the time of its creation. There are no constraints listed for the development of the Plan Area in the ZBL.

The Bower Woods NASP has been developed to conform to the bylaw and all its land use regulations; future land use rezonings will meet the intention of this Plan while meeting requirements of the most current version of the ZBL at the time of their application.

1.2.1.2 GUIDING DOCUMENTS

The following are listed in chronological order based on their publishing date.

2004 GROWTH STUDY (2005)

The purpose of the *2004 Growth Study* was to focus on land absorption rates and future land inventory requirements for industrial, residential, and commercial land uses within the city of the following 50 years. The Study was also to consider future need to open space, environmental preservation areas, and public service uses. In this Study, the Plan Area was identified for future residential development.

2018 GROWTH MONITORING REPORT (2018)

The *Growth Monitoring Report* is intended to support an integrated approach to growing smarter by providing an overview of regional, city-wide, and district-specific growth monitoring information. As identified in the report, the Bower Woods property is an undeveloped area, surrounded by residential neighbourhoods with densities ranging from 1 to 17 du/ net developable hectare.

2023-2026 STRATEGIC PLAN (2022)

The *City of Red Deer's Strategic Plan* guides the City along a path and provides focus and purpose. It is the City's most important plan as it shapes the organization, the municipal programs, and services they provide. In 2022, the strategic direction for 2023-2026 was created which identified three key focus areas: Thriving City, Community Health and Wellbeing, and Engaged and Connected City. Specific outcomes identified in the Strategic Plan that have a direct impact in Bower Woods have been listed below; additional information regarding how they are reflected in the neighbourhood is described in Section 2.2 Neighbourhood Planning Principles.

THRIVING CITY

- Environmentally committed community.
  …Red Deer is growing while also protecting natural spaces, places, and the environmental future…

  Bower Woods has been designed to preserve a large ravine and its associated riparian habitat and wildlife corridor.

- Proactively managed public infrastructure.

  The future Molly Banister Drive extension roadway identified in Bower Woods has been planned for a phased construction to reduce the amount of short and medium-term maintenance costs.

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COMMUNITY HEALTH AND WELLBEING

- Great spaces and places.
  …In all four seasons, the people of Red Deer love to get outside and explore the city's incredible trail system, parks, and green spaces…

  The open space network of Bower Woods has been designed as an extension of Red Deer's Waskasoo Park system which will connect residents to over 110km of recreational trails.

1.2.1.3 ADOPTED PLANNING TOOLS

The following are listed in chronological order based on their publishing date.

RED DEER RIVER VALLEY & TRIBUTARIES PARK CONCEPT PLAN (2010)

The *Red Deer River and Tributaries Park Concept Plan* identifies lands that are best suited for potential trails and parks within the City of Red Deer Growth Area. This Plan identifies the Bower Woods as having the Piper Creek running along the west boundary with the existing Waskasoo trail, and AltaLink trail along the south boundary.

COMMERCIAL OPPORTUNITIES STUDY (2010)

The *City of Red Deer Commercial Opportunities Study* defines a vision for commercial growth for the City of Red Deer and aids in the forecasting of retail/service/office development. The Bower Woods Plan Area was identified as a possible location of a District Centre which was described as a retail site between 10-15 acres, typically anchored by a grocery store, and may include additional services, offices, or multi-family units.

MOBILITY PLAYBOOK (2013)

The Red Deer Mobility Playbook is a user-friendly tool to identify the strategies and actions needed to provide Red Deerians with more mobility choices. The following action items were identified in the playbook:

- Put pedestrians first by using human scaled streets.
- Create walkable hubs.
- Build quality footpaths and maintain them.
- Place transit stops where other things are happening.
- Ensure access for pedestrians, motorists, cyclists.
- Improve the transit waiting experience.
- Tie urban networks into recreation.
- Plan with the entire street cross-section in mind.
- Create a Red Deer model for cycling.
- Establish new housing standards.
- Require transit-oriented development.
- Enforce and provide incentives for minimum density targets.
- Define a set of street typologies based on the desired end users.
- Balance the network with all users in mind.
- Ensure drivers have a place without infringing on quality for other models.

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NEIGHBOURHOOD PLANNING AND DESIGN STANDARDS (2022)

The City of Red Deer's Neighbourhood Planning Design Standards states the following matters must be considered when preparing a Neighbourhood Area Structure Plan:

- Major Area Structure Plan
- Natural, historical, and constructed features
- Lane versus laneless subdivision
- Street classification and layout
- Oil wells, gas wells, and pipelines
- Traffic, rail, industrial, and/or commercial noise
- Traffic volume, capacities, and constraints
- Drainage routing and detention
- Erosion and sediment control
- Municipal Reserve parcels
- Transit system
- Development phasing
- Community mailboxes
- Enhances optional subdivision amenities

In addition, nine guiding principles are identified for all neighbourhoods. These principles are as listed below and are discussed throughout the remainder of this NASP.

- Natural areas
- Mixed land uses
- Multi-modal choice
- Compact urban form and density
- Integrated parks and community spaces
- Housing opportunity and choice
- Resilient and low impact neighbourhoods
- Safe and secure neighbourhoods
- Unique neighbourhoods

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1.3 Planning Process

Melcor Developments Ltd. began working on the development of this area years prior to the NASP adoption. In 2016, Melcor began meeting with the landowners –the Bower sisters—to discuss potential future of the Plan Area. Due to the uniqueness and features of the property, Melcor had met with the City numerous times to review its opportunities and constraints. Following a sales agreement with the Bower sisters in 2019, the formal neighbourhood planning process began.

Municipal Development Plan and Major Area Structure Plan Amendment

Prior to the creation of the NASP, Melcor submitted several applications to amend the MDP and MASP to remove the potential future Molly Banister Drive extension, which was identified for connection through Bower Woods.

As described in the proposed amendment applications (2019, 2021, 2023), one of the most critical considerations about preserving the roadway alignment and bridge connection in the Plan Area is the impact associated with the continued uncertainty of its ultimate build out. Without knowing when, if, or how the roadway would ever be built, a variety of assumptions must be made by both the Developer and

the City's planning and engineering staff which will pose challenges in the future and will make the community less vibrant, cohesive, and functional.

NASP APPROVAL PROCESS

In January 2022, the Development Team met to begin the neighbourhood visioning and review the anticipated municipal review and approval process, as outlined in Appendix B of *The City of Red Deer NPDS.* The Bower Woods NASP has been prepared in accordance with this outlined process.

Phase One: Pre-NASP Submission

The Development Team met with the City's NASP Review Team for a Pre-NASP Submission meeting in June 2022 to discuss the proposed development as well as the City's process, policies, and requirements for NASP approval. During this meeting, the history of the property, Piper Creek, and Molly Banister Drive extension were discussed. In addition to these features, four concept options were shown to the NASP Review Team for their initial reactions and to generate discussion. Based on those discussions, a preliminary concept plan was generated, as presented in Phase 2.

Phase Two: Preliminary Concept

In September 2023, the Development Team again met with the City's NASP Review Team to review a preliminary concept plan for Bower Woods and discuss requirements for NASP submission. During this meeting, the concept was presented and discussed for its adherence to the nine sustainability principles, as described in Section 2.2 Neighbourhood Planning Principles, and the City's NASP Review Team gave general support for the concept presenting only small recommendations for revision via email following the meeting.

Phase Three: NASP Submission

The Development Team worked with the City's NASP Review Team to finalize a preferred land use concept and NASP through multiple rounds of internal and external reviews and revisions in 2024.

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Phase Four: Public Consultation

Following the NASP Submission Phase, the Plan was presented to the community via the City website and at an in-person public open house which allowed Melcor an opportunity to inform the community about the development and gather input that could be used to finalize the NASP. A feedback summary of what was shared and heard during the engagement process has been included in an appendix to this NASP *[to be added following engagement period]*.

Phase Five: Formal Approval by Council

After the public engagement process and administration preparation, the Bower Woods NASP was presented to Council at 1st reading. The Bower Woods NASP was approved on *[Date, 2024]* following Public hearing and 2nd and 3rd Council readings.

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1.4 Plan Area Conditions

The Bower Woods Plan Area is comprised of a mixture of natural and disturbed lands used for agricultural and residential uses consisting of two large pasture areas and one smaller pasture which were used for cattle grazing in the summer, and a former garden or yard area near the homestead site.

Existing residential developments abut the Plan Area on three sides, as shown on **Figure 5 Existing Conditions**.

1.4.1 Natural Features

As shown on **Figure 5 Existing Conditions**, the most notable natural feature in the Plan Area is Piper Creek, an active, flowing water course that runs through the west portion of the Plan Area from south to north. In addition to Piper Creek, a seasonal wetland and dugout located along the eastern side of the Plan Area that detain drainage from the pasture.

1.4.1.1 VEGETATION

The existing vegetation is agricultural in nature with the mature trees surrounding the home site along the northern portion of the Plan Area, along the west side the Plan Area west of Piper Creek, and in the northwest corner of the Plan Area.

1.4.1.2 TOPOGRAPHY

The Plan Area slopes down, from east to west towards Piper Creek. The eastern portion is fairly flat, and grades start to drop from a ridge located in the center of the Plan Area. A low spot is located in the center of the Plan Area.

1.4.1.3 SOIL AND GROUNDWATER CONDITIONS

The general soil profile at the site in descending order: topsoil; glacio-lacustrine deposits; and till. Sloughing and/or seepage was observed at drilling completion in all boreholes drilled during the completion of the 2020 Geotechnical Slope Assessment prepared by Parkland Geotechnical Ltd.

1.4.2 Built Features

The potential Molly Banister Road right-of-way crossing location has also been shown, as the NASP has made significant considerations to recognize the requirements and impacts of it.

1.4.2.1 BUILDINGS

As a former farmstead, the property included several built structures: an old home, garages, sheds, livestock shelters, a sea-can, and mobile home. The house on the Property was reportedly built in the 1940s during World War 2 and the other buildings present were added over the years. There are also remnants of an old brick house located south of the access road and garden.

Due to the age of the buildings, a hazardous building assessment would be required prior to any demolition activities.

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1.4.2.2 EXISTING UTILITIES

One utility right-of-way (utility r/w 32 5274) runs along a portion of the Plan Area's southern boundary. This area is utilized by the City of Red Deer as a storm outfall to Piper Creek.

Outside of the Plan Area along the south boundary is also major a AltaLink powerline transmission corridor (powerline 5003 NY), which contains two linear powerlines with towers, and is utilized as a contiguous regional trail running east-west through the entire south portion of the city.

1.4.2.3 WATER WELLS

A search of groundwater wells was conducted in the AEP Alberta Water Well Information Database. The search indicated that there were three wells located on the Property, each with the following IDs: 96106 – a historical brick well registered in 1946 for domestic use which was reportedly dug by hand, 96107 – an irrigation well registered in 1989, and 254551 – a well registered in 1994 for use with livestock.

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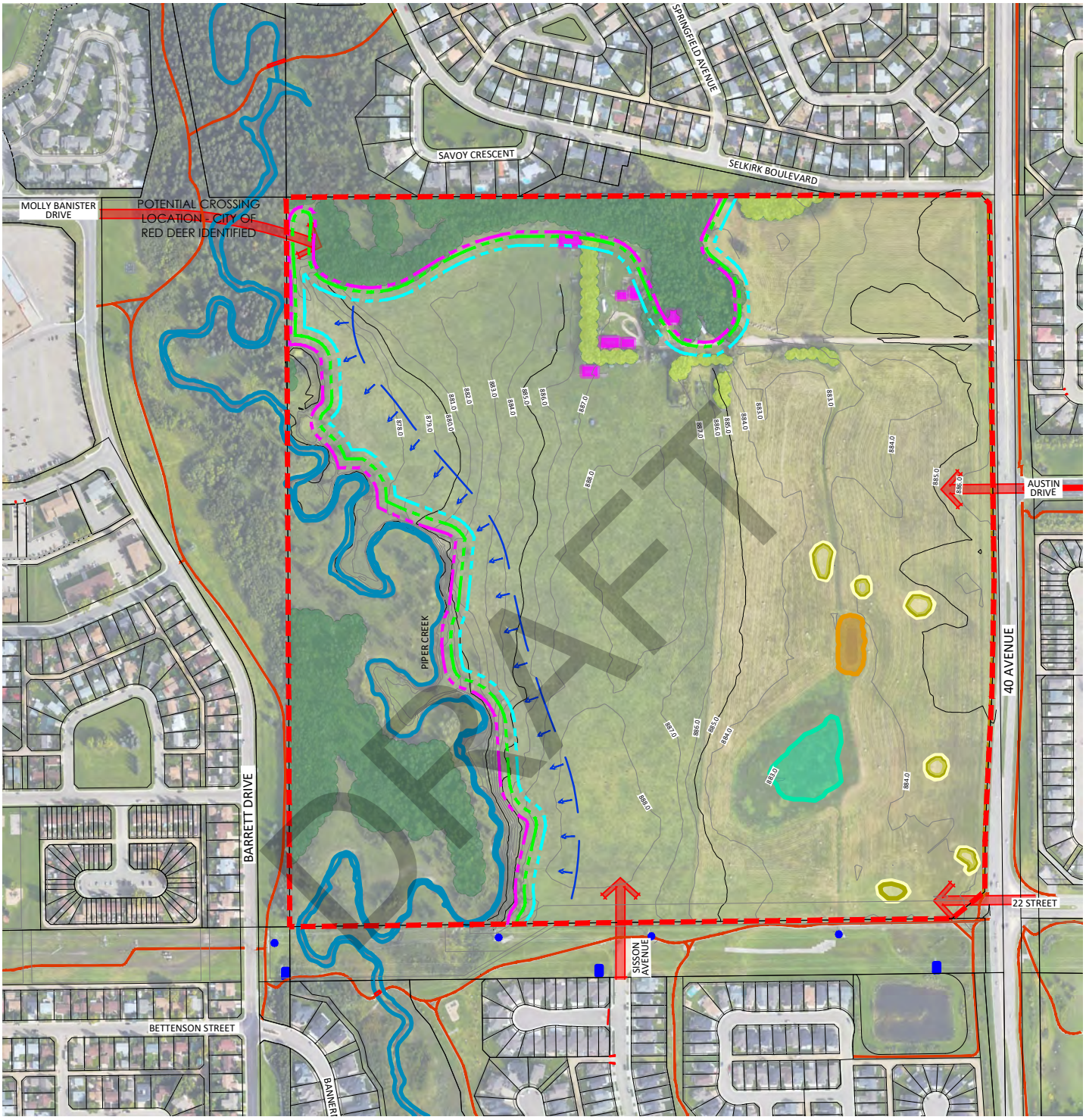

Treed Area - Major
Treed Area - Minor
Dugout
Ephemeral Waterbody
Seasonal Graminoid Marsh
Contour

Piper Creek
Altalink Tower
Building
Multi-use Trail
Development Setback Line
Piper Creek Views

Building Setback Line
Crestline
Existing Access Point
Plan Boundary

FIGURE 5
Existing Conditions
Bower Woods Neighbourhood Area Structure Plan

Stantec

Updated 24/11/19, 10:25 AM:By: SSTAFFORD

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1.4.3 Supportive Studies

To support the development of the Plan Area, several supportive studies were completed to understand the Plan Area's conditions, each described in more detail below.

GEOTECHNICAL SLOPE ASSESSMENT (2020)

A geotechnical slope assessment was completed for the property in November 2020 to assess the stability of the local slopes at the Bower Woods site and provide geotechnical recommendations for development setbacks. The slope assessment is described by Parkland Geotechnical Consulting Ltd. as follows:

> "The property can be divided into three general areas for description purposes: the Piper Creek Valley; the tributary ravine into the valley at the northwest corner of the property; and the upland area. The uplands area is gently rolling, with a general inclination down towards the creek valley. The upland area has a small 2 to 3 m high ridge that runs north south through the center of the property about 330 m west of 40th Avenue. The uplands area is vegetated with native prairie grasses and is used for open pasture for livestock. A small seasonal slough is located in the southeast of the uplands area, with a surface elevation of about 883 m...
>
> The Piper Creek Valley along the west side of the site varies from 150 to 300 m wide as measured crest to crest. The creek valley floor is about 3 to 7 m lower than the upland crest. Piper Creek has further incised a 3 to 8 m wide meandering channeling within the base of the valley floor. Piper Creek flows north through the valley to a confluence with Waskasoo Creek about 2 km north of the site. The channel meanders between the valley walls throughout the quarter section but is generally near the east valley wall. Numerous old cut-offs are visible within the valley floor. During normal flows, Piper Creek is typically less than 1 m deep with banks in the range of 0.5 m above the creek. Typical creek elevations drop from about 877 m at the south end of the site to 874 m at the north. Flood mapping of Piper Creek was not available, but it is expected that Piper Creek will rise at least 1 m during seasonal flood situations, breaching the banks and spilling into the floodplain.
>
> The Piper Creek valley slope range from as high as 10 m on the south end of the site to 3 m at the north end of the site. The slopes range from 0.5H:1V in localized areas of active toe erosion, to as flat as 4.8H:1V in areas of historical slumps. Generally, the slopes are in the range of 2 to 3H:1V. Piper Creek moves into the valley about 50 to 150 m west of the east slope at the north end of the site. The valley slope east of the creek in this area is about 7 m high with grades of 7H:1V or flatter.
>
> The east creek valley slope is generally vegetated with native prairie grasses and occasional spruce trees. The valley floor and west slope are densely vegetated with spruce trees and shrubs. A historical aerial photograph from 1969 shows more trees on the east slope face, indicating possible undercutting of the east slope face by the creek. The aerial photographs also show areas of limited vegetation and active erosion of the slope toe on outside bends of the creek channel. Scars of small slumps in the upper valley wall, up to 7 m wide can be seen along the crest of the valley in the Aerial Plan. A comparison of recent aerial photographs and the aerial photograph from 1969 shows the creek channel alignment has not shifted in the past 50 years and that most slump scars were visible in 1969.
>
> The ravine in the northwest corner of the property was formed by historical runoff draining the upland area to the east into the Piper Creek valley. The end of the ravine is near the existing farmhouse and cuts down through the overburden to intersect with Piper Creek just northwest of the property. At the entry point into the creek valley, the ravine is about 5 m deep and 20 to 40 m wide measured crest to crest. The slope inclinations are in the range of 3 to 4:1V and are covered with thick, mature spruce trees and undergrowth vegetation. Aerial photographs from the previous springs show some seasonal

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> creek backup into the west end of the ravine, but there was no visible sign of significant erosional down cutting in the base of the ravine. This suggests the drainage velocities in the relatively gradual sloping thalweg of the ravine are within the capability of the ravine subgrade and vegetation to resist erosion and down cutting. This is probably aided by the internal storm water collection system in Sunnybrook Subdivision which has significantly reduce run-off into the ravine over the past 50 years. The existing houses within Sunnybrook Subdivision that back onto the ravine are typically setback at least 15 m from the north crest of the ravine."

The assessment identified that the construction of the proposed residences and associated public infrastructure was not expected to have a significant impact on the stability of the slope, and the potential for a major slope movement was low under normal conditions.

To provide a buffer between the structures and the slope in the event of slope movement along the crest, a development setback and building setback were recommended (see **Figure 5 Existing Conditions**). Each of these setbacks were described in the assessment as follows and have been incorporated in the concept plan for Bower Woods as illustrated on **Figure 6 Land Use Concept**.

<u>Development setback</u>

- Intended to represent where the proposed property lines should be for properties backing onto the Piper Creek valley.
- Is at least 10m from the crest, or three times the slope height, as measured from the toe of the slope:
  - For the ravine, the minimum setback may be reduced from 10m to 5m.
  - For areas where outside bends in Piper Creek are at the toe of the slope, an additional 3m are required, which can be removed if the toe area is protected against erosion.

<u>Building setback</u>

- Intended to represent the distance permanent residential structures should be.
- Is a minimum of 10m from the development setback line.

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Lots adjacent to the crest will be registered with a restrictive covenant at the time of subdivision to identify escarpment considerations such as development and building activities which may negatively impact the setbacks.

ENVIRONMENTAL SITE ASSESSMENT (2021)

A Phase 1 Environmental Site Assessment (ESA) was completed for the property in June 2021; the Plan Area Conditions described in Section 0 The Bower Woods Plan Area is comprised of a mixture of natural and disturbed lands used for agricultural and residential uses consisting of two large pasture areas and one smaller pasture which were used for cattle grazing in the summer, and a former garden or yard area near the homestead site.

Existing residential developments abut the Plan Area on three sides, as shown on **Figure 5 Existing Conditions**.

Natural Features has been informed by the assessment. As described in the ESA, the potential environmental risk for most of the Property was rated as low based on the site inspection, search results, and review of the nearby sites. The ESA went on to state that if significant staining were to be observed

near the fuel slip tank or the propane bullet during the removal of old farm equipment, soil sampling would be suggested for environmental due diligence. Though not included in the assessment, a hazardous building material assessment was also recommended prior to any demolition due to the age of the buildings observed on the Property. No further environmental work was recommended.

WETLAND ASSESSMENT (2021)

CPP Environmental conducted a pre-development biophysical assessment of the Plan Area. The assessment included both desktop and field activities to identify potential impacts from the proposed development, and mitigation measures to reduce ecological impacts. Site conditions are described in the August 2021 Wetland Assessment and Impact Report Bower Lands (NE 4-38-27 W4M), Prepared by CPP Environmental as follows:

> "The Project Area occurs within the Central Parkland Natural Subregion, within Alberta's Parkland Natural Region (Natural Regions Committee 2006). Most of this Subregion has been intensely cultivated, leaving intact native vegetation in areas that are unsuitable for cultivation. In the uncultivated areas, aspen forests are interspersed with plains rough fescue grasslands. Other upland vegetation communities include balsam poplar- and white spruce-dominated forests and shrublands. In wetlands, the vegetation community is dominated by cattails, sedges, and bulrushes (marshes), willow (shrubby swamps), or black or white spruce, Labrador tea and feathermosses (fens).
>
> CPP Environmental conducted a desktop-based wetland assessment to determine whether any wetlands may occur within the Project vicinity, following the procedures outlined in the Alberta Wetland Identification and Delineation Directive (Government of Alberta 2015). Wetland classification follows the Alberta Wetland Classification System (AWCS; ESRD 2015). No wetlands have been delineated within the Project Area, though some marsh wetlands are mapped around Piper Creek in the southwest corner of NE 4-38-27 W4M."

As shown on **Figure 5 Existing Conditions**, six ephemeral waterbodies, one seasonal graminoid marsh, and a dugout noted in the east half of the Project Area. The report detailed that a marsh had been highly developed and modified over the years, including intermittently cultivated for hay, and used for cattle grazing. As a result of these cumulative disturbances, its functionality as a wetland function has been altered; and while transformation into a stormwater management pond would also alter its function, it would improve its ability to retain water and provide wildlife habitat.

HISTORICAL RESOURCES (2022)

The Alberta Listing of Historic Resources (April 2022) identifies the northwest, southwest, and northeast quadrants of the Plan Area as having a high potential to contain archaeological resources, likely due to the Plan Area's proximity to Piper Creek and inclusion of wooded areas. On June 19, 2023, *Historical Resources Act* Approval was granted by the Historic Resources Management Branch for the development of the Bower Woods neighbourhood. In the approval letter, Section 31 of the *Historical Resources Act* was cited which reminds the developer that, "a person who discovers an historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minster of the discovery".

1.4.3.2 ADJACENT ACCESS

40th Avenue, a major north-south arterial roadway, runs along the eastern boundary and 22nd Street a major west-east arterial roadway perpendicular to the southeast corner of the Plan Area. Two collector

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roadways terminate at the boundary of the neighbourhood: Austin Drive at 40th Avenue along the east boundary, and Sisson Avenue at the AltaLink powerline transmission corridor and linear park along the south boundary.

The developments surrounding the Plan Area have predetermined where access locations must be. To ensure safe access that are consistent with the Engineering Services Design Guidelines, access into Bower Woods will align with Sisson Ave, 22nd Street, and Austin Drive. The potential future Molly Banister Drive extension has also been identified within the NASP making significant considerations to recognize and anticipate the requirements and impacts of such an extension.

1.5 Opportunities and Constraints

After reviewing the existing conditions and planning context applicable for the Bower Woods Plan Area, the following have been identified as potential development constraints.

1.5.1 Existing Neighbourhoods

Although the Bower Woods area has been identified for residential development for decades, existing neighbourhoods surrounding the Plan Area must be respected and carefully considered to minimize any potentially negative impacts. Given the limited development setback, impacts to development in Sunnybrook, particularly along Savoy Crescent and Selkirk Boulevard are of particular concern. To minimize potential impacts, no roadway connections into Sunnybrook have been provided, and mature trees buffering the two areas will be preserved where possible.

1.5.2 Piper Creek

The most significant feature of Bower Woods is the Piper Creek Valley, which will be integrated into the open space system. The width of the creek varies from 150 to 300 m and flows north through the valley to a confluence with Waskasoo Creek about 2 km north of the Plan area.

The Piper Creek Valley will primarily be dedicated as Environmental Reserve as per Section 644(1) of the Municipal Government Act of Alberta and policies of the City of Red Deer, to preserve natural features, prevent pollution, and/or provide public access to the creek.

1.5.3 Roadway Layout

The roadway layout for Bower Woods is limited by the existing connections surrounding the neighbourhood (i.e., Austin Dr and Sisson Ave), and the requirement to include the opportunity to construct a four-lane collector roadway that would extend from Molly Banister Drive to 22nd Street. As the Molly Banister Drive is a right-of-way to allow for a potential roadway extension at an unknown date in the future.

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1.5.4 Trail Connectivity

As shown on **Figure 3 Surrounding Development**, there are trails located along the south and west boundaries of the Plan Area that provide off-street connectivity to the broader city. Those located west of the neighbourhood are part of the City of Red Deer's extensive Waskasoo Park system which includes over 110km of interconnected trails extending throughout the city. Using the Waskasoo Park system's trails, users can travel from the south end of Red Deer all the way to the northeast corner of the community, approximately 15km in length, without using any roadway connections, complete separated from traffic. Similarly, along the south boundary of Bower Woods is the AltaLink linear park and utility corridor which provides direct, off-street connectivity for non-motorized movements and extends approximately 5km from Gaetz Avenue E to 20th Avenue.

1.5.5 Utility Right-of-Way

The City of Red Deer stormwater utility right-of-way (utility r/w 32 5274) will require located within a road ROW. The AltaLink transmission corridor right-of-way will not require a development setback.

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02. Plan Vision

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2.1 Vision

Bower Woods is envisioned as a charming residential community, nestled along the edge of Piper Creek, that allows residents to conveniently access one of the best amenities the city has to offer: the vast Waskasoo Park system and its associated trail network.

Areas of mature forest are valued by many Red Deerians for their intrinsic value of transporting us somewhere else. Bower Woods integrates the built and natural environments to provide residents with the opportunity to quickly get into forested areas, where the busyness of day-to-day life can be replaced by serenity and fresher air. The Bower Woods open space system will become an asset to the entire city, connections to the Waskasoo Park system will allow safe and direct access to over 110km of trails and providing safe off-road mobility routes to destinations across the city.

Key Highlights

- Last greenfield development in southeast Red Deer
- Protection of the Piper Creek corridor
- Continuation of the Waskasoo Trail network
- Low, medium, and high-density residential land use areas
- 1 commercial centre
- 37.9% of the Gross Plan Area dedicated as open space
- 39.1 ac of natural space

Home to approximately 1,800 residents, Bower Woods will include a variety of housing types to accommodate different preferences and life stages including detached, semi-detached, and multi-family housing. In addition to the desirable open space network and residences, Bower Woods will also include a 10-acre commercial site to provide retail and personal services to residents in the neighbourhood and those in surrounding areas.

Architectural standards and landscaping will define the visual aesthetic of Bower Woods which will reflect a modern farmhouse aesthetic, showcasing the land's historic use and providing educational connections to the Bower family who lived on the property for over a century. Following the NASP, Melcor will create a

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variety of architectural, landscaping, and amenities standards that will be shared with the City, builders, and future residents. As an established Developer in Red Deer, Melcor is committed to creating a community that has long term positive impacts.

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2.2 Neighbourhood Planning Principles

Bower Woods has been designed using the City of Red Deer's nine neighbourhood planning principles, each intended to help build great neighbourhoods. By following the principles, neighbourhoods can contribute to the prosperity of the city and well-being of residents. As described below, Bower Woods integrates all nine planning principles in a balanced manner while specifically focusing on the principles of natural areas, integrated parks and community spaces, and unique neighbourhoods.

PRINCIPLE 1 NATURAL AREAS

The preservation and inclusion of natural areas in the Bower Woods neighbourhood is of upmost importance and is in alignment with stated Council goals as outlined in multiple municipal plans. Piper Creek runs through the west portion of the neighbourhood, flowing south to north toward the Red Deer River. Along Piper Creek is the Waskasoo Park system, a significant linear open space network that runs through the entire city buffering both Piper Creek and the Red Deer River and providing hundreds of kilometers of trails for residents to enjoy. To support the preservation and ecological integrity of Piper Creek, its riparian habitat, and role as a wildlife corridor, a combination of Environmental Reserve and Municipal Reserve dedications have been used. All areas associated with the Creek, its riparian setback, and potentially unstable lands along the ravine escarpment (as determined through a geotechnical investigation) have been dedicated as Environmental Reserve; in addition to mature treed areas that are contiguous with the Creek. In addition to these areas, natural spaces along the Creek that area not treed, including all areas within the Plan Area located west of Piper Creek, have been dedicated using Municipal Reserve; these areas will act as a buffer and provide opportunities for the development of public amenities or features outside of environmentally sensitive areas.

PRINCIPLE 2 MIXED LAND USES

Bower Woods integrates a rich open space network and a 10-acre commercial site with a variety of housing options. To support the creation of an accessible neighbourhood node at the commercial site, higher density housing has been co-located with it, acting as a buffering interface with lower density housing types and providing a high concentration of user's convenient access to everyday retail and service amenities.

The location of the node along 40th Avenue and the AltaLink linear park trail corridor allows direct access for vehicles and pedestrians from the external mobility networks.

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PRINCIPLE 3 MULTI-MODAL CHOICE

Bower Woods encourages multiples modes of movement to ensure residents can chose the best method of transportation for them, based on their needs, recognizing those needs will change throughout the week, seasonally, or over the years. To do this, the neighbourhood provides direct connections to external roadways and the vast City network of pedestrian and non-motorized vehicle routes.

Designed around the Plan Area's various development constraints, Bower Woods will provide direct roadway connections south and east in the short-term, and potentially west in the long-term. These connections are intended to facilitate convenient and direct vehicular routes for residents by keeping higher traffic volumes on collector roadways and causing minimal disruptions to existing neighbours and future residents.

In addition to the multi-use trails along collector routes and roadway sidewalks, linear parks have also been used to help connect residents to key destinations: the commercial site, stormwater management park, the AltaLink linear park trail corridor, and extensive Waskasoo Park system. To enhance non-motorized connectivity to areas west of Piper Creek such as Bower Mall and Gaetz Avenue services, a new pedestrian-scaled bridge will be constructed in the Waskasoo Park area. As the only west connection available to residents in the short and medium term, the inclusion of this pedestrian bridge will create a significant short-cut option for residents choosing to use non-vehicular mobility choices rather than driving.

PRINCIPLE 4 COMPACT URBAN FORM AND DENSITY

Bower Woods has been designed to conserve many environmentally sensitive areas, large tracts of existing vegetation, and preserve a future Piper Creek roadway crossing; all of which significantly limit the developable area of the neighbourhood. To achieve the City's recommended density standard of 17.0 du/ha, higher density residential development has been provided adjacent to the commercial site and along major roadways. This location will bring many residents within convenient walking distance to services and amenities creating a vibrant, walkable neighbourhood node. In addition, medium density residential land uses will be located along the collector roadways to facilitate convenient vehicular access, encourage the use of transit, and reduce vehicle movements throughout the neighbourhood.

PRINCIPLE 5 INTEGRATED PARKS AND COMMUNITY SPACES

As will be shown in the NASP, all residents of the Bower Woods neighbourhood will be within 400m (5min walking distance) of a public open space, which have been designed as an extension of the city's beloved Waskasoo Park system.

Within the continuous network that extends the entire length of the City of Red Deer, Waskasoo Park includes over 110km of soft and

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hard surface trails. This system provides a high-quality circulatory system that facilitates convenient off-street mobility for residents to access all corners of the city.

A series of linear parks and multi-use trails have been used to connect trail users west into the Waskasoo Park system which will provide them with north/ south off-roadway mobility routes, and south to the AltaLink linear park which will provide them with east/ west off-roadway mobility routes. To further facilitate integrated connectivity to the Waskasoo Park system, one pedestrian bridge will be constructed in the Waskasoo Park Environment Reserve areas to span across Piper Creek. This pedestrian bridge will provide the neighbourhood and surrounding residents with convenient pedestrian access to areas west of Piper Creek such as Bower Mall.

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PRINCIPLE 6 HOUSING OPPORTUNITY AND CHOICE

Residential land use districts included in Bower Woods will provide a variety of housing options that can accommodate residents at a range of price points, personal preferences, and unit sizes. These residential districts, determined during the time of rezoning, will be in accordance with the land use concept shown in the NASP and, reflect local housing needs and preferences at the time and follow the regulations of the ZBL. To accommodate a range of future residents, three different high-level residential land uses have been included in the Bower Woods neighbourhood: low density detached, medium density attached, and multi-family. A variety of housing types will be provided through rezoning; including but not limited to single-detached homes with and without rear lane access, wide/ shallow and small lot single-detached homes, homes with walkout basements, townhouses, multi-attached buildings, house suites, backyard suites, and apartments. In total, it is anticipated that the neighbourhood's housing stock will be comprised of approximately 39% low density units and 61% medium or high-density units.

PRINCIPLE 7 RESILIENT AND LOW IMPACT NEIGHBOURHOODS

Low impact development is intended to help manage both stormwater quality and quantity by incorporating natural and built features that reduce surface runoff, filter overland drainage, store stormwater, encourage evaporation, increase topsoil depths and detain runoff to prevent erosion. Builders and owners will be encouraged to utilize low impact construction options such as eco-landscaping, rain barrels, and low flow fixtures.

To further manage stormwater, the future Molly Banister Drive extension area has been planned for a staged construction. While a four-lane collector roadway has been preserved for future construction and long-term connection to Molly Banister Drive, in the short and medium term this roadway will be constructed with only two driving lanes paved, with the additional width of the carriage way landscaped. This modified cross-section will reduce the amount of impermeable surface associated with the roadway and decrease runoff.

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PRINCIPLE 8 SAFE AND SECURE NEIGHBOURHOODS

Bower Woods has been designed to enhance pedestrian safety by reducing opportunities for vehicles short-cutting through the community and incorporating minimum width roadways to reduce travel speeds. The neighbourhood has also been designed using the principles of Crime Prevention Through Environmental Design (CPTED) as much as possible by assigning purpose to public spaces, increasing visibility to parks through the dedication of residential uses surrounding open spaces, thereby enhancing the level of “eyes on the street”, and avoiding high intensity lighting which will prevent the creation of shadowed areas. During the detailed design process, the Developer will work with the City of Red Deer to design public areas further using CPTED principles including selecting street furniture and materials that minimize potential graffiti and vandalism.

In the interim, the north-south collector roadway has been identified as a 2-lane collector road. Should the Molly Banister connection roadway be required, the north-south roadway would be converted to a 4-lane roadway by removing the established boulevard space and adding 2 additional roadway lanes.

PRINCIPLE 9 UNIQUE NEIGHBOURHOODS

Bower Woods is the last quarter section developed in the East Hill area of Red Deer. As a century old farm, this property has held a place in the history of the community for generations both through the legacy of the Bower family and the property’s longstanding agricultural use which impacted the landscape of Red Deer for years. Many Red Deerians have warm memories of driving along 40th Avenue and seeing cows roaming the property which was a surprising and comforting sight as development increased surrounding it; a character that helped blend Red Deer’s rural and urban lifestyles.

This neighbourhood will be designed to honor its history through its name, the incorporation of archeological elements into the public realm, highlighting nature through the preservation of riparian areas and wildlife corridors along Piper Creek, and the promotion of outdoor lifestyles through the provision of active transportation links to the Waskasoo Park system. In addition to these elements, Melcor will develop a set of architectural design guidelines for elements of the public realm such as fencing, lighting, and seating; architectural controls for private buildings; and detailed landscaping plans that carefully use specific species and design layouts to highlight the neighbourhood’s agricultural roots.

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03. Land Use and Housing

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3.1 Overview

The Bower Woods neighbourhood has been designed as a highly desirable area, surrounded by the recreational and natural amenities provided by the Waskasoo Park system. Houses in Bower Woods will be a mix of housing types with convenient connections to retail and other services as provided at the commercial site.

3.2 Land Use Plan

RESIDENTIAL USES

Residential uses in Bower Woods include a range of low, medium, and high-density options; each of which has been described below. Within each area, various housing types will be permitted, as guided by this NASP, and implemented through the ZBL rezoning process.

Low Density Residential

Low Density Residential areas typically accommodate one dwelling unit per lot, with some suite opportunities. As shown on **Figure 6 Land Use Concept**, most of the lower density housing has been located along the north and west boundaries of the neighbourhood to back onto preserved natural areas. This use has been located in these areas to provide a buffer for environmentally sensitive spaces, and because they will not require rear lane access for parking.

Low Density Residential districts include:

- Residential Low-Density Zone: R-L
- Residential Wide Zone: R-W
- Residential Narrow Lot Zone: R-N

APPROPRIATE HOUSING STYLES

The following housing styles are anticipated in the Lower Density Residential areas:

- Single detached dwellings with front garages
- Single detached homes with double attached front garages are the most popular housing product in Red Deer. Single detached dwellings with front garages typically range from 11-15m in width.

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As the cost of housing has increased, consumers across Canada have sought smaller lots, to reduce costs. This reduction in lot frontage has a direct correlation on housing price; as such, the introduction of narrow or small lot housing with front garages is a well-established trend. Housing of this type is anticipated for construction in areas identified as Low Density Narrow Lot Residential.

To reduce the visual appearance of front garages, specifically on more narrow lots, housing designs should consider a high level of architectural detail on front facades, minimal setbacks between the front of the garage and the doorway, glazing to increase visibility between the public realm and living spaces.

- Homes with walkout basements
  Homes located on slopes or along open spaces are often designed with walk-out basements. These types of homes will be designed with a deck off the main floor, and a door to the backyard from the basement. Walk out basements appeal to a variety of residents for different reasons including: an increased amount of natural light in basements making the space more livable, the ability to have bedrooms in the basement with full size windows, and increased air quality/reduced moisture in the basement.
- House and backyard suites
  House and backyard suites will be accommodated as per the City of Red Deer ZBL which states that the maximum for any neighbourhood is 15% of the total number of Detached Dwelling Units. These suites will be constructed by homebuilders, or homeowners, as a reflection of homeowner preference and market demand at the time of construction. Homes with house or backyard suites will be required to achieve all regulations of the City's ZBL for such uses.

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Low Density Residential Summary

Density	Height	Parking and Access
Density within low density residential areas is anticipated to be 1-2 dwelling units per lot.	The maximum height for homes in this area is anticipated to be 2 storeys, in accordance with the ZBL and its particular regulations per district.	All parking will be provided in accordance with the ZBL and its particular regulations per district with access provided either via the front street or rear lane depending on location.

Medium Density Residential

Medium Density Residential areas are intended to accommodate two to sixteen dwelling units per building. As shown on **Figure 6 Land Use Concept**, most of the medium-density housing has been located along the east boundary of the neighbourhood and surrounding the commercial site. This use has been located in these areas to provide convenient access in and out of the neighbourhood for the larger number of residents living in these areas, thereby reducing through traffic, and locating residents within convenient walking distance to the neighbourhood commercial site and anticipated transit routes.

Medium Density Residential districts include:

- Residential Duplex Zone: R-D
- Residential Medium-Density Zone: R-M

Appropriate Housing Styles

The following housing styles are anticipated in the medium-density residential areas:

- Semi-detached dwellings with or without front garages
  Semi-detached housing is a popular housing option for those looking for a more affordable solution that still offers a private yard. These houses are constructed as two independent dwelling units attached side-by-side with a common wall extending from the foundation to the roof. Semi-detached housing may be constructed as bungalows (single-storey), bi-level, or two-storey buildings. These units may or may not include front garages.

- Row homes with or without front garages
  Row homes have become an increasing fee simple housing option. Often called town houses, these structures include common walls extending from the foundation to the roof and often include small outdoor private amenity spaces.
  Row homes are typically constructed as bungalows (single storey) or two-storey buildings. These units may be developed in a fee simple or clustered condo-style development with internal roadway.

- Multi-attached buildings
  Multi-attached buildings commonly range from 4 to 16 units with separate entries and utilities. Unlike row homes, dwelling units are often stacked on top of one another and include only shared outdoor amenity spaces. This type of housing provides a more affordable residential option that appeals to a variety of residents including but not limited to renters, first time home buyers, and retirees.

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Medium Density Residential Summary

Density	Height	Parking and Access
Density within medium density residential areas will vary based on the type of housing constructed. Based on the concept proposed for Bower Woods, the density of Medium Density Residential areas is estimated at an approximate 41.5 du/ ha.	The maximum height for homes in this area is anticipated to be 3 storeys, in accordance with the ZBL and its particular regulations per district.	All parking will be provided in accordance with the ZBL and its particular regulations per district with access provided either via the front street, rear lane, or internal private roadway depending on location.

High Density Residential

High Density Residential areas are intended to accommodate more than eighteen dwelling units per lot. As shown on **Figure 6 Land Use Concept**, there are two higher density residential areas identified in Bower Woods. Located adjacent to major roadways, next to the commercial area, and beside the primary manicured park space; the high-density residential sites were chosen to optimize residents' access to public outdoor spaces and minimize the impact its increased traffic will have on other lower density areas of the neighbourhood --keeping traffic volumes down and locating a high number of the neighbourhood's residents within a close walking distance to both the commercial site and transit network.

High Density Residential districts include:

- Residential High-Density Zone: R-H

Appropriate Housing Styles

- Apartment-style buildings
  Apartment style housing is anticipated in higher-density residential area; this building style has shared entries, hallways, and often building amenities such as fitness centres or hot tubs.

High Density Residential Summary

Density	Height	Parking and Access
Density within Higher Density residential areas will vary based on the type of housing constructed with density anticipated to be between 35 – 45 du/ ha; as regulated with the ZBL.	The maximum height for homes in this area is anticipated to be 4 storeys which will be regulated in accordance with the ZBL and its particular regulations per district.	All parking will be provided in accordance with the ZBL with access provided via an internal private roadway.

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COMMERCIAL USE

One commercial area has been identified at the southeast corner of Bower Woods along 40th Avenue and 22nd Street to provide a district shopping area that supports a range of commercial and services in south central Red Deer. This location was chosen for its proximity to vehicular and pedestrian traffic routes, and to maximize its accessibility by residents living in surrounding neighbourhoods.

This site is intended to be developed to support a local-oriented shopping centre, generally 4-6 hectares (10-15 acres) in size anchored by a grocery store and containing a mix of retail, service, and locally oriented office uses, and serving as a focal point for multifamily housing and civic uses. The intent of this commercial centre is to be within a ten-minute walking distance from the majority of residential dwellings." To facilitate convenient access to the Bower Woods commercial area, without generating unnecessary traffic through the rest of the neighbourhood, roadway access to the site has been planned off 22nd Steet and through a right-in-right-out off 40th Avenue.

Site and building design for this commercial area will be guided using the City's Neighbourhood and Planning Design Standards, ZBL, and architectural controls created by the Developer. The location of parking and use of screening should be specifically addressed to minimize visual impact from the roadway and rear walking trails.

RECREATIONAL USE

Recreational land uses will be dedicated using Municipal Reserve and Environmental Reserve dedication, as further described in Section 4.2 Open Space.

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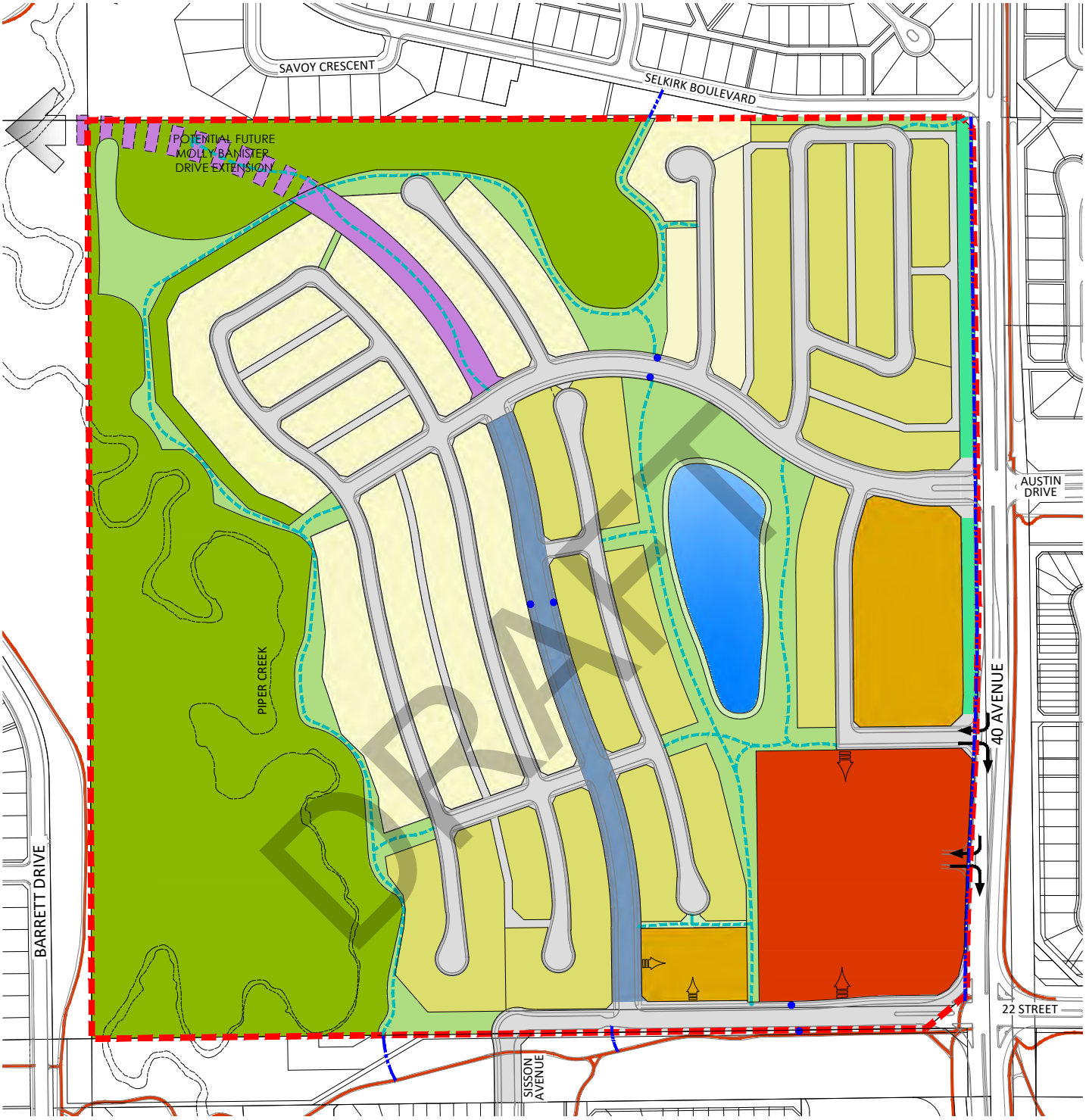

- Residential Low Density
- Residential Medium Density
- Residential High Density
- Commercial/Mixed Use
- Environmental Reserve
- Municipal Reserve
- Public Utility Lot
- Stormwater Management Facility
- Roadway/Lane
- Future Molly Banister Drive Extension
- 40th Avenue Berm
- Major Collector Roadway (No Residential Frontage)
- Potential Access Point
- Multi-use Trail Proposed
- Multi-use Trail Existing
- Multi-use Trail Outside Plan Area
- Potential Bus Stop
- Right In/Right Out Location
- Plan Boundary

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FIGURE 6

LAND USE CONCEPT

Bower Woods Neighbourhood Area Structure Plan

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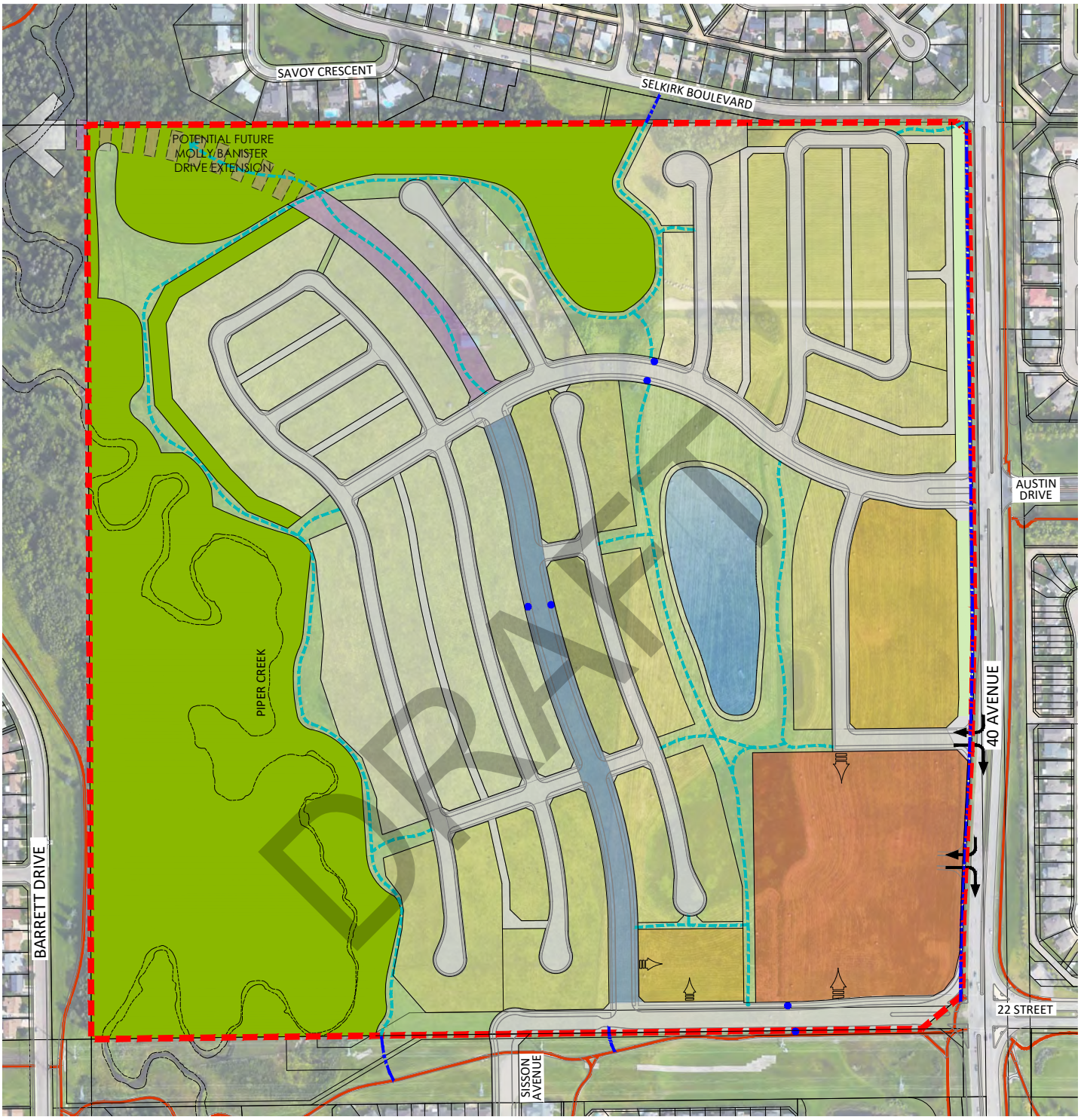

Residential Low Density
Residential Medium Density
Residential High Density
Commercial/Mixed Use
Environmental Reserve
Municipal Reserve
Public Utility Lot

Stormwater Management Facility
Roadway/Lane
Future Molly Banister Drive Extension
40th Avenue Widening
Major Collector Roadway
(No Residential Frontage)
Potential Access Point

Multi-use Trail Proposed
Multi-use Trail Existing
Multi-use Trail Outside Plan Area
Potential Bus Stop
Right In/Right Out Location
Plan Boundary

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FIGURE 7

LAND USE CONCEPT with AERIAL

Bower Woods Neighbourhood Area Structure Plan

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3.3 Land Use Area Calculations

Table 1 Overall Land Use Allocation

Land Use Category/ Component	Area		% of Gross Plan Area
	ha	ac	
Gross Plan Area	63.28	156.36	100.0%
Residential Land Uses	22.94	56.67	36.2%
Low Density	10.26	25.36	16.2%
Medium Density	10.19	25.19	16.1%
High Density	2.48	6.13	3.9%
Commercial Uses	4.05	10.00	6.4%
Commercial	4.05	10.00	6.4%
Open Space	23.96	59.20	37.9%
ER Environmental Reserve - Natural	15.82	39.09	25.0%
*Includes potential Molly Banister Drive Extension Portion**	*1.55*	*3.83*	
ER Environmental Reserve - Slope	0.64	1.58	1.0%
MR Municipal Reserve	5.79	14.31	9.2%*
PUL Public Utility Lot (Primary function is to contain a utility)	0.33	0.83	0.5%
PUL Stormwater Management Facility	1.37	3.39	2.2%
Transportation	12.33	30.47	19.5%
Arterial	0.00	0.00	0.0%
40th Avenue Road Widening	0.90	2.21	1.4%
Molly Bannister Drive Extension	0.64	1.58	1.0%
Collector Roadways	3.62	8.93	5.7%
24m Collector Roadway	*1.18*	*2.91*	
22nd Avenue Collector Roadway	*1.02*	*2.52*	
26.5m Collector Roadway	*1.41*	*3.48*	
Local Roadways	6.10	15.07	9.6%
Lanes	1.08	2.68	1.7%
Total	63.28	156.36	100.0%

*area is assumed and may greatly differ based on the type of bridge and detailed engineering

**Municipal Reserves is later described in Section 4. Bower Woods provides 10% Municipal Reserves as described in the MGA.

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Table 2 Roads and Utilities

Roads and Utilities	Area ha	Area ac	% Net Plan Area
Gross Plan Area	63.28	156.36	
ER Environmental Reserve - Natural	15.82	39.09	
ER Environmental Reserve - Slope	0.64	1.58	
Net Plan Area	46.81	115.68	100%
Allowable Roads and Utilities (30% MGA)	14.04	34.70	30.0%
Actual Roads and Utilities			
PUL Public Utility Lot (utility)	0.33	0.83	0.7%
PUL Public Utility Lot Stormwater Management Facility	1.37	3.39	2.9%
40th Avenue Road Widening	0.90	2.21	1.9%
Molly Bannister Drive Extension	0.64	1.58	1.4%
Collector Roadways	3.62	8.93	7.7%
Local Roadways	6.10	15.07	13.0%
Lanes	1.08	2.68	2.3%
Actual Roads and Utilities Total	14.04	34.69	30.0%
Roads and Utilities Over dedication	0.00	0.00	0.0%

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3.4 Housing Mix

As shown in Table 3 Housing Mix, the anticipated housing density of Bower Woods is 20.5 du/ha, with a total housing stock of 829 units, and a population of 2,026 residents.

Table 3 Housing Mix

Residential Land Uses	Area (ha)	Assumptions	# of Dwellings	% of Housing Stock	Estimated Population
Low Density	10.26	360 m2	326	39.3%	796
Estimated House and Backyard Suites - 15% of detached dwellings	-	*15%*	*42*	-	*133*
Medium Density	10.19	260 m2	392	47.3%	959
High Density	2.48	45 du/ ha	111	14.1%	271
Total	22.94		829	100.0%	2,026

Anticipated Density		
Total # of Dwelling Units (du)	Net Developable Area (ha)	Density (du/ net dev ha)
829	40.50	20.5

Density calculations for Bower Woods have been prepared in accordance with the NPDS and the developable area for density as shown in Table 4 Developable Area for Density.

Table 4 Developable Area for Density

	Area		% of Net Developable Plan Area for Density
	ha	ac	
Gross Plan Area (minus)	63.28	156.36	
ER Environmental Reserve - Natural	15.82	39.09	
ER Environmental Reserve - Escarpment	0.64	1.58	
Major Roadway 40th Avenue Road Widening	0.90	2.21	
Commercial Uses	4.05	10.00	
Stormwater Management Facility	1.37	3.39	
Net Developable Plan Area for Density	40.50	100.07	100.0%
Residential Land Uses	22.94	56.67	56.6%
Low Density	10.26	25.36	25.3%
Medium Density	10.19	25.19	25.2%
High Density	2.48	6.13	6.1%

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04. Green Network and Community Facilities

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4.1 Overview

Bower Woods has been designed with a significant open space network; 23.95 ha (59.20 ac) of public open spaces totally 37.9% of the Plan Area. The neighbourhood's open space network is an extension of the Waskasoo Park system, surrounding Piper Creek and incorporating many areas of mature trees. As shown on **Figure 8 Open Space Network** and outlined in Table 5 Total Open Space Dedication, a significant portion of the Plan Area has been preserved as Environmental Reserve, over a quarter of the Plan Area, and an additional 12% of the Net Developable Area has been dedicated as Municipal Reserve (**Table 6 Net Developable Area for Municipal Reserve Dedication**). The Developer has voluntarily over dedicated MR to provide a robust open space for residents and the City parks system, no future compensation is expected.

Illustrated on **Figure 9 Open Space Type,** is a mixture of park types has been provided in Bower Woods to provide recreation amenities for neighbourhood residents, preserve natural areas and create outdoor opportunities. The overall open space has been planned and considered as one cohesive system, but also recognized as individual amenities that include the existing natural area, neighbourhood parks, parkettes and, trails and connections.

These spaces will be dedicated as either Municipal Reserve (MR), Environmental Reserve (ER), or Public Utility Lot (PUL) as guided by the Municipal Government Act.

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Table 5 Total Open Space Dedication

	Area	
	Ha	Ac
Gross Plan Area (minus)	63.28	156.36
ER Environmental Reserve – Natural	15.82	39.09
ER Environmental Reserve – Escarpment	0.64	1.58
MR Municipal Reserve (Contributing and not-contributing)	5.79	14.31
PUL Public Utility Lot (Primary function is to contain a utility)	0.33	0.83
PUL Stormwater Management Facility	1.37	3.39
Total Open Space Dedication	23.95	59.20
	Total Open Space 37.9% (gross)	

Table 6 Net Developable Area for Municipal Reserve Dedication

	Area		% Net Developable Area for MR Dedication
	Ha	Ac	
Gross Plan Area (minus)	63.28	156.36	
ER Environmental Reserve	15.82	39.10	
ER Environmental Reserve - Escarpment	0.64	1.58	
Net Developable Area for MR Dedication	46.82	115.68	100.0%
MR Municipal Reserve (Contributing MR)	5.79	14.31	12.4%
Total MR Dedication	5.79	14.31	12.4%
Required Municipal Reserve Dedication	4.75	11.73	10.0%

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4.2 Open Space Types and Amenities

MANICURED PARKS AND LINKAGES

The portion of Bower Woods' open space network comprised of manicured areas, rather than natural areas, is located primarily around the stormwater management facility, with linear parks connecting to other smaller parkettes, and to areas of preserved natural space. Bower Wood's manicured parks and linkages will provide residents with passive recreation opportunities such as dog walking, bird and waterfowl viewing, or other unprogrammed activities.

Neighbourhood Park Site

Located north of the commercial and higher density residential sites, the Bower Woods neighbourhood park will be the main recreation destination inside of the neighbourhood and has been located to both reflect the natural drainage of the site and provide residents of the higher density and medium density residential areas with a convenient outdoor amenity space.

Amenities included in the neighbourhood park are anticipated to be limited to multi-use trails, seating benches, refuse containers, and potentially dog waste collection dispensers.

POND AREA

Pond

Located in the center of Bower Woods, a stormwater detention pond will provide passive recreation opportunities for the neighbourhood. The pond will be landscaped with vegetation that thrives around wet soils, forming a naturalized area that is ecologically healthy and provides a visual amenity to residents and visitors. It should be noted that in accordance with the City of Red Deer's policies, the stormwater pond is intended as a visual amenity only and will not be suitable for residents' skating, swimming, sledding, or other similar activities.

Parkettes

To supplement the main park site, two smaller parkettes have been included at the entry of the more natural open space network: one along the north boundary of the neighbourhoods, and one along the west boundary. These areas are intended to provide small, local park spaces for residents to engage in active recreation, outside of the treed trail network. Both parkettes may be programmed with passive and/or active recreation elements such as seating areas, multi-use trails, and play or exercise equipment; with the northeast parkette also including some educational signage highlighting the location of the homestead and history of the property.

Should a parkette be designed without play equipment, residents can still use it to enjoy both active and passive recreation through activities such as playing catch, frisbee, tag, building a snowman, play fetch with pets, etc. Parkettes may also provide a location for the development of a community garden. In accordance with the City's community gardening procedures, neighbourhood community gardens are organized by an established local community group with support from the City's Parks department.

Linear Parks

Several pedestrian linkage parks have been incorporated into the design of Bower Woods to increase convenience for pedestrians moving throughout the neighbourhood. These links will facilitate pedestrian short-cutting thereby improving off-street connectivity between residences and local destinations, such as the commercial site or Waskasoo Park system. Linear parks that accommodate pedestrian linkages will vary in length and be a minimum of 7m in width. This width allows for the comfortable inclusion of a multi-use trail and planting along the lot fencing which makes the linkages feel inviting, open, and safe for users.

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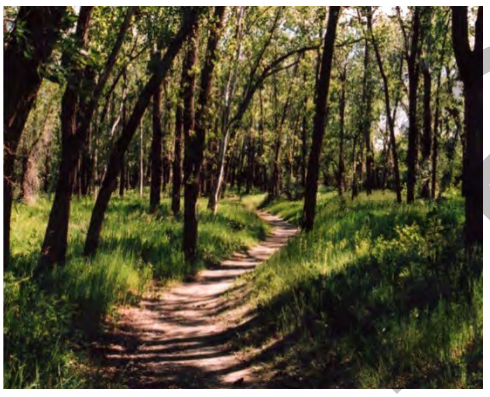
NATURAL AREAS

Preserved natural areas are the most prominent feature of the Bower Woods neighbourhood, over 26% of the Plan Area. Formed around an extension of the Waskasoo Park system which follows Piper Creek, these natural areas have been conserved to protect the quality of Piper Creek, the valley's role as an important wildlife corridor, and acknowledge the geological instability of the Piper Creek escarpment.

To protect the slope's stability, the Piper Creek escarpment has been preserved and a development setback was determined through the completion of the Geotechnical Slope Assessment described in Section 1.4.3 Supportive Studies. In addition to the development setback, a development setback buffer line will also be identified for all lots along the development setback to help property owners maintain the slope's stability through enhanced education about how their actions (e.g., excessive lawn watering) can negatively impact the slope.

Natural areas in Bower Woods will be primarily dedicated to the City through Environmental Reserve, as guided by the MGA, with Municipal Reserve used to supplement Environmental Reserve dedication.

Vegetation Management



As shown on **Figure 9 Open Space Type**, many existing trees have been preserved in Bower Woods through the extensive conservation of natural space. In addition to the tree stands, logical extensions have also been identified as natural space to provide buffering for sensitive areas and extensions of habitat and wildlife corridors. All natural areas are intended to be primarily maintained in their existing state to enhance their ecological functionality with limited recreational amenities included to enhance their recreational function. Some existing vegetation will be removed based on quality hand health of the material and properly grade the site.

Amenities in natural spaces will be limited to multi-use trails, occasional seating nodes with refuse containers, and the potential inclusion of wayfinding signage. Multiuse trails constructed in conserved tree areas will be field-fitted where required to minimize impact and tree removal.

Pedestrian Bridge

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One pedestrian bridge has been proposed for construction across Piper Creek, to be located in the Environmental Reserve area surrounding Piper Creek. This bridge will provide residents of Bower Woods with a convenient opportunity to cross from the east side of Piper Creek to the west side, connecting them to the Waskasoo Park trail network and destinations such as Bower Mall, without having to go down to the Southbrook Trail crossing, located just south of the AltaLink powerline right-of-way. The location of the bridge will be determined in consultation with the City of Red Deer at the time of detailed landscape design.

WILDFIRE BUFFER

As the risk of wildfires is becoming a more prevalent threat to communities, Bower Woods has been designed to with FireSmart in mind; specifically in areas around the mature tree stands. In accordance with recommendations from FireSmart Alberta, all property lines have been setback from the crest of slopes and areas of mature vegetation by 10m. This setback is intended to act as a small fireguard to buffer properties from the wildfire danger (i.e., fuel in the form of vegetation, and sloped areas which experience increased speed of fire spread and generate convection heat). The buffer will also act as a defensible space that can be easily accessed by emergency responders to fight the fire and retreat to, should a wildfire occur. To retain the effectiveness of the buffer as a fireguard, it must be regularly maintained and kept clear of regrowth; the responsibility of which will be the City of Red Deer.

OPEN SPACE FENCING

To protect public areas and prevent encroachment, the Developer will construct consistent, permanent, visually permeable fencing along Environmental Reserves, Municipal Reserves, and Public Utility Lots on a phased basis. This fencing will be located on private property and be the responsibility of the homeowner to maintain in the long-term.

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Manicured Parks and Linkages
Natural Areas
Public Utility Lot (PUL)
Stormwater Management Facility
Preserved Trees
Multi-use Trail Proposed
Multi-use Trail Existing
Multi-use Trail Outside Plan Area
Neighbourhood Amenity
Plan Boundary

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FIGURE 8

Open Space Network

Bower Woods Neighbourhood Area Structure Plan

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Environmental Reserve Natural (ER)
Environmental Reserve Slope (ER)
Municipal Reserve (MR)
Public Utility Lot (PUL)
Stormwater Management Facility
Preserved Treed Areas
Plan Boundary

N

FIGURE 9

Open Space Type

Bower Woods Neighbourhood Area Structure Plan

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05. Mobility and Connectivity

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5.1 Overview

Bower Woods has been designed in accordance with Red Deer's Multimodal Transportation Plan and the Mobility Playbook, which recommends putting pedestrians first, building quality off-street pedestrian connections, locating transit stops within convenient walking distance of residents, and providing space for motorists to not infringe on alternative transportation methods. The design of Bower Wood's roadway network is limited by constraints surrounding the neighbourhood: Piper Creek running along the west boundary, the AltaLink powerline right-of-way along the south boundary, and existing neighbourhood of Sunnybrook along the north boundary. Although connectivity with surrounding areas is limited, Bower Woods has been designed to connect motorists to the external roadway network, and residents to use off-road mobility routes to connect with local and surrounding destinations.

In preparation of the Bower Woods NASP, considerations and recommendations from the City of Red Deer Transportation Impact Assessment Memo (TIA), were reviewed. The purpose of the TIA is to

- Review existing traffic volumes.
- Obtaining existing intersection turning movements at several intersections.
- Determine trip generation created by the proposed development.
- Determine future trip distribution and trip assignment.
- Traffic operation analysis, including traffic simulation, to determine the roadway and intersection requirements for the development build-out at various stages.

Recommendations identified in the TIA have been incorporated into the design of Bower Woods and will be reviewed at the time of detailed design of impacting phases and implemented where required.

5.2 Future Molly Banister Drive Extension

In accordance with the MDP and East Hill MASP, an alignment has been shown in the Bower Woods concept for the future development of a four-lane collector roadway that would extend from Molly Banister Drive into the Plan Area, should it be deemed required for transportation connections in the future.

Once the land is dedicated to the City, all efforts related to the extension of Molly Banister Drive will be the responsibility of the City of Red Deer, including any necessary studies confirming traffic demands, reviewing environmental considerations, designing the roadway, undertaking community consultation, and updating/ amending all necessary plans.

5.3 Active Transportation

Active modes of transportation include but are not limited to jogging, walking, pushing a stroller, using a wheelchair, cycling, skateboarding, riding a scooter, and rollerblading. These transportation methods are

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not only healthy and active modes of transportation but are also the most popular forms of movement for school-aged children. As shown in **Figure 10 Active Transportation Network**, Bower Woods has been designed to encourage active modes of transportation by providing convenient short-cutting options and connections to the city's well-established Waskasoo Trail network and local destinations such as the commercial site.

An inter-connected network of sidewalks and multi use trails, intended to separate motorists from active transportation users, are illustrated on **Figure 10 Active Transportation Network**, with sidewalk widths further described in Section 5.4 Vehicular Movement.

Trail connections located outside of the Plan Area has been identified, responsibility of the construction and cost of these connections will be determined at a later stage. Year-round maintenance of multi-use trails will be at the discretion of The City of Red Deer.

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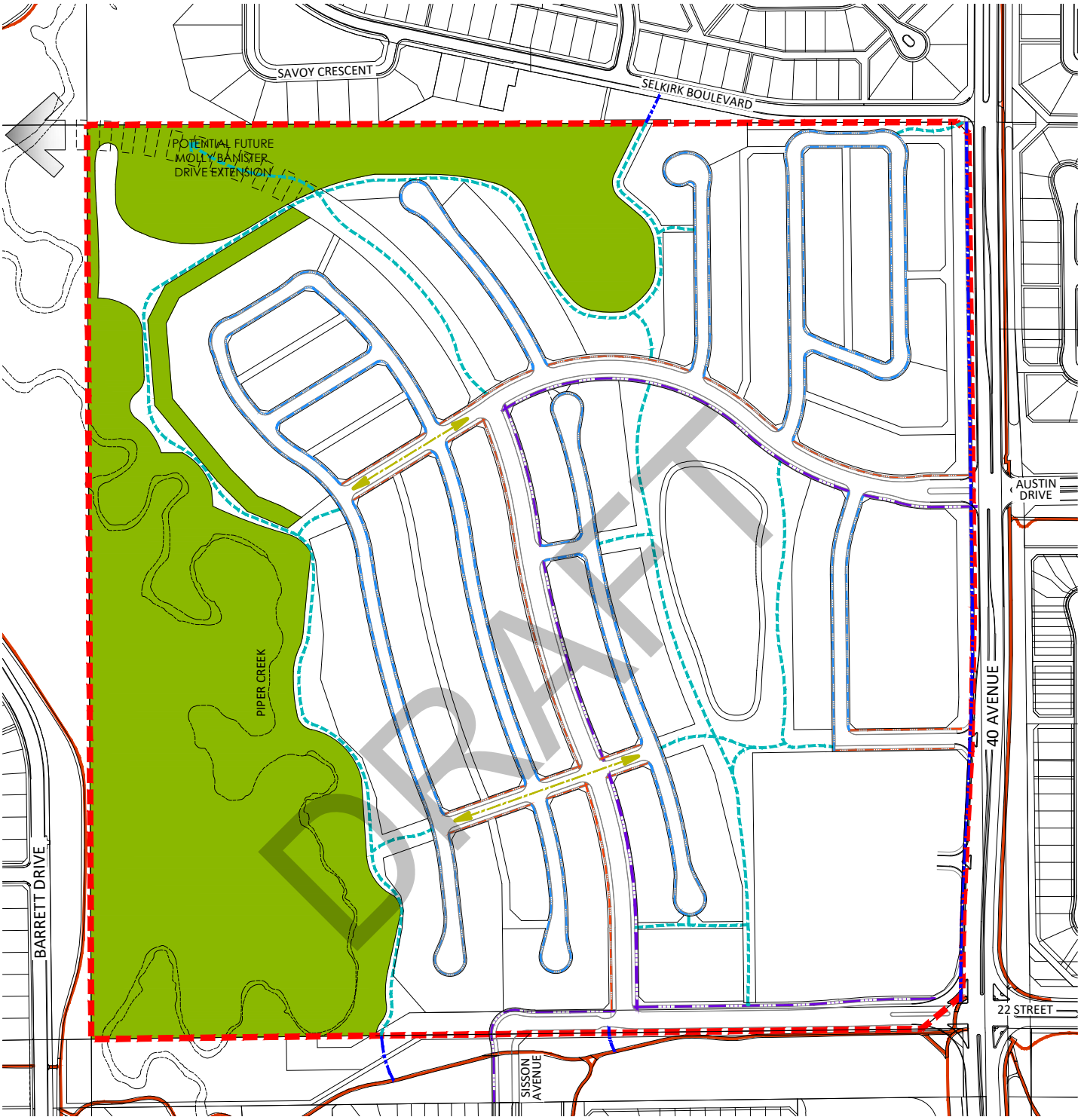

Sidewalk - 1.5m Mono
Sidewalk - 1.5m Separate
Sidewalk - 2.5m Separate
Pedestrain Sidewalk Link
Multi-use Trail Proposed
Multi-use Trail Existing
Multi-use Trail Outside Plan Area
Plan Boundary

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FIGURE 10

Active Transportation Network

Bower Woods Neighbourhood Area Structure Plan

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5.4 Vehicular Movement

Driving is by far the most prominent form of mobility for Red Deer. To accommodate personal vehicle movements, Bower Woods has been designed with local and collector roadways which will facilitate direct and convenient access to and from residents' homes, minimize traffic throughout the neighbourhood, and not sacrifice the comfort and safety of alternative transportation types.

The Bower Woods roadway network has been designed to utilize land in the most efficient ways possible and reduce the amount of infrastructure required, thereby minimizing long-term maintenance costs and impervious surfaces. All roadways, intersections, and lane angles will be designed as per the Engineering Services Design Guidelines and detailed in the Bower Woods Servicing Study, which will be completed following the approval of this NASP. Every effort has been made to minimize the impacts of the requirements needed for the potential Molly Banister Drive extension, both in the interim and ultimate development scenarios.

To support the transportation network in Bower Woods, several non-standard cross-sections have been created and utilized. All non-standard cross-sections will be subject to review by City and finalized at the Servicing Study stage.

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STREET TYPES AND SECTIONS

External Roadways

40TH AVENUE

40th Avenue is designed as an arterial roadway that runs north-south through the city, along the east boundary of the Plan Area; it has two travel lanes in either direction, a center median, and a paved multi-use trail on the east side of the roadway. To facilitate construction of this roadway to its intended 60m wide cross-section, additional roadway dedication has been provided along 40th Avenue to allow for the addition of turning lanes, a berm, and trails.

To support the development of the commercial site, right-in/right-out accesses will be required. Additional roadway ROW has been shown for the necessary auxiliary lane. The Developer will be responsible for the design and construction of the right-in/right-out access and auxiliary lane.

At the initial stage of development, signalization at Austin Drive and 40th Street will be required. 40 Ave improvements will be addressed in future Development agreements.

22ND STREET

22nd Street within Bower Woods is an extension of a 4-lane arterial roadway. The entrance into the neighbourhood will be an arterial roadway to align the 22nd Street/40th Avenue intersection, then transitioning into 2-lane collector roadway connecting to Sisson Avenue.

As shown on **Figure 12 - 22nd Street Roadway Cross-Sections,** the 22nd Street cross-section includes two travel lanes in either direction and a paved multi-use trail on the north side of the roadway. To eliminate duplicate infrastructure, the south sidewalk will not be constructed as the regional trail located within the powerline transmission corridor is located within close proximity.

Portions of 22nd Street that cross the AltaLink right-of-way, which is located outside of the Plan Area, will be constructed by the Developer as an extension of the Bower Woods roadway and trail network to provide connectivity with surrounding areas.

Collector Roadways

Three collector roadways have been planned to facilitate convenient vehicle movements through the neighbourhood. Cross-sections for Bower Woods's collector roadways are shown on **Figure 13 Collector Roadway Cross-Sections**.

24.0M COLLECTOR

Designed in accordance with the Engineering Services Design Guidelines, the west-east collector in Bower Woods will have a 24.0m wide right of way, 12.0m wide carriage way, boulevard trees, and a 2.5m and 1.5m separated sidewalks on either side of the roadway. This roadway standard was chosen to minimize the area required for infrastructure, incorporate street trees, and provide a wider separated sidewalk along one side of the road.

25.5M COLLECTOR

A north-south collector is identified by the City in the East Hill MASP as the potential major collector road alignment, connecting 22nd Street to Molly Banister Drive. This major roadway does not have prescribed cross-section; as such, a 25.5m cross-section has been proposed. It is anticipated that the roadway will be built to support the neighbourhood at full build out and provide adequate space for potential future upgrades, if Molly Banister extension is deemed required for transportation connections in the future.

Due to the potential future traffic volumes anticipated after the Molly Banister Drive extension is built, and associated barrier that four driving lanes creates, houses have not been designed to front onto this roadway. This decision also recognizes the potential future conflicts residents may have with their driveways backing onto the road and removes the potential for residents to become accustomed to having on-street parking in front of their homes for decades prior to its eventual removal.

Interim Construction

Although four driving lanes may be constructed within the 25.5m wide right-of-way provided throughout Bower Woods, until such a time that all four driving lanes are needed, an interim cross-section will be constructed which includes only two driving lanes. This cross-section is not standard and will be subject to review by the City prior to implementation at the Servicing Study stage.

Local Roadways

The system of local roads has been planned to provide access to individual development clusters while discouraging outside traffic from short-cutting. Local roadway cross sections are shown on **Figure 14 Local Roadway Cross-Sections**.

20.0M LOCAL ROADWAY

To support safe and direct access into the natural area, two east-west roadway connections have been identified as a 20.0 m local roadway to provide better pedestrian connections via separated sidewalks. These local roadways will be further enhanced with street trees located along the boulevard.

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16.0M LOCAL ROADWAY

In higher density areas, a 16.0 m wide right-of-way with a 11.0 m wide carriage way and 1.5 m monolithic sidewalks on both sides of the roadway have been identified. The wider roadway is required by the City to support additional density and parking.

The requirement of the 16.0 m local roadway will be reviewed during detailed design. Roadway standards may be reduced based on housing type, lot widths, size of driveways, parking, and total number of lots.

15.0M LOCAL ROADWAY

These roadways will have a 15.0 m wide right-of-way with a 10.0 m wide carriage way and 1.5 m monolithic sidewalks on both sides of the roadway.

Lanes

Bower Woods has been designed with rear lanes where possible to facilitate residents' access to their own backyards; however, lanes have not been provided for lots backing onto the stormwater management facilities, Municipal Reserves, Environmental Reserves, or public utility lots. Any lanes adjacent to Municipal Reserves or public utility lots may have bollards installed to prevent short-cutting.

All lanes will be designed using a 7.0 m wide right of-way as per the Engineering Services Design Guidelines.

PARKING AND LOADING

On-site parking spaces will be provided for all residences in accordance with The City of Red Deer ZBL. Residents will be encouraged to utilize rear parking where a lane is available. On-street parking may be available in some areas, in accordance with the Engineering Services Design Guidelines and Traffic Bylaw. The provision of on-street parking can function as a safety feature to pedestrians by acting as a buffer between sidewalks and motorists. It also narrows the roadway and adds uncertainty into drivers' path of travel which has been shown to slow traffic and make drivers more aware of their surroundings.

TRAFFIC CALMING

Traffic calming measures will be utilized throughout the neighbourhood to enhance both vehicular and pedestrian safety. These measures will be designed in accordance to the Engineering Services Design Guidelines and may include mid-block crossing bump-outs, painted cross-walk lines, and "rectangular rapid flashing beacons" which temporarily signal pedestrian crossing the roadway. The location of traffic calming measures will be determined during the Detailed Design stage and are anticipated to be in areas where pedestrian routes cross collector roadways, aside from roadway intersections. The intent of utilizing traffic calming in these areas is to ensure motorists are aware that pedestrian may be entering the roadway and make pedestrians more cautious by using formal crossings.

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5.5 Transit

Transit routes and stop locations will be chosen by the City of Red Deer's Transit department based on the City's standards and preferences at the time of development which includes consideration of user convenience, safety, distance to residences, and areas that encourage ridership. Should transit be introduced into Bower Woods, it will be done so along the collector roadway with all transit stops located 500 m apart and within 500 m of most residents; this represents a 6 min walking time. These locations are intended to be in reasonable walking distance from all homes in Bower Woods. Special attention will be given to locate transit routes near multi-family areas to facilitate higher density use. It is also recognized that many middle and high school students in Red Deer utilize transit to get to school; therefore, a focus has been put onto providing safe pedestrian routes to and from bus stops as part of the Safe Route to School program.

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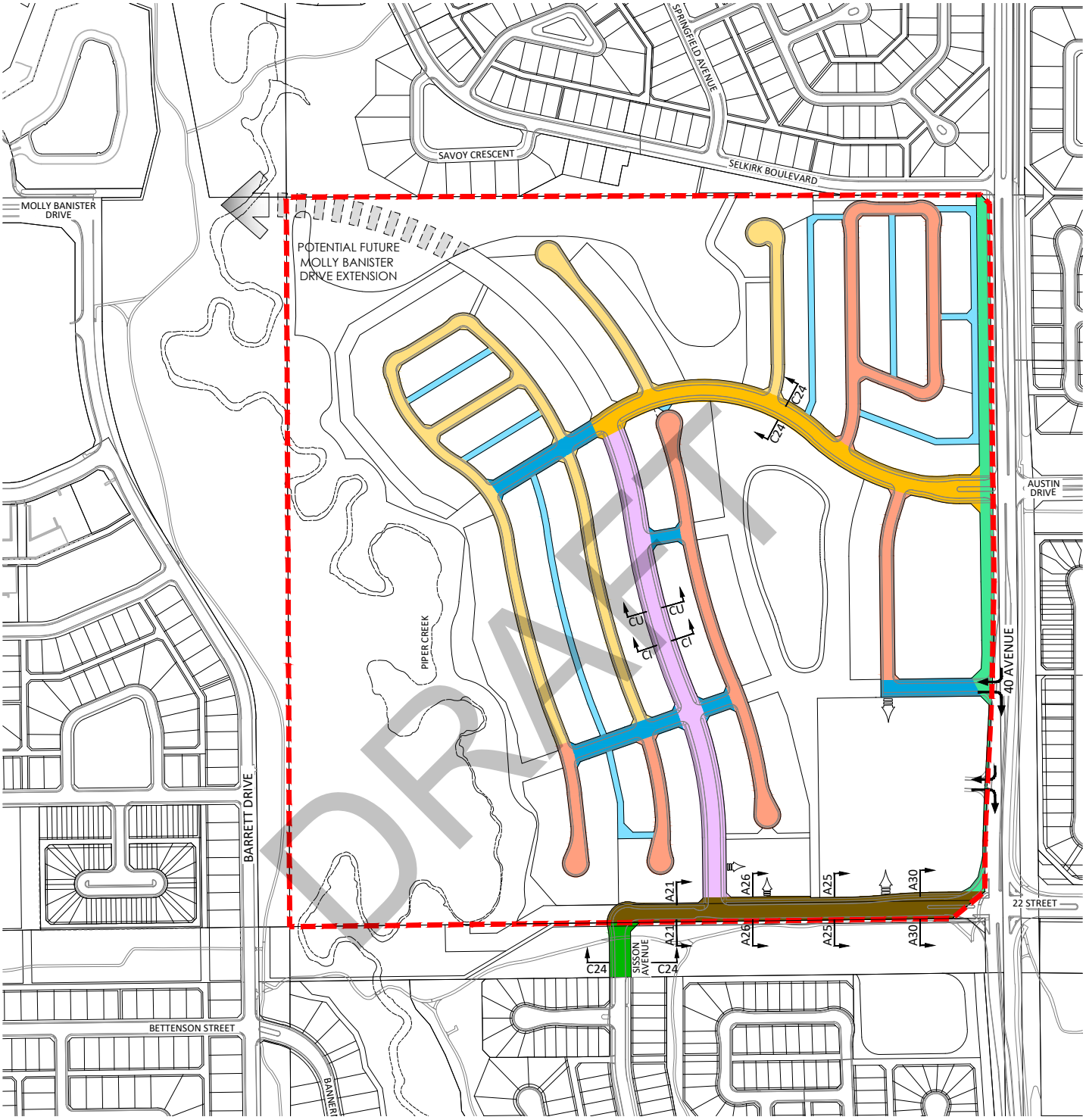

- 40th Avenue Road Widening
- 22nd Street
- 25.5m Collector
- 24m Collector
- 24m Collector - Sisson Avenue (Outside of Plan Boundary)
- 20m Local (L20)
- 15m Local (L15)
- 16m Local (L16)
- 7m Laneway (LL)
- Potential Access Point
- Right In/Right Out Location
- Plan Boundary

N

FIGURE 11

Roadway Network

Bower Woods Neighbourhood Area Structure Plan

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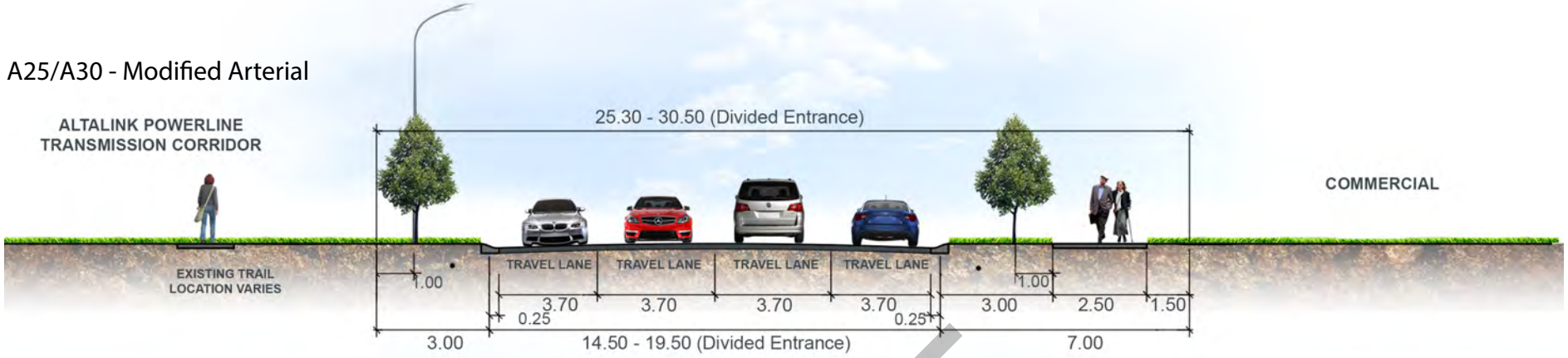
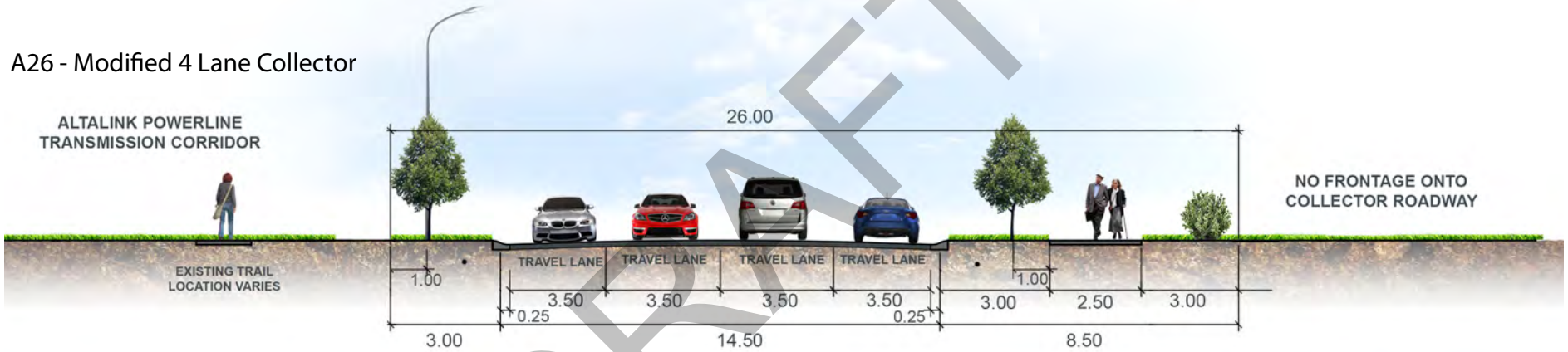
A25/A30 - Modified Arterial



A26 - Modified 4 Lane Collector



A21 - Modified 2 Lane Collector

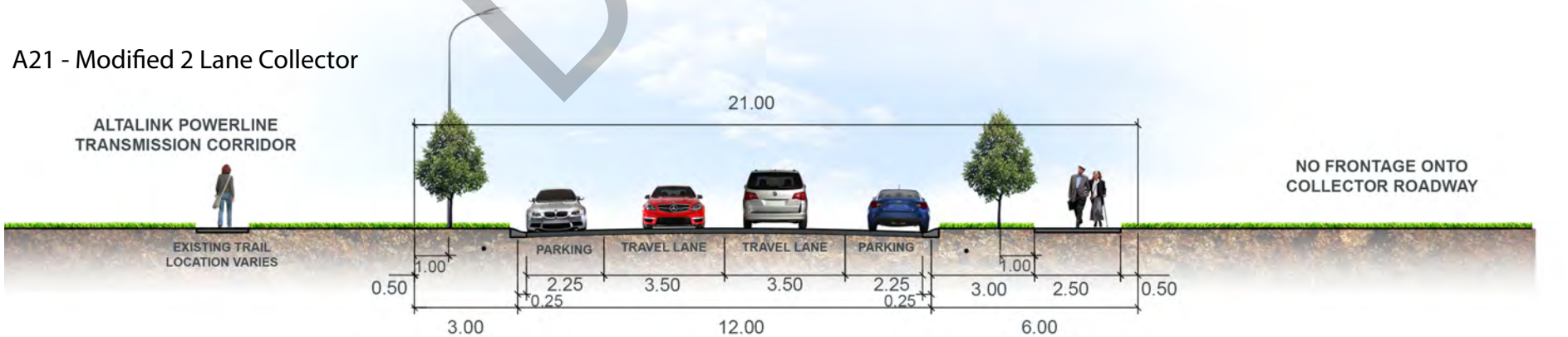


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FIGURE 12.0

22nd Street Roadway Cross-Sections

BOWER WOODS AREA STRUCTURE PLAN

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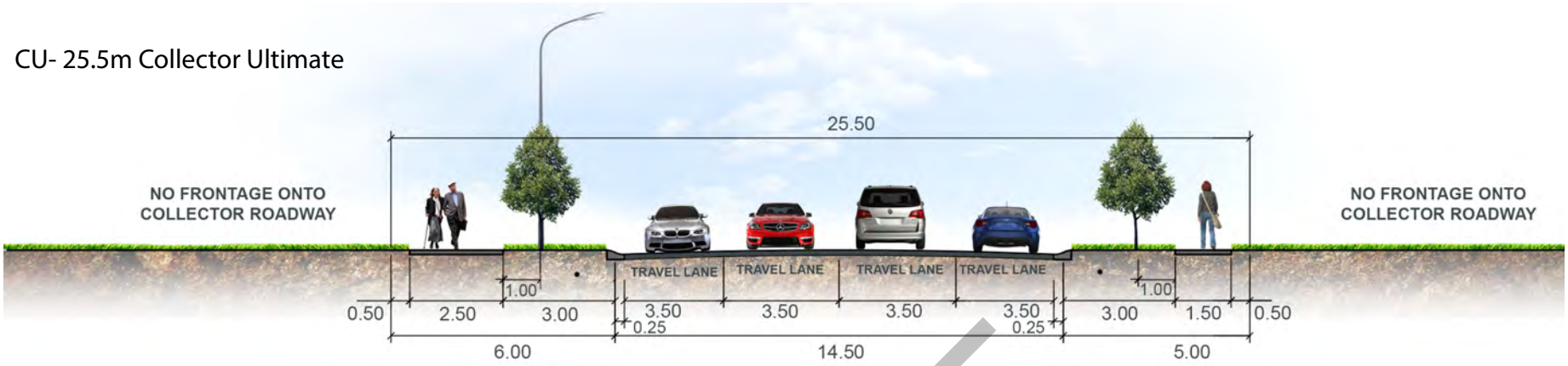
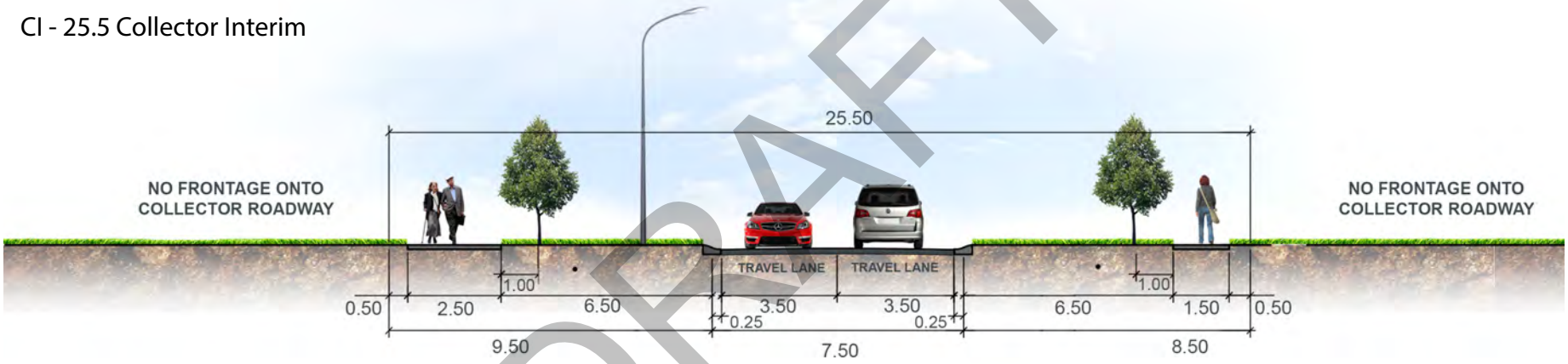
CU- 25.5m Collector Ultimate



CI - 25.5 Collector Interim



CC - 24.0m Collector

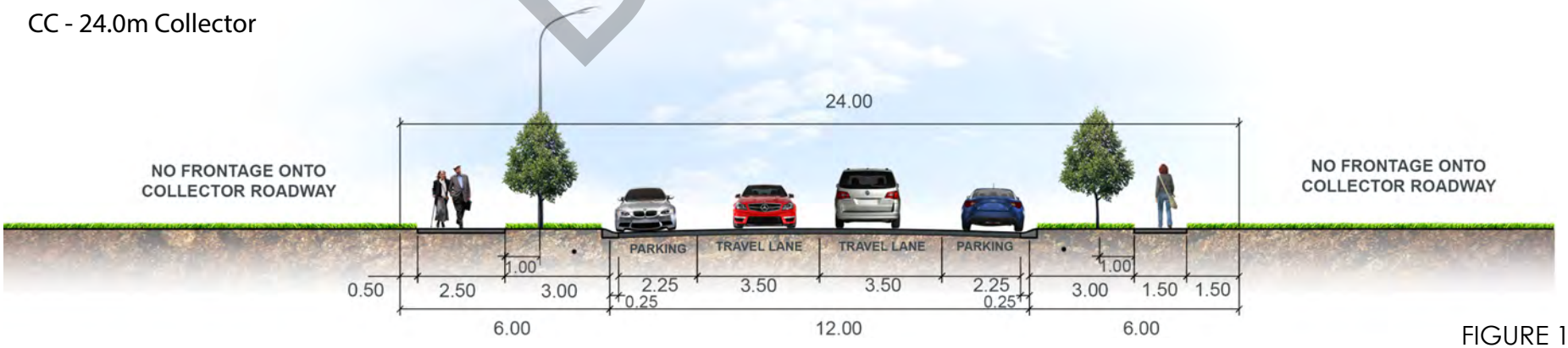


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FIGURE 13.0

Collector Roadway Cross-Sections

BOWER WOODS AREA STRUCTURE PLAN

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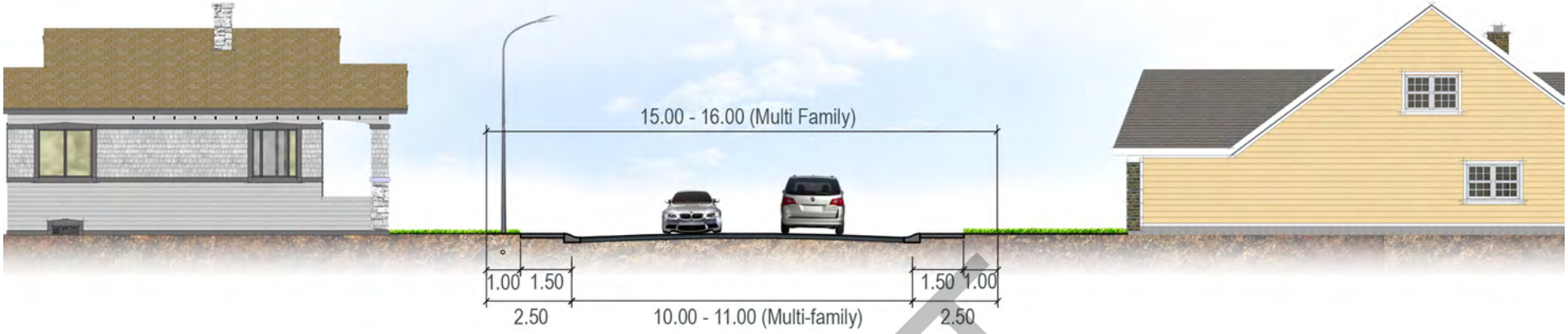
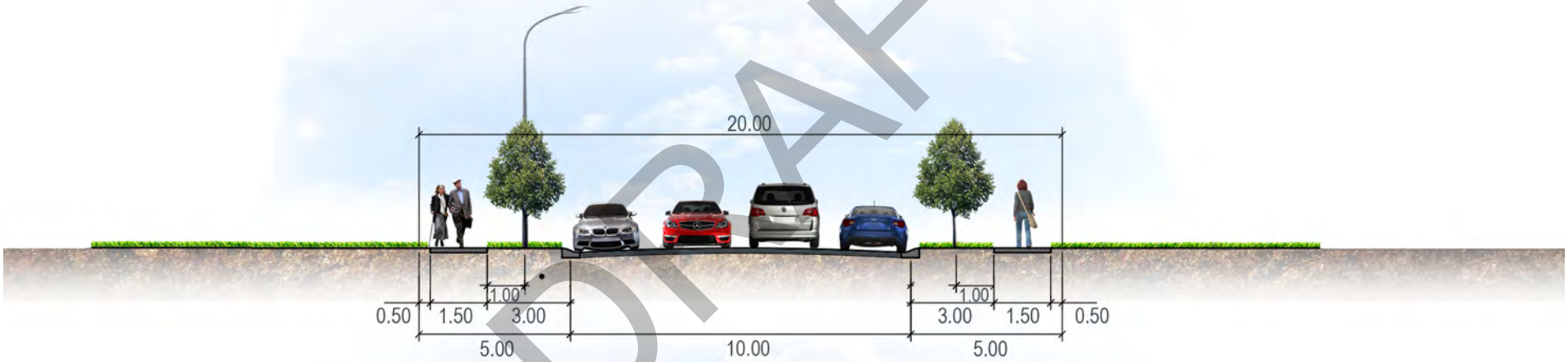
L15/L16 - 15.0-16.0m Local



L20 - 20.0m Local



LL - Grave/Paved Lane

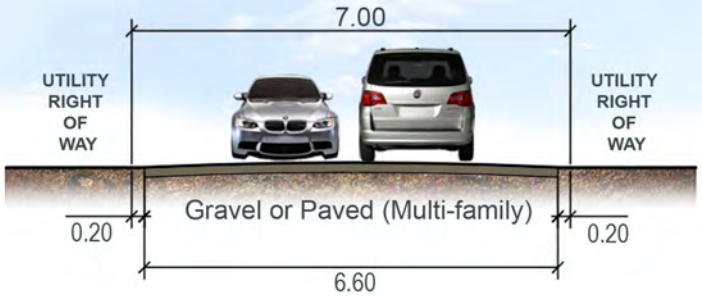


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FIGURE 14.0

Local Roadway Cross-Sections

BOWER WOODS AREA STRUCTURE PLAN

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06. Neighbourhood Design and Character

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6.1 Overview

Bower Woods has been designed as a neighbourhood nestled amongst the City's Waskasoo Trail network, providing quiet private spaces that back onto Piper Creek, and more vibrant environments along 40th Avenue. Bower Woods will be a highly attractive community that offers a strong connection to trails, rare lots backing to a natural open space, range of housing styles, and rich history of the land.

Overall Themes

- History of the land and owners
- Escarpment views
- Pedestrian-focused
- Forested trail connections
- Walkable commercial destination

Melcor is committed to creating great neighbourhoods that leave a positive legacy. Through the creation of Design Guidelines, Melcor will define the character, built environment, streetscape, and public amenities. While not required by the City, the Design Guidelines are an important tool for Melcor to ensure that the key components and goals of the neighbourhood are consistent throughout each phase of development and that all parties (Melcor, City, Home builders, and future residents) have the same expectations at full buildout.

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6.2 Built Form and Public Realm

Theme and Character

The neighbourhood charter of Bower Woods celebrates the heritage of the land by commemorating its history and owners throughout the public realm. Starting with the neighbourhood's name, 'Bower' honors three generations of the Bower family. Since 1904, the Bower family has owned the land and has been an influential name in Red Deer and Central Alberta. The neighbourhood aims to preserve the story of the land and the people who have called it home for the last century.

Elements such as the homesteads, original water well, and farming equipment will be incorporated into the public space. While not all features can be preserved, some materials will be carefully removed during demolishing and grading to be reused in the public realm. The Bower story will be told within the public amenity space and trails via storyboards, architectural elements, and authentic theming.

Architectural Design

The architectural style and overall design of housing in Bower Woods will strive to showcase the property's history as a homestead. Buildings may showcase historic architectural elements such as wood or hardy board siding, front porches, steep-pitched rooflines, chimneys, and brick features to reflect life as

it was in Central Alberta during the time of its settlement. Arts and Crafts, and modern prairie architecture styles will be required.

To ensure that the neighbourhood is built to a high standard, each home builder is required to follow a set of architectural guidelines prescribed by Melcor. All house plans will be reviewed and approved by Melcor prior to the building permit application. Architectural Guidelines will describe several building elements, including lot treatment, house style, materials, colours, roof pitch, and landscape.

Landscape Design

To create a lasting first impression in Bower Woods, an emphasis has been placed on the presence of strong connections to Piper Creek. Collector roadways, neighbourhood amenity space, and primary connections to the creek will utilize enhanced landscaping to create a great standalone space and areas that form a connected and consistent environment. By linking Municipal Reserve sites, public utility lots, and any other green spaces within Bower Woods, an interconnected park system will be created throughout the neighbourhood. This park system acts as a pedestrian network that connects all the areas while leading users to Piper Creek. The linear park system leads pedestrians to community nodes such as the active recreation park sites and the local commercial centre, as well as to the surrounding neighbourhoods.

Decorative primary entrance features, secondary entrance features, and open-space entrance features will be located throughout the community in key areas. In addition, such features as focal points, view lines, gateway entranceways, and similar elements will be introduced wherever possible. These features have been designed to reflect the community's character through their built form, enhanced landscaping, and entrance signage.

The play structures within Bower Woods will include a mix of themed playground equipment and natural play features. These playgrounds provide opportunities for generations of children of all abilities and introduce a mix of both physical and educational challenges.

The planting scheme for Bower Woods will be selected based on the form, colours, and mature size of the species. The plant materials used will greatly contribute to the overall high standard of landscaping and distinctive character of the neighbourhood. Materials should be vibrant and rich, with a variety of colours and textures. Planting will be consistent throughout the streetscape, park sites, and medians, balancing ornamental with dense and natural plantings.

All plantings, street furniture, and fencing will be consistent to ensure that Bower Woods is seamless and visually attractive.

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07. Infrastructure and Servicing

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7.1 Overview

Servicing for Bower Woods will connect into existing water, sanitary sewer, and storm trunks located along the west and south boundary. No off-site improvements are required to support Bower Woods. Due to the existing grades, a portion of the northwest area will require a significant amount of fill to support gravity sanitary and storm servicing. The majority of Bower woods will be serviced within the roadway.

A servicing study will be prepared to provide more detailed information on how the development will be serviced.

7.2 Potable Water

There are four existing watermain connections from Anders on the Lake and Southbrook. All watermain connections will be extended into Bower Woods to provide water service and looping. The alignment of these proposed mains is shown on **Figure 15 Water Servicing**. As shown, most of the water servicing will be front serviced, except for one area which will be serviced from the lane. Water mains will be designed in accordance with the Engineering Services Design Guidelines and will be the Developer's responsibility to maintain until the end of the maintenance period, as determined through the Development Agreement, when this infrastructure will be turned over to The City of Red Deer.

Water Reduction Initiatives

Reduction in water use will take place on a household basis by encouraging builders to install more efficient appliances during time of home construction and encouraging homeowners to utilize water-efficient landscaping techniques. In addition, utilizing hearty plants in yard landscaping can also help reduce the need for excessive watering. Suggested plant materials to reduce water consumption include Colorado Spruce, Blue Juniper, Red Osler Dogwood, Creeping Juniper, Thyme, Purple Coneflowers.

7.3 Sanitary Sewer Servicing

The wastewater generated by the Bower Woods will be conveyed to a sanitary main located along the south boundary, which will than be directed to the lift station located in the southwest corner of the Anders on the Lake Neighbourhood. Based on the overall servicing scheme for the Plan Area, all sanitary mains will be sized to service the neighbourhood only.

To support a gravity sewer system in the entire neighbourhood, a portion in the northwest will be graded to higher elevations. This graded area creates undevelopable slopes, identified as Environmental Reserve, which will be landscaped with natural grasses to minimize maintenance and create an appealing area along the trail and creek.

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As illustrated on **Figure 16 Sanitary Servicing**, it is anticipated that the majority of the sanitary systems will be front serviced except for a small area in the west which will be serviced from the lane. All sanitary sewer facilities will be designed in accordance with the Engineering Services Design Guidelines. All the storm sewer facilities will be designed in accordance with The City of Red Deer Design Guidelines and will be the Developer's responsibility to maintain until the end of the maintenance period, as determined through the Development Agreement, when this infrastructure will be turned over to The City of Red Deer.

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Sanitary Reduction Initiatives

Sanitary reduction will take place on a household basis by encouraging builders to install more efficient plumbing solutions during the time of home building.

7.4 Stormwater

As shown on **Figure 17 Stormwater Servicing**, an existing storm trunk is located along the south boundary of Bower Woods which will become the future extension of 22nd street. This storm trunk services a larger portion of southeast Red Deer which outfalls into Piper Creek.

Based on preliminary stormwater management calculations, one centrally located storm pond is proposed for Bower Woods. All storm sewer pipes in Bower Woods will connect to this pond, which will provide both water quality enhancement and storm detention, before the storm water outlets into the 22ns street trunk system and ultimately into Piper Creek. This storm pond will intercept stormwater and provide treatment and sediment removal prior to its controlled discharge. The Developer will be required to meet or exceed Alberta Environment and Parks (AEP) requirements for sediment removal. Based on the post development flows, the pond has been sized to allow sediments to settle out prior to discharging; the water level in the ponds will slow the flows down and provide time for settlement of the particles to take place. The storm pond will be located in a Public Utility Lot, sized to accommodate the high-water level plus the freeboard. Areas adjacent to the pond have been incorporated into the overall open space system.

All the storm sewer facilities will be designed in accordance with the Engineering Services Design Guidelines and will be the Developer's responsibility to maintain until the end of the maintenance period, as determined through the Development Agreement, when this infrastructure will be turned over to The City of Red Deer. Access to the pond will be considered at Detailed Design stage to facilitate ease of routine or other maintenance.

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Stormwater Runoff Initiatives

As part of a continuing effort to reduce stormwater runoff in the neighbourhood, homeowners will be encouraged to design their lots to capture stormwater and reduce runoff. This education program could include how to best utilize their rain barrel, how to construct rain gardens, or how to increase the amount of organic material in their yard to absorb more water. By providing this information to new home buyers, residents would be encouraged to continue to reduce stormwater runoff throughout the life cycle of their homes.

The developer may work with home builders to create this information package.

7.5 Waste Collection and Snow Removal

As shown on **Figure 18 Waste Collection Servicing Plan**, all roadways in Bower Woods will be designed in consultation with the City of Red Deer and in accordance with the Engineering Services Design Guidelines to facilitate the collection of garbage, recycling, and snow removal.

7.6 Utilities (Shallow Utilities, Power, etc.)

Shallow utility services will be provided by the following companies:

- ATCO Gas (Natural Gas)
- The City of Red Deer Electrical Utility (Electricity)
- Telus Communications (Telephone and communication)
- Rogers (Cable Television and communication)

These utility providers are intended to extend their infrastructure from 40th Avenue to service the Plan Area. The shallow utility alignments will be established during preparation of the Bower Woods Servicing Study.

7.7 Escarpment Considerations

As outlined in the Geotechnical Slope Assessment described in Section 1.4.3 Supportive Studies, the construction of the proposed residences and associated public infrastructure is not expected to have a significant impact on the stability of the slope. To maintain and protect slope stability, in addition to the setbacks shown on **Figure 19 - Escarpment**, several recommendations were provided include maintaining existing, but not introducing new, vegetation on the slope; grading lots and ensuring all stormwater drains away from the slope; not permitting underground sprinklers or ornamental ponds within 10m of the development setback line; not excessively water lawns near the slope; requiring all in-ground pools to be designed in consultation with an engineer and include a leak detection and control system; not dumping or stockpiling any materials over the slope; and doing no post-development grading of lots along the slope without a professional engineer's approval. As stated in Section 1.4.3 Supportive Studies, lots adjacent to the crest will be registered with a restrictive covenant at the time of subdivision to identify escarpment considerations such as development and building activities which may negatively impact the setbacks.

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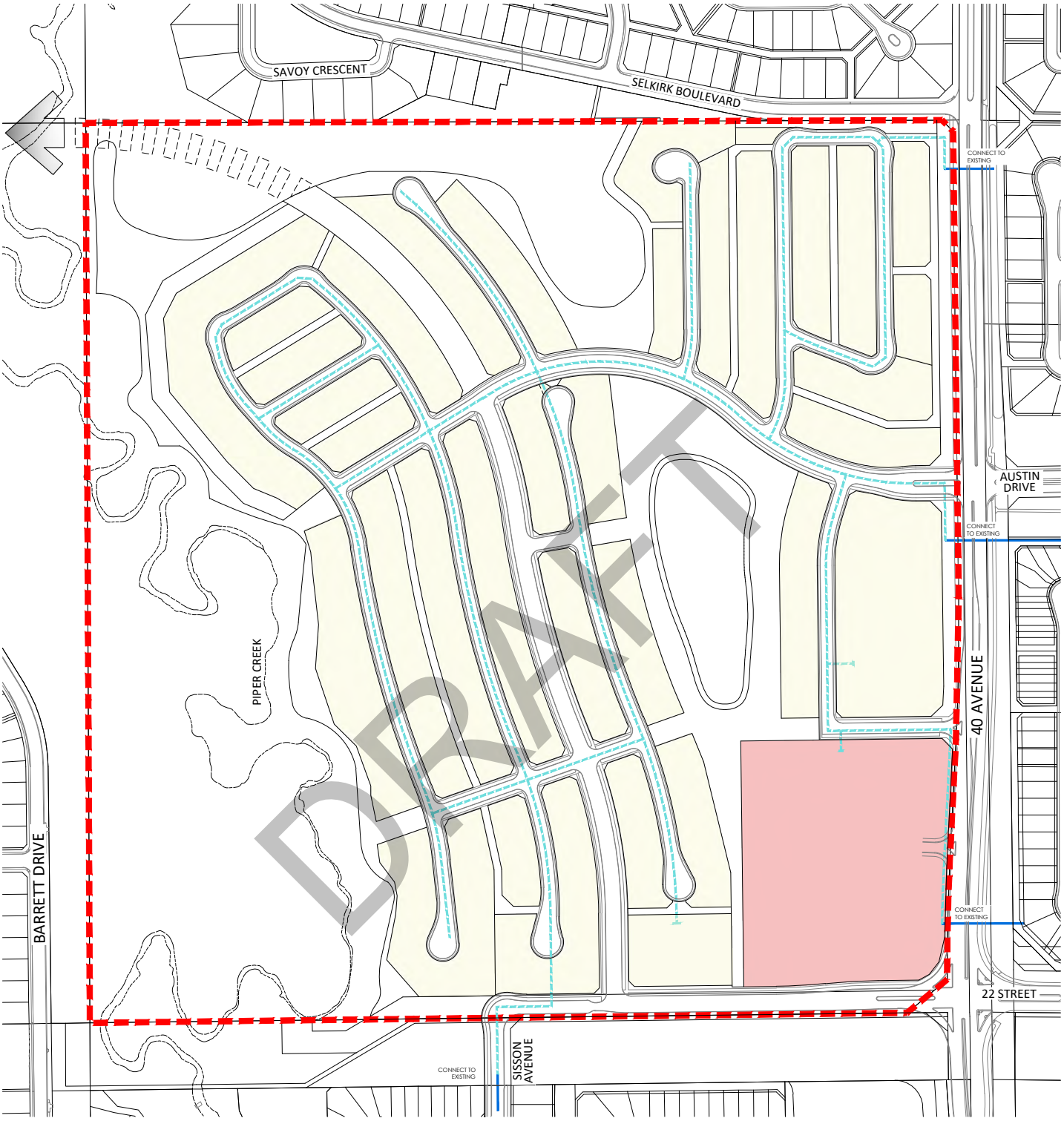

Water Servicing (Proposed)
Water Servicing (Existing)
Residential
Commercial
NASP Boundary

N

FIGURE 15
WATER SERVICING
Bower Woods Neighbourhood Area Structure Plan

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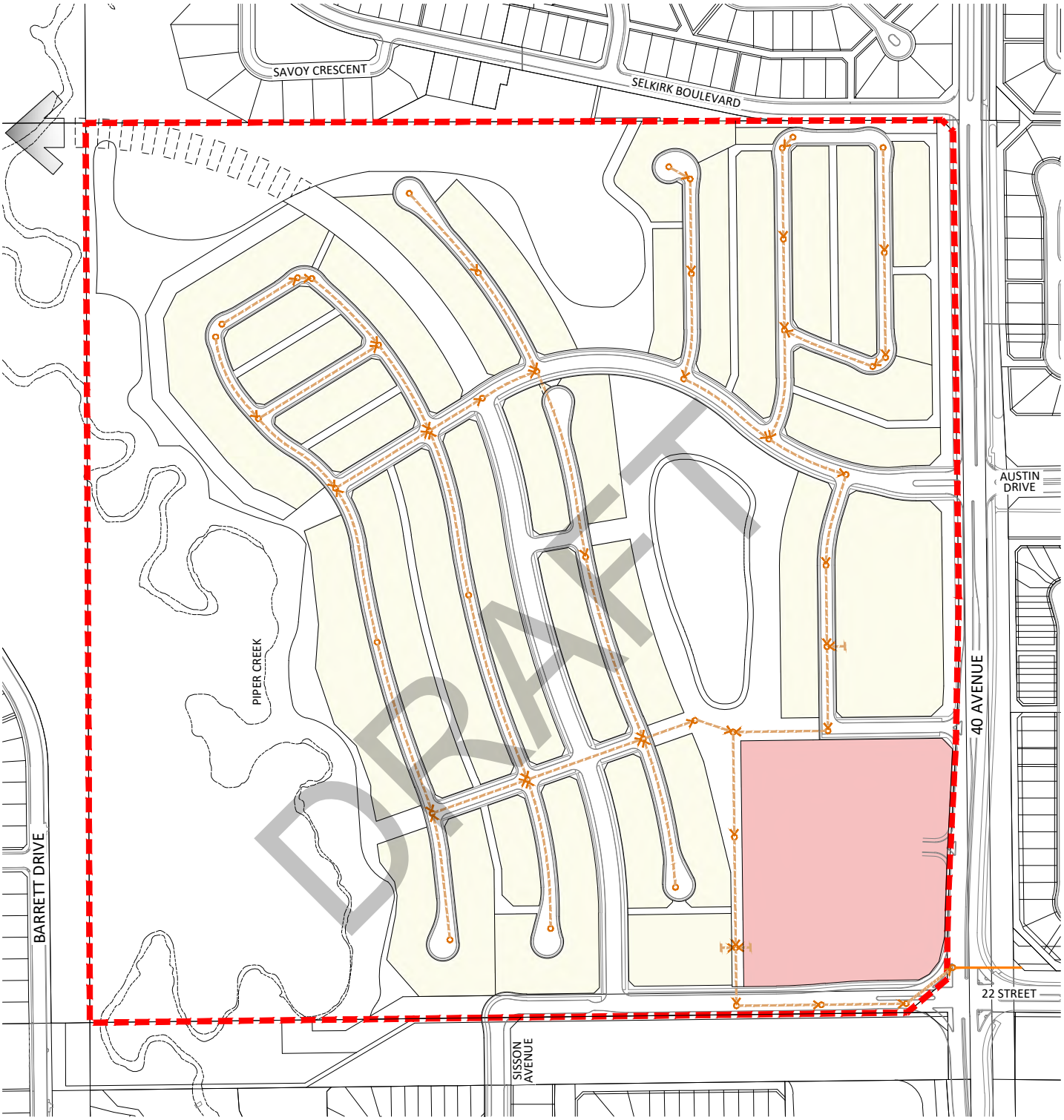

Sanitary Servicing (Proposed)
Sanitary Servicing (Existing)
Flow Direction
Residential
Commercial
NASP Boundary

N

FIGURE 17

SANITARY SERVICING

Bower Woods Neighbourhood Area Structure Plan

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Storm Servicing (Proposed)
Storm Servicing (Existing)
Flow Direction
Residential
Commercial
Stormwater Management Facility
NASP Boundary

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FIGURE 18
STORM SERVICING
Bower Woods Neighbourhood Area Structure Plan

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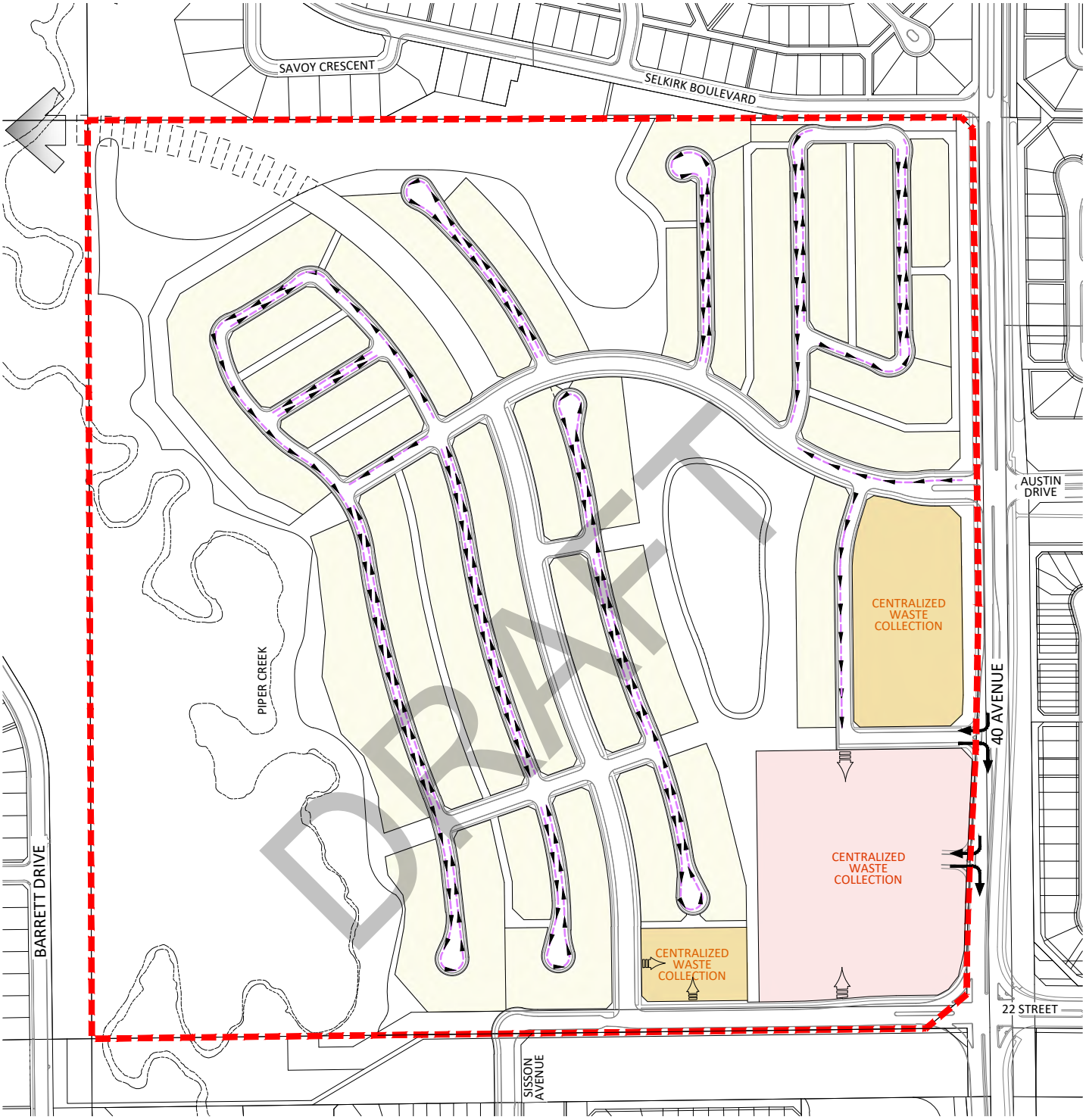

Residential
Multi-Family Residential
Commercial
Potential Access Point
Waste Collection Route
Plan Boundary

FIGURE 18

WASTE COLLECTION SERVICING

Bower Woods Neighbourhood Area Structure Plan

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Crestline
Development Setback Line
Building Setback Line
7.5m Rear Setback (Land Use Bylaw)
Multi-use Trail Proposed
Residential
Environmental Reserve
Municipal Reserve
Plan Boundary

N

FIGURE 19
ESCARPMENT

Stantec

Bower Woods Neighbourhood Area Structure Plan

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08. Development and Phasing

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8.1 Overview

The development of Bower Woods has been divided into several phases beginning in the southeast, extending north, and then west. Infrastructure to service the first phase will be extended from the 40th Avenue with each successive stage developed with the logical and economical extension of municipal services. Phasing boundaries shown on **Figure 20 Phasing Plan** are conceptual in nature and may vary when redesignation and subdivision applications are made. Portions of separate phases may be developed concurrently if there is sufficient demand and/or if municipal servicing is made more efficient as a result.

8.2 Land Use Redesignation and Subdivision

Proposed land use redesignation and subdivision applications will align with the land use designations described in this NASP and be undertaken as necessary. Guided by the MDP, East Hill MASP, and Bower Woods NASP, redesignation and subdivisions must conform to the ZBL and not conflict with statutory plans.

8.3 Plan Interpretation

The Bower Woods NASP is intended to guide development within the Plan Area; all images as shown have been included for visioning purposes only and should not be used to identify exact product types or locations.

All area calculations presented in this NASP have been determined using AutoCAD measurements, recorded in m2. Calculations are completed in the unit of m^2 and then converted into hectares and acres, rounded to the nearest hundredth. Due to the conversion and subsequent rounding shown in this NASP, it is recognized that not all numbers or calculations appear correct, specifically for small areas.

8.3.1 Amendments

Should this document require amendment, a formal amendment process will be required including consultation with the City and approval via Council. An amendment to this NASP may be required for any significant changes to the plan, including:

- Major shift in the location of community facilities
- Major shift between general land use categories (e.g., Residential to Commercial.)

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- Major shift in infrastructure design or layout (e.g., location of collector roads or stormwater management facility)

Provided that the intent of the NASP is maintained, minor adjustments to the proposed land use boundaries, roadways, intersection types, servicing alignments, or other information may be made where necessary without an amendment. This will include the addition or deletion of lands, including public utility lots, which have been reviewed and deemed appropriate by the City.

8.3.2 Financial Implications

Following a predetermined maintenance period, as identified in the Bower Woods Development Agreement, all infrastructure and public spaces will become the responsibility of the City.

8.3.3 Environmental Preservation

As described below, protective measures will be put in place to minimize the potentially negative impact on existing vegetation, Piper Creek, any wildlife, and to prevent erosion during the construction of the community.

- Clearing and grading will be undertaken on a phased basis to minimize sediment load and erosion potential.
- In accordance with the Engineering Services Design Guidelines, a fence will be constructed surrounding the Environmental Reserve area prior to development prevent encroachment, clearing, or grading.
- Protective silt fencing will be installed surrounding Piper Creek until the surrounding construction and landscaping has been completed.
- Vegetation clearing and existing building disturbance will be completed outside of the breeding bird restricted activity period (April 15 - July 30).

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Proposed Phase Boundary

NASP Boundary

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FIGURE 20

PHASING PLAN

Bower Woods Neighbourhood Area Structure Plan

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