Cherot

Area Structure Plan

Bylaw 23/2014

(Avenir & Cherot East)

As amended July 5, 2021 - Bylaw 28/2021

CITY OF ST. ALBERT

BYLAW 28/2021

CHEROT AREA STRUCTURE PLAN AMENDMENT

Being Amendment 4 to the Cherot Area Structure Plan formerly called Range Road 260 Area Structure Plan Bylaw 23/2014

The Council of the City of St. Albert, duly assembled, hereby ENACTS AS FOLLOWS:

1. Bylaw 23/2014, being the Cherot Area Structure Plan Bylaw, is hereby amended by replacing Schedule "A", Cherot Area Structure Plan, with Schedule "A" attached hereto.

2. The Chief Administrative Officer is authorized to consolidate Bylaw 23/2014.

EFFECTIVE DATE

3. This bylaw comes into effect when it is passed.

READ a First time this 8 day of June, 2021.

READ a Second time this 5 day of July, 2021.

READ a Third time this 5 day of July, 2021.

SIGNED AND PASSED this 6th day of July 2021.

C. Heron
MAYOR

CHIEF LEGISLATIVE OFFICER

Cherot Area Structure Plan Amendments

Amendment Number	**Bylaw Number**	**1st Reading**	**2nd Reading**	**3rd Reading**
Original	23/2014	October 6, 2014	October 6, 2014	October 6, 2014
1	8/2015	February 2, 2015	February 2, 2015	February 2, 2015
2	2/2021	March 1, 2021	April 6, 2021	April 6, 2021
3	3/2021	March 1, 2021	April 6, 2021	April 6, 2021
4	28/2021	June 8, 2021	July 5, 2021	July 5, 2021

TABLE OF CONTENTS **Page**

LIST OF FIGURES **Page**

1.0 INTRODUCTION

1.1 Purpose

(1) This plan establishes the conceptual land use, transportation, and servicing patterns for Cherot to implement the *Municipal Development Plan (MDP)*, which designates this sector of the city as neighbourhood, mixed-use node, employment area, major open spaces, and major recreation centre.

(2) Range Road 260 Area Structure Plan is made up of three neighbourhoods that include Avenir, Cherot East, and a future development area north of Villeneuve Road.

(3) Servicing standards, population analysis and other details supporting this Range Road 260 Area Structure Plan (ASP) are referenced in the draft *Avenir Area Structure Plan Technical Report* (Technical Reports) dated October 2013 with revisions dated August 2014. Elysian Fields is referenced in the draft *Elysian Fields Area Structure Plan Technical Report* (Technical Reports) dated April 2013 with revisions dated September 2014. The preparation for Avenir and Elysian Fields Technical Report was prepared separately for each developer by Lovatt Planning Consultants Inc. Studies that covered both development areas were prepared by Al-Terra Engineering Ltd. and Select Engineering Consultants Ltd., which included the Preliminary Servicing Concept Design Brief, Hydraulic Network Analysis, and the Traffic Impact Assessment. In June 2020, for the Elysian Fields lands, now called Cherot East, studies were provided by Select Engineering Consultants Ltd. to update the development concept. The documents were used to prepare this Bylaw.

1.2 Authority of the Plan

The Range Road 260 Area Structure Plan was renamed to Cherot Area Structure Plan through Bylaw 2/2021. The *Cherot Area Structure Plan (ASP)* has been adopted through a bylaw passed by Council in accordance with the *Municipal Government Act (MGA)*.

The MGA identifies an ASP for the purpose of providing a framework for subsequent subdivision and development of the area. The ASP is to describe the sequence of development, land use purposes, population density, and general location of transportation, public utilities, and other matters Council considers necessary. The approval of the Cherot Area Structure Plan does not guarantee development rights. At the time of subdivision, detailed engineering drawings and plans of subdivision will be reviewed and the City will then determine if development can proceed. In order to encourage development within the City of St. Albert, Council, by approving this Area Structure Plan, acknowledges the following limitations:

- That final approval of any servicing agreements remains subject to a review of plans of subdivision and detailed engineering drawings as per the City Engineering Standards, Utility Master Plan (UMP), Transportation Master Plan (TMP), Transportation System Bylaw (TSB), Municipal Development Plan (MDP), Land Use Bylaw (LUB), and any other documents, Municipal or otherwise, the City determines relevant to the development. The approval of this ASP does not mean approval of any servicing agreement, future districting, subdivision, development agreement, development permit, or building permit.
- That the City reserves the right to apply any additional infrastructure servicing specification to the lands covered by this ASP in order to provide quality services to the citizens.
- That all development expenses and other costs, of every nature and kind, are expended at the developer's sole risk, and that any additional expenses incurred by the development as a result of any modification resulting from the aforesaid Engineering Standards are at the developer's expense.
- The City is not responsible financially or otherwise, to provide infrastructure to support development of this ASP.

1.3 Timeframe of the Plan

The Area Structure Plan is future-oriented and depicts how Cherot is expected to be developed over a time and through a series of public and private sector initiatives. The completion of Avenir is expected to take 10 to 15 years (2036) and the completion of Cherot East is expected to take over 15 years (2036) for full build-out and both are dependent on servicing capacities and the market

demand. The portions of land north of Villeneuve Road have no expected timelines for development. While the plan envisions a desired future, changes to the plan may be required to respond to new circumstances. Thus, to ensure that it remains current and relevant, the plan may be reviewed, updated, and amended either generally or in regard to a specific issue as determined necessary by Council or when the *Municipal Development Plan* (MDP) is updated.

1.4 Interpretation of the Plan

1.4.1 Map Interpretation

Due to the small scale of the ASP maps, the boundaries or locations of any symbols or areas shown on a map within the ASP are approximate, and are to be verified at the time of subdivision. With the exception of surveyed delineations, boundaries and symbols on the maps are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries such as existing road or utility rights-of-way. Minor deviations on the boundaries between land uses may be allowed, at the discretion of Planning and Development Department Administration, as long as the general location of land uses does not change or create potential impacts to surrounding land uses (existing or proposed) and the overall statistics for the neighbourhood are still achieved. While proposed roads and walkways are shown in order to illustrate possible alignments, the local road alignments and walkway locations are subject to verification and possible realignment at the time of subdivision.

1.4.2 Application of the Plan

The overall *ASP* shall apply to the area shown on Figure 1. The area is located in the northwest quadrant of St. Albert and is bounded by:

- Giroux Road (Old McKenney Avenue) to the south;
- North City limits is the north boundary;
- Carrot Creek to the west; and
- Ray Gibbon Drive to the east.

Range Road 260 is the roadway that is located between Avenir and Cherot East. Lands north of the Villeneuve Road have been included within this ASP; however, no land use concepts, or development statistics have been considered. The reason for adding in these lands is so that all parcels of land west of the future north-south highway and north of Villeneuve Road are within the boundary of an ASP.

The Avenir portion of the ASP encompasses an area of 84.8 hectares; Cherot East portion of the ASP encompasses an area of 100.5 hectares; and the lands north of Villeneuve Road encompass an area of 44.0 hectares. All areas combined total 229.4 gross hectares.

1.5 Objectives

The objectives for each area within this ASP are specific to that portion:

Avenir

- build a range of housing options to meet a wide spectrum of homeowners;
- develop mixed-use opportunities with ground level commercial and dwelling units above;
- provide active living with access to Carrot Creek and the linear recreational feature; and
- enhance stormwater pond as a wetland feature.

Cherot East

- enable land uses that promotes access to neighbourhood amenities, such as, public open space, school sites, recreation, and commercial uses;
- create aesthetically pleasing residential areas that offers a range of housing options;
- create pedestrian friendly linkages of walkways and trails; and
- provide a City-wide Community Amenities Site that accommodates civic needs and recreational activities.

1.6 Property Ownership Patterns

There are eight landowners within the Plan Area. For the Avenir portion, the landowners include 1261588 Alberta Ltd. (Rampart Communities Ltd.) as the major landowner, Melcor Developments Ltd., McCollum, and Unterschultz (et all). For the Cherot East portion, all land is owned by Rohit Land St. Albert West Ltd. For the parcels north of Villeneuve Road, there are several landowners that include: Tappauf, 1281590 Alberta Ltd., and Holden. Figure 7 provides the legal descriptions of the parcels of land within the Plan Area.

1.7 Planning Context

The ASP has been prepared within the context of the statutory planning system in St. Albert, as well as other non-statutory planning and servicing initiatives, which provides guidance for the future land use and development options of Cherot Area Structure Plan.

1.7.1 *Edmonton Metropolitan Region Growth Plan*

St. Albert is one of 13-member municipalities that must conform to the Growth Plan of the Edmonton Metropolitan Regional Board (EMRB). St. Albert is part of the Metropolitan area, encompassing the highest concentration of existing and future urban development. St. Albert statutory plans must align with policies within the Growth Plan, including but not limited to, greenfield densities of a minimum of 40 dwelling units per net residential hectare (du/nrha).

1.7.2 *Municipal Development Plan (MDP) (Flourish)*

The City of St. Albert *MDP entitled Flourish – Growing to 100K*, Bylaw 20/2020, as amended, *Urban Structure and General Land Use, Map 3,* designates the Plan Area as neighbourhood, mixed-use node, employment area, major open spaces, and major recreation centre. The *Natural Features, Map 5*, delineates Carrot Creek as an environmentally sensitive area.

1.7.3 Existing Area Structure Plan

The original version of Range Road 260 Area Structure Plan was adopted on October 6, 2014, with amendments in February 2015. Through the adoption of Bylaw 2/2021, the Plan name changed.

1.7.4 *Land Use Bylaw (LUB)*

The City's *Land Use Bylaw,* Bylaw 9/2005, as amended, controls development of the lands within the neighbourhood. The Urban Reserve District is a holding district for orderly transformation to future urban expansion or intensification development. Changes to the land use district will be required through an amendment to the Land Use Bylaw (redistricting), ahead of subdivision and development.

The ASP Future Land Use map demonstrates the base land uses, and descriptions within this document describe the expected uses and densities. Land uses that are anticipated for Avenir include commercial, mixed-use commercial/medium density residential, low density residential, medium density residential, public park, and stormwater management facilities (as public utility lots). Cherot East anticipated land uses include low density residential, medium density residential, high density residential, public park, school sites, Community Amenities Site, passive recreation, and two stormwater management facility (as public utility lots).

1.7.5 *Transportation Master Plan (TMP)*

The City's *Transportation Master Plan* (2015) prepared by Associated Engineering for the City of St. Albert, guides how the City addresses current and future transportation needs. This document sets the vision and actions for the transportation network until 2042. The term transportation includes roads, trails, sidewalks, and other infrastructure needed to move people and goods within and through the city. The *TMP* shows road patterns at various population horizons.

In the Cherot ASP, the proposed roadway network shows Range Road 260 as a direct north-south future Connector roadway connecting to Villeneuve Road to the north and Giroux Road to the south. Future

Neighbourhood roadways are also shown looping through both sides of Cherot to service the interior of each neighbourhood and connect to Cherot at multiple points for entry and exit into Avenir and Cherot East neighbourhoods. In the growth horizon (2042) Ray Gibbon Drive as the eastern boundary of the ASP is shown in the TMP as a 4-lane Boulevard roadway.

One of the strategies identified in the TMP is "Complete Streets". The City of St. Albert approved the Complete Streets Guidelines and Implementation Strategy in August 2018. The Complete Streets Guidelines provides vision, principles, and objectives to support St. Albert's priority of creating a community designed to promote safety and connectivity through a transportation network that accommodates all types of development. Any proposed subdivision applications within this ASP, should be in conformance with the TMP, and the Complete Streets Guidelines and Implementation Strategy.

1.7.6 *Utility Master Plan (UMP)*

The *Utility Master Plan (UMP) 2014* for the City of St. Albert is a general framework for providing utility services to future developments (water, wastewater, and stormwater management). The timeframe for extending services is based on the pace of development and the ability of front ending parties to design and construct necessary infrastructure components.

At the time this ASP was written, the current stormwater management release rate is 2.5 litres, per second, per hectare (L/s/ha) for Sturgeon River and 1.8 L/s/ha for Carrot Creek. Should release rates be altered, additional studies showing the impact on downstream stormwater facilities must be completed.

In order for development to proceed within Avenir or Cherot East, necessary off-site sanitary work must be completed to provide servicing capacity and extend necessary services. Interim Real Time Controlled Storm ponds have been shown within the ASP in order to provide stormwater treatment and conveyance until the outlined stormwater trunk line is installed that would convey stormwater from the development into

Big Lake. Necessary off-site work is outlined within the Utility Master Plan and delineated in the Off-Site Levy Bylaw, as amended.

2.0 SITE ANALYSIS

2.1 Natural and Cultural Features

2.1.1 Topography and Drainage

Based on aerial photographs, the area has been cleared and farmed dating back to 1949. Avenir slopes east to west to Carrot Creek and has higher elevations in the north with lower elevations in the south portion nearing Giroux Road. The ground elevations for Avenir range between 675 metres to 662.5 metres. Cherot East has ground elevations ranging between 681 metres to 672 metres, with a downward slope from east to west towards Range Road 260.

On Cherot East, the two shallow drainage channels in the north portion feed a drainage channel in the north portion of the Avenir site. Mid-way on Cherot East is a shallow drainage channel that flows into Avenir. On the south portion of Avenir, there is a shallow drainage channel. All the channels identified drain to Carrot Creek.

2.1.2 Sturgeon River/Carrot Creek Designated Flood Line

The lands are above the Designated Flood Line for the Sturgeon River. Avenir is adjacent to Carrot Creek and some of the lands are within the Designated Flood Line for Carrot Creek. Development below the designated flood line is greatly limited as outlined in the Land Use Bylaw.

2.1.3 Geotechnical Conditions

Geotechnical investigations, covered both Avenir and Cherot East (Elysian Fields), are documented in the report *Geotechnical Investigation-Proposed Avenir Elysian Neighbourhood Between Giroux Road & Villeneuve Road Between Carrot Creek and Ray Gibbon Drive St. Albert, Alberta (2012)*. The report provides a summary of the general subsurface soil profile and preliminary geotechnical recommendation for neighbourhood planning, road, and foundation design. Sixteen (16) test holes for both Avenir and Cherot East (Elysian Fields) were drilled and no test holes were near the landfill on Cherot East (Elysian Fields). The subsurface soil is medium to high plastic lacustrine clay found near the

surface and clay till or sand was below the clay. The water table depths and elevations were highest near Carrot Creek with depths between 0.3 metres to 2.4 metres from ground surface. In the centre of the site, water table depths were 10 metres below ground surface. Test holes conducted near pockets of wetlands/slough had high water tables and may require sump pumps, cast-in-place pile installation, or slab-on-grade construction. Some soils in the area may not support heavy structure. Water tables can fluctuate depending on the season or amount of rainfall.

Areas of high ground water levels may require further investigation at the time of subdivision or Development Permit and building construction stage to identify mitigation measures addressing hydro-geological concerns. If an acceptable strategy cannot be obtained, then the land may be deemed unsuitable for development.

2.1.4 Vegetation Resources

In the *St. Albert Natural Areas Review and Inventory,* which served as an addendum to the *St. Albert Natural Areas Review and Inventory (2008),* Carrot Creek is shown as a regional ecosystem, which is a Regional Environmental Sensitive Area that provides flood attenuation, groundwater recharge, organic matter recharge, and is a critical habitat linkage. Along Carrot Creek are riparian zones that vary in width and the vegetation type that interface with the creek and existing farmland. Riparian zones are important to bank stability, erosion control, and wildlife and marine habitat biodiversity.

2.1.5 Natural Site Assessment

A Natural Area Assessment was completed for the portion of NE-1-54-26-W4M, Plan 952 1983, Blocks 1 and 2; and Plan 972 2087, Block 2, Lot 1, with site inspections on February 28 and March 1, 2012.

<u>Avenir</u>
<u>Carrot Creek</u>
The portion of Carrot Creek adjacent to Avenir is divided into four Reaches (stretches of land) each having variable vegetation growth and creek pattern.

- Reach 1 is nearest CN rail line. In this location, the Creek is straight and narrow with the area being cultivated. The north portion of Reach 1 has some shrubs along the creek bank.
- In Reach 2, the Creek is winding, and the channel is natural with some willow shrubs, trembling aspen, and grassland.
- At Reach 3, the Creek is narrow, and the vegetation is dense with willows. Within Reach 3, a farm access has been installed over the creek, with a culvert to manage the water. Near this access is a wetland (Wetland 1) with marsh like vegetation of cattail, water parsnip, and willow. A second wetland (Wetland 2) is also within Reach 3.
- Reach 4, nearest Villeneuve Road, the Creek is vegetated with riparian plants, trees, and shrubs. Within this Reach, a rare vascular plant, Carex retrorsa (turned sedge) was recorded. It is anticipated that all of Reach 4 will be within the designated flood line; therefore, the rare vascular plant should not be impacted. However, if there is development of any kind, then a program to mitigate the loss of this species is required, which may include protection or transplant in a suitable location.

Carrot Creek is a critical habitat linkage between Big Lake, Lois Hole Provincial Park, and to the upper portion of Carrot Creek. The Creek supports fish, birds, ground animals, deer, moose, coyote, reptiles, and amphibians. The protection and restoration of riparian corridors is a conservation goal because historical land uses have impaired the creek corridor's function. If any work in the vicinity or in the waterway occurs, authorization may be required by the Department of Fisheries and Oceans (DFO) pursuant to the Fisheries Act and Alberta Environment and Parks.

<u>Cherot East</u>

A Natural Area Assessment was completed on March 1, 2012 for the NW and SW quarters of 7-54-25-W4M, and NW-6-54-25-4. No natural areas were identified, and the land is dominated by agriculture. There is one wetland straddling NW-6-54-25-4 and SW-7-54-25-4, which is about 0.5 hectares in size and may be a class IV or V wetland. In addition, aerial

photos show drainage swales, which should be verified prior to stripping and grading or at the time of subdivision.

Both Avenir & Cherot East

Wetland and Shelterbelt

Two wetland areas were identified along Carrot Creek and will be retained. A drainage swale feeds Wetland 2 that is adjacent to Carrot Creek; the removal of the drainage swale may impact the wetland. Within NE-1-54-26-4 are three small wetland areas that have been degraded and cultivated. These three small wetland areas are planned for development, but need to be further investigated to determine the Water Act approval. In addition, there are several ephemeral drainages crossing the lands and extending east across Range Road 260. There are four shelterbelts that support movement of wildlife, but are not intricate to the Creek and will be removed and developed.

Wetland Verification and Compensation

Alberta Environment and Parks (AEP) must verify if the bed and shore of a wetland will be claimed by the Provincial Government under the *Public Lands Act*. Alberta Environment, who administers the *Water Act*, would require compensation under the Water Act for any wetland area that is removed.

The Municipal Development Plan indicates the City of St. Albert shall protect not only provincially and regionally significant areas, but also locally significant, sustainable areas, except where the protection compromises other necessary parks, trails, and open space requirements in a neighbourhood. Carrot Creek is within the Plan Area and shall be protected.

2.1.6 Environmental Site Assessment

Avenir

A Phase 1 Environmental Site Assessment (ESA) was completed in January 2007 for NE-1-54-26-4. No issues were identified at that time.

A Phase 1 ESA was completed in May 2008 for Plan 952 1983, Blocks 1 and 2; and Plan 972 2087, Block 2. A Phase 2 ESA was completed in July 2008 to assess potential impacts from the former landfill site located

on the east side of Range Road 260, called Pit 2, as this pit is closest to the Avenir lands.

Cherot East

A Risk Assessment of former landfills located on the east side of Range Road 260 for the west half of 7-54-25-4 was completed in August 2010.
A Pit 1 Characterization was completed in February 2011.
A Phase 1 Environmental Site Assessment (ESA) was completed in May 2019 for SW-7-54-26-4, NW-6-54-25-4, and Plan 932 1471, Lot A.

ESA to be Conducted

An ESA in Avenir is needed for parcels NE-12-54-28-4 (47 City Annex West) and SE-12-54-26-4 (53 City Annex West).

The potential amendment area needs an ESA.

Former Landfills Pit 1 and Pit 2 (Figure 9)

On the east side of Range Road 260 are two former landfill sites that have not operated since 1996 and these have been called Pit 1, located more north, and Pit 2, located closer to Range Road 260. A risk assessment was undertaken to satisfy the requirements of the Policy for the Variance of Setback from Landfills and Waste Storage Sites for Alberta Environment's consideration. The required setback from a landfill is 300 metres with restrictions on use; however, an application can be made to the Province to reduce the setback requirement, which would allow for development closer to the former landfill.

The Phase 1 ESA conducted by Tetra Tech in May 2019, recommends closure of the two pits proceed and post-closure monitoring is established, in consultation with Alberta Environment and Parks. The City hired a third-party consultant to review documents and confirm the findings of Tetra Tech. At the time of adoption of this Plan, the third-party review is not complete. Upon completion, this review will inform future development setbacks.

Pit 1 (located in the north of the Plan area)

Pit 1 collected a range of waste from organic material, metals, household waste, plastics, industrial liners, cardboard, garbage bags, and empty industrial buckets. The site did accept prohibited waste that should have been deposited at a hazardous waste landfill. The future use of the area is passive recreation. Pit 1 will have a low-permeability cap installed and a passive landfill gas venting layer with vent stacks. Future development must be designed to protect the covers system and perimeter soil gas probes to monitor for evidence of subsurface lateral landfill gas migration. Residential buildings, schools, hospital, or food establishments could not be constructed within 300 metres of Pit 1. The City could apply for a setback variance (if deemed in its best interest), subject to approval from the Province of Alberta.

The City will require a copy of the provincially approved post-closure monitoring plans for Pit 1, prior to considering any development within the landfill setback.

Pit 2 (future SWMF)

Pit 2 collected vehicles, metals, concrete debris, and some household refuse. In 2012, remediation of Pit 2 was undertaken with waste material removed. A remediation certificate (No. 326481-00-00) was issued by Alberta Environment now AEP in January 2015, for remediation of nickel within a portion of Pit 2. A 300-metre setback restriction on residential buildings, schools, hospitals, or food establishments is not anticipated. It is anticipated that the City will apply for a setback variance (if deemed in its best interest), subject to the findings of the landfill testing, to enable a stormwater management facility.

The City will require a copy of the provincially approved post-closure monitoring plans for Pit 2, prior to considering any development within the landfill setback.

Wellheads

There are 13 abandoned wellheads within the ASP boundary. Four (4) wellheads within Avenir area have been issued reclamation certificates or are reclamation exempt. The technical report identified an active gas

well located in the northwest portion and three abandoned wells on Cherot East. There is one (1) wellhead north of Villeneuve Road. There are four (4) wellheads along Range Road 260. Figure 9 provides the location of wells and licence numbers.

Reclamation certificates are required for wellheads and provide a determination if a 5-metre setback is sufficient. Setback requirements are determined and regulated by Alberta Energy Regulator (AER).

2.1.7 Heritage Resources

Historic Resources Management Branch, Alberta Culture and Community Spirit have indicated the site has been extensively disturbed by cultivation for up to 12 decades and no further archaeological assessment is required. *Historical Resources Act* clearance has been given to proceed with development within Section 12, Township 54, Range 26, W4M; Section 1, Township 54, Range 26, W4M; Section 6, Township 54, Range 25, W4M; and Section 7, Township 54, Range 25, W4M.

2.2 Current Development Patterns

The west boundary of the Plan Area is bordered by Carrot Creek, a Regionally Environmental Sensitive Area, with agricultural land uses in Sturgeon County on the west side of the Creek. To the south of Giroux Road (Old McKenney Avenue) are the future employment lands. To the north of the Cherot East is a stormwater management facility to support water from the adjacent highways.

The Plan Area was predominantly cultivated fields for agricultural use with two former landfills on the east side of Range Road 260. There is one single family house and eight out-buildings on Plan 972 2087, Block 2, Lot 1. The house is serviced by a domestic water well and a septic tank and field.

AltaLink have overhead powerlines along Range Road 260 and Giroux Road (Old McKenney Avenue).

Alberta Transportation advised that no direct access from the Plan Area will be permitted onto Villeneuve Road except from Range Road 260.

3.0 LAND USE CONCEPT

3.1 Future Land Use Map

The Future Land Use Map for Cherot is shown on Figure 2. This map defines expected future land use and roadway patterns for the subject lands.

3.2 Major Development Patterns

Avenir

The primary land uses in the future Avenir neighbourhood are mixed-use consisting of residential and commercial, residential, and open space. The residential component may include single-detached, semi-detached, and townhousing. The mixed-use commercial and medium density could have commercial on the ground level with residential above and opportunity for live/work units. The commercial site at the north end could service the neighbourhood. The greenway adjacent to Carrot Creek will be enhanced with trails and, in the future, have linkages to the Red Willow Park.

Avenir's net residential density is 41 dwelling units per net residential hectare. The total number of dwelling units proposed is 1,730 units of which 1,192 are medium to medium/high density units, which equates to 69% of the proposed units. The proposed developable residential area is 41.7 hectares, which is 53% of the net developable area for this portion of the Plan Area.

Cherot East

The main land uses in the future Cherot East neighbourhood are residential, commercial, Community Amenities Site, passive recreation, parks, and schools. Cherot East's net residential density is 40 dwelling units per net residential hectare. The total number of dwelling units proposed is 1,597 units of which 961 are low density units, 328 are medium density units, and 308 are high density units. The medium and high density units equal 40% of the proposed units. The proposed developable residential area is 40.2 hectares±, which is 52%± of the net developable area for this portion of the Plan Area. The school/park site in this neighbourhood will serve the whole Plan Area and is approximately 4.0 hectares±.

Combining the two areas, there are 3,327 dwelling units, which is 40.5 dwelling units per net residential hectare and 55% of the units are multiple family.

3.3 Residential Land Use

Residential will include low density residential, medium density residential, high density residential, and mixed-use of residential and commercial.

3.3.1 Low Density Residential

Low density residential land use is 60 hectares± of land within the Plan Area. Low density residential land use may include single-detached house, single-detached house with a secondary suite, semi-detached, duplex housing, and townhousing forms, or any combination thereof, provided the low density built-forms conform to the Land Use Bylaw requirements. Avenir low density residential land use will comprise 26 hectares± of land. The number of low-density residential units anticipated is 538. Cherot East low density residential land use will comprise 33 hectares± of land. The number of low-density residential units anticipated is 961. The combination of Avenir and Cherot East will have a total number of 1,499 low density residential units, which is approximately 45% of all residential units.

3.3.2 Medium Density Residential

Medium density residential sites are located on, or within walking distance of, transit routes and adjacent to a Neighbourhood roadway. In addition, the sites are located near parks and other amenities in accordance with locational policies identified in the MDP. Medium density land uses include the development of three or more attached units that may include housing types such as townhouses and apartment buildings with density range of 65 to 94 dwelling units per net residential hectare. The anticipated number of medium density units between Avenir and Cherot East 789 units, which is approximately 24% of all residential dwelling units.

Townhouse: Townhouse development is generally designated along connector roadways and /or in transition to high density residential land uses. Townhouses may be developed as fee simple or private site. The

projected densities applied to townhouses is approximately 40 dwelling units per net hectare.

Townhouse / Apartment: Proposed are three medium density residential sites, which may be developed with a mix of townhouse and/or apartment style buildings. The projected densities applied to townhouse/apartment buildings is approximately 94 dwelling units per net hectare.

Townhouses and apartment buildings should be designed to have presence on the streetscape. This may be achieved by locating the building closer to the street and using a variety of architectural design features and building articulation to enhance the streetscape. Vehicular access for street-oriented townhouses is from a rear lane.

3.3.3 High Density Residential

Two high density residential development sites are proposed and may include housing types of stacked townhouses and apartments with densities above 125 dwelling units per net residential hectare. The total number of high density dwelling units proposed in Cherot East is 308 units, which would comprise approximately 9% of the total number of residential units in the Plan Area.

Site layout and building placement for high density built forms should consider maximum frontage and visibility from public streets. High density developments, where possible, should front onto and be located close to the higher order Neighbourhood roadways. High density developments should also use architectural design features to address the streetscape. Building design should incorporate articulation and transition to reduce impact onto adjacent buildings.

3.3.4 Mixed-Use Residential & Commercial

The mixed-use provides the opportunity to create unique housing forms for medium and/or medium/high density dwelling units, and live/work type environments. Approximately 731 residential dwelling units are proposed in the mixed-use portion of Avenir, which is 22% of the overall residential units, with a density of 94 dwelling units per hectare. The

commercial floor area projected in the mixed-use is 15,560 m² (167,490 ft²), based on 20% of the proposed 7.78 hectares.

The mixed-use development should encompass a human-scale environment with a walkable commercial component (like coffee shops, restaurants, medical clinics) or other services for the neighbourhood. Architectural controls could be implemented to give the area character and to manage the mix of residential and commercial uses.

3.3.5 Commercial

Commercial uses may include retail, office uses, and commercial combined with residential.

One commercial site is located at the north entrance within Avenir. The commercial area is 0.83 hectares± in size. The potential developable commercial floor area is 1,660 m² (17,868 ft²) based on 20% of the proposed site. Access to the commercial will not be permitted from Villeneuve Road. Two commercial sites are proposed next to the Community Amenities Site in the north portion of Cherot East. The anticipated commercial space is 4,970 m² (53,500 ft²). These sites have frontage onto the Neighbourhood Residential roads providing access to Range Road 260. These sites could provide for commercial retail and service opportunities that serve users of the Community Amenities Site and neighbourhood residents. The overall commercial use is approximately 2% of the developable lands, which is 3.3 hectares±.

Commercial and mixed-use (residential & commercial) should be complementary to the surrounding residential uses in terms of scale and compatibility. Mitigation measures may be required to address noise, light, and odour issues created by the commercial uses, to limit impacts on nearby residential dwelling units .

Connectivity for active transportation such as walking, and cycling should be considered through the provision of walkways surrounding commercial sites. Where commercial uses are in proximity to residential uses, walkways should be incorporated into the site layout and proposed

building design to enable walkability between commercial and residential uses and reduce dependency on vehicular trips.

3.7 Parks and Open Space

The parks and open space system in the Plan Area will include trails, wetland areas adjacent to Carrot Creek, a joint community park/school site, parks, and stormwater management facilities. The *Municipal Government Act* and the *Municipal Development Plan* specify that 10% of the developable lands be dedicated as Municipal Reserve, which can be used for development of a school, parks, public recreation areas, and those trails accepted by the City, and are not associated with public utility lots. Each neighbourhood of the Plan Area (Avenir, Cherot East, and potential amendment area north of Villeneuve Road) will provide 10% of developable lands as Municipal Reserve.

The proposed Municipal Reserve dedication configuration is shown in Figure 8, while the parks and open space system is depicted on the Future Land Use Map (Figure 2).

Parks shall be designed to maximize frontage onto public streets for better access and visibility. Increased visibility will create safer public spaces with natural surveillance from adjacent pedestrian and vehicular traffic. Homes will be within a 400 metres or 5-minute unobstructed walking distance to an open space or park.

3.7.1 Carrot Creek

Carrot Creek is a natural drainage channel for lands in St. Albert and land extending north to Morinville and is a linear natural area for wildlife and vegetation. A minimum 50-metre setback from the top of bank of Carrot Creek is required to protect the riparian area and provide space of potential trail development. The Land Use Bylaw will define the designated flood line for Carrot Creek. There will be a portion of land that is within the 50-metre setback from the top of bank that is below the designated flood line that will be environmental reserve. The portion of land above the designated flood line that is within the 50-metre setback from the top of bank will be municipal reserve.

Trail development adjacent to Carrot Creek will provide connection to the neighbourhood and Red Willow Park system. As part of trail development, adverse impacts to the Creek will be mitigated or minimized. In addition, there should be consideration for enhancing wildlife corridor connections, and restoring riparian areas. Any trail development should consider both sides of the Creek and coordination with Sturgeon County.

3.7.2 Trails

The vision for Carrot Creek is to create an intermunicipal greenway that has a regional trail network connecting to the Red Willow Park system in St. Albert in accordance with the Red Willow Park West Master Plan (2018). Coordination and partnerships need to be initiated to enable connectivity between jurisdictions.

Trails within Avenir will primarily be along Carrot Creek, adjacent to the three stormwater management facilities with linkages to sidewalks within the neighbourhood, and connections towards Big Lake and Red Willow Park. Cherot East trails and a minimum 20-metre wide connector park will provide internal connections in the residential area, trails along the stormwater management facilities, and pedestrian movement between the two Plan Areas. Additional off-street trails and on-street pathways will connect the neighbourhood fully to the future Community Amenities Site.

Some trails may have Public Utility Lot (PUL) designations where trails are within utility rights-of-way; therefore, no municipal reserve dedication would be granted in these circumstances. The trails must be installed by the developer at the time of subdivision.

A future trail within the road right-of-way of Ray Gibbon Drive is proposed, with access connections to the Cherot ASP.

3.7.3 School/Park Site

A school/community park site with an area of 4.1 hectares± is proposed within the Plan Area. The site is located on two road frontages and

surrounded by residential. The proposed trails and connector park will provide pedestrian access to the site.

A second school site may be accommodated within the Community Amenities Site.

Design of school sites should consider more than one access point into the school site. Bus layby pick up/drop off area, on and off-loading area and parking areas should be accommodated within the school property. Placement and design of school buildings, sports fields, playgrounds, and parking areas should consider impact onto adjacent residential developments with regards to privacy, noise, and traffic. Emphasis shall be placed on connectivity of the school sites with integrating walkways to allow pedestrian connectivity within the school site, as well as, between the school and the park site. Consideration should be given to site design, with proactive placement of pedestrian crossings aligning with desired paths of school access points. Traffic calming and reduction of conflict between road users (i.e., no pedestrian crossings accommodated within drop off bays) should also be considered in site design. Pedestrian connectivity should be included to connect the school/park site to the rest of the adjacent neighbourhood. Design elements should consider the use of crosswalks, signage, depressed curb, and tactile surfaces to facilitate accessible pedestrian connectivity.

Table 3-1: Student Population Projection

Age	Grades	% of 2018 City of St. Albert Census Age Composition Population of 62,842	Student Generation Cherot Population 7,935
5-9	K-4	6.5%	516
10-14	5-9	6.9%	548
15-19	10-12	6.6%	524
Total			**1,588**

The anticipated number of students for Cherot at full build-out is approximately 1,588 students between the ages of 5 to 19 years. This is based on the City of St. Albert 2018 Census Age Composition population of 62,842, the anticipated population of 7,935 for Cherot, and the percentage of each age/grade category. At time of development, the

most current Census for St. Albert and consultation with school boards will inform student population.

3.7.4 Neighbourhood Parks

Three neighbourhood parks are proposed within the Plan Area. One park is located in the lower south-west portion of Avenir with an area of 0.6 hectares±. A second neighbourhood park is proposed on the northern portion of Cherot East with an area of 2.0 hectares±. The third park with an area of 0.8 hectares± is located at the south east portion of Cherot East and is anticipated to be the first park built. This park is adjacent to Ray Gibbon Drive, and to reduce noise and provide safety to users, the access to Ray Gibbon Drive may be restricted through the installation of a fence and berm, to be determined at subdivision.

3.7.5 Community Amenities Site

The Community Amenities Site includes the Community Amenities facility with an area of 12 hectares± and may include additional lands for passive recreation with a possible area of 10 hectares±. The passive recreation lands, as shown on Figure 2, include the proposed 50-metre setback buffer from the former landfill. These lands will be donated by Rohit Group to the City and is exempt from Municipal Reserve dedication credit.

The Community Amenities facility is to accommodate the passive and active recreational needs of the community and may include, but not limited to, indoor arena(s), indoor field house space, swimming pool(s) library(ies), and school site.

The passive recreational open space, with possible trail connections, is the former landfill area Pit 1. These lands are on the east side of the developable Community Amenities Site and adjacent to Ray Gibbon Drive right-of-way.

3.7.6 Stormwater Management Facilities (SWMFs)

Five stormwater management facilities (SWMF) are proposed within the Plan Area. Three SWMF are proposed within Avenir and two SWMF within Cherot East. While these facilities provide a utility function, they

also are integral parts of the open space system. The location and size of each facility is conceptual and subject to further analysis and design prior to redistricting and subdivision. The size of each will meet the required release rates in the *Municipal Engineering Standards*.

These facilities will be connected through a combination of overland flows and buried pipes. The stormwater management facilities will be dedicated as Public Utility Lots (PULs); therefore, no Municipal Reserve credit will be given for PUL uses. Municipal Reserve credit may be provided to trail areas, based upon City policies, to be determined at the time of subdivision.

The design of the SWMFs will maximize the opportunity to complement or enhance Carrot Creek, through plantings that are native to the area, supportive of wildlife and bird life that access Carrot Creek. The SWMFs will also be designed to provide visual amenities for passive recreational uses.

3.8 Development Statistics

The development statistics for Avenir and Cherot East are shown in Table 3-2.

The total number of residential dwelling units proposed is 3,327 with an anticipated population of 7,935. Based on 82 hectares± of residential land, there is 40.5 dwelling units per net residential hectare.

The development statistics do not include lands north of Villeneuve Road as no development concept has yet been proposed.

Avenir

The titled area for Avenir is approximately 85 hectares± and the anticipated developable area is 78.5 hectares±. This may change as Environmental Reserve is dedicated and Giroux Road (Old McKenney Avenue) and Villeneuve Road are widened. The residential area is 41.7 hectares±, which is 53%± of the developable area. Of the residential area, about 10% is for mixed-use residential and commercial. The remaining developable lands are shown in Table 3-2 Development Statistics.

The population per household differs depending on the type of dwelling unit as indicated in the *City of St. Albert Census 2018*. In the low density units, of

which 538 units are projected, 2.90 persons per household are anticipated. In the mixed-use (medium/high density residential at 94 units per hectare/commercial ground floor), 731 units are projected at 1.76 persons per household. In the medium density residential area, 461 units are projected and the number of persons per household is 2.23. The population for Avenir is estimated at 3,875 residents and there is 41 dwelling units per net residential hectare.

Cherot East

The titled area for Cherot East is approximately 100 hectares± and the anticipated developable area is 76.8 hectares±. The residential area is about 40 hectares±, which is 52%± of the developable area. The remaining developable lands are shown in Table 3-2 Development Statistics.

In the low density units, of which 961 units are projected, 2.90 persons per household are anticipated. In the medium density residential 328 units are projects at 2.23 persons per household. In the high density residential, 308 units are projected and the number of persons per household is 1.76. The population for Cherot East is estimated at 4,060 residents and there is 40 dwelling units per net residential hectare.

Table 3-2: Development Statistics

Names	Avenir				Cherot East				OVERALL			
	Area (ha)	% of GDA	Units	Pop.	Area (ha)	% of GDA	Units	Pop.	Area (ha)	% of GDA	Units	Pop.
Gross Area	**84.88**				**100.51**				**185.39**			
Villeneuve Road & Giroux Road Widening	2.07				1.19				3.26			
Environmental Reserve	4.28				0				4.28			
Community Amenities Site	0				12.33				12.33			
Passive Recreation [former landfill (Pit 1) with the proposed 50 m setback buffer]	0				10.15				10.15			
Subtotal Non-developable Area	**6.35**				**23.67**				**30.02**			
Net Developable Area (NDA)	**78.53**				**76.84**				**155.37**			
Other Uses												
Walkways (PUL)	0.36	0.4%			5.45	7.1%			5.81	3.7%		
Municipal Reserve (includes trails not over utilities, park/school)	7.87	10.0%			7.89	10.3%			15.76	10.1%		
Stormwater Management (PUL)	11.46	14.6%			5.34	6.9%			16.80	10.8%		
Internal Circulation – (non-Boulevard & Crosstown)	16.26	20.7%			15.48	20.1%			31.74	20.4%		
Subtotal Other Uses	**35.95**	**45.7%**			**34.16**	**44.4%**			**70.11**	**45.1%**		
Commercial	0.83	1.1%			2.45	3.2%			3.28	2.1%		
Subtotal Commercial	**0.83**	**1.1%**			**2.45**	**3.2%**			**3.28**	**2.1%**		
Residential												
Low Density Residential	26.88	34.2%	538	1,560	33.13	43.1%	961	2,787	60.01	38.6%	1,499	4,347
Medium Density Residential (townhouse, low-rise apartment)	7.09	9.0%	461	1,028	4.68	6.1%	328	731	11.77	7.6%	789	1,759
Mixed-use (Medium/High Density Residential/Commercial)	7.78	9.9%	731	1,287	0	0	0	0	7.78	5.0%	731	1,287
High Density Residential (apartment)					2.46	3.2%	308	542	2.46	1.6%	308	542
Subtotal Residential	**41.75**	**53.2%**	**1,730**	**3,875**	**40.27**	**52.4%**	**1,597**	**4,060**	**82.02**	**52.8%**	**3,327**	**7,935**

Table 3-2 Notes:

- May not add up to 100% due to rounding.
- Table 3-2 excludes “potential amendment area” that are the lands to the north of Villeneuve Road.
- Overall, 40.5 dwelling units per net residential hectare. This meets the requirement of 40 dwelling units per net residential hectare of the Edmonton Metropolitan Growth Plan 2016 and MDP policies 13.1.3 and 14.6.8. MDP policy 7.1.3 encourages intensification through innovative and emerging housing types that are compatible with existing and planned Neighbourhoods, which is being addressed with 55% of the units as medium and high density units.

- Avenir statistics are based on these residential breakdown, which existed prior to the February 2018 Land Use Bylaw 2/2018 update consisted of:
  - 20 du/ha for low density residential;
  - 35 du/ha for medium density residential;
  - 94 du/ha for mixed use (residential/commercial); and
  - 94-141 du/ha for medium/high density.

- The new Residential breakdowns consist of:
  - 23-33 du/ha for low density residential;
  - 37-39 du/ha for low density residential mix;
  - 35-42 du/ha for medium density residential, could go to 54 du/ha if meet design criteria in the Land Use Bylaw;
  - 40-94 du/ha for medium density residential, could go to 125 du/ha if meet design criteria in Land Use Bylaw; and
  - 94-141 du/ha for high density residential, could go higher if meet design criteria in Land Use Bylaw.

- These density figures were used for Cherot East as shown in Table 3-2:
  - 29 du/ha for low density residential;
  - 70 du/ha for medium density residential (townhousing and apartments); and
  - 125 du/ha for high density residential.

- Expected population per residential unit based on St. Albert's 2018 Census is:
  - 2.90 persons per low density dwelling unit;
  - 2.23 persons per semi-detached, duplex, and townhouse;
  - 2.45 persons per medium density dwelling unit (R3); and
  - 1.76 persons per medium/high dwelling unit (R3A) (R4).

- Cherot East has over dedicated approximately 0.2 hectares of municipal reserve, which can be addressed at time of subdivision.
- Avenir MR areas include 1.0 ha adjacent to SWMFs where 50% MR Credit may be considered at time of subdivision.

4.0 TRANSPORTATION

4.1 Boulevard, Crosstown, and Connector Road Network

The Transportation network for Cherot ASP is shown on Figure 3, Transportation. This map consists of a series of coloured roadways and trails that define roadway classifications to accommodate expected future transportation patterns for the subject lands. Ray Gibbon Drive is a Boulevard Roadway adjacent to the east of Cherot ASP. Villeneuve Road (also known as Highway 633), bounding the Cherot ASP to its north is classified as a Crosstown (arterial), as is Giroux Road (Old McKenney Avenue) that bounds the Cherot ASP to its south. Access to the Plan Area is at Range Road 260, a Connector (arterial) that runs north-south that services both Avenir and Cherot East providing access points at Villeneuve Road and Giroux Road.

Ray Gibbon Drive is the only route in proximity to the Cherot ASP that acts as both a truck and dangerous goods route; however, Villeneuve Road and Giroux Road will be designated as truck routes to enable connectivity and movement of goods within and through the city.

4.2 Neighbourhood and Local Road Network

Range Road 260 and Giroux Road (Old McKenney Avenue) are rural dirt-gravel roads with ditches on both sides. Adjacent to both roadways are AltaLink powerlines. AltaLink's 712 line requires a PUL as discussed under Shallow Utilities of this document. Giroux Road (Old McKenney Avenue) crosses railway tracks on the west portion of the Plan Area that connects to Sturgeon County.

Range Road 260 is a Connector roadway with nine intersections of which four are proposed as roundabouts to provide full access between the two neighbourhoods. The final design and lane designations of the roundabouts will be subject to confirmation of functional analysis at the time of development; however, it is anticipated that typical single lane roundabouts will service the internal connector intersections. Whereas consideration of two-lane roundabout treatments may be required at the northern and southern accesses (inclusive of the access to the mixed-use site). It is also anticipated that two-lane roundabouts will service as the intersection treatments for the connector to crosstown intersections at the north end of Range Road 260 to Villeneuve Road

and at the south end of Range Road 260 to Giroux Road. At time of development, a functional study is required to assess intersection treatments (signalization vs roundabout). As the industrial employment lands are developed to the south of Giroux Road, coordination will be required for roadway and pedestrian connectivity.

Within Avenir is a Neighbourhood (collector) roadway running north south that separates the mixed-use from the low density residential, which could support transit.

Within Cherot East is a Neighbourhood (collector) roadway that is curved and services the residential, parks, school/park site, commercial, and Community Amenities Site. The Neighbourhood roadway could support transit service.

4.3 Transit

It is anticipated that the transit system will follow the Crosstown road network (Villeneuve Road / Giroux Road) to the Connector (Range Road 260). Subject to confirmed service level accommodation (maximum travel distance to stops), service to the community may be provided from Range Road 260. Transit may be required to service the community via looping through the neighbourhood following the Neighbourhood roadway system, which is enable under the Cherot ASP road plan. Transit stops are typically proposed along Connector and Neighbourhood roadways, and done in consultation with the City's Transit Department. Transit route planning and development should occur at the earliest stages of the neighbourhood development with the expectation that services will be introduced as per Transit Services Policy C-TS-01, as amended.

4.4 Rail

The CN Railway, Sangudo Principal Branch Line runs through the southwest corner of the Avenir neighbourhood. Adjacent development needs to provide appropriate protection and mitigate trespassing, noise and vibration from the Railway, and hazards from derailment and spillage. CN Rail has recommendations on noise attenuation, setback, and vibration mitigation measures for new development along rail lines and at the time of subdivision it is the responsibility of the developer to be proactive and implement these measures, through consultation with the railway company.

Rail crossing improvements to updated standards to support rail operator endorsement of Whistle Cessation at the Giroux Road (Old McKenney Avenue) crossing would be recommended to support mitigation of noise influence adjacent to residential lane use.

4.5 Pedestrian/Bicycle Links

Active mode accommodation is considered and standardized within the Complete Streets roadway cross sections. The primary pedestrian crossings of Range Road 260 will be at designated and treated intersections. A trail is proposed adjacent to Carrot Creek connecting to the sidewalks along the roadways. Trails are proposed adjacent to the stormwater management facilities as well as to provide linkages within the neighbourhood. Cycling and walking are sustainable means of transportation and efforts should be made to encourage these modes of mobility.

Pedestrian connectivity in low density areas should be promoted through the provision of mid-block connections, and to connect cul-de-sacs to Connector and Neighbourhood roadways. Links to the east of the Cherot ASP shall be provided to the Ray Gibbon Drive corridor, connecting to the trail on the west side of the road corridor's right-of-way.

Medium and high-density developments should be placed closer to the public street to promote accessibility using walkways to connect to the public street.

Planning, design, and integration of active modes will incorporate considerations of Universal Accessibility.

Provisions for active mode connections, by trail or sidewalk, to the broader city network should be completed in the early stages of development, where applicable.

4.6 Noise Attenuation

Noise attenuation along Boulevard and Crosstown routes (Villeneuve Road, Giroux Road, Fowler Way, and Ray Gibbon Drive) and rail line (CN railway) will be provided by the developer as per City standards at the time of development. In addition, noise mitigation as per CN Rail standards for development near

their rail operations will be provided by the developer. Provision of noise attenuation amenities would be required as part of the Development Agreement process and will be reviewed at the time of subdivision, Development Agreement, or Development Permit. Additional requirements may be needed for residential developments adjacent to, or within, a commercial or mixed-use development so that noise, odours, and light impacts from the commercial area to the residential area are addressed prior to, or at the time of, Development Permit.

4.7 Off-Site Levies

The Avenir and Cherot East neighbourhoods, and potential amendment area are subject to Off-Site Levies. Off-Site Levies will be calculated, assessed, and collected at the time of subdivision or upon execution of a Development Agreement, in accordance with Council policies and approved bylaw.

Should a subdivision or Development Agreement not be part of the development process, levies will then be collected at the time of Development Permit.

In addition to Off-Site Levies, additional costs may need to be borne by the developers to facilitate the near-term plan of infrastructure capacity improvements.

4.7.1 Notes

As upgrades are required to the water supply and distribution system, to the wastewater collection system (sanitary), to the stormwater management facilities, and the transportation roadway infrastructure identified within the Off-Site Levy Bylaw, required to support a development stage, may be required to be front-ended by the developer to enable that development stage. Front-ending and recovery processes shall be consistent with approved Council Policies.

Should a developer choose to oversize without a request from the City, the oversizing will be at the cost of the developer, and the cost will not be recoverable. In addition, the City will take ownership of such oversized infrastructure and will determine how the capacity will be used.

Interim solutions are not eligible for reimbursement through the Off-Site Levy program.

4.8 Complete Streets

The Cherot ASP will implement Complete Streets Guidelines.

Complete Streets Guiding Principles:

1. Streets should safely accommodate users of all ages and abilities.
2. The street network should be well-connected, provide direct paths of travel, and should not act as barriers.
3. Streets should provide mobility, access to homes, businesses and schools, civic space for leisure, recreation, and other activities.
4. Streets should provide choices for all users, and be fair in their allocation of space for all users.
5. Streets should be aesthetically attractive, reflecting St. Albert's application of nature, unique architecture, and the botanical theme.
6. Streets should support the land use, economic development, environmental sustainability, personal security, public health, cost effectiveness, and other objectives.

4.9 Crime Prevention through Environmental Design (CPTED)

Decisions relating to transportation design, street patterns, access, noise barriers, public open spaces, parks, multi-use trails, walkways, stormwater management facilities, and the built environment shall use CPTED principles to create a safe and secure neighbourhood. The following basic strategies, respecting existing City standards, will be used during the development of Avenir and Cherot East:

- Use of natural surveillance strategies to increase visibility and awareness of public and private space;
- Use of natural access control techniques to guide/direct people within the natural and built environments; and
- Promotion of territorial reinforcement by increasing definition of space and local stewardship.

4.10 Timing of Development – Range Road 260

The development of Range Road 260 needs further analysis to address the following, such analysis to include but not be limited to:

- Continued road connectivity between Villeneuve Road and Giroux Road during development.
- Surface quality for interim use for the sections of roadway that are outside of the phased development.
- No matter which development area occurs first, be it Avenir or Cherot East, road development to support development will be required by the developer.
- Pedestrian links and connectivity from Avenir or Cherot East to the network (via Range Road 260 or connections to adjacent roadways).

5.0 Utility Services

5.1 Water Supply and Distribution

Water supply will be provided through Cherot East to Avenir through extensions of the existing lines located in North Ridge. There are existing waterlines off Giroux Road, Napoleon Crescent, and Norelle Terrace. To enable Avenir to develop, provision of utility rights-of-way through Cherot East will be required to secure passageway for waterlines. Additional analysis will be required as development proceeds to determine pipe size for adequate level of service and to ensure that sufficient pressures for fire protection can be achieved. Water mains of the appropriate sizes will be required to be carried through the development, and connections will be extended to the edges of the ASP boundary or acceptable termination points as determined by the City. The required water servicing for the Plan Area is as per Figure 4.

5.2 Wastewater Collection System (Sanitary)

The sanitary trunk terminates approximately 460 metres east of Ray Gibbon Drive and south of the Ville Giroux neighbourhood. The extension of this sanitary trunk, called Project 8, will run under Ray Gibbon Drive, near the CN Railway westward to Carrot Creek, and northward with a spur along Giroux Road will service the Cherot ASP, Lakeview Business ASP, a portion of North Annex Lands, and a portion of North Badger Lands. Project 8 is an identified Off-Site Levy project and costs are recoverable through the Off-Site Levy program. This infrastructure extension required the completion of a downstream project called Project 9. Project 9, an Off- Site Leviable infrastructure component supporting growth within the City, is a large diameter wastewater trunk line extending eastward from St. Albert Trail to the Capital Region lift station located on Sturgeon Road and Sir Winston Churchill Avenue, this project was completed in 2019.

Wastewater collection system components of the appropriate size and depth with adequate capacity will be required to be carried through the development and extended to the edges of the ASP boundary or acceptable termination points as determined by the City and as depicted in Figure 5. The sanitary system concept is by gravity flows.

5.3 Stormwater Management

The land slopes from the east to the west with lower grades of land adjacent to Carrot Creek. There are three stormwater management facilities (SWMF) within Avenir all with outlets to Carrot Creek, and two SWMF within Cherot East. The required release rates at the time of writing this document are 1.8 litres, per second, per hectare (L/s/ha) when draining to Carrot Creek. Carrot Creek does not have capacity for stormwater directed from this development, so based on the Utility Master Plan 2014, a storm trunk sewer pipe is needed along Carrot Creek to convey flows south to Big Lake. Until the storm pipe along Carrot Creek is built, development will hold 100 percent of the storm runoff during a major event under a Real Time Control (RTC) or Multi-Staged system until there is downstream capacity to release water to outfall pipes extended to Carrot Creek. The storm pipe trunk to Big Lake will be located within the 50-metre setback of Carrot Creek. A 6-metre utility right-of-way for the storm pipe will be required and dedicated at time of subdivision.

The implementation of Real Time Control System for Stormwater Management system requires detailed review at the time of subdivision.

Based on Figure 6, in the southwest portion of Avenir is SWMF 1, mid-way on the west side is SWMF 2, and in the north portion is SWMF 3, all interconnected with flows going south, and outlets to Carrot Creek. SWMF 3 is below the designated flood line of Carrot Creek, but has surplus capacity to accommodate stormwater flows from Avenir. SWMF 4 is in the central portion of Cherot East in the location of Pit 2, a former landfill, and will have an interconnecting pipe to connect to the SWMF 5 that is located in the south portion of Cherot East. Stormwater from Cherot East will be conveyed south along Range Road 260, west on Giroux Road to SWMF 1, before an outfall to Carrot Creek. Agreements are needed between the developers on the cost sharing and coordination for the development of SWMFs, because these are not leviable project. To enable Cherot East to develop, provisions of utility rights-of-way through Avenir will be required to secure passageway for stormwater lines and SWMFs.

The use of oil and grit separators will be required as per the City of St. Albert Servicing Standards.

The collection system components of the appropriate size and depth with adequate capacity will be required to be carried through the development and

extended to the edges of the ASP boundary or acceptable termination points as determined by the City.

Other methods of mitigating and managing stormwater are encouraged and could include low impact development (LID) features: bio-retention (rain gardens), bio-swales, green roofs, permeable pavements, naturalized drainage ways, and rainwater harvesting.

5.4 Shallow Utilities

Power, gas, and communication franchise systems will service the area through agreements established with the developers by the providers. Shallow utilities may be located within a public utility lot (PUL) or through a utility right-of-way agreement.

AltaLink's 712 line will not be buried. A PUL from centreline of powerline, based on further consultation with AltaLink, is estimated to be 9 metres assuming the line is one (1) metre within adjacent road allowance. A PUL provided by the developer for the swing of the line is to ensure no development occurs within the swing area of the powerline.

Any existing or new overhead services, other than the AltaLink's 712 line, must be relocated and placed underground at the time of Development. Telus Communications Company has advised easement(s) for new facility placement will be required and identified at time of subdivision.

5.5 Public Utility Lots (PULs)

A Public Utility Lot is where services such as water, wastewater, stormwater pipes, and shallow services are located. The size of a PUL will vary based on the number of utility services and pipe sizes accommodated. PULs can typically range between 6 metres to 9 metres in width. PULs do not receive Municipal Reserve credit. Emergency access to a site will be classed as a public utility lot and width of access will be determined in consultations with the City Engineer and Public Works. Where services are shared or required, provisions of utility rights-of-way will be required to allow passageway for utilities from landowner/developer to enable development by other landowner/developer to proceed.

6.0 IMPLEMENTATION

6.1 Development Staging

The sequence of development is in the south off Giroux Road once:

- the water line is extended from North Ridge along Giroux Road;
- Project 8 sanitary line is constructed;
- the SWMF 5 is constructed for Cherot East;
- the SWMF 1 is constructed for Avenir; and
- the initial development of Giroux Road and Range Road 260.

In addition, utility rights-of-way or easements may be required to enable servicing to extend through lands that are not being developed or developed at a later stage.

Provisions for active mode connections, by trail or sidewalk, to the broader city network should be completed in the early stages of development, where applicable.

As development is market driven and limited by servicing capacities, the order of development will be reviewed at the subdivision stage. Contiguous and sequential development is important for efficient city services such as police, fire, transit, recreation services, and road maintenance.

Figure 10 proposes seven (7) stages of development for Avenir. Stages 1, 3, and 4 are low density residential; stage 2 is medium density residential; and stages 5, 6, and 7 include low density residential, mixed-use (residential / commercial), medium density residential, and commercial.
Cherot East has ten (10) stages of development. Stage 1 is the Community Amenities Site; stages 3 and 9 are the development of SWMFs; stage 4 is the development of school/park site; stages 2, 8, 9 include park development; stages 2 through 9 have residential development; and stage 10 is the passive recreation site.

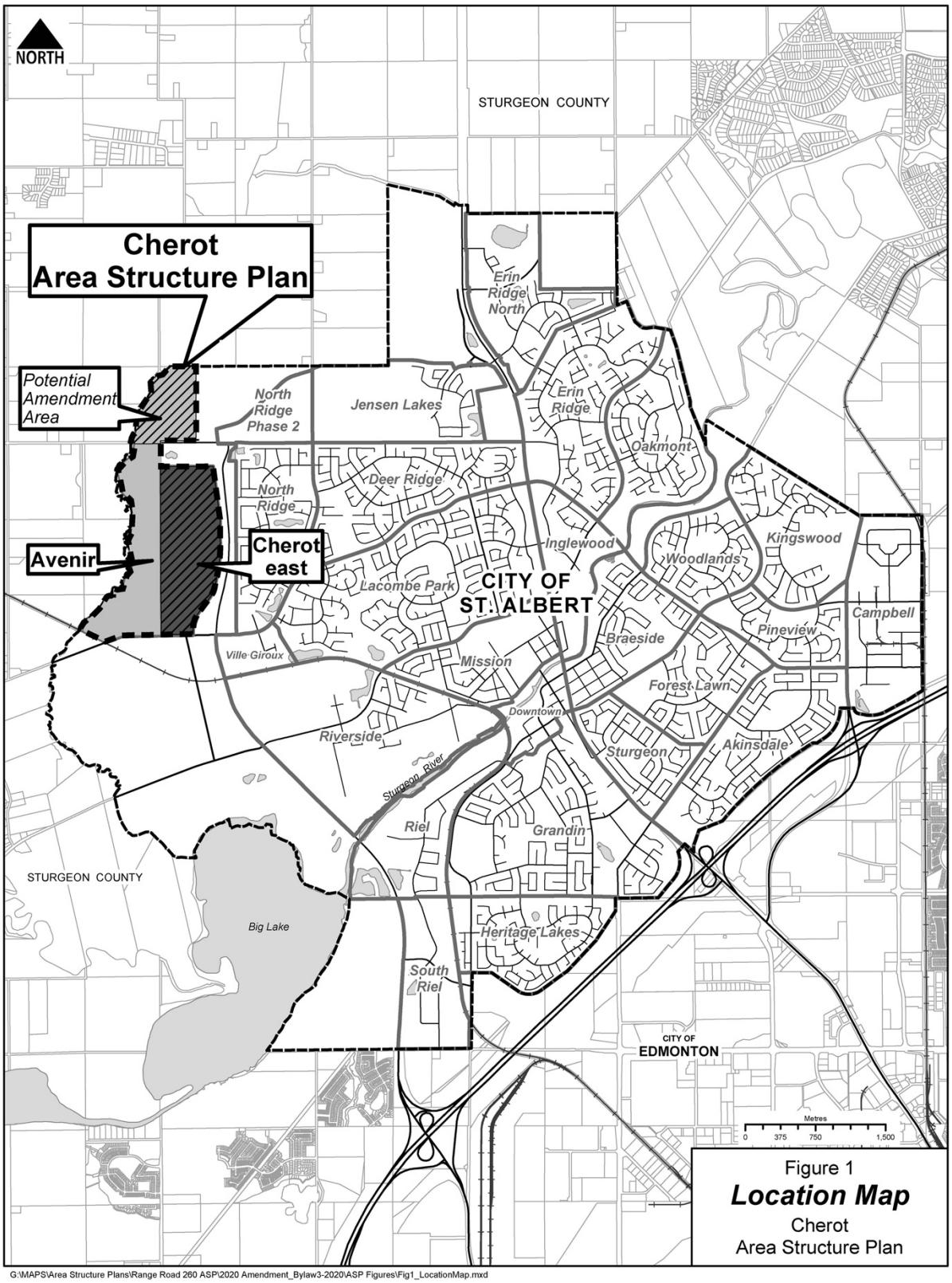
6.2 Redistricting and Subdivision

Timing of redistricting and subdivision applications are based on response to servicing capacity, agreements, and market needs.

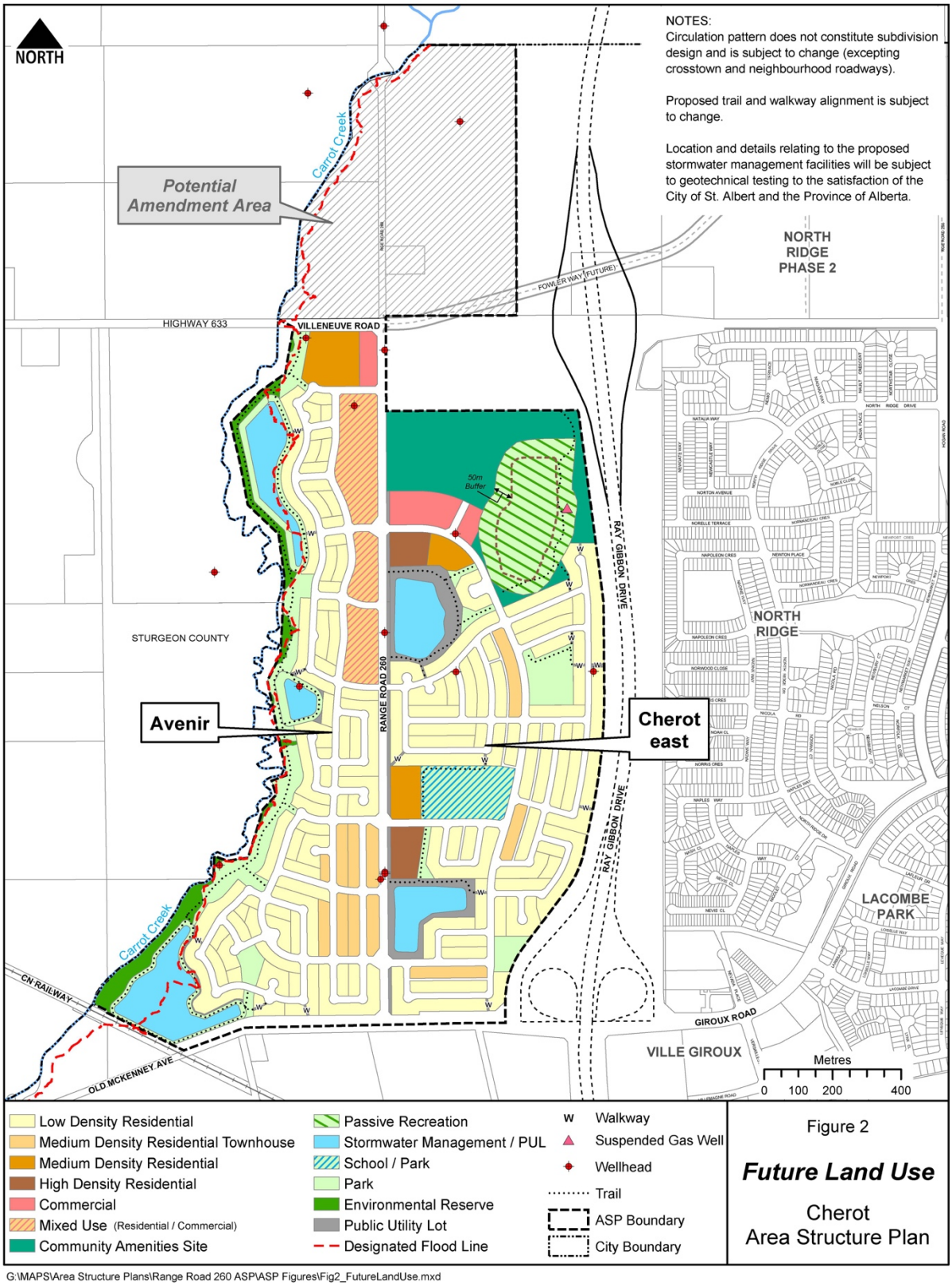
6.3 Building Development

The geotechnical investigations indicated there are soft and wet soils near Carrot Creek. The developer, as part of the purchase package to builders, needs to identify soil issues and indicate that further geotechnical study may be required at building permit stage.

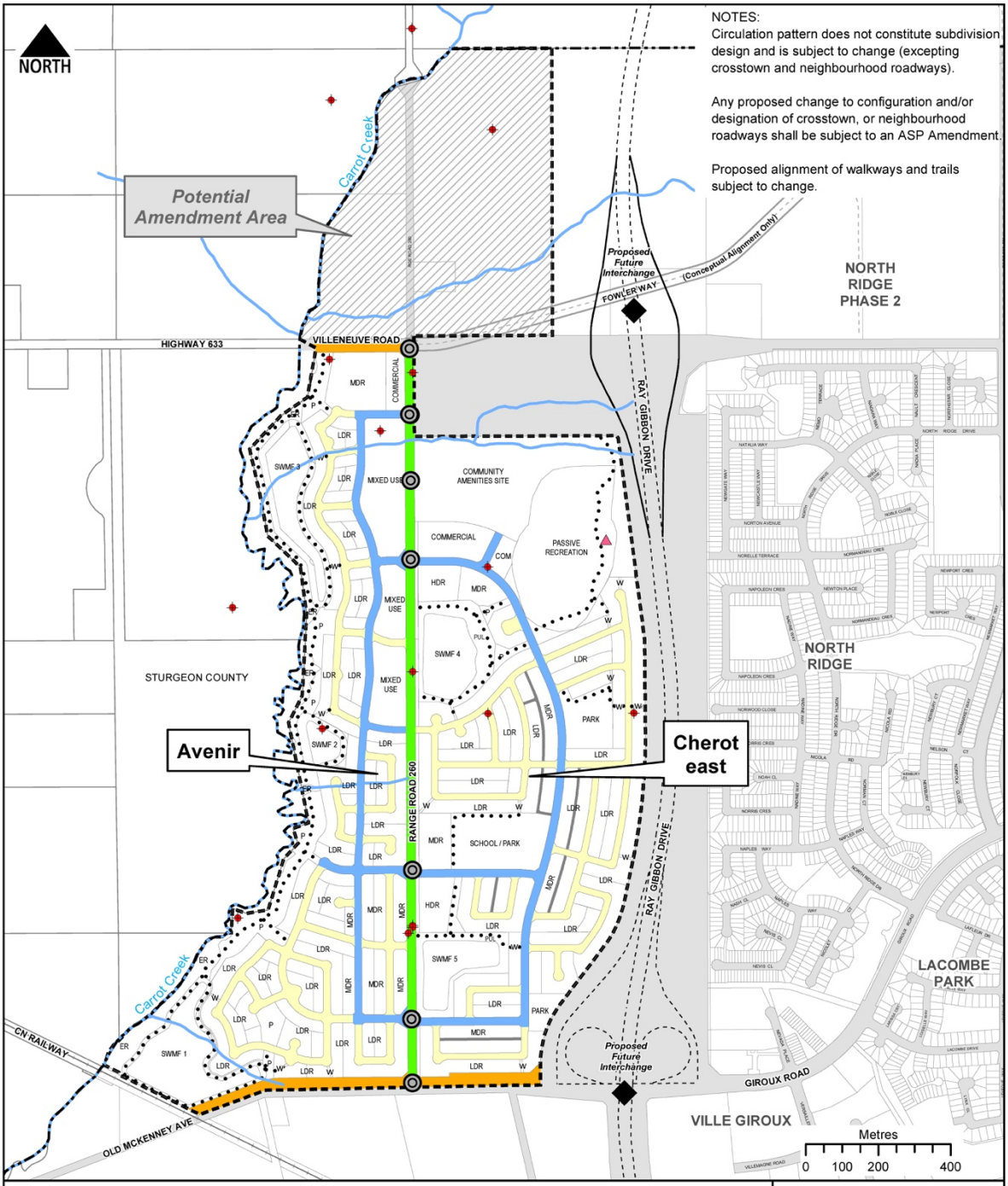
At time of subdivision, the developer and the City will consider restrictive covenants related to wet and soft soils that may impact development.



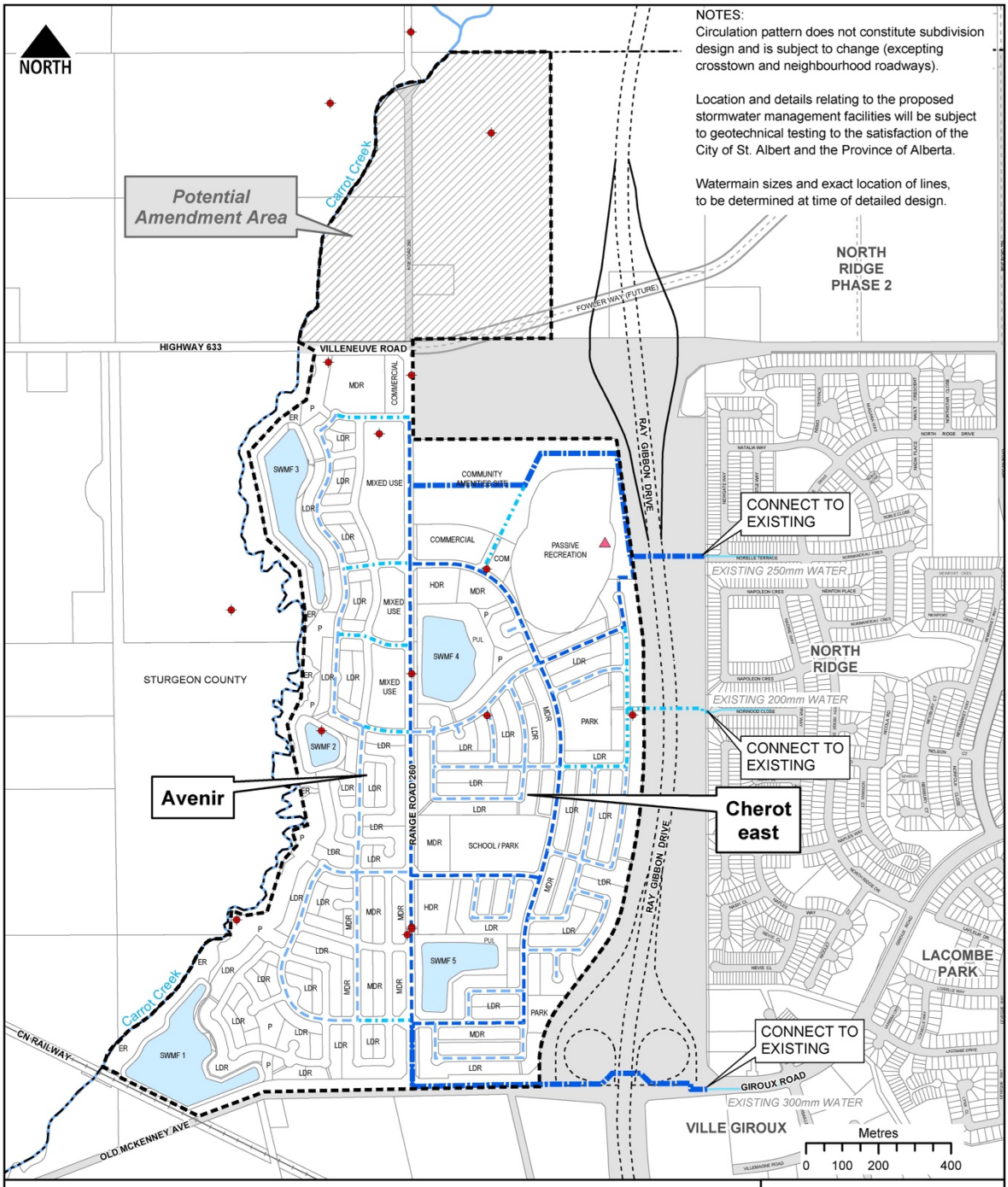
G:\MAPS\Area Structure Plans\Range Road 260 ASP\2020 Amendment_Bylaw3-2020\ASP Figures\Fig1_LocationMap.mxd



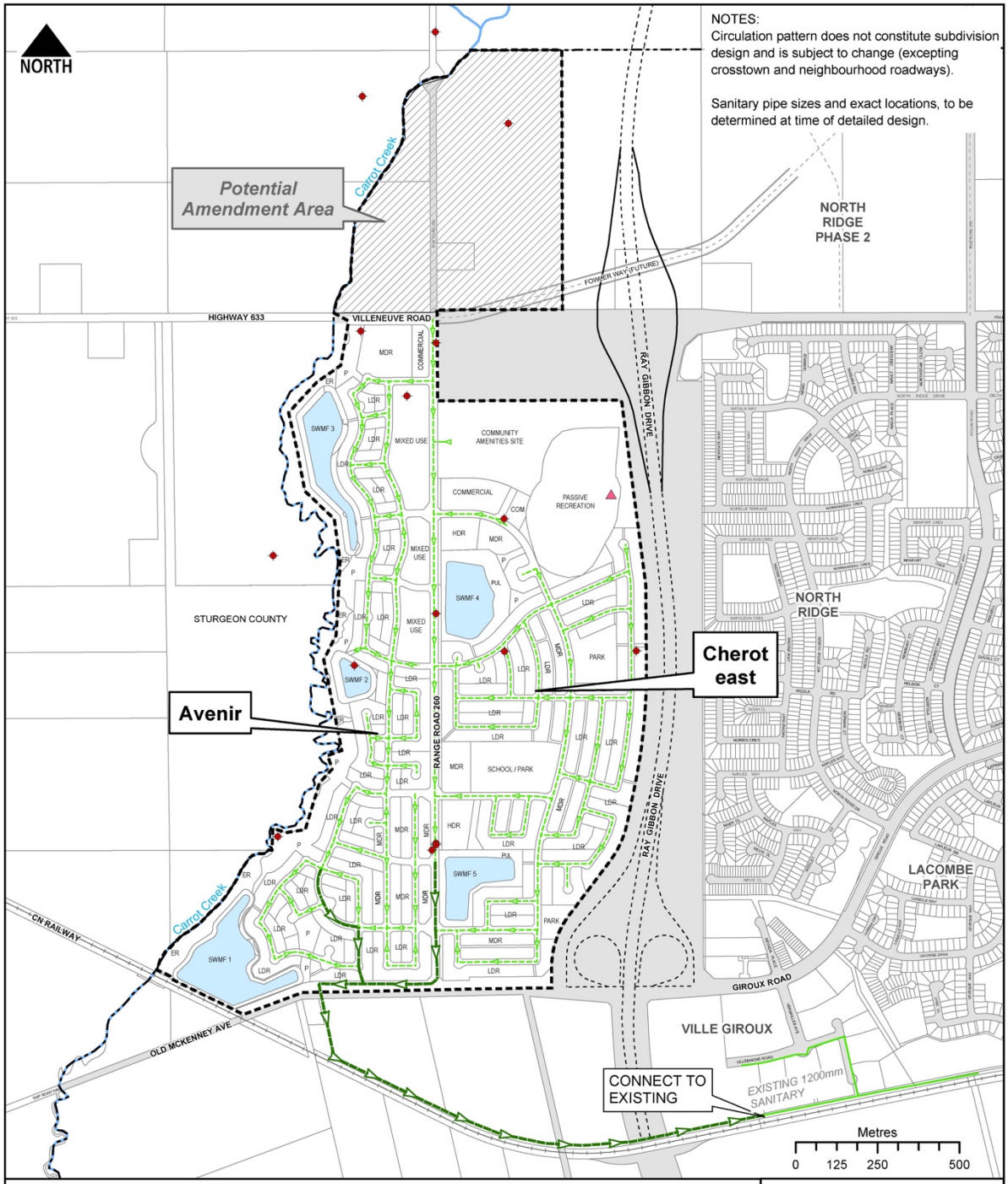
G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig2_FutureLandUse.mxd



G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig3_Transportation.mxd



G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig4_WaterServicing.mxd


NOTES:
Circulation pattern does not constitute subdivision design and is subject to change (excepting crosstown and neighbourhood roadways).
Sanitary pipe sizes and exact locations, to be determined at time of detailed design.
NORTH
Potential Amendment Area
Carrol Creek
NORTH RIDGE PHASE 2
FORMER WAY (FUTURE)
HIGHWAY 633
VILLENEUVE ROAD
RAY GIBBON DRIVE
COMMUNITY AMENITIES SITE
COMMERCIAL
PASSIVE RECREATION
SWMF 3
SWMF 4
SWMF 2
SWMF 5
SWMF 1
STURGEON COUNTY
Cherot east
Avenir
RANGE ROAD 260
SCHOOL / PARK
PARK
NORTH RIDGE
LACOMBE PARK
CN RAILWAY
OLD MCKENNEY AVE
GIROUX ROAD
VILLE GIROUX
CONNECT TO EXISTING
EXISTING 1200mm SANITARY
Metres
0 125 250 500
P - Park
MIXED USE - (Commercial / Residential)
ER - Environmental Reserve
LDR - Low Density Residential
MDR - Medium Density Residential
HDR - High Density Residential
SWMF - Storm Water Management Facility
Future Sanitary Line
Future Sanitary Trunk (Off-Site)
Suspended Gas Well
Wellhead
ASP Boundary
City Boundary
Figure 5
Wastewater Collection System
Cherot
Area Structure Plan
G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig5_WastewaterCollection.mxd

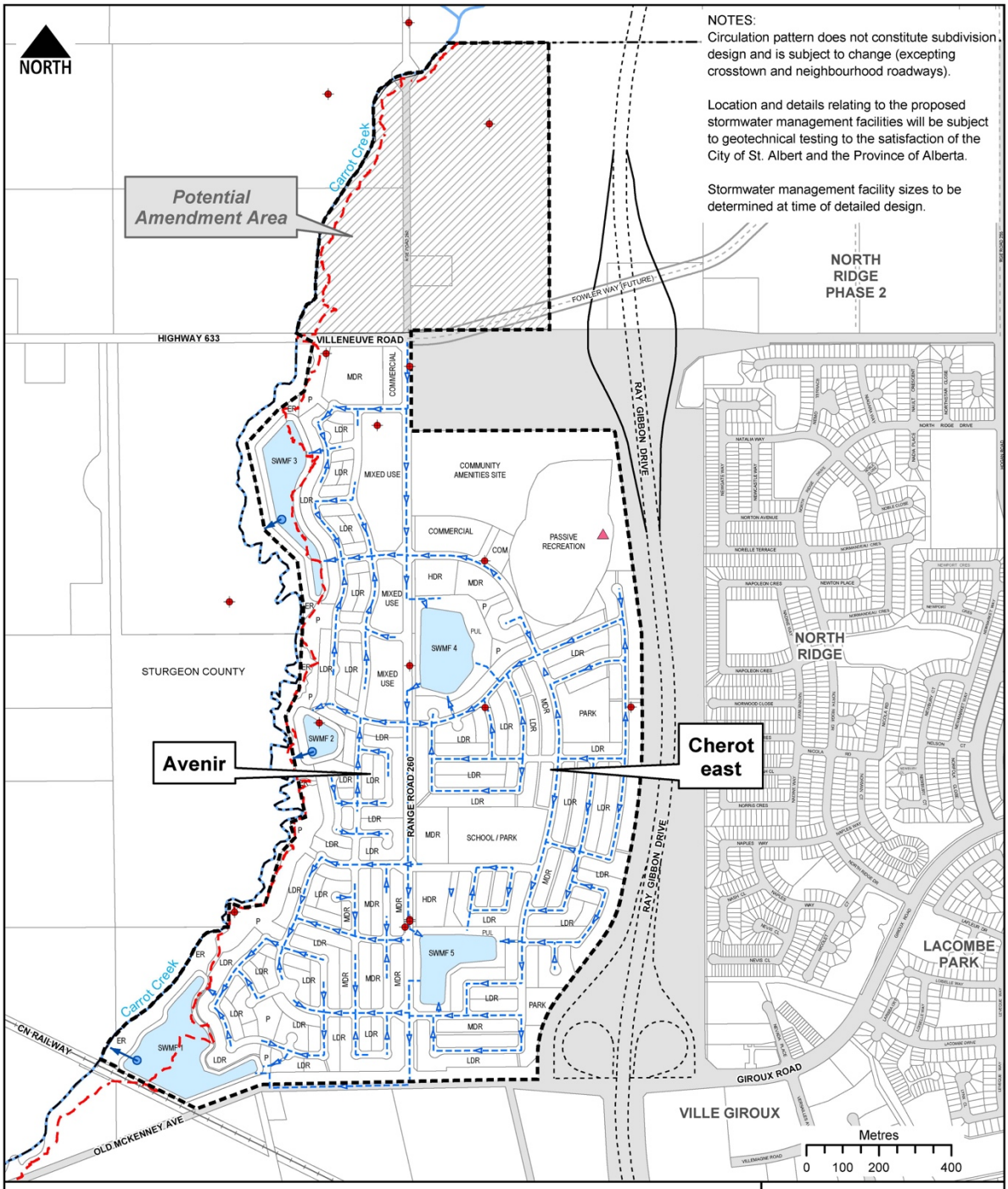
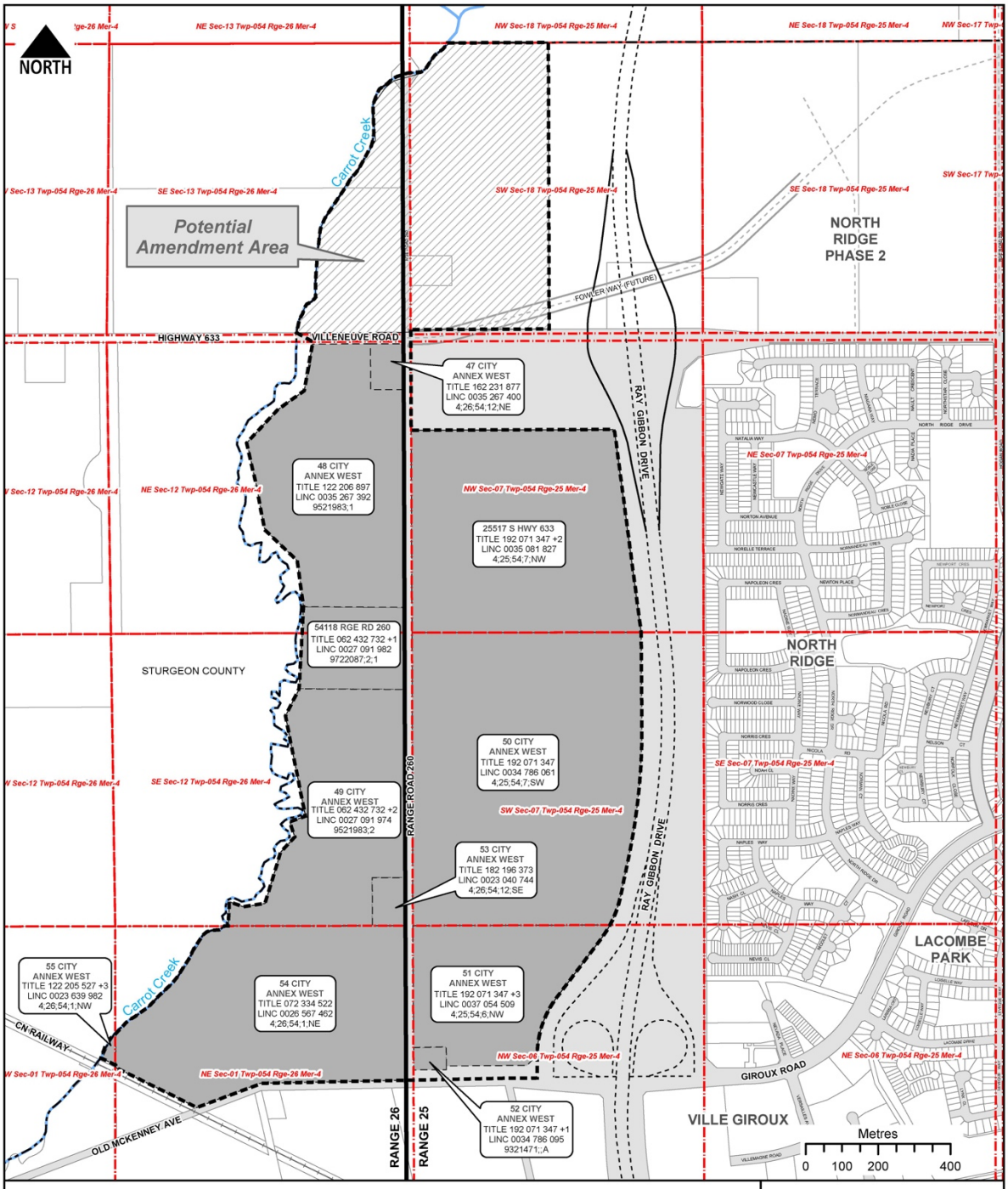
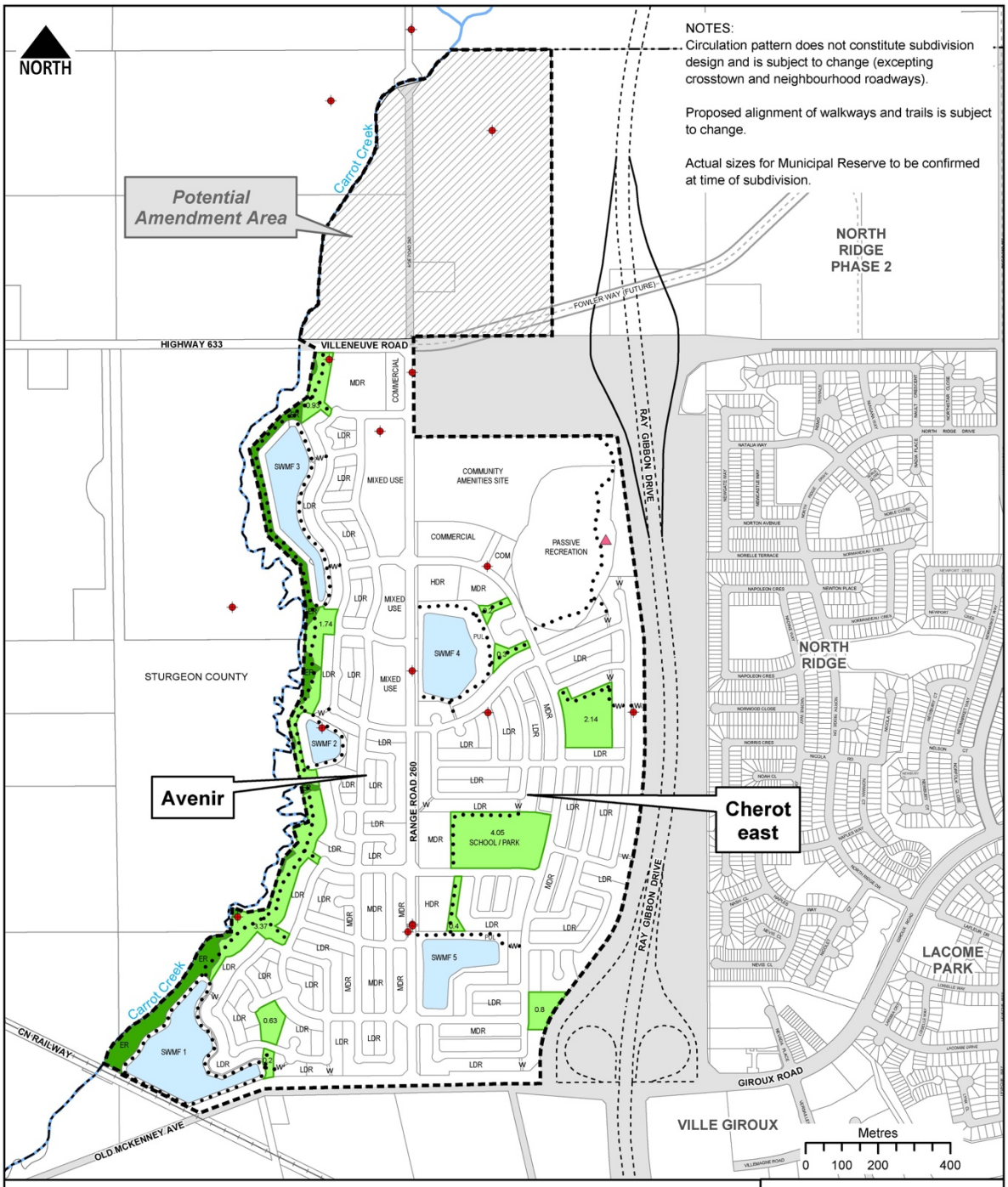


Figure 6
Stormwater Management
Cherot
Area Structure Plan

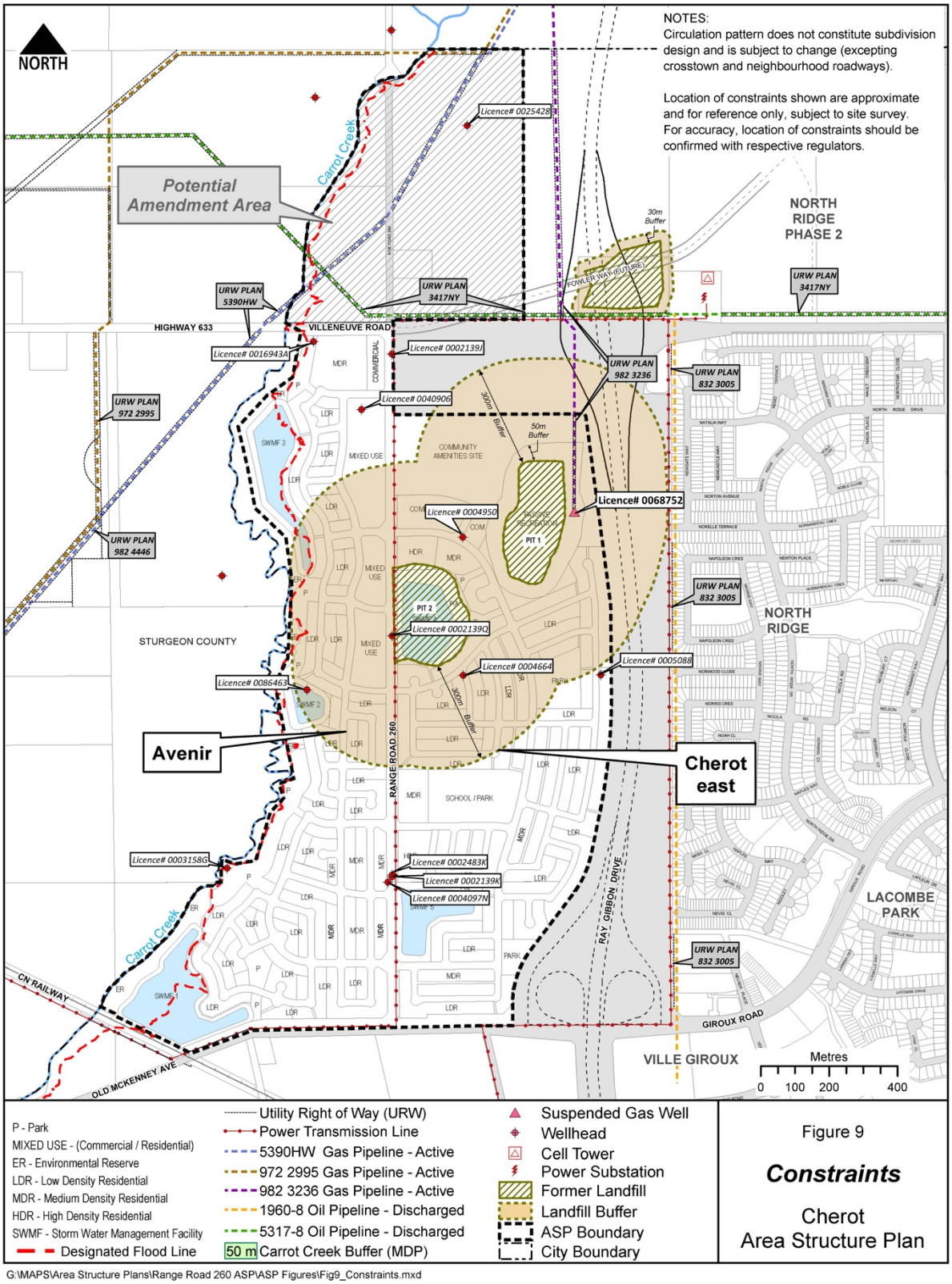
G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig6_Stormwater.mxd



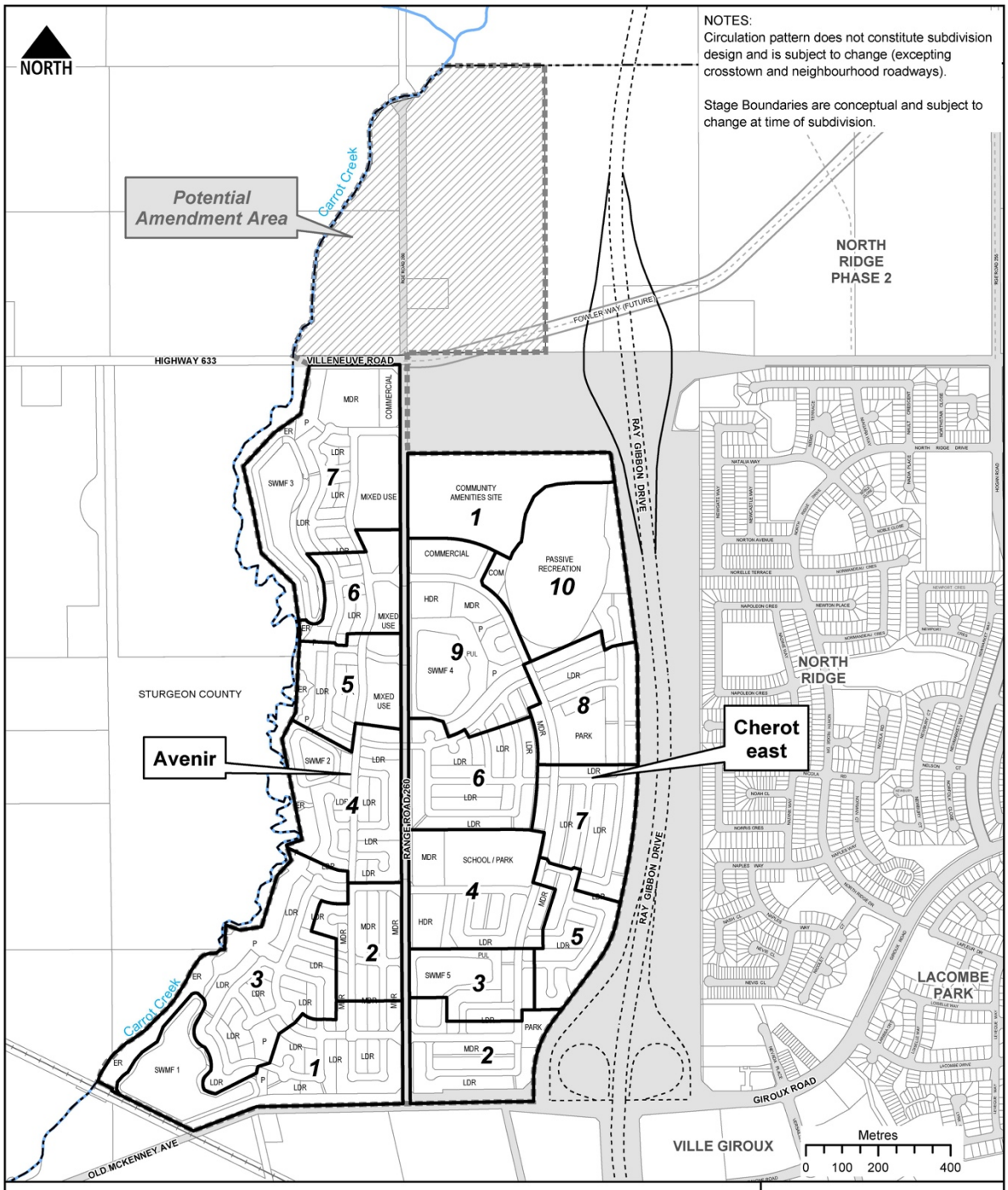
G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig7_LegalDescriptions.mxd



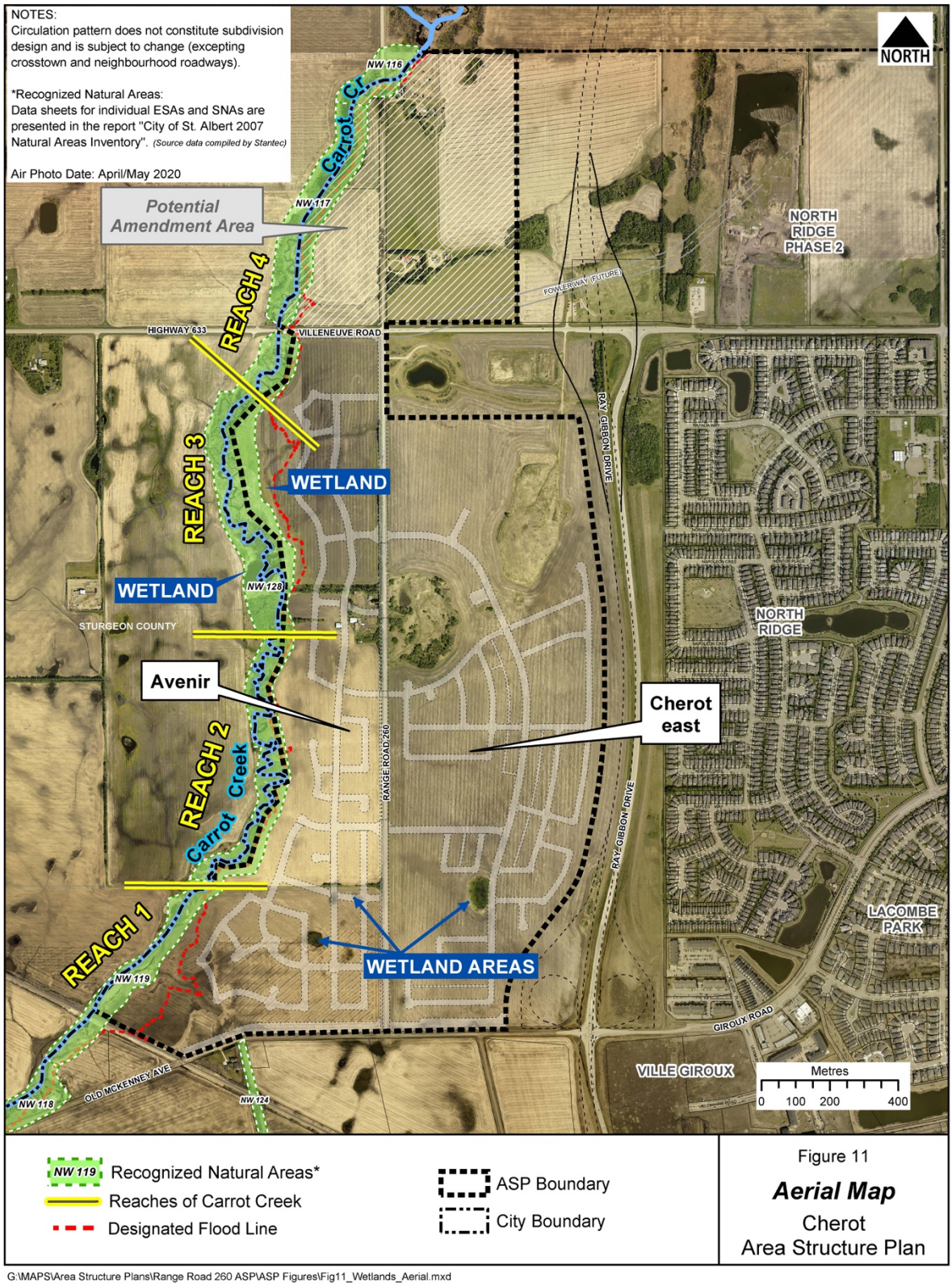
G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig8_MunicipalReserve.mxd



G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig9_Constraints.mxd



G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig10_Staging.mxd



G:\MAPS\Area Structure Plans\Range Road 260 ASP\ASP Figures\Fig11_Wetlands_Aerial.mxd