



**Villeneuve Airport Area Master Plan
Final Report (Executive Summary)**

Sturgeon County

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WestonWilliamson+Partners

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1. Purpose and Methodology

1.1 Purpose of the Villeneuve Airport Area Master Plan

Sturgeon County (the County) launched the Villeneuve Airport Area Master Plan (VAAMP) to advance future land use and economic opportunities in the vicinity of the Villeneuve Airport. The VAAMP is a product of collaboration between Sturgeon County personnel, Villeneuve Landing Network (VLN) members, and stakeholder consultation. Serving as a detailed growth framework, the VAAMP is additionally supported through the presentation of comprehensive recommendations on next steps in the planning process, timelines, and tactical implementation.

1.2 Background and Context

the VAAMP is intended to be a guiding plan to align Sturgeon County's (and other regional) future-ready strategies. The County's Municipal Development Plan (MDP) designates the Villeneuve Airport as an integral logistics hub and employment centre. In the regional, local, and airport context, development in this area is critical for jobs creation, facilitating new investment, and an overall improvement to collective economic health. Development enabled through the VAAMP must also meet the objectives of the Edmonton Metropolitan Region Board's (EMRB) 50-year Growth Plan.

Sturgeon County is facilitating the development of the Villeneuve Airport lands through the formation of the VLN, which is based on a partnership between municipal, Indigenous, and economic development entities. The objective of the VLN is to leverage regional collaboration to enhance local competitiveness and unlock the potential behind this previously underutilized regional asset.

Sturgeon County commissioned a study to evaluate VLN governance options, funding methodologies, and the potential financial benefits for the participating membership. The targeted lands of the Villeneuve Airport Area (ZVL) are owned in part by the Edmonton Regional Airport Authority (ERAA). The ERAA manages these lands in line with applicable Transport Canada regulations and/or provincial legislation and municipal bylaws for non-aviation development. In 2018, the ERAA completed its own master plan to support its vision for future airport development. The lands surrounding ZVL included in the VAAMP planning area are owned by several private and corporate entities.

Besides aviation-specific activities at the airport, most of the surrounding lands in this area are currently used for agriculture and aggregate mining purposes. There is also one active oil well on-site and several underground pipelines operating below the surface. There is limited servicing in this area; however, projects are currently underway to upsize ZVL's water main and to provide high-speed internet service.

During VAAMP development, feasibility of interfacing with existing airport operations was also taken into consideration. This included developing a better understanding of airside and groundside development and businesses, the policies in other existing statutory plans, stakeholder expectations, economic potential, and the anticipated financial impacts on the County and its partners.

1.3 Review of the Methodology

A detailed methodology was utilized to address the following four stages necessary to meet the mandate of the VAAMP:

- Stage 1 – Initial Expectations, Data and Conditions Review, Technical Analysis
- Stage 2 – Stakeholder Consultation and Engagement
- Stage 3 – Preparation of Master Plan, Final Consultation, VLN and Council Approval
- Stage 4 – Statutory Plan Development, Local and Regional Submission

One of the main components was an engagement campaign that included three rounds of feedback-gathering sessions with Sturgeon County’s Council and staff, regional partners, and other stakeholders. The regional partners and other stakeholders included the ERAA and VLN, the County’s Economic Development Advisory Board, Edmonton Global, Villeneuve Area landowners, Alexander First Nation, provincial and federal economic development agencies, and several private businesses, post-secondary institutions, and airport tenants.

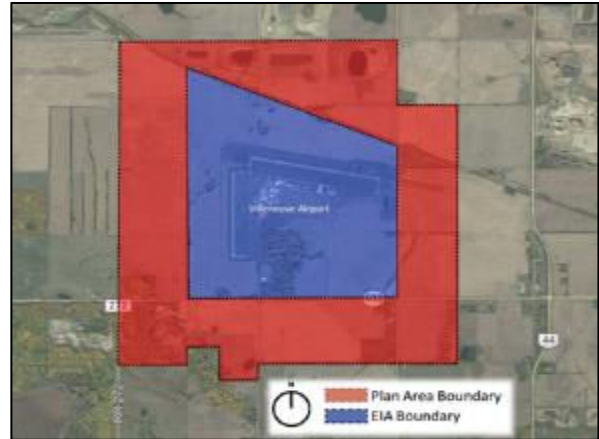
The review methodology also included:

- detailed analyses of relevant planning documents (including future servicing plans),
- a review of applicable bylaws,
- consideration of existing economic strategies,
- infrastructure and site characteristics assessments,
- market opportunity analysis, and
- a review of other strategic plans applicable to development at the airport.

The infrastructure assessment included a review of existing site conditions/constraints in the VAAMP area, along with assessments of existing land uses (including resource extraction zones and deposits to be protected), a biophysical assessment, and a review/evaluation of existing utility and underground infrastructure (including potentially required servicing, costs, and limitations to growth).

In addition to the assessments listed above, a transportation network review to assess existing and potential impacts was also undertaken, as were detailed analyses of currently projected business and economic activities, opportunities for innovation and technologies, stakeholder interests, market conditions, regional economic assets, regional domestic and global context, and political and macroeconomic influences.

A review of the information collected from the various engagement sessions and assessments produced an estimated fiscal impact of projected development scenarios in the VAAMP area. This projection includes considerations on potential operational effects to the airport, municipal revenues and expenditures for different asset and service categories, and phased development of this project.



VAAMP's initial plan area boundary established and defined the perimeter of the Villeneuve Airport Area (VAA). In the figure above, sections highlighted in blue represent areas that ERAA owns and administers, while lands highlighted in red represent areas belonging to various private or corporate landowners.

2. Findings and Analysis

2.1 Regional Economic Analysis

A socio-economic profile of Sturgeon County, the Edmonton Metropolitan Region (EMR), and the province was conducted to assess the state of the current economic environment, key industry sectors, competing industrial parks, ZVL's role in the greater EMR aviation world, academic programs and research activities, value-added equipment, major/technology manufacturers, and other economic drivers.

Key highlights of the analysis focused on Sturgeon County indicate:

- The County's economy is driven by agriculture and oil and gas (the area is home to the Alberta Industrial Heartland)
- Demographic indicators reveal the County has a population that is:
 - On average or higher educated, compared to provincial averages
 - Earning a family income that is among the highest in the EMR
 - Accustomed to commuting a fair distance to work
- There is no post-secondary academic institution located in the County, other than institutional agricultural holdings
- The County is a leader and co-founder of the EMR Hydrogen Hub (Canada's first and largest Hub)
- Broadband issues continue to exist in many areas (however, municipal funding has been committed to address this matter)
- Sturgeon County leads a regional partnership initiative (the VLN) to develop the VAA
- Sturgeon County has prioritized Defence sector investment attraction initiatives (Canadian Forces Base Edmonton located within Sturgeon County's boundaries, while redevelopment of the Villeneuve Airport also offers Aerospace investment opportunities)

- The predominantly rural nature of the County enables lower property taxes compared to other competing municipalities
- Highway 44 will be designated as a high-load corridor

Key highlights from the analysis indicate the EMR has:

- Canada's fifth-largest economy, with a strong network of economic and development partners (such as Edmonton Global, Alberta Innovates, the University of Alberta, NAIT, and other research institutes and centres, including the Alberta Machine Intelligence Institute and NRC's Nanotechnology Research Centre)
- Recognized industry clusters in energy and petrochemicals, food and agriculture and manufacturing
- Growing clusters in flight training, life science, digital health, advanced manufacturing (inclusive of machine learning), plant protein (part of Canada's Protein Supercluster), and Canada's first hydrogen hub
- Seventeen (17) industrial parks with large amounts of industrial land still available for development
- Experienced significant logistics and warehousing developments in recent years
- Three universities and five colleges that contribute to an environment that prioritizes regional innovation
- Canadian National (CN) and Canadian Pacific (CP) class 1 rail lines in the region, with a CN rail line intersecting the Villeneuve Airport Area (VAA)

Key highlights from the Villeneuve Airport analysis show that:

- Edmonton International Airport (EIA) owns and operates ZVL (and is the predominant landholder as well), but most development efforts are presently taking place at its main airport (YEG)
- ZVL is the flight training hub of the EMR
- Besides flight schools, there are limited aviation-related businesses located at the ZVL
- ZVL is underserved in terms of water capacity and broadband services
- The ZVL Master Plan (developed by the Airport Authority) considers airside and groundside developable lands and uses
- The EIA operates the Alberta Aerospace Technology Centre out of YEG
- There is a NAV Canada control tower on-site with an Instrument Landing System (ILS)

2.2 Engagement Sessions

As part of the VAAMP process, a comprehensive engagement program comprised of three separate rounds of feedback gathering sessions were held (organized over a four-month period). The engagement sessions included virtual focus groups and one-on-one meetings/interviews, in-person focus groups and private meetings, and a supporting on-line survey. Overall, 155 targeted stakeholders were invited to participate in the engagement sessions, with over 120 people attending one or multiple events/activities.

Engagement questionnaires were created in collaboration with Sturgeon County Administration and collected feedback was developed into engagement summaries. Stakeholder inputs suggest support and validation of the regional economic profile, identified anchor projects, and for the overall development of the draft business concepts. Further engagement and validation with VAAMP project stakeholders led to further refinement and proposed phasing of the business concepts. A fourth round of engagement will be held in 2022 as part of VAA's Area Structure Plan development and approval process.

2.3 Existing Site Characteristics of the Area and Land Uses

The ZVL is located northwest of Edmonton, Alberta, surrounded by agricultural land and gravel extraction operations. The Villeneuve Airport itself is defined as the Local Study Area (LSA) and is bordered by Highway 633 to the south, agricultural land to the west, the CN rail line to the north, and Range Road (RR) 270 to the east. The Regional Study Area (RSA) further extends the project planning area South past Highway 633 (by approximately 1 km), west to RR 272, north to Township Road 544, and east about 750m past RR 270. The VAAMP project planning area including the LSA and RSA is shown in section 1.3 above.

An assessment of the LSA and RSA was conducted as part of the VAAMP process. This analysis determined that:

- The LSA primarily consists of grass fields and ZVL infrastructure
- Land use classification within the RSA is predominantly agricultural, industrial, and gravel extraction; there are three gravel extraction sites located north, east, and south of the ZVL
- Land within the LSA and RSA is not protected under the *Wildlife Protection Act* or any other statutes of a nature reserve

2.4 Characteristics of Villeneuve Airport

ZVL is a regional airport that primarily serves general aviation in the EMR, including recreationally and flight training. With over 70,000 annual aircraft movements (fixed wing and rotary) noted in existing airport plans, ZVL is considered the largest and busiest general aviation airport in this region. The airfield consists of two runways (08/26 and 16/34) and associated taxiways. Runway 08/26 has a length of 1,525.5m (5,001ft) and categorized for Aircraft Group Number (AGN) IIIB operations, with an asphalt surface. Runway 26 end is equipped for precision approaches, whereas the 08 end is only rated for non-instrument approaches. Runway 16/34 is shorter at 1065.5m (3,496ft) and only categorized for AGN II operations with an asphalt surface, with both runway ends rated for non-instrument approaches.

Villeneuve Airport is also home to various tenants and users—from general aviation and flight training schools to innovative start-ups with ambitious and significant growth plans. Most of the land fronting the taxiways are owned by respective businesses, including their apron and parking areas. The businesses on the landside of the airport are currently leasing the properties from the airport owners.

2.5 Planned Villeneuve Airport Development

There is an opportunity for enhanced development within the airport and airfield area to help improve ZVL for existing and future tenants. Potential new infrastructure is proposed on the airfield, including an expanded apron area to accommodate more aircraft activity near the existing terminal building. A new taxiway link from Runway 08/26 is also proposed to increase airfield efficiency, reduce taxi times and carbon emissions, and to improve runway occupancy allowing for more aircraft movements. Finally, there is also a proposed new taxiway from the Villeneuve Airport Development Planning project (developed in 2019/2020) that would provide additional lots with airside frontage that could attract new tenants and businesses to the airport. The existing Runway 08/26 is sufficient to accommodate general aviation and recreational aircraft use, including aircrafts commonly used by private operators and by limited regional airlines across Canada. With no intentions for commercial operations at the ZVL airport, an inability to accommodate larger aircraft does not pose any major impact or risk on short and long-term airport planning efforts.

2.6 Characteristics of On-site Infrastructure and Utilities

2.6.1 Stormwater

There are three drainage basins within the VAA into which the area's stormwater collects. One of these drainage basins serves to support the ZVL, while a second drainage basin supports both the VAA and the Hamlet of Villeneuve. Within each development area of the VAAMP, a Stormwater Management Plan (addressing both stormwater quality and quantity) will need to be developed and should include provisions on gutters, catch basins, manholes, oil/grit separators, underground pipes, and (if required) lift stations.

With new urban development standards considered in the VAAMP (such as paved roads, parking lots, and greening of building rooftops), post-development run-off flows will be greater compared to the pre-development peak flows. Increased peak flows will need to be attenuated (i.e., experience a reduction in force) through the use of new stormwater management facilities, such as dry ponds. It is anticipated these ponds will be required within the northern and southern parcels of the Regional Study Area, and for development occurring within the central area of the Local Study Area.

2.6.2 Water System

The existing water distribution system in the VAA consists of a 200mm diameter water supply line from the Northern Lights Reservoir, an underground concrete reservoir of treated water, a pumphouse containing four pumps south of the Hamlet of Villeneuve, and a distribution network that serves the Hamlet's existing development. Past reports have identified there is sufficient storage capacity within the reservoir to accommodate the existing water demand; however, there is insufficient storage to accommodate future ZVL development.

ZVL must expand its own reservoir and pumping facilities to provide adequate water access for fire flow and to address peak demands for future development within the ZVL Boundary. The Hamlet of Villeneuve reservoir and pumphouse will supply the ZVL distribution system via a new 300 mm diameter watermain along Highway 633 and a 100mm diameter watermain along RR 270A by late 2021, eliminating the need to truck water to the ZVL reservoir. A third pump is proposed for installation during early expansion within the ZVL Boundary, which will allow for two distribution pumps to operate simultaneously, while reserving the third pump as a 50% backup.

During the development of the parcels within the Regional Study Area, dedicated water reservoirs, disinfection systems, and pumping facilities will be required. A separate, minimum 300mm diameter HDPE watermain connecting the new water reservoir to the pump station at the Hamlet of Villeneuve Pump House through the right-of-way (ROW) along Highway 633, parallel to the 300 mm diameter HDPE watermain servicing the Airport, will be required. The size of the water reservoir will be based on population and growth projections, anticipated future per capita water consumption, and industrial fire flow demands. Similarly for the NE development area, a dedicated water reservoir, disinfection system, pumping facility, and a minimum 300 mm diameter HDPE watermain installed within a newly established ROW east of RR 270 will also be required.

Any new development will need to uphold the water maintenance programs which includes, but is not limited to, line flushing, exercising valves, pump station servicing, and the execution of water conservation programs.

2.6.3 Sanitary System

Wastewater from ZVL is collected at the airport pump station and pumped through existing sanitary forcemain systems towards the conventional stabilization sewage lagoon, which also serves residential wastewater from the Hamlet of Villeneuve. Past studies noted the lagoon is in poor condition, and Sturgeon County is currently undertaking a lagoon rehabilitation/repair project to address deficiencies. It is anticipated renewal of the lagoon will extend its service life to 2039 (with an equivalent Hamlet population of 390). The long-term regional connection solution involves decommissioning the lagoons, repurposing the land for other uses, and diverting flows via a new 300 mm diameter HDPE sanitary forcemain to the existing Alberta Capital Region Wastewater Commission (ACRWC) trunk sewer (Parkland Sanitary Trunk) located approximately 8 km to the south, through a proposed lift station located in a low-lying area south of the Hamlet.

Given that the current lagoon cannot handle industrial waste, new development areas would require the treating and testing of any industrial waste upstream at sites before reusing it for general irrigation or discharging by gravity sewers leading toward respective lift stations. Wastewater would then be pumped by new pump stations via a forcemain network installed through established ROW and connect to the proposed lift station and ACRWC's Parkland trunk sewer.

Any new developments will need to uphold the sanitary maintenance programs which includes, but is not limited to, line flushing, exercising valves, pump station servicing, and CCTV inspection of underground piping.

2.6.4 Oil and Gas Pipeline System

Natural gas pipelines (owned and operated by ATCO) are situated throughout the VAA and consist of both transmission (high pressure) pipes and distribution (low pressure) pipes. Some of these pipes, which have already been identified for replacement, may benefit from relocation, creating opportunities to better support development as described in the proposed VAAMP.

A natural gas pipeline and wellsite is located on the VAA's Section 19 (Parcel NE19-54-26 W4M), which is southwest of the intersection of TWP Road 544 and Highway 44. This wellsite is owned by third party stakeholders with records showing the applicable lease being renewed in 2005. Since this site could be in operation until 2030, development in this area may not be possible for several years.

2.6.5 Electrical System

The existing power distribution network in the VAA is supported by two nearby substations that are owned, operated, and maintained by Fortis Alberta. Currently supported by primary overhead systems, Fortis Alberta indicated both substations currently have additional capacity. Where new infrastructure is required to support the expansion of the area, it is anticipated that the overhead systems will be expanded, and underground power distribution would be required along the collector and local roads. Fortis Alberta must be consulted prior to the creation of any new VAA development plans or before requests addressing increased power requirements; this is to accommodate Fortis' obligation to develop detailed analysis.

It is also anticipated that within the developed areas, street lighting will be incorporated on the local and collector roads, in addition to illuminating certain intersections within the VAA. As street lighting may be owned, operated, and maintained by Fortis Alberta, they must also be consulted as part of the development of any plans considering this infrastructure.

2.6.6 Communication System / Broadband Internet

Sturgeon County is currently undertaking an initiative to improve broadband internet accessibility, speed, and reliability throughout the County; with a fibre-to-the-premises (FTTP) network to be implemented at ZVL. To support proposed VAA development, the airport is captured under Phase 1 of broadband implementation, referred to as the "Villeneuve Pilot Project." As new collector and local roads are developed, an underground network of conduits will provide pathways for broadband infrastructure; otherwise, overhead utility poles could provide pathways for the expanded communication system.

2.7 Environmental Assessment

The RSA contains several wetlands that may be affected by the development of the VAAMP. Potential indirect wetland effects include increased presence of sediments and dust, habitat fragmentation, and disruption of the hydrological process, which can reduce habitat effectiveness for plants and wildlife. If a development needs to be implemented in a wetland, mitigation measures will be developed to address potential effects.

The Master Plan will additionally result in changes to the land surface that will alter the movement of water throughout the area. Surface runoff during precipitation events and spring melt will be increased due to the impermeability of roads, parking lots, and buildings. Plans to accommodate the movement of water and any disruptions to natural flow paths will need to be developed. With increased usage of water comes an increased need for treating water, therefore once a determination of the end use of the water is made, a design for water collection, testing, processing, and distribution can subsequently be undertaken.

Furthermore, abandoned oil and gas wells are present in the region. Best practice when building in areas with such features is to avoid building on, or immediately adjacent to these abandoned lines if possible. If they cannot be avoided, these wells should be identified and flagged for testing, and the well abandonment reports should be requested and reviewed to determine the status of any abandoned well sites in the context of current regulatory standards and guidelines.

Prior to VAAMP implementation, relevant municipal, provincial, and federal permits and approvals are required. Sturgeon County should engage with qualified professionals to complete the necessary field studies, consultation activities, land acquisition, and regulatory submissions for the implementation of this Master Plan.

2.8 Transport Network

The VAA is well served by a grid transportation network that includes provincial highways and municipal roads linking to the Cities of Edmonton and St. Albert. The transportation network also includes private roads under the jurisdiction of EIA, two provincial highways (Highways 44 and 633), and municipal County roadways. Currently there is no transit service to the VAA (and no future plans for such an investment). The principal mode of transport to and from the ZVL is private car and/or taxi service. The VAAMP considered a frequent service transit bus connectivity as part of the transportation assessment. Multi-modal transportation opportunities—including for cyclists and pedestrians—were considered within the VAAMP, ensuring the airport is desirable to a variety of stakeholders.

The main highways near the airport consist of two basic travel lanes (one lane in each direction), with additional turning lanes provided at some locations. The preliminary traffic impact assessment determined there is a requirement to maintain four basic traffic lanes on Highway 44, with added auxiliary lanes at key intersections. Under these conditions, future protection for either

a multi-lane roundabout (with two entering lanes on each approach) or a grade separated interchange with ramps should be provided. Similarly, Highway 633 will also be operating near to the threshold of requiring four basic travel lanes to accommodate the proposed development and background traffic volumes. An initial ROW of 50-to-60 metres should be protected for Highway 633. Appropriate setbacks will be required within the VAA to accommodate potential future frontage roads adjacent to Highway 44 and Highway 633. An approximate 32-metre reserve strip parallel to the highway ROW would accommodate a two-lane rural frontage road with an open ditch on one side.

At present time, airport access is limited to RR 270A at Highway 633. RR 270A is a private access road under the jurisdiction of the Airport Authority. This roadway has two travel lanes with two-metre partially paved shoulders. Development at ZVL will require additional new access points, beyond RR 270A. The VAAMP recommends realigning existing roads, and adding new local and collector roads, to improve access and circulation within the VAA and to better serve future developments.

The proposed internal road network within ZVL is adequate to accommodate the full build-out traffic volumes. The existing Township Road 543 rail crossing should be maintained but restricted to local use only. The existing RR 270 crossing should be removed with turnarounds appearing on both sides of the railway tracks, in conjunction with a north – south collector/local road in the RR 270 corridor.

Rail transportation in the area is provided by CN Sangudo Subdivision whereas the rail line crosses the Regional Study Area from the southeast to the northwest. The existing single track has limited capacity for regular trains and CN has confirmed only Unit Trains hauling single commodity goods will use these lines. It is understood that funding for a rail spur would need to come from the private sector, therefore a robust business case supported by catchment area analysis for each bulk commodity is required. Since Sturgeon County's primary industries rely on rail to transport bulk goods to market, a more detailed study will be required to understand the rail alignment issues and space required for this facility.

2.9 Sector Analysis

The results from previously conducted research, combined with stakeholder feedback and the availability of critical infrastructure assets, enabled the identification of four target sectors that offer the best growth potential and value-added investment attraction for the EMR and County. The four identified sectors include:

- Aviation and aerospace (including remotely piloted aerial systems (RPAS) and space and defence)
- Green economy (including hydrogen, plastics recycling, carbon capture, and addressing extreme weather)
- Agriculture (including processing, intelligent farming, and future/modernized farming)
- Logistics and distribution (including a high-load corridor, bulk terminal, and automation)

The inclusion of these sectors in the VAAMP were validated by Sturgeon County representatives and during various stages of stakeholder engagement. To better define these target sectors, a market analysis was conducted to identify sector trends, technological development, and industry growth potential. These four sectors serve as the foundation for the proposed business concepts included within the VAAMP. The following subsections provide detail on each of these sectors, including analysis conducted on a local and international scale considering elements such as new technological trends, future opportunities, etc. A practical list of regional assets that could be leveraged to further support these sectors is also provided for reference.

3. Implementation and Recommendations

3.1 Development Vision and Concepts

The Villeneuve Airport Area (VAA) development vision integrates some of the most prominent economic assets of the Edmonton Metropolitan Region, while also offering diversification options that will help to provide Sturgeon County and its partners with a stable and sustainable future.

The development vision is also based on industry market research and data, identified growth sectors, engagement suggestions and insights from key stakeholders and economic development trends. Stakeholder engagement conducted as part of the VAAMP resulted in the Regional Study Area being increased to include additional parcels of land in the northeast portion of the VAA (situated south of Township Road 544, extending east to Highway 44 and south to the CN rail line).



The VAA is foreseen as an integrated innovation and technology hub dedicated to supporting regional, national, and international research and technological development. VAA is envisioned to be an ideal location for investment, innovation, workforce-related education and training, advanced manufacturing, transportation, and logistics in the fields of:

- Aerospace, Aviation, Defence, Space and RPAS
- Sustainability and the Green Economy
- Digital Agriculture and Advanced Food Processing
- Logistics and Supply Chain to North American destinations

The vision of the VAA is develop a world-leading investment and innovation hub, centred around the Villeneuve Airport, enabling the economic diversification of Alberta and the Edmonton Metropolitan Region. The ensuing mission of the VAA is to assemble regional, provincial and

national partners with the goal of working together to develop an attractive business, innovation ecosystem and training hub that leverages the competitive and sustainable advantages of the region and Western Canada.

3.1.1 Guiding Principles

In support of the vision and mission statements above, the development of the VAA is based on a series of guiding principles that are aligned with the strategic goals of:

- Sturgeon County
- Edmonton Airports (the Edmonton Regional Airports Authority)
- VLN members

The guiding principles (below) provide context on the actions, initiatives, regulatory needs, planning, and development measures that are needed to support growth in the VAA.

Innovation: Innovation is a fundamental principle of the VAA. This theme guides and defines the strategic initiatives, actions, decisions, objectives, and planned service offerings within the study area. The VAA will grow by developing an environment conducive to achieving demonstrated results in innovation by clustering research and development projects, resources, and infrastructure.

Collaboration: As the associated costs of development continue to rise, collaboration becomes important to sustained development success. Productive partnerships will positively impact all parties, including investors, research and development organizations, post-secondary institutions, public entities, indigenous entities, and industry. Collaborative efforts and pooling of resources are a catalyst for accelerating investment and driving innovation.

Diversification: The VAA initiatives and business concepts should reflect global market and industry trends. In so doing, the VAA initiatives and business concepts should be aligning development plans with national, provincial, and regional competencies to support the economic diversification of Alberta and the EMR.

Sustainability: The VAA developments must be financially and environmentally sustainable, providing the highest and best use of lands and associated infrastructure while also aligning with the environmental, social, and governance (ESG) policies of Sturgeon County and higher orders of government.

3.1.2 Objectives

The development and success of the VAA is based on four main objectives. Each objective also has a series of sub-objectives. These sub-objectives further clarify the tasks, timelines, budget considerations, and roles and responsibilities that are associated with the main objectives.

- **Objective 1 - Innovation and Technology**
Grow and position Sturgeon County as a key player in global innovation and technology development within the business concept focus areas.
- **Objective 2 - Investment Attraction and Readiness**
Mobilize all stakeholders in the development of industry ecosystems that target the international, national, and provincial growth sectors which are most in line with the business concept focus areas.
- **Objective 3 - Regulatory & Infrastructure**
Offer a supportive environment for industry development by providing the required infrastructure and business services. Ensure proactive advocacy efforts are undertaken to promote a regulatory setting free from red tape.
- **Objective 4 – Workforce Development**
Create a working environment conducive to the development, attraction/retention, and well-being of workers, students, visitors, and Villeneuve residents.

3.1.3 Business Concepts

From the sector analysis, asset inventory, engagement sessions, and other work conducted during this initiative, the development of the VAA would be positioned around four thematic industry sectors and associated business concepts.

While each business concept focuses on a different sector, they all have interconnecting activities, projects, and facilities to ensure the concepts build on one another. The business concepts were developed around globally recognized growth sectors and will leverage available regional assets and support the development of public-private-academic innovation and growth projects that were identified during the engagement sessions. All anchor projects reflect the willingness of both corporate and academic institutions to be part of VAA development plans.

3.1.3.1 Villeneuve Aviation & Aerospace Centre (VAAC)

The VAAC is envisioned as a unique innovation and education hub, industrial park, research, development, and testing centre dedicated to aviation, aerospace, space, remotely piloted aerial systems, and defence projects. The VAAC will be developed through a number of anchor projects and facilities which require support from industry leaders and suppliers to advance its the accelerated development. VAAC will bring together the strengths, capabilities, and knowledge of

industry leaders into open source, collaborative and/or private ventures; it will also include a unique environment and supporting programs for workforce training and education to provide tenants and industry with a highly skilled workforce.

The VAAC is comprised of five anchor projects:

1. Aerospace Research Complex
2. Aviation Training Centre of Excellence
3. Defence-related Initiatives
4. Space Ground Stations
5. General & Business Aviation Hub Expansion

3.1.3.2 Villeneuve ecoPark (VeP)

The VeP is a proposed commercial and industrial park that will feature state-of-the-art innovation labs, research and development facilities, advanced manufacturing areas, and commercial office space. The VeP will provide a clustering opportunity for public and private sectors to collaborate on research and development projects and advance commercialization efforts. The VeP business concept embraces the region's commitment to the green economy, not only in the well-established energy sector but across all parts of the economy as well. Specifically, the development of the VeP will act as a catalyst for the development of a hydrogen industrial ecosystem in the EMR and will serve as a central resource point for regional and national knowledge sharing, technology transfer and expertise development.

The VeP is comprised of four anchor projects:

1. Hydrogen Innovation Village
2. Hydrogen Innovation Proving Grounds
3. Environmental R&D Centre
4. Alberta Carbon Centre of Excellence

3.1.3.3 Villeneuve Agri-Innovation Hub (VAIH)

The VAIH will be a full-service solution for increasing sustainability in agriculture. The VAIH aims to combine applied research facilities and commercialization opportunities with initiatives that increase value-added agribusiness and food development investment for the regional and provincial agricultural industry. Through specialized facilities, the VAIH will enable industry-leading research and development, commercialization, production, and exporting operations. The VAIH will also provide land and facilities for experimental farming and new crop and finished product development. The VAIH will concentrate on provincial and global issues tied to agriculture and have a specific focus on intelligent farming.

The VAIH is comprised of four anchor projects:

1. Future Farming Innovation Centre
2. Indoor Agriculture Testing and Production Facilities
3. Aggregation and Food Processing Centre
4. Industrial Kitchen

3.1.3.4 The Great Northern Logistics Park (GNLP)

The GNLP will bring together warehousing, storage, cross docking, road/rail support services, and logistics innovation to create a dedicated logistics park that maximizes the combined road, rail, and air assets of the VAA. The GNLP will take advantage of the VAA's location northwest of Edmonton to fulfill the growing demand for enhanced transportation and logistics throughout the province and Western Canada. The VAA location is a logical staging area for shipments of goods and services bound for northern and Arctic destinations, ports on Canada's west coast, and markets south of the EMR.

The GNLP is comprised of five anchor projects:

1. Food Grade Freezer and Temperature Control Warehousing
2. High-load Corridor Hub
3. Villeneuve Bulk Rail Terminal
4. Cross-docking and Transload Facilities
5. Advanced Logistics & Warehousing Demonstration Centre

3.2 Phasing Plan

An overview of the planned development timeframe of the VAA and the phasing of each business concept (over a 20-year period) is provided on the next page. Lead-in anchor projects are those that require limited infrastructure investments and for which private and academic projects have been identified. It must be noted that Sturgeon County Council's acceptance of the VAAMP and the subsequent approval of an Area Structure Plan (ASP) may lead to modifications in the timing of the projects (such as the start/completion dates and/or the expected duration of the corresponding development timeline behind each anchor project). Therefore, the proposed development/phasing outlined below is to act as a guideline only.

Business Concept	Anchor Project	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Villeneuve Aviation & Aerospace Centre (VAAC)	Aerospace Research Complex			■	■	■	■	■	■	■	■	■										
	Aviation Training Centre of Excellence	■	■	■																		
	Defence-Related Initiatives	■	■	■	■	■	■															
	Space Ground Stations																					
	General and Business Aviation Hub Expansion	■	■	■																		
Villeneuve ecoPark (VeP)	Hydrogen Innovation Village			■	■	■	■	■	■	■	■	■										
	Hydrogen Innovation Proving Grounds																					
	Environmental R&D Centre																					
	Alberta Carbon Centre of Excellence																					
Villeneuve Agri-Innovation Hub (VAIP)	Future Farming Innovation Centre	■	■	■																		
	Indoor Agriculture Testing and Production Facilities																					
	Aggregation and Food Processing Centre																					
	Industrial Kitchen																					
Great Northern Logistics Park (GNLP)	Food Grade Freezer and Temperature Controlled Warehousing																					
	High-Load Corridor Hub																					
	Villeneuve Bulk Rail Terminal																					
	Advanced Logistics and Warehousing Demonstration Centre																					
	Cross-Docking and Transload Facilities																					

- **Red boxes** indicate the year in which construction of the proposed anchor projects take place
- **Blue boxes** indicate the envisioned completion year of the anchor project

The VAA development concept is comprised of four industrial zones, a commercial area, and future land reserves. At the heart of the innovation hub will be a business forum building and public plaza with flexible space for temporary expositions, conferences, events, and networking. A high-quality walkable public realm will connect business clusters and facilitate business collaboration and shared innovation between interdependent companies, academic researchers, and manufacturers.

The environmental and visual impacts of the development process will be reduced by using soft landscaping, native plantings, and natural materials. The proposed design will encourage the use of green roofs on buildings to create opportunities for biodiversity. Campus utilities and infrastructure can include recharging points for electric vehicles, stormwater drainage into balancing ponds, and low-energy lighting. The following image is an artist’s rendering of the future VAA development and its economic forecast over the projected 20-year timeframe. At that stage, the VAA will be 50% developed, with approximately another 1,300 acres of land available for future development.



3.3 Financials and Forecasts

The economic contribution of the VAA and its associated business concepts can be measured through fiscal impact (e.g., revenues, expenses, and capital requirements) and various economic indicators such as the size of facilities, the estimated number of full-time employments, payroll generated, income tax generated, and municipal property tax generated.

3.3.1 Development Overview

The proposed business concepts are based on the construction of approximately 50 buildings and facilities of various types over the first 20 years of the VAA development. Overall, the buildings and facilities have an estimated total size of 7.864 million square feet (equivalent to 730,578 square metres). Collectively, the four business concepts are estimated to generate 1,766 direct full-time equivalent (FTE) jobs.



3.3.2 Infrastructure Cost

Based on the proposed nature of the buildings and facilities presented in the VAAMP, the infrastructure costs to support these buildings and their activities are estimated at \$370.90 million, which includes a 30% contingency. These costs are broken down as follows:

Infrastructure	Cost (\$M)
Stormwater management	\$4.16
Water supply	\$24.08
Sanitary	\$27.40
Transportation network	\$157.43
Airport upgrades	\$5.27
Villeneuve Bulk Terminal	\$66.97
Contingency (30%)	\$85.59
Total:	\$370.90

3.3.3 Fiscal and Economic Impact

Once all of the proposed developments are complete, the four business concepts and their anchor projects are expected to generate a recurring fiscal impact of \$77.15 million per year (which includes \$14.17 million in municipal tax to Sturgeon County), \$170.63 million in recurring economic impact and \$1.017 billion in non-recurring economic impact. The 20-year cumulative economic impact amounts are based on a phased development approach with specific details contained within VAAMP.

Category	Economic Impact \$M (20-Year Cumulative)	Economic Impact (\$M / Yr. Fully Developed)
Recurring Fiscal Impact		
Payroll tax to Federal Government	\$142.09	\$39.66
Payroll tax to Provincial Government		\$23.31
Municipal tax to Sturgeon County		\$14.17
Sub-Total:		\$77.15
Recurring Economic Impact		
Net payroll	\$1,788.42	\$170.16
EIA revenues		\$0.47
Sub-Total:		\$170.63
Non-recurring Economic Impact		
Value of properties once the VAA is fully developed	\$1,017.65	

3.4 Recommendations

This VAAMP seeks to provide a strong business model that supports significant and positive economic development for Sturgeon County and its partners. Recommendations are referenced throughout the VAAMP, but the key recommendations provided below will serve to guide all subsequent steps in the development process.

Recommendation 1

Endorse the four VAAMP key business concepts, with their associated visions and guiding principles, as a foundation for land use planning and development within the Villeneuve Airport Area.

Recommendation 2

Utilize the VAAMP as a resource when developing a municipal ASP for the Villeneuve Airport Area (including amendments to other planning documentation as required).

Recommendation 3

Incorporate the VAAMP's findings and analyses into the County's Infrastructure Master Plan to properly inform the new VAA ASP and similarly other planning documentation such as the Municipal Development Plan.

Recommendation 4

Apply an off-site levy bylaw to the Villeneuve Airport Area and incorporate funding requirements for provincial infrastructure into the Sturgeon County Government Advocacy Plan to support the long-term financial viability of area growth.

Recommendation 5

Continue to collaborate with the Edmonton Regional Airports Authority on complementary planning for lands within the existing ZVL boundaries.

Recommendation 6

Designate municipal personnel to oversee the development, marketing, and partnerships within the Villeneuve Airport Area. Consideration should be given to the size, economic impact, and long-term strategic benefit to the County.

Recommendation 7

Support innovation and technology development in the Villeneuve Airport Area through the ongoing exploration of potential joint ventures that would support small- to medium-sized businesses and maximize the opportunity for long-term area growth.

Recommendation 8

Develop financial and non-financial incentive programs as tools to entice prospective investors into choosing the Villeneuve Airport Area and Sturgeon County (thus positioning the area as highly competitive against competing domestic and global jurisdictions). These programs can take multiple forms such as:

- a) Business incubation and acceleration supports
- b) Employee support programs and educational services
- c) Municipal taxation deferral or abatement
- d) Joint ventures and direct co-investments
- e) Provision of required infrastructure
- f) Complementary marketing

Recommendation 9

Form an Advisory Committee comprised of experts in numerous key target sectors to provide Sturgeon County with analyses and recommendations on ongoing policies, programs, partnerships, and other means of furthering growth in the Villeneuve Airport Area.

4. Conclusion

The VAAMP facilitates future land use and economic opportunities in the Villeneuve Airport Area (VAA), emphasizing collaboration between Sturgeon County, the Edmonton Regional Airports Authority, Villeneuve Landing Network members, and other stakeholders. The VAAMP provides an aspirational vision for the area, contributing to local job creation, facilitating new investment and improving regional economic diversification. The VAAMP is aligned with the objectives of the Edmonton Metropolitan Region Board (EMRB) Growth Plan, reaffirming and positioning the VAA as a strategic economic hub and driver not only for Sturgeon County, but for the entire region.

The VAAMP also contains several recommendations on potential actions and next steps. VAAMP findings and analyses should be used to inform development of a new Area Structure Plan for the Villeneuve Airport Area. A larger, more comprehensive version of the VAAMP is available, though it contains confidential and highly technical information. Please contact Sturgeon County to discuss opportunities contained therein or receive additional information on the specific analyses, proposed business concepts and anchor projects, and other context found within the full report.