

December 2024

Fire Facilities Master Study

CITY OF CHESTERMERE



Register of Issues			
Issue No.	Reviewed by:	Date	Description of the review
A	JC	2022-10-29	Draft report
B	JF/MER/GW	2024-12-10	Draft report updated reviewed by Third-party
0	JF/MER/GW	2024-12-11	Issue for Approval

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1. – Introduction

In recent years, the City of Chestermere has experienced significant growth and development. As the City expanded, each department is facing increased demands from residents living, working, and visiting here, increasing the demands on Chestermere Fire Services (CFS). To address this, the Fire Master Facilities Study was developed to create a long-term infrastructure strategy for CFS, aligned with the city's growth, development, and population increase.

1.1 – Authorization and Terms of Reference

In 2021, the need to review the City's Fire Service infrastructure and assess the potential need for enhanced fire protection was identified. Behr Integrated was commissioned to develop a Fire Master Plan, followed by Sea Hawk Service, which evaluated the fire service across five key areas: Administration, Operations, Occupational Health and Safety, Training, and Infrastructure.

The Fire Master Facilities Study will review the current fire facility needs and assess future demands based on growth projections over the next 25 years.

The study will evaluate the following infrastructure elements:

- Fire station locations
- Fire station building requirements
- Timing and beneficiaries of infrastructure improvements

This report will support City administrators in guiding development, optimizing system utilization, and planning future upgrades. It will also help inform projects that align with the City's Offsite Levy Model.

1.2 – Background

The current fire station (Station 116), built in 2010, was designed for a population of 12,000. As the City anticipates substantial population growth—projected to reach over 40,000 residents by 2029-2030 and potentially 50,000 by 2035—emergency service demands and risks are rapidly increasing. The station faces challenges with response times to certain areas of new developments. Increased population and call volumes make it clear that additional fire stations will be necessary to meet the Behr Fire Master Plan response time standards and comply with High-Intensity Residential Fire (HIRF) regulations.

Since 1981, the Alberta Building Code has required a 10-minute response time for emergency services. Buildings located further than 10 minutes from a fire station must implement additional fire protection measures, including:

- Non-combustible siding
- No side yard windows
- Sprinkler installation
- Increased distance from property lines

These enhancements aim to slow the spread of fire and reduce the risk of escalating into high-intensity residential incidents, thereby improving safety for both occupants and emergency responders. Compliance necessitates that a fire department engine, staffed with a crew of four firefighters, arrive on scene within 10 minutes to initiate exterior exposure protection and suppression activities.

The response time for Fire-Rescue Services in the City of Chestermere consists of the following components:

- Call handling: 90 seconds (1.5 minutes). Includes alarm answering time and call processing time by a central dispatcher
- Crew assembly at the fire hall: 120 seconds (2 minutes)
- Travel time: 300 seconds (5 minutes)
- Setup on scene: 90 seconds (1.5 minutes)

Since January 1, 2023, CFS has been non-compliant with the 10-minute response standard for 40% of its total incidents¹.

1.3 – Objectives

Objectives of the Fire Facilities Master Plan:

- **Comprehensive Assessment:** Evaluate the current capacity and performance of fire facility systems, leveraging both real-time and historical data from the City of Chestermere’s facilities and networks to ensure an accurate and thorough analysis.
- **Identify System Deficiencies:** Pinpoint gaps or vulnerabilities in the existing infrastructure, and provide actionable recommendations for targeted improvements to optimize system functionality and service delivery.

¹ Internal Response Time Compliance Report (Jan 1, 2023 – Oct 22, 2024)

- **Strategic Growth Planning:** Develop a scalable servicing strategy that accounts for 25-year projections and expansion to full-buildout scenarios, ensuring the fire facility systems are prepared to meet future demands.
- **Capital Improvement Roadmap:** Establish a prioritized list of capital projects designed to enhance system resiliency, support planned development, and align with the City's Offsite Levy Model. This will include high-level cost estimates, implementation timelines, and strategic guidance for each project.

These objectives will serve as the foundation for the final report, providing a comprehensive framework for future improvements and growth.

1.4 – Background Documentation

The following background reports and documents, previously developed, contributed to the creation of this Fire Facilities Master Plan:

- Fire Services Master Plan – 2021²
- Fire Services Review – 2022³
- Fire Underwriters Survey⁴
- Chestermere Growth Projections⁵

2. – Growth and Development Analysis

An understanding of Chestermere's expected growth and development is essential to assess fire facilities' needs.

2.1 – Growth Areas and Projections

CFS worked with the City's planning staff to assess anticipated growth over the next 25 years, identifying projected locations and developable areas within each Offsite Levy (OSL) zone. These high-level growth projections are intended to provide general estimates, not specific details about exact growth sites within each OSL area.

The projections align with the City's Offsite Levy Model, which outlines expected growth across the 20 OSL zones. The growth was forecasted in two phases: a 25-year horizon and the Full Buildout of the annexation area. City staff developed these projections by analyzing

² Fire Services Master Plan – Behr Integrated (2021)

³ Fire Services Review – SeaHawk (2022)

⁴ Fire Underwriters Survey, City of Chestermere (2021)

⁵ Chestermere Growth Study, 2023-2049 (2023)

historical development trends within each OSL zone, using this data to estimate the total developable area for both the 25-year and Full Buildout periods.

Figures 2.1 through 2.3 below illustrate the OSL zones and their projected growth for each horizon.

Figure 2.1 – Off-Site Levy Areas

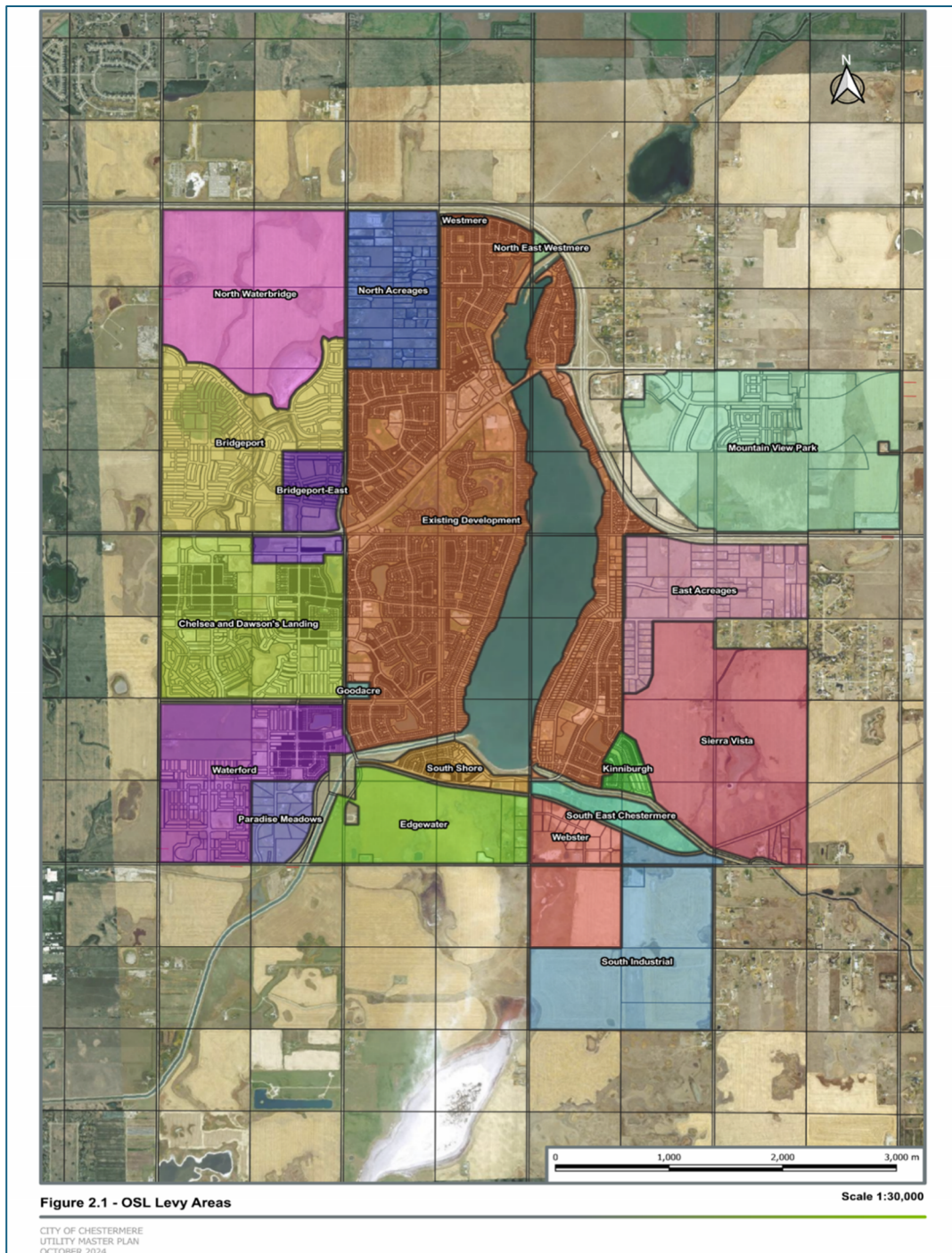


Figure 2.2 – Off-Site Levy Growth Area Next 25-Year Horizon

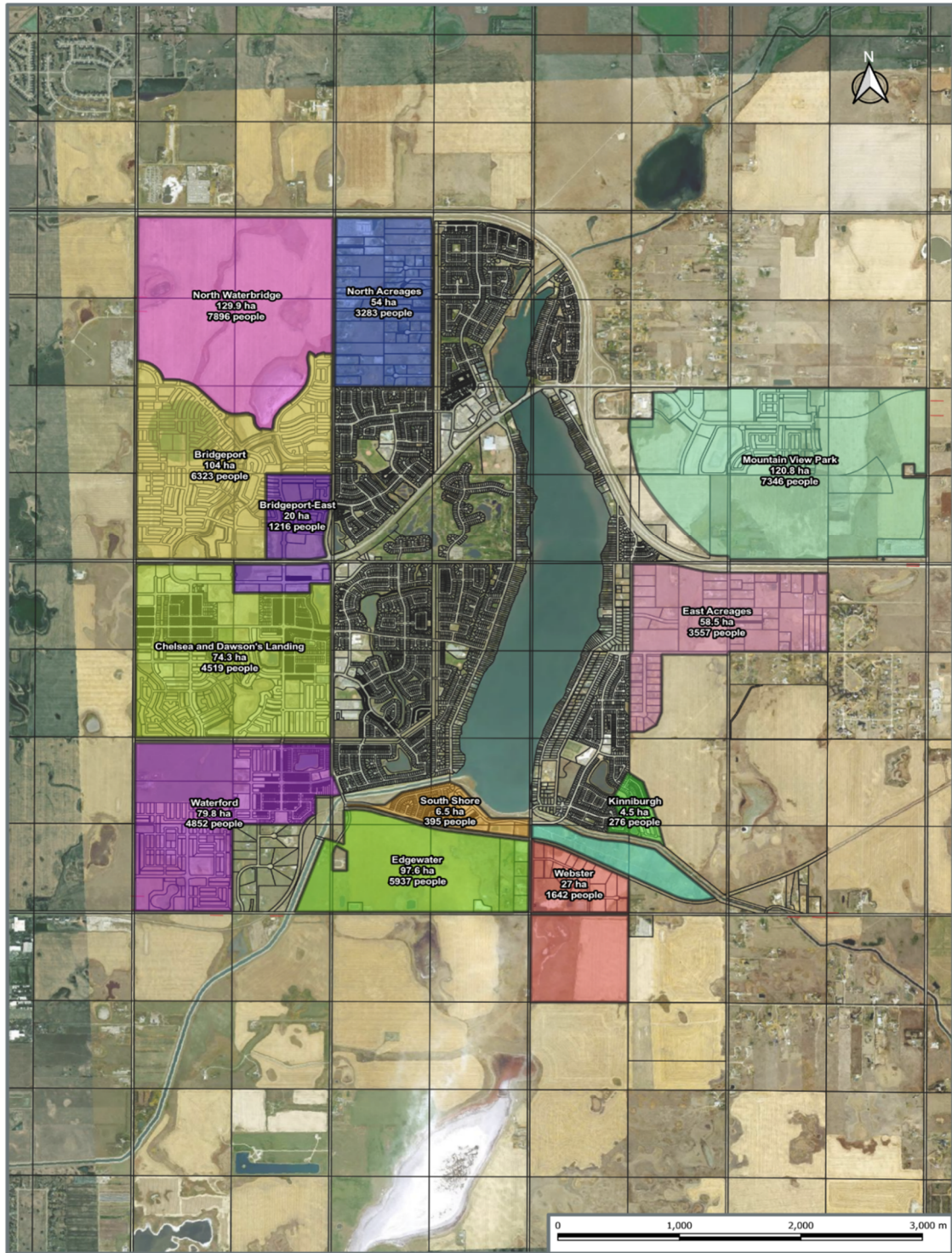


Figure 2.2 - OSL Levy Growth Areas 25 Year Horizon

Scale 1:30,000

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Figure 2.3 – Off-Site Levy Growth Areas Full Build Out

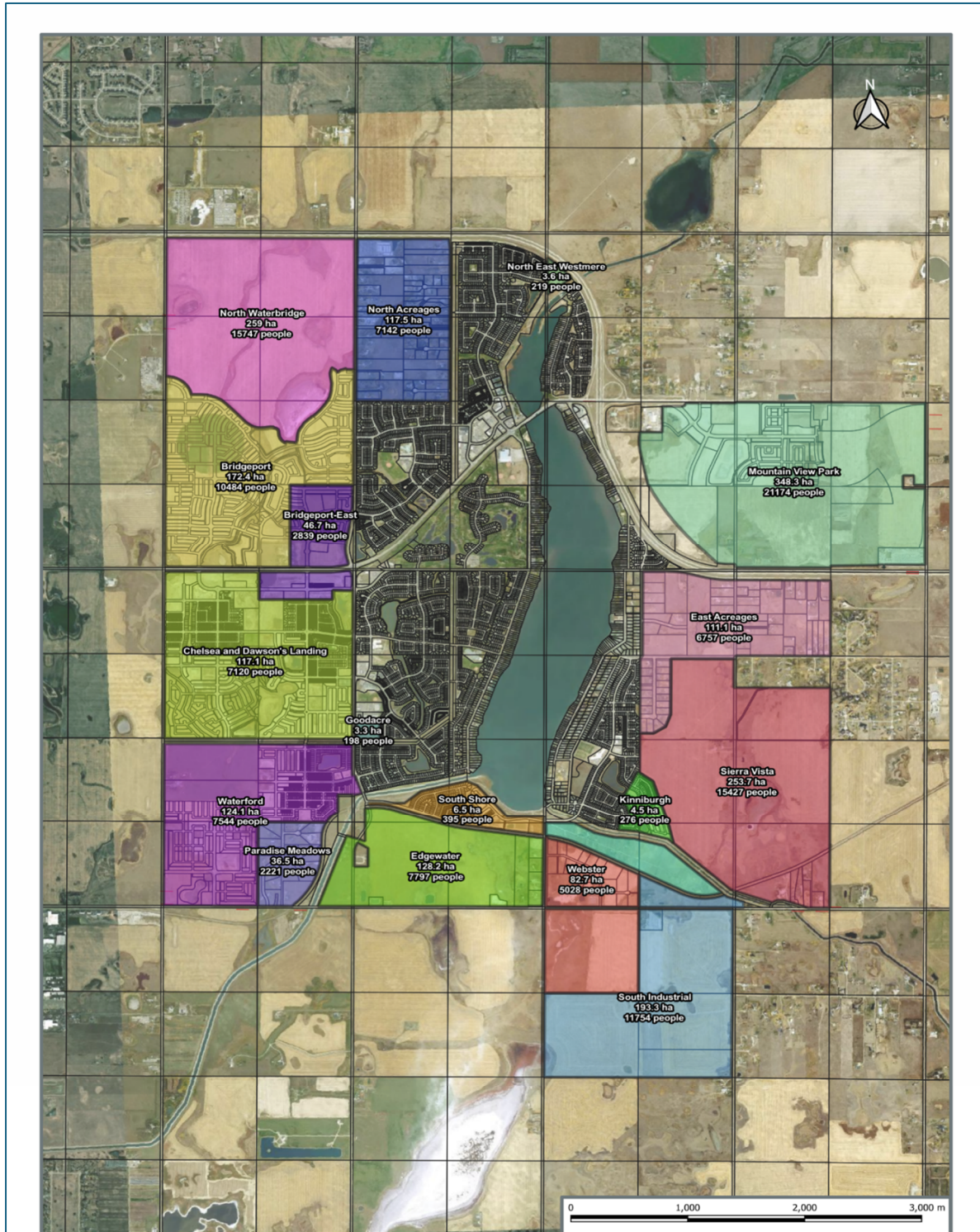


Figure 2.3 - OSL Levy Growth Areas Full Buildout Horizon

Scale 1:30,000

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The City's growth projections will be based on population equivalents, represented by a population density of 19 development units per gross developable hectare and 3.2 people per unit, resulting in a density of 60.8 people per hectare.

The total net developable area is 777 hectares for the 25-year horizon and 2,036 hectares for full buildout. Net area excludes Environmental Reserve (ER), a 10% Municipal Reserve (MR) allowance, and Arterial Right-of-Way (ROW).

The following tables outline the projected developable area and additional population for each Offsite Levy Area under both growth horizons.

Table 2.1 – OSL Area Growth Projections

OSL Area	Net Developable Area (ha)	Population	Net Developable Area (ha)	Population
	25 Year Horizon		Full Buildout	
Westmere	0	0	0	0
North Waterbridge	130	7,896	259	15,747
Chelsea & Dawson's Landing	74	4,519	117	7,120
South Shore	7	395	7	395
Edgewater	98	5,937	128	7,797
South Industrial	0	0	193	11,754
Kinniburgh	5	276	5	276
Sierra Vista	0	0	254	15,427
East Acreages	59	3,557	111	6,757
Mountain View Park	121	7,346	348	21,174
Goodacre	0	0	3	198
North East Westmere	0	0	4	219
North Acreages	54	3,283	117	7,142
Paradise Meadows	0	0	37	2,221
Existing Development	0	0	0	0
BridgePort	104	6,323	172	10,484
Waterford	80	4,852	124	7,544

OSL Area	Net Developable Area (ha)	Population	Net Developable Area (ha)	Population
	25 Year Horizon	Full Buildout		
South East Chestermere	0	0	27	1,642
BridgePort-East	20	1,216	47	2,839
Webster	27	1,642	83	5,028
Total	777	47,242	2,036	123,764

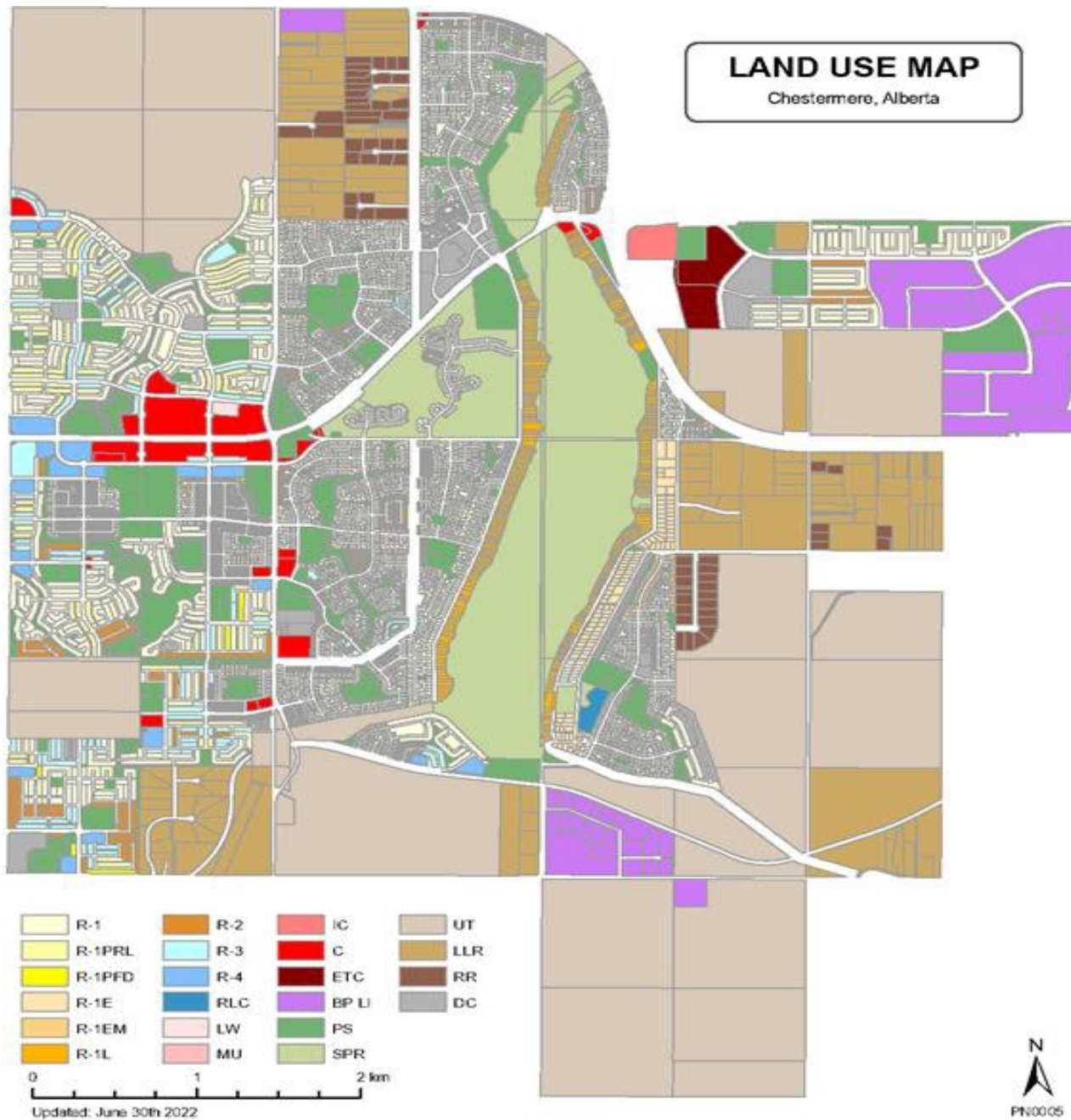
Table 2.2 – Growth Projections Summary

Growth Horizon	Gross Developable Area (ha)	Additional Population
25 Year	777	47,242
Full Buildout	2,036	123,764

2.2 – Current Land Use

The City of Chestermere includes not only residential development but also commercial, employment, and institutional land uses, each requiring different levels of fire protection. Most development has occurred on the west, east, and south sides of the City. Figure 2.4 below shows the current approved land use map for Chestermere.

Figure 2.4 – Current Land Use

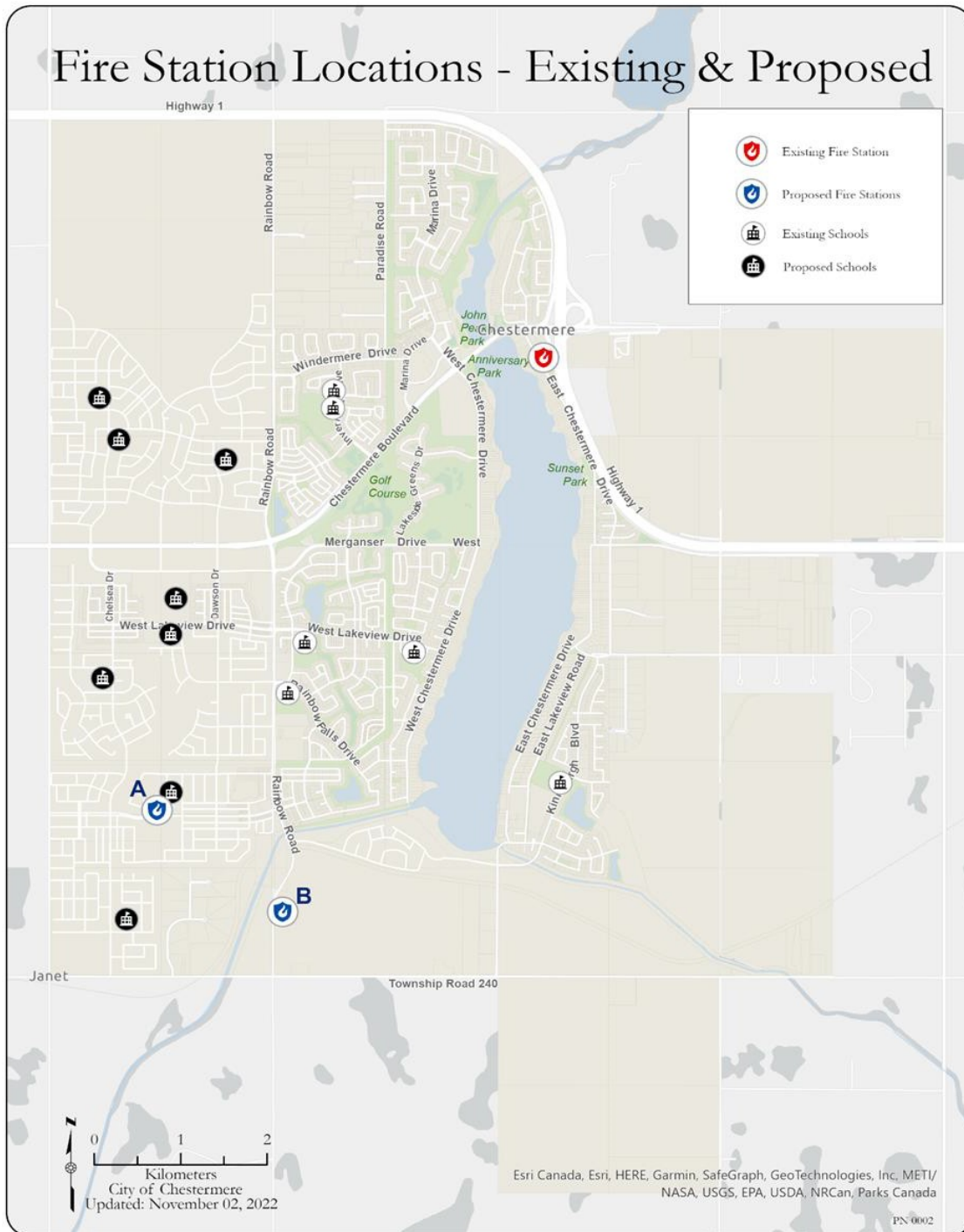


To establish consensus on the growth projections and design basis, the City of Chestermere held roundtable meetings with BILD members. During these discussions, the methodology for developing the growth projections and design basis was presented, and feedback from BILD members was incorporated into the Fire Facilities Master Plan (FFMP).

3. – Existing Chestermere Fire Service Conditions

The existing tri-services Station 116, constructed in 2010, is located at 162 East Chestermere Drive, south of Chestermere Boulevard, as shown in Figure 3.1.

Figure 3.1 – Existing Fire Station Location



As shown in Figure 3.1, the existing fire station is strategically located to serve the northern and central areas of Chestermere, including key properties such as schools and commercial zones. However, the station faces challenges in reaching new growth areas to the west and south due to road network constraints, particularly around Chestermere Lake. Furthermore, anticipated growth to the east will increasingly strain the station's capacity and staffing levels.

3.1 – Existing Fire Station 116 Configuration

The existing fire station has undergone several modifications since its original construction to support the Cancer Reduction Strategy, Health and Wellness Program, and the Training Division's operational needs, including training props and growth.

Based on a review of the current facility the following was noted:

- No office space available for (future) Deputy Chief
- No office space for the Training Officer
- Dispatch Office is utilizing vehicle bay
- Print and Copy Room with storage covered to IT room due changes since 2011 requirement
- No meeting room or spare office
- No reception was converted due to RCMP requirements
- Laundry shared with Decontamination room, safety issue
- No Platoon Chief dorm room
- Health and Safety issues
- SCBA Decon Room shared with personnel decontaminating room
- No first aid room as Fit test room is shared with SCBA storage
- Air Compressor shared with SCBA storage room and medical storage
- Insufficient Training storage
- The communication and charging room is utilizing bay space and is insufficient for number of staff
- No proper workshop to repair and maintain equipment

3.2 – Existing Fire Station 116 Constraints and Space Analysis

The existing fire station is operating at or beyond capacity due to several spatial constraints, including:

- The physical size of the station is below current requirements.

- The original design did not account for space requirements related to decontamination and cancer reduction strategies, such as clean/dirty separation.
- Congestion caused by the need to house all active apparatus at a single site.
- Insufficient storage for non-active apparatus, necessitating the use of two sea cans (located at the fire station and public works yard).
- The change in Chestermere's vertical built form and density has changed the fire facilities' needs.

Although designed as a 6-bay fire station, much of the bay space has been repurposed to accommodate the Cancer Reduction Strategy, Health and Wellness Program, and the Training Division's training props. Additionally, one bay is occupied by Alberta EMS.

Since its construction, the fire station has faced increased pressure from new programs, particularly the decontamination process, which has proven difficult to manage within the current space.

The station must be divided into specific zones based on cleanliness, including:

- **Green** – Clean areas (no operational contaminants)
- **Blue** – Fitness and sleeping areas (no outside contaminants, including street footwear)
- **Yellow** – Bay areas (may contain some outside contaminants)
- **Red** – Decontamination areas (used for cleaning contaminants)
- **Orange** – Areas with medical contaminants

Each zone requires special considerations, including:

- Negative/positive air pressure
- Separate air handling and heating
- Different flooring types for cleaning and decontamination purposes

Expanding the current fire station has been deemed infeasible due to the following factors:

- Inability to meet response times for all areas of Chestermere within the NFPA 1710 and HIRF standards
- Geographical constraints from Chestermere Lake, highways, railways, and existing wetlands
- Traffic flow patterns
- Insufficient parking for staff and visitors
- Limited clearance at the southeast doors of the building
- Location within a residential neighborhood, causing friction with neighbors
- Lack of available space to accommodate additional staff and equipment

4. – Future Fire Facility Site Location(s)

The existing centralized fire station, as originally envisioned, is no longer sufficient to support the community's growth. A decentralized infrastructure model is now necessary, given the expansion on all sides of Chestermere Lake. The lake presents a natural barrier to east-west travel, with only three crossings: Highway #1 to the north, Chestermere Blvd in the northern third, and Township Road 240 to the south. These limited access points divide the City's response areas, increasing response times for fire services in newly developed areas. The decentralized model will require multiple facilities, each offering specific services, but collectively providing comprehensive fire and public safety coverage across the City.

4.1 – Site Selection Criteria

The size and location of any new fire station must meet the following requirements:

- Response times must account for the 25-year growth areas
- Compliance with NFPA 1710, HIRF Regulations, and Alberta Building Code for station distances
- Maximization of the existing facility's usage
- Access to major roadways
- Mitigation of natural and man-made obstructions
- Community hazard assessment, including:
 - Building types and spacing
 - Risk of storm retention pond flooding across the City
 - Increased call volumes from high-density housing in the western areas
- Consideration of existing and future road connections and configuration

- Timely operational readiness of the new facility
- Availability of utilities for the new station
- Provision of necessary public safety services
- A safe work environment for staff

4.1 – Response Times

During the analysis, several potential fire station sites were identified and initially screened based on the established site selection criteria for further evaluation. The City has reviewed potential future fire facility locations within its boundaries, directly linking these sites to the fire service's ability to respond to new growth and development in Chestermere. The review identified several suitable sites to address increased growth, call volumes, and response times, considering the following factors:

- A decentralized model with multiple sites
- Drive time to new growth areas of less than 5 minutes
- Proximity to major roadways with speed limits of 60-80 km/h
- Reliance on 10 major roadways, including:
 - East and West Chestermere Blvd
 - Rainbow Road
 - Township Rd 240
 - Range Rd 284
 - Kinniburgh Blvd
 - West Lakeview Rd
 - Marina Dr
 - Merganser Dr
 - Highway #1
- Consideration of natural and man-made obstructions, including:
 - CN Railway right-of-way
 - Three WID Canals
 - Chestermere Lake
 - Three bridges that may restrict travel times
 - Highway 1, which divides the community, with restricted access at Rainbow Road, Paradise Road, and a major interchange on Chestermere Blvd
- Minimal impact on local residents (noise, sirens, lights, and activity around the station)
- Availability of land (City-owned or available for purchase)

Based on these criteria, two sites were identified for further consideration: Site "A," located within the proposed Waterford neighborhood, and Site "B," located adjacent to Lift Station 13 on Rainbow Road, as shown in Figure 4.1.

Figure 4.1 – Proposed Fire Station Locations

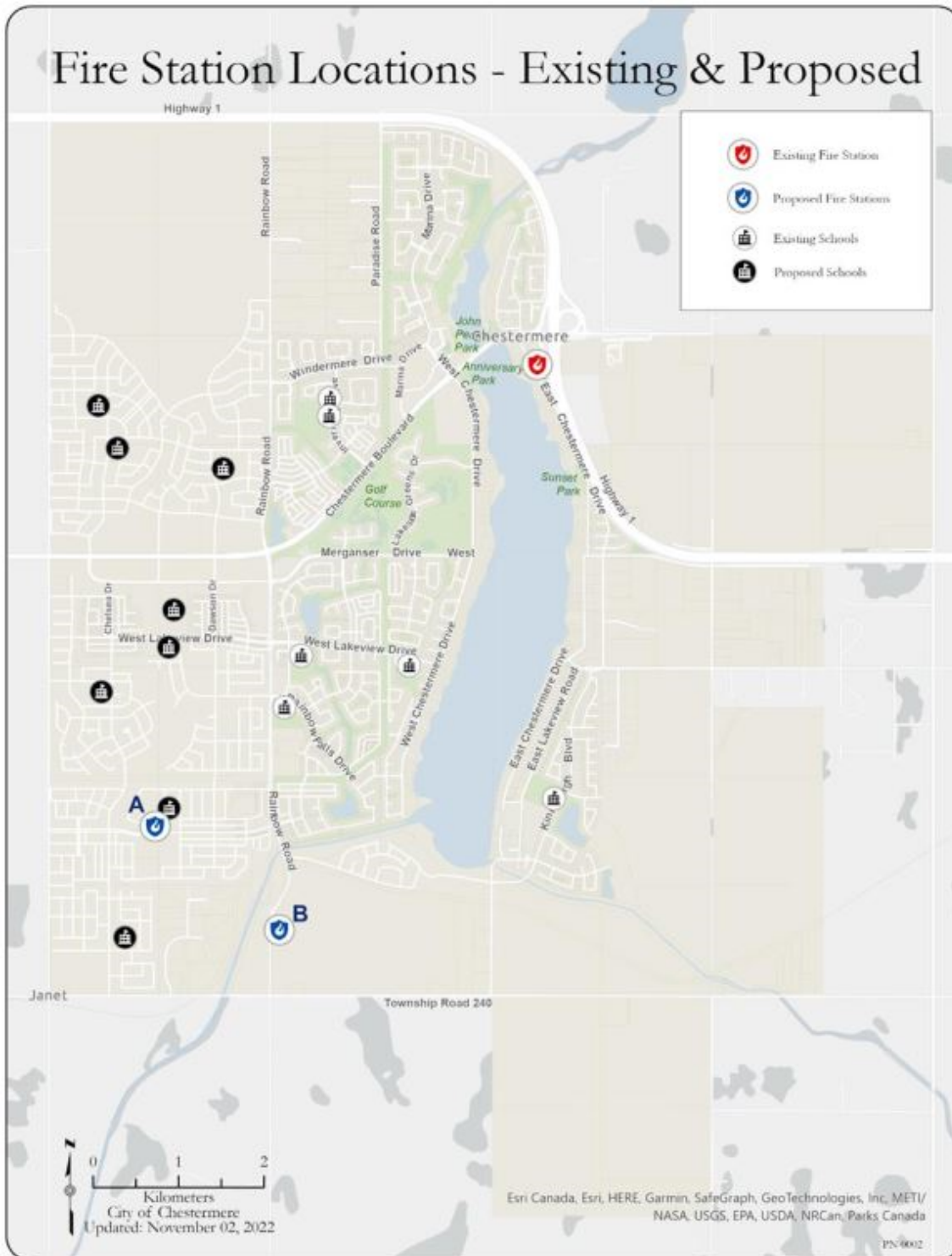
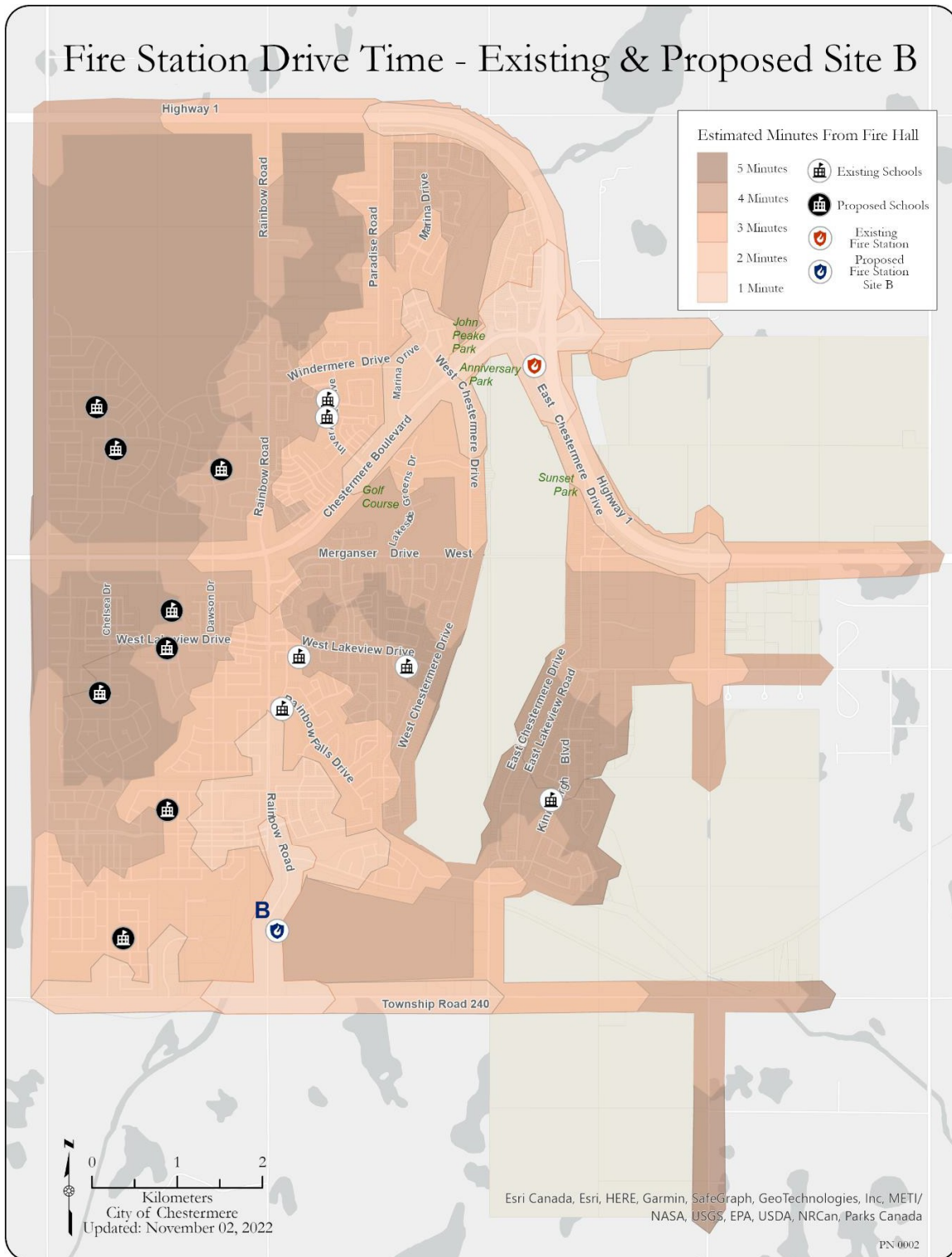


Figure 4.4 – Site B Drive Time



Figures 4.3 and 4.4 clearly illustrate the impact of each proposed fire station location. Site A offers a shorter drive time to the Dawson, Chelsea, and Bridgeport neighborhoods. However, it does not provide coverage for the southeastern areas, including Kinniburgh and Webster neighborhoods, which are projected for development within the next 25 years (Figure 2.2). Site B, while resulting in slightly longer drive times for Dawson, Chelsea, Bridgeport, and North Waterford, offers coverage for Kinniburgh and Webster neighborhoods within a 5-minute travel time.

It should be noted that both sites would require the existing station to cover some new growth areas, while the new station would serve some already developed areas. For example, the new station would likely cover the area around Dawson Drive, while the existing station would serve new developments around Mountainview Park. The drive time is based on the existing network and area where there is an outline plan approved. For areas where there is no approved outline plan, drive times are an estimate only and will change based on the approved outline plan road network.

Based on these considerations, Site B is the preferred location due to the following advantages:

- Provides travel times of less than 5 minutes to all growth areas identified in the 25-year projection (Figure 2.2)
- Proximity to major roadways, including Rainbow Road, TWP 240, RR 284, and Chestermere Blvd
- Lower impact on local residents, as it is adjacent to the existing Lift Station 13, an already impacted site
- The 5.9-acre Lift Station 13 site is City-owned, with 2.3 acres available for the fire station and approximately 1.8 acres for shared use between the fire service and utilities
- Maximizes the use of existing infrastructure while providing extensive coverage for all new developments projected over the next 25 years

Figure 4.5 shows the existing Lift Station 13 site (Site B) for reference.

Figure 4.5 – Site B Layout



5. – Facilities Needs

The City of Chestermere’s fire facilities must be designed to support a projected population of 70,000, as outlined in Figure 2.2, through a decentralized service delivery model. Fire suppression services will be provided at each facility, while administrative and ancillary services will be concentrated at designated locations. As the City grows, the demand for emergency services will increase proportionally. To effectively address the needs of emerging communities and the unique challenges they present, it is essential for the City to adopt a proactive approach to emergency response planning.

The establishment of a second fire station, known as Station 117, in the southwest quadrant (Site B) will enhance the City’s ability to provide timely and effective emergency services. Moreover, to ensure sustained coverage and meet future demands, additional fire station planning will likely be necessary as the City continues to expand beyond the scope of this study.

This report is based on projected growth rates and anticipated patterns of development over the next 25 years, along with the existing road layout. While the two proposed fire station locations are expected to be sufficient under current assumptions, the eventual build-out of the communities and the City may necessitate the construction of a third or even fourth station prior to the 25-year horizon, depending on growth patterns, roadway speeds and service needs.

It is recommended that the Fire Facility Master Plan (FFMP) be updated every five years to account for changes in the City’s development and ensure that emergency service provision evolves in line with population growth and community needs.

The facilities must meet the following requirements over the next 25 years:

- Operational space for the storage and distribution of firefighting equipment
- Staff operation space to support 24/7 fire protection and ensure a 10-minute response time to all service areas
- Health and safety spaces
- Training facilities for staff readiness and safety
- Mechanical, electrical, and circulation spaces
- Administrative space
- Emergency Operations Centre
- Public engagement areas

The table below outlines the minimum space requirements for the next 25 years.

Table 5.1 – Chestermere Fire Facilities (all facilities) – Program

Item	Program Name	Total Qty	Station 116	Station 117
1.00	General (Public Access)			
1.01	Entry Vestibule	1	0	1
1.02	Lobby	1	0	1
2.00	Administration			
2.01	Fire Chief Office	1	0	1
2.02	Deputy Chief Office	1	0	1
2.03	Training Officer Office (2 personnel)	1	0	1
2.04	Fire Prevention Office (4 personnel)	1	0	1
2.05	Emergency Management Office	1	0	1
2.06	Dispatch Office	2	1	1
2.07	Administrative Area	1	0	1
2.08	Print and Copy Room w/ Storage	2	1	1
2.09	Kitchen (Admin: smaller)	1	0	1
2.10	Office off small meeting room	1	0	1
2.11	Office off small meeting room	1	0	1
2.12	On shift Bullpen (8 desks)	2	1	1
3.00	Operations			
3.01	Bunk Rooms Single	21	9	12
3.02	Bunk Room Laundry	2	1	1
3.03	Washrooms (full, separate)	9	4	5
3.04	Washroom Accessible	3	1	2
3.05	Sauna	2	1	1
3.06	Kitchen (FF: commercial)	2	1	1
3.07	PPE storage	2	1	1
3.08	Consumables storage	2	1	1
3.09	Platoon Chief Office	2	1	1
3.10	Platoon Chief Dorm	0	0	0
3.11	Bunker Gear Room	2	1	1
3.12	Fire Pole Vestibule	2	1	1
3.13	Hose Tower	2	1	1
3.14	Bays 20ft wide	7	5	2
3.15	Bays 25ft wide	2	0	2
3.17	Workshop	2	1	1
4.00	Health and Safety			
4.01	SCBA Decon Room	2	1	1
4.02	SCBA Storage Room/Fit Test Room	2	1	1
4.03	First Aid Room	2	1	1
4.04	Stackable Laundry Room	2	1	1
4.05	Air Compressor Room	2	1	1
4.06	Locker Room	4	2	2
5.00	Training			

5.01	Large Training Room (30 person) / EOC Convertible)	1	0	1
5.02	Small Training Room (10 person) (with one being EOC Convertible	2	1	1
5.03	Indoor Training Area	2	1	1
5.04	Training Storage	2	1	1
5.05	Workout Gym	2	1	1
6.00	Mechanical + Electrical			
6.01	Custodian	4	2	2
6.02	IT Room	2	1	1
6.03	Communications and Charging Room	2	1	1
6.04	Emergency Generator	2	1	1
6.05	Electrical Room	2	1	1
7.00	Other			
7.01	EOC Conversion Storage and Equipment	1	0	1
7.02	EOC Washrooms (3 piece, unisex)	2	0	2
7.03	Outdoor training facility	1	0	1
7.04	Parking for staff and visitors	2	1	1
	Circulation (15% of total area)	2	1	1

The items listed in Table 5.1 represent the projected space and facility requirements for the next 25 years based on the assumption of this study. These facilities and functions can be phased over time across the two proposed sites, as outlined in the Capital Projects to accommodate budget constraints if needed. It is important to note that changes in growth areas and forecasts may affect the timing and size of each facility. Efforts have been made to allow for flexibility within the available resources to accommodate these potential changes. This study does not account for growth beyond the 25-year horizon, which will likely necessitate additional facilities.

6. – Capital Projects

The following section provides an overview of the planned fire facilities projects required to support future growth in Chestermere. The projects have been designed to address the increased fire protection and public safety needs as the city’s population expands over the next 25 years based on a decentralized service-model.

6.1 – Second Fire Station

The analysis identified the space and equipment requirements for a second fire station in the City of Chestermere. The following details provide an estimate of these needs. Constructing a fire station similar to the existing facility will allow us to estimate the size, use, and capacity of each area. The new station would accommodate space and equipment for

five key areas: Public Access, Administration, Operations, Health and Safety, and Training & Infrastructure. We have toured various facilities across Alberta to assess the types, requirements, and construction standards of fire stations that would meet our needs, and this outline reflects those findings.

Table 6.1 – Chestermere Fire Station 117 – Program Areas

Item	Program Name	Area		Qty	Area	
		(sm)	(sf)		(sm)	(sf)
1.00	General				44.0	473.4
1.01	Entry Vestibule	14.0	150.6	1	14.0	150.6
1.02	Lobby	30.0	322.8	1	30.0	322.8
2.00	Administration				214.0	2302.6
2.01	Fire Chief Office	14.0	150.6	1	14.0	150.6
2.02	Deputy Chief Office	14.0	150.6	1	14.0	150.6
2.03	Training Officer Office	14.0	150.6	1	14.0	150.6
2.04	Fire Prevention Office	20.0	215.2	1	20.0	215.2
2.05	Emergency Management Office	10.0	107.6	1	10.0	107.6
2.06	Health and Safety Officer Office	10.0	107.6	0	0.0	0.0
2.07	Dispatch Office	10.0	107.6	1	10.0	107.6
2.08	Administrative Area (2 positions)	28.0	301.3	1	28.0	301.3
2.09	Print and Copy Room w/ Storage	8.0	86.1	1	8.0	86.1
2.10	Kitchen (Admin: smaller)	30.0	322.8	1	30.0	322.8
2.11	Reception	10.0	107.6	0	0.0	0.0
2.12	Office off small meeting room	10.0	107.6	1	10.0	107.6
2.13	Office off small meeting room	14.0	150.6	1	14.0	150.6
2.14	On shift Bullpen (8 desks)	42.0	451.9	1	42.0	451.9
3.00	Operations				1,315.4	14,154.0
3.01	Bunk Rooms Single	10.0	107.6	11	110.0	1183.6
3.02	Bunk Room Laundry	10.0	107.6	1	10.0	107.6
3.03	Washrooms (full, separate)	20.0	215.2	5	100.0	1076.0
3.04	Washroom Accessible	12.0	129.1	2	24.0	258.2
3.05	Sauna	10.0	107.6	1	10.0	107.6
3.06	Kitchen (FF: commercial)	50.0	538.0	1	50.0	538.0
3.07	PPE storage	15.0	161.4	1	15.0	161.4
3.08	Consumables storage	15.0	161.4	1	15.0	161.4
3.09	Platoon Chief Office	10.0	107.6	1	10.0	107.6
3.10	Platoon Chief Dorm	10.0	107.6	0	0.0	0.0
3.11	Bunker Gear Room	55.0	591.8	1	55.0	591.8
3.12	Fire Pole Vestibule	15.0	161.4	1	15.0	161.4
3.13	Hose Tower	35.0	376.6	1	35.0	376.6
3.14	Bays (100ft long x 20ft wide)	185.9	2000.0	2	371.7	4000.0
3.15	Bays (100ft long x 25ft wide)	232.3	2500.0	2	464.7	5000.0
3.17	Workshop	30.0	322.8	1	30.0	322.8
4.00	Health and Safety				110.0	1183.6
4.01	SCBA Decon Room	30.0	322.8	1	30.0	322.8
4.02	SCBA Storage Room	10.0	107.6	1	10.0	107.6
4.03	FIT Test/ First Aid Room	10.0	107.6	1	10.0	107.6

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4.04	Stackable Laundry Room	10.0	107.6	1	10.0	107.6
4.05	Air Compressor Room	10.0	107.6	1	10.0	107.6
4.06	Locker Room	20.0	215.2	2	40.0	430.4
5.00	Training				218.0	2345.7
5.01	Large Training Room/EOC (30 person)	50.0	538.0	1	50.0	538.0
5.02	Small Training Room/EOC (10 person)	40.0	430.4	1	40.0	430.4
5.03	Indoor Training Area (Wet Room)	50.0	538.0	1	50.0	538.0
5.04	Training Storage	14.0	150.6	2	28.0	301.3
5.05	Workout Gym	50.0	538.0	1	50.0	538.0
6.00	Mechanical + Electrical				102	1098
6.01	Custodian	12.0	129.1	2	24.0	258.2
6.02	IT Room (City Vault)	30.0	322.8	1	30.0	322.8
6.03	Communications and Charging Room	8.0	86.1	1	8.0	86.1
6.04	Emergency Generator	15.0	161.4	1	15.0	161.4
6.05	Electrical Room	25.0	269.0	1	25.0	269.0
7.00	Other				38.0	408.9
7.01	EOC Conversion Storage and Equipment	14.0	150.64	1	14.0	150.64
7.02	EOC Washrooms Accessible (3 piece, unisex)	12.0	129.12	2	24.0	258.24
7.03	Outdoor training facility					
	Net Area				1,823	19,620
7.05	Future Expansion				0	0
7.06	EMS Dayroom		0	0	0	0
7.07	EMS Washroom		0	0	0	0
7.08	EMS Storage Room		0	0	0	0
7.09	EMS Apparatus Bay		0	0	0	0
	Circulation (15%)				274	2943
	Total Building Net Area				2,097	22,563

Not all functions of the second fire hall may be operational from day one. However, the design will accommodate phased implementation, allowing for the gradual addition of services as they are needed. This phased approach ensures cost-effectiveness over time.

The need for a second fire hall is driven by the requirements to meet NFPA 1710 response time standards and comply with High-Intensity Residential Fire (HIRF) regulations. Interim protective measures have been implemented to allow development to proceed in the short term. These measures will be removed once the new fire hall is operational.

While the second fire hall is urgently needed, the design and construction process will take time. Therefore, the earliest projected operational date for the new fire hall is 2026.

Cost estimates for the capital project were developed by assessing the overall scope and breaking it down into key components. Each component was assigned a unit rate based on recent similar projects, industry standards, and input from contractors and City staff. The

project cost also includes a 13% allowance for engineering and planning, 2% for project management services, and a 15% contingency. All estimates are presented in 2024 dollars.

Table 6.2 – Chestermere Fire Station 117 – Cost Estimate

Description	Units	Quantity	Unit Rate	Total
Site Civil (grading, stormwater, sanitary, water, access, paving, etc)	LS	1		\$ 1,200,000
Building (21,016sqft @\$400/sqft)	m ²	2,097	\$ 4,300	\$ 9,016,867
Sub Total				\$10,416,867
Engineering, PM and Contingency			30%	\$ 3,125,060
Land Costs (Note cost transfer from Sanitary OSL to Fire OSL for usage)	acre	2.3	\$ 120,000	\$ 276,072
Total				\$13,818,000

6.2 – Second Fire Station -Station 117– Appurtenance Training Centre

The second fire station will require a dedicated training facility to support the ongoing development of fire personnel and ensure readiness. While it is clear that many training activities can be conducted outdoors, thereby reducing the need for extensive indoor space due to seasonal training patterns, planning for an adequate indoor facility remains essential.

Furthermore, the area designated for the future Lift Station 13 expansion presents an ideal location for this facility, allowing for strategic use of space without impacting long-term infrastructure plans. The estimated cost of the training facility is **\$750,000**.

This facility will be a critical asset in providing both current and future fire personnel with the tools and resources needed to deliver effective fire protection services to the growing community. By investing in a dedicated training space now, the City will ensure that fire services remain responsive, capable, and well-equipped to meet the demands of both existing and future populations.

6.3 – Modification to 162 East Chestermere Drive Station – Station 116

The existing fire station will require modifications to accommodate growth and to comply with updated regulations that impact ongoing operations. The following upgrades are anticipated once the second fire station is operational:

- Dispatch Office: Current use of vehicle bay for dispatch operation
- Print and Copy Room: Relocation and additional storage to meet updated IT room requirements, as per changes since 2012

- Meeting Room/Spare Office: Need for an additional meeting or office space
- Expansion for Community Peace Officers (CPOs): Additional space required to support CPO operations
- Relocation of Dorm Room: Adjustment to accommodate new operational needs
- Health and Safety Compliance: Addressing ongoing health and safety requirements
- SCBA Decontamination Room: Shared use with personnel decontamination area, requiring separation
- First Aid Room: Lack of designated space, as the Fit Test Room is currently shared with SCBA storage
- Air Compressor Room: Shared use with SCBA storage and medical supplies, impacting efficiency
- Training Storage: Insufficient storage for training equipment and materials
- Communication and Charging Area: Existing space within the vehicle bay, inadequate for current staffing levels

These modifications are necessary to support both the decentralization of fire services to new growth areas and the continued service of existing communities. Of the estimated **\$600,000** required for these upgrades, some of the costs may be growth-related but the majority are related to the existing population and other essential functions, such as CPOs. The completion of these modifications is necessary by 2029.

7. – Recommendations

1. **Land Acquisition and Planning:** It is recommended that the City secure land and initiate the planning and design process for the second fire station in 2024-2025, with construction targeted for completion by 2026. This timeline is strategically aligned with the anticipated completion of significant development in the western and southwestern sectors of Chestermere.
2. **Site Selection:** It is recommended that land be acquired at **Site B** to ensure optimal coverage on the western side of Lake Chestermere. As major roadways – such as Range Road 284, Township Road 240, and Rainbow Road – are developed, this location will enhance connectivity and reduce response times. The site should be a minimum of 2-4 acres to accommodate both the fire station and a small, dedicated training facility.

- 3. Station Design and Construction:** It is recommended that the new fire station be designed with five apparatus bays, along with sufficient space for administrative functions, operational areas, storage, health and safety facilities, training, and crew quarters. The design should also include a compact, on-site training facility to support personnel development.
- 4. Training and Emergency Operations Integration:** It is recommended that the proposed training area within the second fire station be designed to also function as an Emergency Operations Center (EOC), providing flexibility to serve both operational training needs and emergency response coordination.