MEETING OF THE WHOLE AGENDA
SUMMER VILLAGE OF BIRCHCLIFF
AUGUST 20, 2026 @ 9:00am

A. CALL TO ORDER

B. AGENDA - additions/deletions
- adoption

C. ITEMS FOR DISCUSSION

1) CAO Report

D. COUNCIL REPORT

1) Council Reports

a) Roger Dufresne
b) Ann Zacharias
c) Jonathan Paulgaard

2) Correspondence

a) RCMP statistics correspondence
b) WaterSMART report

E. ADJOURNMENT

Summer Village of Birchcliff

August 19, 2026

Information

Agenda Item: *CAO Report*

Background:

- No Through road sign for the area west of RR15 has been ordered.

- Administration is working on standardized construction design for stair access through Environmental Open Spaces. This will be an amendment to that district's section of the Land Use Bylaw. This, along with a few other minor edits to the LUB will come to council in September.

- Administration has discussed parking options with our Enforcement Department. CPO Thibeault's concern is for safety and recommends no parking along the roads. Ditch parking is possible but has the potential for grassy areas to be ruined. We do have the option for parking passes for contractors doing work or passes upon request when an event is taking place. A further option would be to develop parking areas for each community pier, with community pier members being given a parking pass with their annual fees. Bylaws will likely need updating depending on the will of council.

  Another question was raised about parking passes with the Town of Sylvan Lake. They have extended an opportunity for non-residents to obtain a parking pass. The cost is $250 annually to register one license plate. This fee is based on the average amount of tax dollars that go towards the lakefront area from any given ratepayer.

- Speed limit discussion: council has received some feedback regarding the speed. There are several options that could be discussed. We are currently improving crosswalks and may continue to improve other pedestrian crossing area. There is the option to paint a centre line on Birchcliff Road. There is the option to reduce the speed limit. There is the option to obtain more information and opinions from the public.

- Discussion on capital plan options for 2027: currently our 5 year plan states:

  - Pathway paving (potential) $75.000
  - Crosswalk improvements $40,000
  - Road ROW improvements $15,000

- Tree removal / firesmart $30,000

  Administration requests a discussion on the potential pathway paving and potential crosswalk improvement locations. If we are continuing to look at 2 more crosswalk locations, our suggestion will be to drop that budget to $27,000. Otherwise administration has no suggested changes.

- Administration continues to work with WaterSMART on our Statemnt of Concern regarding the Town of Sylvan Lake's water license applications. Attached is an update to council from the chair of the Joint Services Committee.

Options for Consideration:

Council to discuss and provide direction to administration.

Administrative Recommendations:

Council accept as information.

Authorities:

MGA 207 (c) "advises and informs the council on the operation and affairs of the municipality".

Chair's Update to Council

Subject: Joint Services Committee Update – Regional Water Supply Planning

At its recent meeting, the Joint Services Committee (JSC) received and considered the WaterSMART review regarding the Town of Sylvan Lake's long-term potable water planning and proposed groundwater development.

Following discussion, the Committee resolved to maintain its previously submitted Statement of Concern. Consistent with the WaterSMART review, the Committee determined that additional regional discussion, technical work and collaborative planning are appropriate before the matter is considered resolved.

WaterSMART/Hazen has recommended that the Summer Villages prioritize a collaborative approach with the Town and ISL to address the matters raised through the Statement of Concern. This approach is intended to develop a shared understanding of the outstanding issues and work toward appropriate monitoring and mitigation measures for consideration as conditions of any groundwater licence.

Participation in this collaborative process does not constitute withdrawal or resolution of the Statement of Concern. The Statement of Concern will remain in place while this work proceeds, and any resolution will remain subject to consideration and approval by the JSC.

The Committee has also directed that the Intermunicipal Development Plan Committee (IDPC) be reconvened, that the Chair of the Sylvan Lake Regional Water/Wastewater Commission (SLRWWC) be invited to participate as appropriate, and that the CAO prepare a work plan identifying the steps, timelines, stakeholders and key decisions required to advance a regional waterline connection to the Town and report back on recommended next steps.

The Joint Services Committee supports the Town of Sylvan Lake's efforts to secure a sustainable long-term potable water supply. The Committee's objective is to ensure that long-term regional water planning continues through a collaborative, science-based process that considers the interests of all municipalities within the Sylvan Lake watershed.

Attachments:

- WaterSMART Executive Summary
- Adopted JSC Motion
- Statement of Concern
- Full WaterSMART Report

August 10, 2026

Staff Sergeant Jay Peden
Detachment Commander
Sylvan Lake, Alberta

Dear Mr. Evans

Please find attached the quarterly Community Policing Report for the period of April 1st to June 30th, 2026. This report provides an overview of human resources, financial information, and crime statistics for the Sylvan Lake RCMP and reflects the ongoing priorities identified by the community we serve.

In addition to the information contained in the attached report, the Alberta RCMP is also advancing the rollout of the newly approved black-and-white General Duty vehicle design. This redesign is not simply cosmetic. It reflects a commitment to being a modern, professional, and approachable police service while maintaining a clear connection to the RCMP's history.

The updated look features white doors on a black base, along with high-visibility, reflective graphics to ensure the vehicles can be easily recognized in all conditions—day or night, in rural or urban settings, and across Alberta's diverse climates. This ensures RCMP vehicles are clearly identifiable as law-enforcement vehicles while remaining visually distinct as the RCMP.

Provinces, territories, and municipalities will be able to include local identifiers based on regional requirements. These variations allow for local flexibility and help demonstrate our connection with the communities we serve, while preserving a consistent, recognizable national RCMP identity.

Given the size and operational demands of the fleet, full conversion to the new design will take place gradually. Vehicles will transition to the new design as part of the natural replacement cycle, allowing older units to be retired without creating unnecessary incremental costs. This phased approach supports fleet consistency and modernization over time.

This modernization effort reflects the RCMP's ongoing commitment to ensuring members have the appropriate tools and training to serve their communities safely and effectively. Investments in equipment such as this are essential to maintaining high standards of policing and adapting to evolving operational demands.

We remain committed to transparency and to keeping our municipal partners informed of significant developments that impact policing services in your community. Should you have any questions or wish to discuss this initiative further, please do not hesitate to reach out.

Sincerely,

Staff Sergeant Jay Peden
Detachment Commander
Sylvan Lake, Alberta

Alberta RCMP - Municipal Policing Report

Detachment Information

Detachment Name
Sylvan Lake

Detachment Commander
Staff Sergeant Jay Peden

Report Date	Fiscal Year	Quarter
August 10, 2026	2026-27	Q1 (April - June)

Community Priorities

Priority #1: Priority 1: Crime Reduction

Updates and Comments:
As Q1 has ended for the 2026-2027 fiscal, there has been an increase in overall property crime. The areas which have seen an increase in both the Municipality of Sylvan Lake and the rural areas have been in; theft under $5000.00, Fraud complaints and mischief to property.

- During Q1 the Sylvan Lake detachment responded to 10 Break and Enters in the Town of Sylvan Lake. The clearance rate of the 10 calls for service had been 40%.
- Outside the Municipality, the rural reported incidents had been 8 break and enters with a clearance rate of 0% being solved.
- It is noted the rural break and enters had a majority relating to well-sites and copper wire theft. In many of these occurrences there are no witnesses, CCTV available or is unsuitable for identifying vehicles or individuals.
- When combining both municipal and rural data, the clearance rate is 22.2%.

As Crime Reduction remains at the forefront of the priorities, the officers at the detachment are adding the compliance checks to their patrol plans. As the list of offenders being checked are bound by Court Orders, it should be noted it changes weekly as some offenders are sentenced or their conditions may be discontinued.

- During the quarter the members have continued to support LIGHTHOUSE as a primary Crime Reduction initiative.
- Compliance checks have continued and resulted in assisting offenders to adhere to their court ordered conditions of their release.
- April - 69 checks conducted - no charges for non-compliance
- May- 32 checks conducted - no charges for non-compliance
- June - 17 checks conducted - 1 Community Sentence Order breach completed resulting with the offender being remanded into custody.

Between the General Duty members and the Sylvan Lake General Investigation Section, CDSA enforcement continues. Often these types of investigations are the result of a traffic stop, a call for service or a lengthy project. Additionally, the cooperation between other detachments and shared resources result in charges. During this reporting period there has been a consistency in calls for service and self-generated CDSA investigations.

- Q1 has had 13 CDSA occurrences reported and investigated. Search warrants have been utilized in one of the investigations and had been utilized. the search warrant had been successfully executed and resulted in the seizure of controlled substances and firearms.

Priority #2: Enhancing Road Safety

Updates and Comments:
Members of the Sylvan Lake detachment had continued to take steps to meet and exceed this initiative and promote road safety. During this reporting period, members responded to a fatal motor vehicle collision and subsequently arrested a driver for Impaired Driving Causing Death. Charges had been approved by the Deputy Chief Crown Prosecutor, and the matter is before the courts.

When reviewing the impaired Driving statistics, your RCMP members are actively detecting and removing impaired drivers from the local roadways.

- During Q1 the Sylvan Lake detachment had issued 18 roadside suspensions relating to impaired driving, either by alcohol or drug.
- The municipal detachment issued 14 alcohol suspensions and 1 drug related suspension.
- The rural detachment issued 3 roadside suspensions, all being alcohol related.

Additionally, traffic enforcement continues to be a priority as noted with the 149 traffic violations and warnings issued from April 1, 2026 - June 30, 2026. Traffic enforcement is primarily a self-generated investigation which all Sylvan Lake members are actively pursuing whether it be as an individual or in a Joint Forces Operation.

Q1 has seen the members of the detachment engaged in traffic enforcement as demonstrated with 99 tickets being issued and 50 warnings.

- The violations issued included 14 intersection related, 19 excessive speed, 11 unregistered vehicles, 5 uninsured vehicles and additional offenses relating to equipment deficiencies or non-compliance.

From April through June (Q1) the Sylvan Lake RCMP participated in 3 joint traffic enforcement operations. The JFO's took place in the rural areas including Lacombe County, Eckville, and Red Deer County. The JFO's included Red Deer County Enforcement, Lacombe County Enforcement and the Alberta Sheriff's.

- In the Town of Sylvan Lake, the detachment members and CPO's for the Town of Sylvan Lake have conducted 2 school zone speed enforcement operations.

Priority #3: Community Engagement, Transparency and Accountability

Updates and Comments:

Over the past three months, either the Ops NCO, the Detachment Commander, or both have attended to council meetings and presented updates accordingly. During the consultation and building of the Community Priority Plan there had been continued engagement.

- Community events attended through the reporting period have included, Tim Horton's Smile Cookie Day, McHappy Day and other events. The detachment hosted a 'Shred it' event.
- Members attended the Benalto Rodeo, the Eckville Rodeo, 1913 days and pizza with the police at Fox Run/Mother Theresa School.

One topic raised had been reporting on monthly or bi-monthly schedule. A process is being prepared to increase communication with the communities served by the Sylvan Lake Detachment.

Priority #4: Youth Engagement

Updates and Comments:
The youth of the communities served remains at the forefront for the detachment. Over the past few months there has been an increase in violence perpetrated by the youth of the community. Often these instances are targeted through opportunity and in a few assaults resulted in emergency medical care to be involved. A zero-tolerance approach is being taken in attempts to stop the youth violence, and charges are being laid where applicable and appropriate.

- The Sylvan Lake RCMP detachment hosted 9 school tours which had over 200 children in total. The ages ranged from preschool to grade 6.
- Additionally, members have been active with attendance to HJ Cody high school in both proactive and reactive engagements.
- During the month of June, Sgt Sexsmith met with administration and staff from both Chinook's Edge School Division and Red Deer Catholic School Division. The meeting was held to meet with all stakeholders and understand concerns which had been raised throughout the education year. As this was a success, Sgt Sexsmith will be developing a regular meeting schedule to have all partners continue meet and discuss concerns.
- In June, a local high school had held a threat assessment meeting which was attended by Sgt Sexsmith. The assessment had been convened due to safety of students should a pupil return to the school environment.
- Sylvan Lake detachment received a donation of various sporting equipment (balls and frisbees) to hand out to youth in the community, thereby supporting youth engagement.

The detachment continues to use the Restorative Justice/Youth Justice Committee as a curative approach where appropriate. However not all criminal cases meet the criteria to be referred to the program.

In the next reporting period, the newly funded Youth Engagement/Crime Reduction position will be activated and begin having a presence not only in the schools but be active in Crime Reduction initiatives throughout the Town of Sylvan Lake.

Community Consultations

Consultation #1

Date	Meeting Type
June 23, 2026	Meeting with Stakeholders
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives (3): Regular reporting information sharing	
Notes/Comments:	
Detachment Commander attended to K Div with councilors from Eckville and Bentley Town councils as well as a CPO representative from Lacombe County. RTOC tour with follow up presentation related to Crime Reduction.	

Consultation #2

Date	Meeting Type
June 20, 2026	Community Connection
Topics Discussed	
(1): Crime Reduction Initiatives (2): Youth	
Notes/Comments:	
Participated in the 1913 days parade	

Consultation #3

Date	Meeting Type
June 17, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives	
Notes/Comments:	
Our Lady of the Rosary Grade 1 tour	

Consultation #4

Date	Meeting Type
June 17, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives	
Notes/Comments:	
Our Lady of the Rosary Grade 1 class tour	

Consultation #5

Date	Meeting Type
June 8, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives	
Notes/Comments:	
Lighthouse Christian school - preschool tour	

Consultation #6

Date	Meeting Type
June 8, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives	
Notes/Comments:	
Lighthouse Pre-school tour	

Consultation #7

Date	Meeting Type
June 4, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives	
Notes/Comments:	
School tour - Lighthouse Christian Academy - Pre-School	

Consultation #8

Date	Meeting Type
June 4, 2026	Meeting with Stakeholders
Topics Discussed	
(1): Youth (2): Education Session (3): Regular reporting information sharing	
Notes/Comments:	
Detachment commander attended a virtual meeting with CFS management, management from several group home providers along with Ponoka and Red Deer detachments. Information sharing, Recovery Alberta information provided. Discussion about best practices in collaboration for services.	

Consultation #9

Date	Meeting Type
June 2, 2026	Meeting with Elected Officials
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives	
Notes/Comments:	
Detachment commander and member attended to the Lacombe County Community as a Whole meeting. Presented an update for the Sylvan Lake Detachment and answered questions relating to crime reduction, human resourcing and on-going initiatives. Blackfalds, Bashaw, Rimbey detachments were in attendance.	

Consultation #10

Date	Meeting Type
May 27, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Youth	
Notes/Comments:	
Detachment Tour - Kindergarten - Beacon Hill	

Consultation #11

Date	Meeting Type
May 27, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Youth	
Notes/Comments:	
NCO i/c of Red Deer FIS attended to HJ Cody and conducted presentations to two forensics classes. One of the Vice Principles had provided feedback to the member about how positive the sessions had been.	

Consultation #12

Date	Meeting Type
May 26, 2026	Community Connection
Topics Discussed	
(1): Education Session (2): Youth (3): Education Session	
Notes/Comments:	
School tour of detachment - Beacon Hill - Kindergarten	

Consultation #13

Date	Meeting Type
May 25, 2026	Meeting with Stakeholders
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives (3): Youth	
Notes/Comments:	
Commander attended to HJ Cody and met with the principle to discuss members attending to have discussions/presentations with the grade 9 and 10 classes. in previous years presentations have bene done outlining positive choices and how current choices can have life long ramifications.	

Consultation #14

Date	Meeting Type
May 22, 2026	Community Connection
Topics Discussed	
(1): Crime Reduction Initiatives (2): Education Session	
Notes/Comments:	
Held shred-it event in the hopes of impacting fraud reports.	

Consultation #15

Date	Meeting Type
May 22, 2026	Community Connection
Topics Discussed	
(1): Crime Reduction Initiatives (2): Education Session	
Notes/Comments:	
The Sylvan Lake RCMP hosted its' annual Shred It event where individuals were able to attend and drop off personal documents to be safely disposed of in a secure manner. The Shred It event assists in the protection of personal information and prevents identity theft.	

Consultation #16

Date	Meeting Type
April 30, 2026	Community Connection
Topics Discussed	
(1): Crime Reduction Initiatives	
Notes/Comments:	
Smile Cookie campaign. Yearly participation.	

Consultation #17

Date	Meeting Type
April 23, 2026	Meeting with Stakeholders
Topics Discussed	
(1): Education Session (2): Crime Reduction Initiatives (3): Annual Planning	
Notes/Comments:	
Sylvan Lake Detachment Commander and Ops NCO attended to the first meeting with the Sylvan Lake Police Advisory Committee. During the meeting a presentation had been completed to familiarize the new committee with the RCMP detachment, crime stats, staffing levels etc.	

Municipal Operations: Human Resources Overview

Staffing Category	Established Positions	Working	Temporary Absences	Hard Vacancies
Regular Members	16	12	3	1
Detachment Support	3	2	0	1

Notes:

1. Data extracted on June 30, 2026 and is subject to change.
2. Once Regular Members are identified under "Temporary Absences" (e.g., Maternity/Paternity leave, medical leave more than 30 days, leave without pay, graduated return to work), they are not included in the FTE count and their pay is not charged directly to each location. However, any salary expenditures associated with these employees while on leave is included as an "indirect cost" and billed within the Divisional Administration rate, charged to all contracts.
3. Hard Vacancies reflect positions that do not have an employee attached and need to be filled.

Comments:

Police Officers: Of the 16 established positions, 12 officers are currently working. There are three officers that are temporarily absent (Other Leave). One position has two members assigned to it. There is one hard vacancy at this time.

Detachment Support: Of the three established positions, there are two resources currently working. There is one hard vacancy at this time.

Municipal Operations: Financial Overview

Municipal Overview	Fiscal Year-to-Date	Revised Plan at Q1	2026-27 Financial Plan
Detachment Working FTE Levels	11.39 FTE	15.00 FTE	15.00 FTE
Total Direct Costs	$ 436,114	$ 2,700,438	$ 2,700,438
Total Indirect Costs	$ 863,642	$ 1,382,141	$ 1,382,141
Total Costs after Final Adjustments	**$ 1,173,152**	**$ 3,689,321**	**$ 3,689,321**

Note: For detailed explanations of the terms and types of costs that are included above, please visit the definitions section on the next page.

Comments:
The financial figures as identified above are in alignment with the final Multi-Year Financial Plan (MYFP), which has been forwarded to your Detachment Commander for distribution and signature. If you have any questions or concerns with the Financial Plan, please do not hesitate to connect with your Detachment Commander, or directly with OSB, to discuss.

Quarter 1 invoicing for the 2026-27 fiscal year, as well as the prior-year reconciliation package, will be distributed before the end of July.

The Alberta RCMP will continue to provide your community with monthly enhanced reporting to support ongoing forecast adjustments and potential invoice revisions, to ensure projections are as accurate as possible. This increased reporting will support ongoing management of policing budgets, while also enhancing transparency and engagement with our partners.

Note: No revisions have been made to the 2026-27 Financial Plan at Q1.

Definitions

Municipal Operations: Human Resources Overview

Term	Definition
FTE Utilization	A full-time equivalent (FTE) employee is defined by the number of months in a fiscal year that a position is filled. The FTE utilization level refers to the total months filled for all positions within the Detachment/unit.
2026-27 FTE Utilization Plan	Reflects the number of working FTEs planned to be in-place for the current fiscal year.
Revised Plan at Q1	This reflects any adjustments to the planned number of working FTEs, which may vary as hard and soft vacancies fluctuate throughout the year.

Municipal Operations: Financial Overview

Term	Definition
Fiscal Year-to-Date (YTD)	Reflects the actual expenditures that have been processed or working FTE levels to-date. This does not include any financial or human resource transactions that have not yet been processed.
Revised Plan at Q1	Reflects any adjustments to the forecasted spending plan for the relevant category, to better align with realized expenditures throughout the year.
2026-27 Financial Plan	Reflects the initial financial plan set for each category of expenditure for the current fiscal year.
Detachment Working FTE Levels	Reflects the number of working Regular Members (i.e., police officers) anticipated to be in-place for the current fiscal year.
Direct Costs	Reflects both Division and Detachment-controlled costs associated to front-line policing operations and investigations. This may include: • Member Pay, including pay for Regular Members, planned and retroactive pay increases, and overtime pay; • Operational equipment, including member equipment, informatics, vehicles, and vehicle fit-up; and/or • Unit operations, including fuel costs, training, secret expenses, and other operations and maintenance costs.
Indirect Costs	Reflects all costs associated to employee benefits as well as division administration and core support services. This may include: • Employee Benefits (i.e., Superannuation, Canada Pension Plan, and Employment Insurance); • Recruiting operations, Cadet training (at Depot Division), and the Police Dog Service Training Centre;

Term	Definition
	• Common IT services, including management of the Police Records and Occurrence System; • Complaints and accountability mechanisms through the Civilian Review and Complaints Commission for the RCMP, the RCMP External Review Committee, and enhanced reliability and accountability programs; and/or • Other divisional and regional administration services.
Total Costs after Final Adjustments	Reflects total costs of all expenditure categories and any cost adjustments at the applicable Contract Partner share.

Sylvan Lake (Provincial) Crime Statistic Summary – January to July 2026/08/10

Sylvan Lake (Provincial) – Highlights

- **Break & Enters** are showing a 15.8% decrease when compared to the same period in 2025 (January to July). There were 3 fewer actual occurrences (from 19 in 2025 to 16 in 2026).
- **Theft of Motor Vehicles** decreased by 23.1% when compared to the same period in 2025 (January to July). There were 3 fewer actual occurrences (from 13 in 2025 to 10 in 2026).
- **Theft Under $5,000** decreased by 11.1% when compared to the same period in 2025 (January to July). There were 3 fewer actual occurrences (from 27 in 2025 to 24 in 2026).

Sylvan Lake (Provincial) – Criminal Code Offences Summary

Crime Category	% Change 2025 – 2026 (January to July)
Total Persons Crime	43.9% Increase
Total Property Crime	1.4% Decrease
Total Criminal Code	12.7% Increase

From January to July 2026, when compared to the same period in 2025, there have been:

- 18 more **Persons Crime** offences;
- 2 fewer **Property Crime** offences; and
- 26 more **Total Criminal Code** offences;

Sylvan Lake (Provincial) – July, 2026

- There were 1 **Thefts of Motor Vehicles** in July: 0 cars, 0 trucks, 0 minivans, 0 SUVs, 1 motorcycles, 0 other types of vehicles, and 0 vehicles taken without consent.
- There were 3 **Break and Enters** in July: 1 businesses, 0 residences, 0 cottages/seasonal residences, 2 in some other type of location, and 0 unlawfully being in a dwelling house.
- There were a total of 5 **Provincial Roadside Suspensions** in July (5 alcohol related and 0 drug related). This brings the year-to-date total to 15 (15 alcohol related and 0 drug related).
- There were a total of 4 files with the **Spousal Abuse** survey code in July (July 2025: 2). This brings the year-to-date total to 32 (2025: 23).
- There were 219 files with **Victim Service Unit** referall scoring in Sylvan Lake Provincial: 0 accepted, 21 declined, 0 proactive, 0 requested but not available, and 198 files with no victim.

Sylvan Lake Provincial Crime Gauge

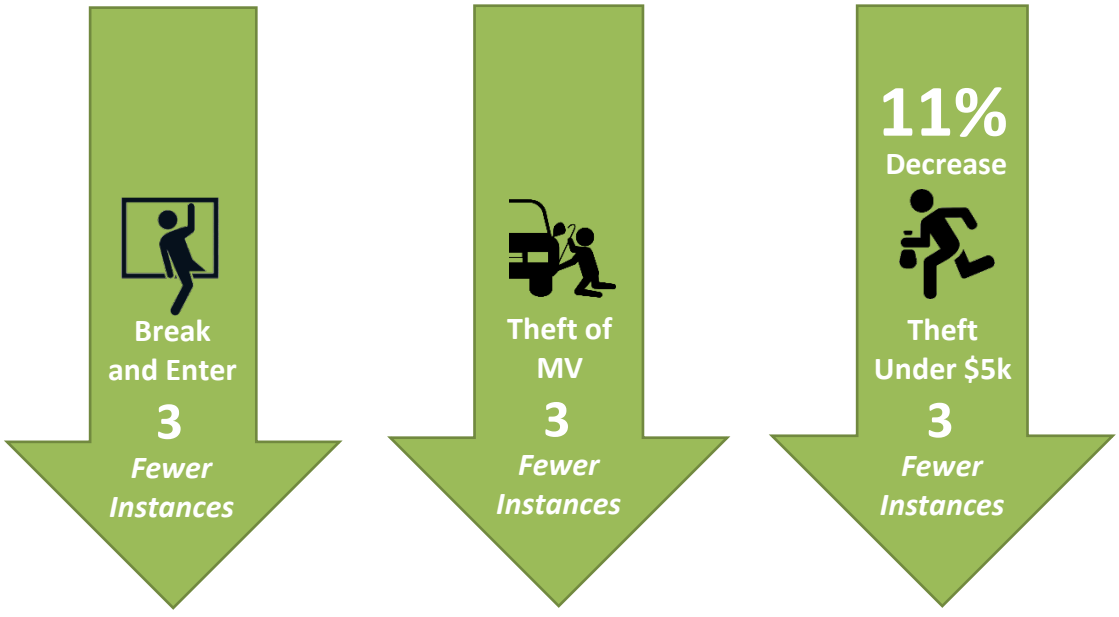
2026 vs. 2025
January to July

Criminal Code Offences

Total Criminal Code Offences: **13%** ***Increase***

When compared to January to July, 2025

Select Property Crime

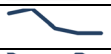
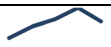
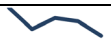


The data contained in this document was obtained from PROS, which is a live database. As such, some of the information presented could differ slightly from any past or future reports regarding the same time period.

Sylvan Lake Provincial Detachment
Crime Statistics (Actual)
January to July: 2022 - 2026

All categories contain "Attempted" and/or "Completed"

August 10, 2026

CATEGORY	Trend	2022	2023	2024	2025	2026	% Change 2022 - 2026	% Change 2025 - 2026	Avg File +/- per Year
Offences Related to Death		1	2	0	0	0	-100%	N/A	-0.4
Robbery		0	0	0	0	1	N/A	N/A	0.2
Sexual Assaults		6	7	3	2	2	-67%	0%	-1.3
Other Sexual Offences		3	2	1	3	2	-33%	-33%	-0.1
Assault		14	22	28	12	28	100%	133%	1.8
Kidnapping/Hostage/Abduction		0	0	0	0	0	N/A	N/A	0.0
Extortion		1	1	4	0	1	0%	N/A	-0.1
Criminal Harassment		2	7	10	15	9	350%	-40%	2.2
Uttering Threats		11	6	10	9	16	45%	78%	1.3
TOTAL PERSONS		**38**	**47**	**56**	**41**	**59**	**55%**	**44%**	**3.6**
Break & Enter		26	14	22	19	16	-38%	-16%	-1.5
Theft of Motor Vehicle		20	23	17	13	10	-50%	-23%	-3.0
Theft Over $5,000		12	6	16	9	8	-33%	-11%	-0.5
Theft Under $5,000		47	29	52	27	24	-49%	-11%	-4.8
Possn Stn Goods		31	12	22	19	6	-81%	-68%	-4.3
Fraud		13	19	35	19	25	92%	32%	2.4
Arson		2	1	0	0	3	50%	N/A	0.1
Mischief - Damage To Property		35	23	32	22	31	-11%	41%	-0.9
Mischief - Other		5	8	14	13	16	220%	23%	2.7
TOTAL PROPERTY		**191**	**135**	**210**	**141**	**139**	**-27%**	**-1%**	**-9.8**
Offensive Weapons		5	5	0	0	6	20%	N/A	-0.3
Disturbing the peace		6	10	10	11	13	117%	18%	1.5
Fail to Comply & Breaches		24	10	18	7	10	-58%	43%	-3.1
OTHER CRIMINAL CODE		5	12	13	5	4	-20%	-20%	-0.9
TOTAL OTHER CRIMINAL CODE		**40**	**37**	**41**	**23**	**33**	**-18%**	**43%**	**-2.8**
TOTAL CRIMINAL CODE		269	219	307	205	231	-14%	13%	-9.0

Sylvan Lake Provincial Detachment
Crime Statistics (Actual)
January to July: 2022 - 2026

All categories contain "Attempted" and/or "Completed"

August 10, 2026

CATEGORY	Trend	2022	2023	2024	2025	2026	% Change 2022 - 2026	% Change 2025 - 2026	Avg File +/- per Year
Drug Enforcement - Production		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Possession		6	1	1	2	0	-100%	-100%	-1.1
Drug Enforcement - Trafficking		0	1	3	4	3	N/A	-25%	0.9
Drug Enforcement - Other		0	0	0	0	0	N/A	N/A	0.0
Total Drugs		**6**	**2**	**4**	**6**	**3**	**-50%**	**-50%**	**-0.2**
Cannabis Enforcement		0	0	0	0	0	N/A	N/A	0.0
Federal - General		7	9	11	7	23	229%	229%	3.0
TOTAL FEDERAL		**13**	**11**	**15**	**13**	**26**	**100%**	**100%**	**2.8**
Liquor Act		9	5	7	2	1	-89%	-50%	-1.9
Cannabis Act		1	0	1	0	0	-100%	N/A	-0.2
Mental Health Act		27	25	33	25	31	15%	24%	0.8
Other Provincial Stats		45	51	68	61	75	67%	23%	7.0
Total Provincial Stats		**82**	**81**	**109**	**88**	**107**	**30%**	**22%**	**5.7**
Municipal By-laws Traffic		0	0	3	1	1	N/A	0%	0.3
Municipal By-laws		21	6	16	11	5	-76%	-55%	-2.7
Total Municipal		**21**	**6**	**19**	**12**	**6**	**-71%**	**-50%**	**-2.4**
Fatals		2	0	0	1	1	-50%	0%	-0.1
Injury MVC		15	8	10	25	12	-20%	-52%	1.1
Property Damage MVC (Reportable)		131	113	90	89	78	-40%	-12%	-13.0
Property Damage MVC (Non Reportable)		21	6	14	11	21	0%	91%	0.5
TOTAL MVC		**169**	**127**	**114**	**126**	**112**	**-34%**	**-11%**	**-11.5**
Roadside Suspension - Alcohol (Prov)		13	18	8	12	15	15%	25%	-0.2
Roadside Suspension - Drugs (Prov)		1	0	0	1	0	-100%	-100%	-0.1
Total Provincial Traffic		**348**	**427**	**359**	**368**	**509**	**46%**	**38%**	**26.3**
Other Traffic		**1**	**7**	**12**	**1**	**4**	**300%**	**300%**	**0.0**
Criminal Code Traffic		**37**	**36**	**27**	**40**	**45**	**22%**	**13%**	**2.0**
Common Police Activities									
False Alarms		**32**	**24**	**27**	**30**	**31**	**-3%**	**3%**	**0.4**
False/Abandoned 911 Call and 911 Act		**20**	**31**	**39**	**66**	**44**	**120%**	**-33%**	**8.3**
Suspicious Person/Vehicle/Property		**83**	**53**	**95**	**61**	**60**	**-28%**	**-2%**	**-3.8**
Persons Reported Missing		**2**	**5**	**11**	**6**	**7**	**250%**	**17%**	**1.1**
Search Warrants		**0**	**2**	**1**	**0**	**1**	**N/A**	**N/A**	**0.0**
Spousal Abuse - Survey Code (Reported)		**24**	**20**	**55**	**23**	**32**	**33%**	**39%**	**1.9**
Form 10 (MHA) (Reported)		**2**	**6**	**1**	**2**	**5**	**150%**	**150%**	**0.2**

Sylvan Lake Provincial Detachment
Crime Statistics (Actual)
July: 2022 - 2026

All categories contain "Attempted" and/or "Completed"

August 10, 2026

CATEGORY	Trend	2022	2023	2024	2025	2026	% Change 2022 - 2026	% Change 2025 - 2026	Avg File +/- per Year
Offences Related to Death		0	0	0	0	0	N/A	N/A	0.0
Robbery		0	0	0	0	0	N/A	N/A	0.0
Sexual Assaults		1	3	1	0	0	-100%	N/A	-0.5
Other Sexual Offences		0	0	0	1	0	N/A	-100%	0.1
Assault		2	4	4	0	4	100%	N/A	0.0
Kidnapping/Hostage/Abduction		0	0	0	0	0	N/A	N/A	0.0
Extortion		0	0	0	0	0	N/A	N/A	0.0
Criminal Harassment		0	1	3	3	0	N/A	-100%	0.2
Uttering Threats		2	0	3	1	1	-50%	0%	-0.1
TOTAL PERSONS		**5**	**8**	**11**	**5**	**5**	**0%**	**0%**	**-0.3**
Break & Enter		2	1	6	3	3	50%	0%	0.4
Theft of Motor Vehicle		2	5	3	5	1	-50%	-80%	-0.2
Theft Over $5,000		0	0	6	1	2	N/A	100%	0.5
Theft Under $5,000		7	9	13	4	4	-43%	0%	-1.1
Possn Stn Goods		4	4	1	6	0	-100%	-100%	-0.6
Fraud		1	3	6	3	4	300%	33%	0.6
Arson		1	1	0	0	0	-100%	N/A	-0.3
Mischief - Damage To Property		4	9	5	4	9	125%	125%	0.5
Mischief - Other		1	1	3	4	2	100%	-50%	0.5
TOTAL PROPERTY		**22**	**33**	**43**	**30**	**25**	**14%**	**-17%**	**0.3**
Offensive Weapons		0	0	0	0	1	N/A	N/A	0.2
Disturbing the peace		2	3	1	3	4	100%	33%	0.4
Fail to Comply & Breaches		1	1	5	0	1	0%	N/A	-0.1
OTHER CRIMINAL CODE		2	2	1	2	2	0%	0%	0.0
TOTAL OTHER CRIMINAL CODE		**5**	**6**	**7**	**5**	**8**	**60%**	**60%**	**0.5**
TOTAL CRIMINAL CODE		32	47	61	40	38	19%	-5%	0.5

Sylvan Lake Provincial Detachment
Crime Statistics (Actual)
July: 2022 - 2026

All categories contain "Attempted" and/or "Completed"

August 10, 2026

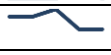
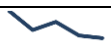
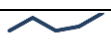
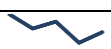
CATEGORY	Trend	2022	2023	2024	2025	2026	% Change 2022 - 2026	% Change 2025 - 2026	Avg File +/- per Year
Drug Enforcement - Production		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Possession		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Trafficking		0	0	0	0	1	N/A	N/A	0.2
Drug Enforcement - Other		0	0	0	0	0	N/A	N/A	0.0
Total Drugs		**0**	**0**	**0**	**0**	**1**	**N/A**	**N/A**	**0.2**
Cannabis Enforcement		0	0	0	0	0	N/A	N/A	0.0
Federal - General		2	4	3	1	6	200%	500%	0.5
TOTAL FEDERAL		**2**	**4**	**3**	**1**	**7**	**250%**	**600%**	**0.7**
Liquor Act		4	2	2	1	0	-100%	-100%	-0.9
Cannabis Act		0	0	0	0	0	N/A	N/A	0.0
Mental Health Act		1	2	11	6	6	500%	0%	1.4
Other Provincial Stats		9	12	14	14	11	22%	-21%	0.6
Total Provincial Stats		**14**	**16**	**27**	**21**	**17**	**21%**	**-19%**	**1.1**
Municipal By-laws Traffic		0	0	1	1	0	N/A	-100%	0.1
Municipal By-laws		6	3	5	1	0	-100%	-100%	-1.4
Total Municipal		**6**	**3**	**6**	**2**	**0**	**-100%**	**-100%**	**-1.3**
Fatals		1	0	0	0	0	-100%	N/A	-0.2
Injury MVC		3	2	1	5	6	100%	20%	0.9
Property Damage MVC (Reportable)		9	17	12	14	11	22%	-21%	0.1
Property Damage MVC (Non Reportable)		1	0	0	3	3	200%	0%	0.7
TOTAL MVC		**14**	**19**	**13**	**22**	**20**	**43%**	**-9%**	**1.5**
Roadside Suspension - Alcohol (Prov)		3	2	1	3	5	67%	67%	0.5
Roadside Suspension - Drugs (Prov)		0	0	0	1	0	N/A	-100%	0.1
Total Provincial Traffic		**69**	**81**	**54**	**71**	**81**	**17%**	**14%**	**1.4**
Other Traffic		**0**	**0**	**0**	**0**	**0**	**N/A**	**N/A**	**0.0**
Criminal Code Traffic		**8**	**4**	**5**	**12**	**6**	**-25%**	**-50%**	**0.4**
Common Police Activities									
False Alarms		**7**	**4**	**3**	**0**	**6**	**-14%**	**N/A**	**-0.6**
False/Abandoned 911 Call and 911 Act		**6**	**4**	**5**	**18**	**7**	**17%**	**-61%**	**1.6**
Suspicious Person/Vehicle/Property		**16**	**8**	**23**	**8**	**13**	**-19%**	**63%**	**-0.6**
Persons Reported Missing		**1**	**1**	**1**	**0**	**1**	**0%**	**N/A**	**-0.1**
Search Warrants		**0**	**0**	**0**	**0**	**0**	**N/A**	**N/A**	**0.0**
Spousal Abuse - Survey Code (Reported)		**4**	**2**	**8**	**2**	**4**	**0%**	**100%**	**0.0**
Form 10 (MHA) (Reported)		**0**	**0**	**0**	**0**	**1**	**N/A**	**N/A**	**0.2**

ROYAL CANADIAN MOUNTED POLICE

Sylvan Lake Provincial Detachment
Crime Statistics (Actual)
April - June: 2022 - 2026

All categories contain "Attempted" and/or "Completed"

July 6, 2026

CATEGORY	Trend	2022	2023	2024	2025	2026	% Change 2022 - 2026	% Change 2025 - 2026	Avg File +/- per Year
Offences Related to Death		1	2	0	0	0	-100%	N/A	-0.4
Robbery		0	0	0	0	1	N/A	N/A	0.2
Sexual Assaults		1	1	2	1	1	0%	0%	0.0
Other Sexual Offences		0	0	0	1	0	N/A	-100%	0.1
Assault		11	11	14	6	6	-45%	0%	-1.5
Kidnapping/Hostage/Abduction		0	0	0	0	0	N/A	N/A	0.0
Extortion		1	0	2	0	0	-100%	N/A	-0.2
Criminal Harassment		1	3	3	6	4	300%	-33%	0.9
Uttering Threats		4	5	2	4	7	75%	75%	0.5
TOTAL PERSONS		**19**	**22**	**23**	**18**	**19**	**0%**	**6%**	**-0.4**
Break & Enter		9	7	10	9	8	-11%	-11%	0.0
Theft of Motor Vehicle		11	12	8	5	6	-45%	20%	-1.7
Theft Over $5,000		5	4	7	4	1	-80%	-75%	-0.8
Theft Under $5,000		15	11	25	13	10	-33%	-23%	-0.8
Possn Stn Goods		13	6	9	4	3	-77%	-25%	-2.2
Fraud		5	6	14	5	14	180%	180%	1.7
Arson		0	0	0	0	2	N/A	N/A	0.4
Mischief - Damage To Property		17	9	16	10	16	-6%	60%	-0.1
Mischief - Other		4	7	4	5	8	100%	60%	0.6
TOTAL PROPERTY		**79**	**62**	**93**	**55**	**68**	**-14%**	**24%**	**-2.9**
Offensive Weapons		5	3	0	0	3	-40%	N/A	-0.7
Disturbing the peace		4	5	5	6	3	-25%	-50%	-0.1
Fail to Comply & Breaches		10	6	8	2	5	-50%	150%	-1.4
OTHER CRIMINAL CODE		2	3	9	1	2	0%	100%	-0.2
TOTAL OTHER CRIMINAL CODE		**21**	**17**	**22**	**9**	**13**	**-38%**	**44%**	**-2.4**
TOTAL CRIMINAL CODE		119	101	138	82	100	-16%	22%	-5.7

Sylvan Lake Provincial Detachment
Crime Statistics (Actual)
April - June: 2022 - 2026

All categories contain "Attempted" and/or "Completed"

July 6, 2026

CATEGORY	Trend	2022	2023	2024	2025	2026	% Change 2022 - 2026	% Change 2025 - 2026	Avg File +/- per Year
Drug Enforcement - Production		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Possession		4	1	1	0	0	-100%	N/A	-0.9
Drug Enforcement - Trafficking		0	1	0	0	0	N/A	N/A	-0.1
Drug Enforcement - Other		0	0	0	0	0	N/A	N/A	0.0
Total Drugs		**4**	**2**	**1**	**0**	**0**	**-100%**	**N/A**	**-1.0**
Cannabis Enforcement		0	0	0	0	0	N/A	N/A	0.0
Federal - General		4	1	6	3	8	100%	167%	1.0
TOTAL FEDERAL		**8**	**3**	**7**	**3**	**8**	**0%**	**167%**	**0.0**
Liquor Act		3	2	0	1	1	-67%	0%	-0.5
Cannabis Act		1	0	0	0	0	-100%	N/A	-0.2
Mental Health Act		11	16	5	13	10	-9%	-23%	-0.5
Other Provincial Stats		18	25	25	32	36	100%	13%	4.3
Total Provincial Stats		**33**	**43**	**30**	**46**	**47**	**42%**	**2%**	**3.1**
Municipal By-laws Traffic		0	0	1	0	1	N/A	N/A	0.2
Municipal By-laws		11	3	10	8	3	-73%	-63%	-1.1
Total Municipal		**11**	**3**	**11**	**8**	**4**	**-64%**	**-50%**	**-0.9**
Fatals		1	0	0	1	0	-100%	-100%	-0.1
Injury MVC		5	2	6	11	6	20%	-45%	1.1
Property Damage MVC (Reportable)		48	37	27	29	30	-38%	3%	-4.4
Property Damage MVC (Non Reportable)		5	4	2	1	6	20%	500%	-0.1
TOTAL MVC		**59**	**43**	**35**	**42**	**42**	**-29%**	**0%**	**-3.5**
Roadside Suspension - Alcohol (Prov)		7	7	7	6	3	-57%	-50%	-0.9
Roadside Suspension - Drugs (Prov)		0	0	0	0	0	N/A	N/A	0.0
Total Provincial Traffic		**181**	**189**	**185**	**170**	**200**	**10%**	**18%**	**1.9**
Other Traffic		**1**	**6**	**0**	**1**	**4**	**300%**	**300%**	**0.1**
Criminal Code Traffic		**11**	**23**	**16**	**15**	**18**	**64%**	**20%**	**0.6**
Common Police Activities									
False Alarms		**10**	**12**	**15**	**15**	**17**	**70%**	**13%**	**1.7**
False/Abandoned 911 Call and 911 Act		**10**	**22**	**26**	**28**	**28**	**180%**	**0%**	**4.2**
Suspicious Person/Vehicle/Property		**40**	**27**	**44**	**24**	**30**	**-25%**	**25%**	**-2.3**
Persons Reported Missing		**1**	**4**	**6**	**4**	**5**	**400%**	**25%**	**0.8**
Search Warrants		**0**	**1**	**0**	**0**	**1**	**N/A**	**N/A**	**0.1**
Spousal Abuse - Survey Code (Reported)		**14**	**12**	**28**	**11**	**14**	**0%**	**27%**	**-0.1**
Form 10 (MHA) (Reported)		**2**	**2**	**0**	**1**	**1**	**-50%**	**0%**	**-0.3**

Sylvan Lake Provincial Detachment - 2025 Crime Severity Index 2026/07/22

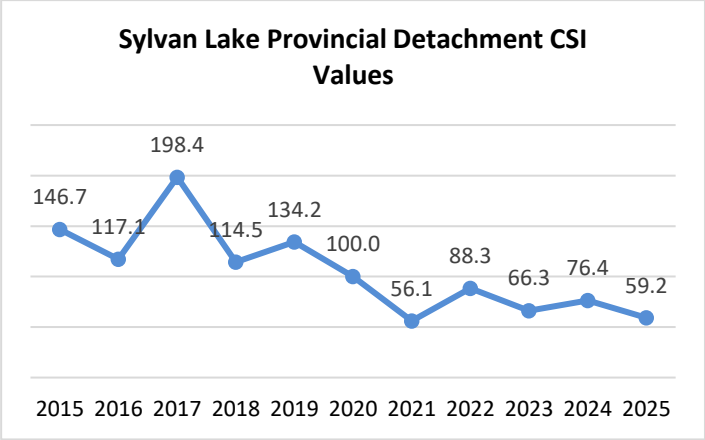
On July 22, 2026 Statistics Canada released their annual report *Police-reported crime statistics in Canada, 2025* . One portion of this report contained the caclulated CSI values for 2025, as well as revised values for 2024.

CSI Values

The Sylvan Lake Provincial Detachment's 2025 CSI value is 59.2. This is a decrease of 22.4% when compared to the newly revised 2024 CSI value of 76.4.

The overall CSI in Alberta for 2025 was 90.6, a 6.6% decrease when compared to 2024.

The chart to the right shows the CSI values for the Sylvan Lake Provincial Detachment from 2015 to 2025.



Main Contributors and Drivers to CSI

The table below contains the top 10 contributors to the Sylvan Lake Provincial Detachment's CSI in 2025.

Top 10 Contributors to CSI - 2025		
Crime Category	**% of CSI**	**# of Offences**
Break & Enter	24.8%	35
Fraud	10.8%	36
Possession of Stolen Goods	10.6%	30
Criminal Code Traffic	10.4%	56
Theft Over $5,000	6.0%	13
Theft of Motor Vehicle	5.9%	22
Theft Under $5,000	5.1%	50
Mischief To Property	5.0%	54
Drug Enforcement - Trafficking	4.6%	5
Assault	3.9%	23
Total for Top Ten	**87.0%**	**324**

In 2025 Break & Enter Offences accounted for 24.8% of the Sylvan Lake Provincial Detachment's CSI.

The top ten CSI contributors, listed in the table to the left accounted for a combined total of 87.0% of the Sylvan Lake Provincial Detachment's CSI.

The largest driver to the decrease in CSI from 2024 to 2025 was a decrease in Break & Enter offences. There were 8 less in 2025 than in 2024. This caused a CSI decrease of 3.6 points.

The top 3 drivers to the decrease in CSI, as well as the top 2 increases can be found in the tables below.

Top 3 Drivers to CSI Decrease from 2024 to 2025		
Crime Category	**CSI Change**	**Offence Diff**
Break & Enter	-3.6	-8
Fraud	-3.4	-18
Theft Under $5,000	-2.4	-38

Top 2 CSI Increases from 2024 to 2025		
Crime Category	**CSI Change**	**Offence Diff**
Drug Enforcement - Trafficking	2.1	4
Criminal Code Traffic	1.7	6

What is the Crime Severity Index (CSI)?

The CSI tracks changes in the severity of police-reported crime by accounting for both the amount of crime reported by police in a given jurisdiction, as well as the relative seriousness of these crimes. It tells not only how much crime is coming to the attention of police, but also how serious that crime is.

By design, the specific CSI value in a given jurisdiction depends on its mix of crimes and their relative seriousness. If a jurisdiction has a high proportion of less serious (and therefore lower weighted) offences, it will have a lower CSI value. Conversely, a jurisdiction with a high proportion of more serious crimes will have a higher CSI value. The base line for measurement of the CSI is 100.

Detachments with a population close to or less than 5,000 should compare CSI rates with caution (both previous year's rates for their own jurisdiction and with other detachments). The lower the population in a jurisdiction, the more easily a CSI value can be influenced by offences that are more serious in nature. Because of this, CSI values are not calculated by Statistics Canada for jurisdictions with populations of 1,000 or less.

What is used to Calculate the CSI?

Only Criminal Code occurrences that are submitted to the Canadian Centre for Justice Statistics (CCJS) are used in the calculation of CSI values. Of those occurrences, only the most serious offence (Line 1 of the UCR scoring) is taken into account. For example, if there is an occurrence that involved a Break & Enter, an Assault, and a Theft of Motor Vehicle, only the Assault would be counted towards the CSI calculation.

Each type of offence is assigned a "weight" to reflect its general severity. The total of all of the weights for a given jurisdiction are then calculated against the population for that area in order to come up with the CSI. The lower the population, the more influence the weights have on the final value.

Notes

Since the CSI is calculated using only Line 1 of UCR scoring of occurrences that are submitted to CCJS, any offence counts that are presented in this report will differ from other crime statistics reports by the Strategic Analysis and Research Unit.

The Crime Categories presented in this report contain numerous individual offences, each of which can have different weightings. Due to this, there can actually be a decrease in the total number of offences in a category but still an increase in that category's CSI contribution (or vice versa).

Statistics Canada uses population estimates to calculate CSI values. These estimates are updated every year. This is why there is a revised 2024 CSI value. When the 2026 CSI values are released in July 2027 there will also be revised 2025 values released.

Should there be any further questions regarding CSI values or trends, please contact RCMP "K" Division's Strategic Analysis and Research Unit.

Statement of Concern:

Potential Statements of Concern Regarding the Proposed Groundwater License Applications DAPP0157114 (Wells 15 & 16) and DAPP0157117 (Wells 14, 17, 18, 19, & 20)

The proposed wells are located in close proximity to existing residential developments and domestic groundwater users within Summer Villages communities (specifically Jarvis Bay and Birchcliff) east of Sylvan Lake. Jarvis Bay is within 1 - 2 km of all seven proposed wells. Birchcliff is within 1-2 km of Well 15 and Well 16. The Summer Villages as a whole, including Norglenwold, are concerned that the cumulative effects of existing and proposed municipal groundwater withdrawals have not been sufficiently demonstrated to be negligible for nearby groundwater users, based on the following comments:

- The groundwater impact assessment relies on numerical groundwater model predictions, which indicate limited drawdown impacts on surrounding groundwater users (i.e., <1 m). However, the pumping test results and aquifer parameter interpretations presented in the supporting reports contain uncertainty and, in some cases, do not align with the model results. For example:
    - Observed drawdown at Well 14 during the 72-hour pumping test (at 600 m3/day) was approximately 7 m. The simulated long-term drawdown in the numerical model is approximately 3 m. This discrepancy is not explained in the report.
    - The selected analytical solution at Well 17 appears to fit the pumping well response but does not fit the observation well data, which shows greater drawdown than predicted by the selected type-curve. This suggests that the aquifer may be less transmissive at greater distances from the pumping well.
    - The selected analytical solution for Well 18 yields an anomalously high transmissivity estimate (5,806 m2/day), which does not fit the observation well response. This raises uncertainty regarding drawdown propagation away from the pumping well and the risk of potentially underpredicting drawdown away from the pumping well.

- The supporting reports do not clearly demonstrate how the pumping-test-derived transmissivity and storage values compare to the final hydraulic conductivity and storage values assigned within the numerical model.

- The groundwater model appears to be primarily based on average recharge and average lake level conditions, and it is unclear whether potential impacts under drought conditions, reduced recharge conditions, and/or low lake water levels have been fully evaluated through sensitivity analyses. These conditions would represent periods of vulnerability for domestic groundwater users and could result in greater drawdown than is presented in the reports.

- The supporting reports identify a hydraulic connection between Sylvan Lake and the groundwater system; however, the implications of increased municipal pumping on groundwater flow patterns adjacent to the lakeshore remain uncertain. Notably, it is unclear whether increased pumping could alter groundwater gradients, increase induced recharge from Sylvan Lake, and/or adversely affect groundwater quality in areas supporting domestic groundwater users.

- If the concerns noted in this SOC are addressed to the satisfaction of the Summer Villages and the Town is permitted to withdraw from these wells, then the Summer Villages recommend that AEPA consider requiring a groundwater monitoring and response program as a condition of Licence approval. Such a program could include long-term groundwater level monitoring, public reporting of results, and a process for investigating and mitigating unforeseen impacts to domestic groundwater wells should they occur.

Motion from the JSC:

Moved by Chair Dufresne:

That the Joint Services Committee maintain the Statement of Concern at this time and direct the CAO to convene a meeting of the Intermunicipal Development Planning Committee (IDPC) to provide an update on actions taken since the Committee's correspondence to the Sylvan Lake Regional Water/Wastewater Commission (SLRWWC), with the Chair of the SLRWWC invited to participate as appropriate. Further, that the CAO prepare a work plan identifying the steps, timelines, stakeholders, and key decisions required to advance a regional waterline connection to the Town, and report back to the Joint Services Committee with recommended next steps, including how the Town proposes to address the identified shortfall in its long-term potable water supply plan.

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Groundwater Literature Review

The Summer Villages of Sylvan Lake

Final Report
July 11, 2026
WaterSMART | A Hazen Company

Executive Summary

This literature review was undertaken to assess current and emerging risks to the Sylvan Lake Summer Villages' (the Summer Villages') groundwater supply. It is limited to available hydrogeological studies, groundwater models, and planning documents, many of which were provided by the Town of Sylvan Lake (the Town). This review answers key questions like:

- Will the Town's new wells affect the Summer Villages' groundwater supply?
- Which Summer Villages are at risk (if any), and how urgent is that risk?
- Are there gaps in technical knowledge regarding the sustainability of the groundwater source?
- What actions should the Summer Villages take to improve long-term water security for residents?

Both the Town and the Summer Villages source groundwater from the Paskapoo aquifer. While the Paskapoo aquifer is generally abundant and healthy, local risk of overuse exists. The Summer Villages rely predominantly on shallow wells that may be impacted by highly productive wells installed nearby.

The Town is the dominant groundwater user around Sylvan Lake, and it is experiencing rapid population growth for which it needs additional water. The Town has built a numerical hydrogeological model to simulate the impacts of its proposed well development. However, this literature review identified uncertainties in how the model was built which raise questions regarding its results. While model results indicate the aquifer can support new wells proposed by the Town in 2026, it is unclear if the scale of the model fully captures the Town's potential impacts on the Summer Villages' wells.

Based on review of available documents, Jarvis Bay faces the highest immediate risk due to its proximity to the new wells. Birchcliff may also experience impacts, although uncertainty remains as to their likelihood and severity. While Norglenwold's water wells already appear to be impacted by the Town's existing wells, it is unlikely that additional challenges will be introduced by the new wells. Half Moon Bay and Sunbreaker Cove are distant enough that they are not expected to be affected by the Town's current or future wells, though groundwater contamination risks (e.g., septic) remain possible.

In addition, water demand around Sylvan Lake will likely increase due to hotter, drier weather, population growth in the Town, and a shift towards full time residency in the Summer Villages. These factors could cause water demand to exceed current assumptions, calling the applicability of current model results into question.

Overall, the key risk is not that the regional aquifer is over-allocated, but that demand growth and consequent development may cause localized impacts to nearby domestic wells if not carefully planned.

To address these risks, the Summer Villages should focus on:

- Encouraging the Town to update their demand forecasts to align with climate change projections.
- Engaging in the regulatory approval processes for new Town wells now and in the future to ensure potential risks to the Summer Villages' water supply are addressed.
- Asking the Town to clarify uncertainty around several assumptions in their numerical model.
- Improving understanding of their own well conditions and maintenance requirements.
- Developing contingency and long-term water supply strategies, particularly for higher-risk areas such as Jarvis Bay.

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1. Background and Introduction

The Sylvan Lake Summer Villages (the Summer Villages) have a long history in Alberta, originating as seasonal cottage communities seeking local governance and enhanced services. Today, 5 Summer Villages (i.e., Jarvis Bar, Birchcliff, Sunbreaker Cove, Half Moon Bay, and Norglenwold) share a common administration and maintain bylaws to protect the watershed, shoreline, and natural environment of Sylvan Lake.

Figure 1: The Summer Villages and Town of Sylvan Lake around Sylvan Lake, Alberta.

The Summer Villages rely upon groundwater for domestic use. Their groundwater supply is expected to be under increasing pressure due to population growth, regional development, and climate change. These pressures could affect water availability (i.e., water supply), ecosystem health, and potentially the water level in Sylvan Lake.

1.1 Project Objectives and Scope of Work

To better understand groundwater risks that the Summer Villages may encounter, WaterSMART | A Hazen Company (WaterSMART) was engaged to conduct a literature review of several groundwater studies, planning documents, and publicly available data sources as listed in Table 1. The purpose of the literature review was to identify gaps in knowledge, highlight potential risks that may affect the long-term reliability of groundwater supply, and identify actions the Summer Villages can take to resolve knowledge gaps and mitigate potential risks.

The Town of Sylvan Lake (The Town) was identified as the most significant local water user due to its proximity to the Summer Villages, the scale of groundwater demand, and identified growth potential. The

Summer Villages indicated a particular interest in exploring the Town's groundwater supply and projected demands in this literature review.

The Summer Villages attained several reports from the Town and provided them to WaterSMART as the basis for this review. Other documentation was sourced publicly to answer targeted questions that arose from review of the material provided. Conclusions and recommendations presented in this report assume that the information contained within the documents listed in Table 1 is comprehensive and up to date. Detailed analysis and verification of data, assumptions, and calculations within existing study results were not within scope. However, high-level calculations were performed, where warranted, to provide a reasonableness check.

Table 1: Reports reviewed as part of this literature review.

Title	Year Issued	Author [a]	Source
Sylvan Lake Water Quality Assessment and Watershed Management Considerations	2005	AXYS	Public
Three-Dimensional Hydrostratigraphic Modelling of the Sylvan Lake Sub-Basin in the Edmonton-Calgary Corridor, Central Alberta	2015	AGS	Public
Numerical Flow Model of the Sylvan Lake Sub-Basin in the Edmonton-Calgary Corridor, Central Alberta	2018	AGS	Public
Climate Resilience Action Plan	2018	ISL	Public
North Municipal Water Reservoir Water Act License Supporting Report	2019	ISL	Summer Villages
Existing Well System Capacity Analysis Report (R3)	2020	ISL	Summer Villages
2020 Water Master Plan	2020	ISL	Public
Hydrogeological Study and Groundwater Flow Model	2022	ISL	Summer Villages
Water Source Well Capture Zone Assessment	2022	ISL	Summer Villages

Title	Year Issued	Author [a]	Source
Water Conservation and Demand Management Policy	2024	The Town	Public
Water Act License Supporting Report Well 15 & 16 [b]	2026	ISL	Summer Villages
Water Act License Supporting Report Well 14, 17, 18, 19, 20 [b]	2026	ISL	Summer Villages

Notes: [a] ISL – ISL Land and Engineering Services. AGS – Alberta Geological Survey. AXYS – AXYS Environmental Consulting Ltd.

[b] These reports were reviewed at a screening level because access was time restricted compared to others as described in section 1.1.1.

The geographic scope of this assessment is the Sylvan Lake Sub Basin (SLSB) as shown in Figure 1.

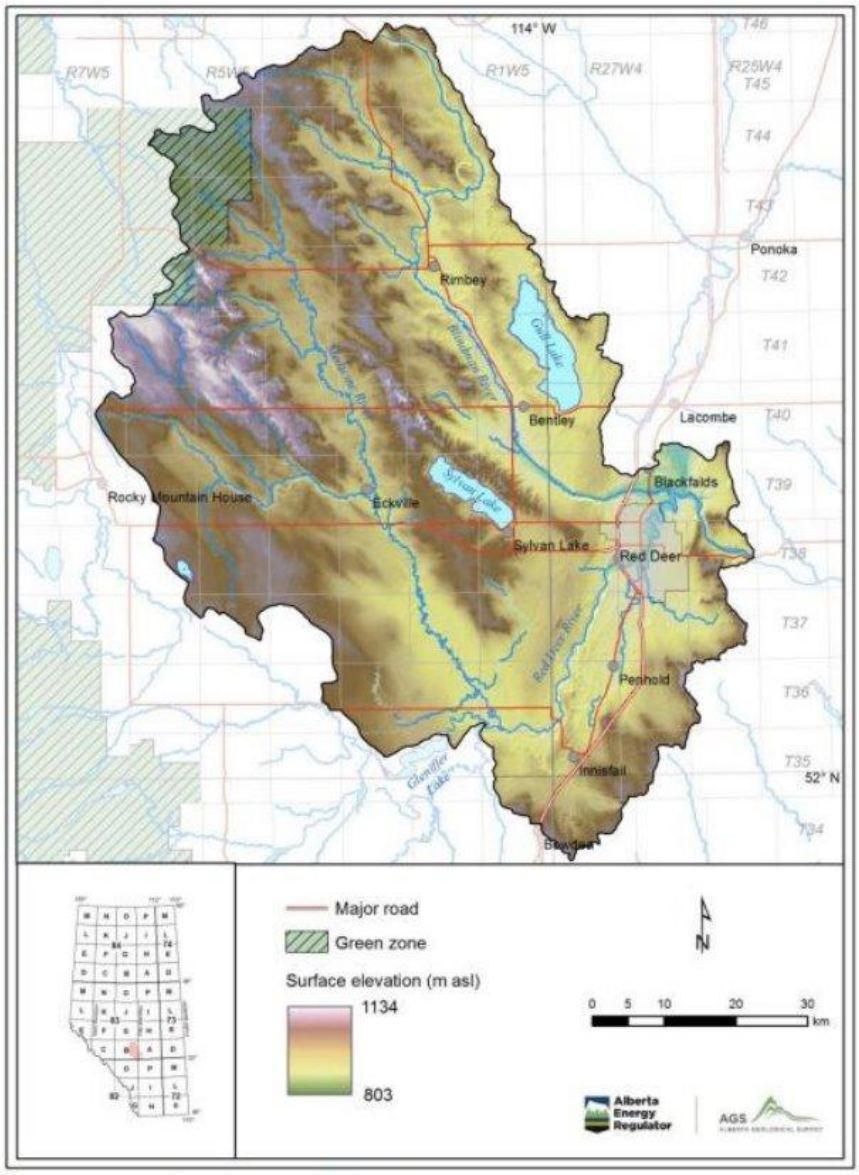

Figure 1. Sylvan Lake sub-basin (Water Survey of Canada watershed code 05CC) in the Edmonton–Calgary Corridor, central Alberta. The green zone is the forested portion of public land in Alberta.

Figure 2: Map of Sylvan Lake Sub-Basin from (Liggett & Singh, 2018).

1.1.1 June 2026 Active Water License Application Review

During the preparation of this literature review, the Summer Villages received notice from Alberta Environment and Protected Areas (AEPA) regarding 2 applications for water licenses under the *Water Act* filed by the Town for 7 new groundwater wells. The Summer Villages were first aware that these applications had been filed on June 5, 2026. The Summer Villages asked WaterSMART for support with considering whether to submit Statements of Concern (SOCs) regarding these applications by AEPA's deadline of June 12, 2026.

The Summer Villages acquired copies of the applications from ISL and provided them to WaterSMART on June 9, 2026. WaterSMART conducted a brief review of the applications and drafted a preliminary list of questions for the Summer Villages to consider. Commentary on these applications reflects initial observations and questions, not definitive conclusions; a full technical analysis was not completed. The applications were only available on ISL's online portal until June 12, 2026, and were not available on the Environmental Records Viewer (ERV; GoA, 2026a), maintained by AEPA.

Upon review of WaterSMART's questions, the Summer Villages Council decided to proceed with submitting SOCs (included in Appendix B) regarding the Town's applications DAPP0157114 (Wells 15 & 16) and DAPP0157117 (Wells 14, 17, 18, 19, & 20). AEPA has requested that the Town resolve these SOCs prior to the Town's licenses being issued. If the concerns are addressed to the Summer Villages' satisfaction, the Summer Villages should ensure that the Town's licenses are issued with certain conditions as discussed in the recommendations (section 5.2) to protect the Summer Villages.

2. Overview of the Groundwater System

The SLSB has a higher level of regional hydrogeological characterization than many basins in Alberta, presumably due to development pressure. The SLSB Hydrostratigraphic Model, published by the Alberta Geological Survey (AGS) in 2015, serves as the authoritative source of information describing subsurface geology and how it controls groundwater occurrence and movement (Atkinson & Glombick, 2015).

Building on the Hydrostratigraphic Model, AGS published the SLSB Numerical Flow Model in 2018 to further describe how groundwater moves in response to pumping impacts. The Hydrostratigraphic and Numerical Flow Models from the AGS serve as the basis of a Groundwater Flow Model developed by the Town which is discussed in more detail throughout this report.

2.1 Regional Hydrogeologic Setting

The AGS has found that the important non-saline aquifers in the SLSB are hosted in the Paskapoo Formation[1] (the Paskapoo), and that the Paskapoo continues to be recharged [2], with pumping representing only a small component of the regional water budget (Liggett & Singh, 2018). However, while the regional groundwater system is well understood, local conditions require careful consideration when assessing groundwater risk or development potential (ISL, 2019).

The Paskapoo consists of interbedded sandstone, siltstone, and mudstone deposited in fluvial environments. Groundwater production occurs primarily from sandstone units, while finer grained intervals act as aquitards that restrict groundwater movement. As a result, groundwater flow is not uniform throughout the Paskapoo. Hydraulic properties can vary significantly over relatively short distances, and hydraulic connectivity between wells may differ depending on whether wells intersect the same water-bearing sandstone units. Furthermore, groundwater-surface water interactions and pumping impacts can be highly localized, depending on whether wells intersect connected sandstone pathways.

[1] Formation is a geological term to classify a certain body of rock or sediment with recognizable characteristics. An aquifer is a layer or zone within the subsurface that stores and transmits water. An aquitard is a layer or zone that restricts groundwater movement. The Paskapoo is a formation that hosts aquifers.
[2] Recharge is the natural replenishment of water into aquifers.

This heterogeneity is important when considering potential groundwater impacts. Although regional studies indicate that the Paskapoo contains substantial groundwater resources and remains actively recharged (AGS, 2016), groundwater availability at the scale of individual wells may differ considerably from regional trends.

Numerical groundwater modelling completed for the Town shows that many existing and proposed wells still have available head (i.e., the amount of groundwater available above the pump intake), meaning additional pumping capacity exists at some locations without dewatering the aquifer. However, a small number of wells are already approaching or exceeding sustainable withdrawal limits under certain scenarios, indicating localized stress rather than basin-wide overuse (ISL, 2022).

2.2 Regional Flow and Recharge

In the SLSB, the groundwater flow is topographically driven, meaning that wells in higher elevation land (typically in the northwest, towards the foothills) tend to have higher hydraulic head. Recharge follows a similar patter; however, the AGS Groundwater Flow Model shows that recharge is spatially variable, meaning that excessive or poorly located pumping can cause localized declines even if regional recharge appears to be sufficient (Liggett & Singh, 2018).

Most of the groundwater recharge occurs locally during the spring snowmelt. In and around Sylvan Lake, recharge is estimated at 35 mm per year (Liggett & Singh, 2018). Therefore, the seasonal snowpack can serve as a strong indication of near-future groundwater recharge, and it can influence groundwater levels and well performance during the summer months.

2.3 Groundwater Interaction with Sylvan Lake

The Paskapoo aquifer is hydraulically connected to Sylvan Lake (ISL, 2022). In 2002, a numerical groundwater flow model developed by AXYS Environmental Consulting Ltd. (AXYS) estimated total inflow to Sylvan Lake of approximately 9,727 m^3/day (3.5 million m^3/year), confirming that groundwater is a major component of the lake's water balance. As a result, changes in groundwater quality or quantity within the surrounding watershed have the potential to influence lake conditions over time (AXYS, 2005).

As noted, groundwater in the SLSB generally flows from upland recharge areas toward lower elevations and surface water features, including Sylvan Lake. The degree of hydraulic connection between the lake and surrounding aquifer(s) varies spatially and is influenced by local geology, groundwater levels, and pumping stresses. Groundwater withdrawals may alter groundwater flow patterns, but the materials reviewed did not include sufficient information to conclude whether the Town's wells impact lake levels, or if lake levels may impact yields in the Town's or Summer Villages' wells. The Town did not incorporate changing lake levels into their numerical model and therefore does not evaluate the potential influence of lake levels on recharge or well performance.

The Town wells are not considered Groundwater Under the Direct Influence (GWUDI) of the lake because estimated groundwater travel time from the lake to the municipal wells is approximately 2 years at a minimum. However, the existence of a hydraulic connection between Sylvan Lake and the regional groundwater system is an important consideration when evaluating long-term groundwater management, cumulative pumping impacts, and the sustainability of future groundwater development. There is a

dynamic relationship between Sylvan Lake levels and the groundwater table which is not well understood because it was not characterized within the materials reviewed as part of this literature review. The numerical groundwater model (ISL, 2026) appears to assume a constant lake water level. As a result, there is uncertainty regarding how groundwater-lake interactions and predicted drawdown may differ under changing lake-level conditions.

2.4 Groundwater Quality Considerations

Groundwater quality is an important component of long-term water security. Previous studies have identified both natural hydrogeochemical conditions and land-use activities as factors influencing groundwater quality throughout the SLSB. Specifically, historical investigations completed by AXYS examined the potential influence of private wastewater systems on groundwater quality and lake health. AXYS was monitoring septic influence on the Lake, and a review of their report indicates they were primarily concerned about the Summer Villages' septic fields. Septic management appears to be a key groundwater source protection issue. Deep and shallow monitoring comparisons indicate that contaminant concentrations impacting shallow[3] groundwater wells, which the Summer Villages and the Town rely on for supply, are largely land use driven (AXYS, 2005). Surface contaminants should be kept as far away from groundwater source wells as possible.

2.5 Climate Change Trends

Conditions in and around Sylvan Lake have generally been becoming hotter and drier from 1967 to 2016. The Sylvan Lake Climate Resilience Action Plan, developed by the Town, states that local warming has been occurring at nearly double the global rate of warming and that annual precipitation has steadily declined over that time (Town of Sylvan Lake, 2018).

Looking ahead to the 2050s, the Climate Resilience Action Plan considered 2 climate projection scenarios:

- RCP 8.5 (worst-case scenario): Little additional effort is made to curtail factors contributing to climate change.
- RCP 4.5: Considerable additional effort is made to mitigate factors contributing to climate change.

Select historical and projected climate statistics relevant to the Summer Villages are presented in Table 2.

[3] Shallow is used to describe the region above the top of the Upper Paskapoo, approximately the first 10 – 30 meters below ground surface depending on the exact location, as estimated from cross sections (ISL, 2022).

Table 2: Average climate trends from (Town of Sylvan Lake, 2018).

	1967 – 2016 Observations	RCP 8.5 Projections
Annual Temperature	+ 3.4 °C	+3.4 °C
Winter Temperature	+7.0 °C	+ 3.6 °C
Summer Temperature	+1.9 °C	+ 3.9 °C
Annual Precipitation	-231 mm	+ 588 mm
Summer Precipitation	-131 mm	+ 237 mm
Winter Precipitation	-67 mm	+ 88 mm

The 'worst-case scenario' projection indicates that Sylvan Lake should expect continued warming at the 1967 – 2016 historical rate. The Climate Resilience Action Plan states that:

> *"Although mean annual precipitation is projected to increase in the Sylvan Lake region by the middle of the century, the region is projected to become **drier overall** because warmer temperatures will increase the rate of evaporation from vegetation and soils, such that overall moisture loss will exceed the projected increase in mean annual precipitation. In addition, while mean annual precipitation is projected to increase, the slight projected decline in precipitation during the warm summer months will likely contribute to moisture stress.*
>
> *The projected increases in average temperatures in spring, summer and fall will likely result in increases in both the length and the warmth of the growing season in the Sylvan Lake region."*

In summary, Sylvan Lake is likely to experience hotter, drier summers, which in turn will likely drive increased water consumption due to outdoor watering and irrigation for many residents and businesses, including farms, around Sylvan Lake. This could contribute to additional demand on the regional groundwater supply. Although it is anticipated that net precipitation (i.e., snowpack and rainfall) will increase, it is unclear if that precipitation would contribute to groundwater recharge prior to evaporating. Therefore, WaterSMART cannot conclude that an increase in precipitation could contribute to groundwater recharge at a scale that could materially offset that demand.

3. Local Groundwater Use

Groundwater within the SLSB supports a range of users, including residential/domestic, municipal, agricultural, recreational, commercial, and industrial. Among these, municipal groundwater withdrawals by the Town represent the dominant use (ISL, 2019; ISL, 2022). The Town's groundwater use is discussed in detail in section 3.3.

Besides the Town, users near the Summer Villages have modest water diversions, discussed further in section 4.1. These include:

- Private residential well owners residing within the Town, along Memorial Trail, and along Sylvan Lake.
- Lakewood Golf Course, Meadowland Golf Course, Sylvan Lake Country Club, and the Hilltop Wedding Centre/Golf Course.
- Sunny Siesta RV Park.

Further away, significant groundwater users in the SLSB include Vesta Energy (north of Blackfalds), the Town of Rimbey, Spartan Delta Corporation (northwest of Rocky Mountain House), and the Town of Penhold (GoA, 2026a). None of these higher-volume users are anticipated to have an impact on the Summer Villages' wells as they are relatively far away (i.e., greater than 10 km) when compared to the Town.

3.1 Regulatory Context

Groundwater withdrawals in the SLSB are regulated by AEPA under the *Water Act*. Municipal groundwater users, like the Town, require a license specifying annual and daily diversion limits. However, residents like those of the Summer Villages operate domestic wells under statutory exemption, provided they divert less than 1,250 m^3/year for household use.

It is a requirement of the *Water Act* that new applications for licenses prove that existing users, whether licensed or exempted, will not be negatively impacted by the new licensed diversion. However, domestic wells can be established without licensing from AEPA.

3.2 Summer Villages Groundwater Supply

Based on information published in the Alberta Water Well Information Database (AWWID), it appears the Summer Villages residents rely mainly on relatively shallow aquifers for their domestic water supply (GoA, 2026b). Most of these wells are likely completed in the Upper Paskapoo. This interpretation is based on hydrostratigraphic cross-sections prepared by ISL. These cross sections show a thin sedimentary layer and the bottom of the Upper Paskapoo delineated at approximately 150 m bgs (ISL, 2022).

Wells completed in shallow sedimentary aquifers are part of more localized groundwater flow systems that may respond quickly to recharge (i.e., rain or snowmelt). However, they are also more vulnerable to localized over-pumping, changing recharge due to precipitation, or land use impacts. Many of these residential wells were drilled in the 1960s, and their current maintained status is unknown. It is possible that the age of the wells could contribute to pressure losses and decreasing yields. Regular maintenance is required to maintain yields.

Minimum and maximum depths have been recorded for each Summer Village well in Table 3 for reference in discussion of cumulative effects in section 4.3.

Table 3: Reported Domestic Wells Depths Within the Summer Villages.

Associated Summer Villages Community	Shallowest Well Depth Below Ground Surface		Deepest Well Depth Below Ground Surface	
	(ft)	(m)	(ft)	(m)
Jarvis Bay	60	18.3	195	59.4
Birchcliff	21	6.4	260	79.2
Sunbreaker Cove	45	13.7	240	73.2
Half Moon Bay	40	12.2	180	54.9
Norglenwold	36	11.0	200	61.0

Note: While the depth of the well is reported here, due to information aggregation techniques from the AWWID, depth from ground level is not necessarily the depth at which water is being extracted (e.g., the intake screen depth). Screen/ perforation intervals are not recorded on many of the drilling reports. Depth of the well can be considered representative of the water intake for the purposes of this study.

3.3 Town of Sylvan Lake Water System

The Town relies exclusively on groundwater from the Upper Paskapoo Formation to meet its municipal water demands. As of 2026, the Town's water supply system consists of 12 licensed municipal well distributed across 3 pressure zones (Figure 3), with a combined licensed production capacity of approximately 8,205 m^3/day. Existing and proposed well locations are shown in Figure 3, and an overview of their licensed volumes are provided in Table 4.

In 2026, the Town submitted *Water Act* applications for 7 additional production wells (Wells 14 through 20), primarily located northeast of the Town near Jarvis Bay (Figure 3). If approved, these wells would increase the Town's licensed groundwater capacity by approximately 5,714 m^3/day, representing a total municipal production capacity of approximately 13,919 m^3/day (Table 4). The Town has also received approval to increase the diversion rate for 1 existing well (Well 3).

The Town is one of the fastest growing municipalities in Alberta, with a 15% increase in population from 2015 to 2025 (ISL, 2026). Due to population increases and ongoing growth, some of the Town's groundwater source wells were found to be consistently pumping more annually than allowed under the *Water Act* diversion licence (ISL, 2022). As the Town continues to grow, the demand on the potable water system will grow as well.

WaterSMART reviewed reported water use through AEPA's ERV and found that, although the Town did exceed their licensed annual allocation limits on select wells (Wells 1, 5, and 6), they did not exceed their combined daily diversion limit. Details are available in Appendix C. It is hypothesized that overreliance on these 3 wells could be due to interference between other wells or possibly conveyance constraints within the Town. Regardless of the drivers, over-withdrawals on individual wells can still cause problems for neighboring users.

When the Town released its Groundwater Flow Model in 2022, they modeled the use of 12 source wells over 3 pressure zones to meet the needs of approximately 20,000 residents (ISL, 2022).

Figure 3: Map of Summer Villages and Town Wells. Well 1 through 13 are licensed and 14 through 20 are proposed as of June 2026 (ISL, 2026).

In addition, the Town has drilled and attained a license (DAUT0026772) for a new municipal irrigation well south of the Town for 18,643 m^3/year (maximum 50 m^3/day). This well was not included in any modelling scenarios by ISL, and it is not included in this analysis (or Figure 3) because it is unclear if it will be incorporated into the Town's overall supply or kept separate for irrigation purposes. Either way, this pumping volumes are relatively low and the well is located far enough away that there are no anticipated impacts for the Summer Villages.

Table 4: Town of Sylvan Lake Groundwater Source Well Overview.

Category	Wells	Licensed/Requested Daily Production Rate (m^3/day)
Existing Licensed Wells in 2022	12	8,075 [4]
Approved License Amendments since 2022 (Well No. 3)	1	132
Total Licensed Capacity in 2026	**12**	**8,205**
Requested Future Wells (Wells No. 14 through 20)	7	5,714
Total Licensed + Requested Future Capacity as of 2026 [a]	**19**	**13,919**

Note: [a] Includes existing wells, approved amendments, and wells currently under application.

As of spring 2026, WaterSMART understands the Town relies solely on groundwater to supply all raw water needs, and it plans to continue doing so (ISL, 2020). As part of their 2020 Water Master Plan, the Town identified a regional system feeding the Town from Red Deer as an option. However, that option was not pursued in favor of a comprehensive well supply study to better understand the long-term capacity of the aquifer (ISL, 2020). WaterSMART has undertaken a review of this well supply study (as documents were made available) to understand how the Town forecasts their water demand and to determine if the well development is sustainable, without negatively impacting the Summer Villages.

3.3.1 Sylvan Lake Population and Water Demand Projections

The Town is currently planning for continued rapid population growth, with future planning scenarios assuming growth to 30,000 people by 2035 (ISL, 2020). The Water Master Plan notes several limitations associated with forecasting this growth and the resulting water demand (ISL, 2020). Specifically, uncertainty in development timelines makes it difficult to accurately predict population increases, and water demand projections are uncertain because actual consumption cannot be perfectly estimated or spatially distributed. The Town's Water Master Plan is summarized in Table 5.

[4] As found in (ISL, 2022) and verified by WaterSMART in 2026 with documents from the Environmental Records Viewer that were current as of 2022. Details of verification are available in Appendix A.

Table 5: Summary of Water Master Plan adapted from Table 2.4 of (ISL, 2020).

Scenario Name	Population [b] (c)	Year	Average Day Demand [b] (L/s)	Average Day Demand [a] (m^3/day)	Maximum Day Demand [b] (L/s)	Maximum Day Demand [a] (m^3/day)
Existing	18,197	2019	57	4,925	114	9,850
Short-term development pressures	19,051	2020	60	5,184	120	10,368
22K	22,000	2025	103	8,899	206	17,798
30K	30,000	2035	138	11,923	275	23,760
45K	45,000	2050	245	21,168	490	42,336
60K	60,000	2060	278	24,019	557	48,125
75K – 100K	≤100,000	>2060	425	36,720	849	73,354

Notes: [a] The m^3/day values were calculated by WaterSMART assuming the instantaneous demand occurred over the entire day.
[b] These populations and demands from the Water Master Plan are for the entire Town. The Water Master Plan assumes 271 L/c/d for future residential areas and 0.1 L/s/ha for future non-residential areas.

WaterSMART identified inaccurate population and demand projections as a key potential risk that may impact the Summer Villages. This is because the Town may require more water to meet demand than it currently anticipates. Specifically, review of the Water Master Plan introduces 2 potential concerns discussed further in sections 3.3.1.1 and 3.3.1.2, respectively:

1) Climate change modelling results indicate that consumption rates will likely increase.
    a. Per capita demand often increases as conditions become hotter and drier. Unless increased consumption is offset by increased water efficiency (e.g., low flow toilets, water loss reduction strategies, water restrictions), assuming a constant consumption rate may underestimate future demand.

2) Historical demand is higher than the projected consumption rate.
    a. ISL noted that the 271 L/capita/day (L/c/d) consumption rate was inconsistent with actual Average Day Demand (ADD) between 2014 and 2018 and instead suggested a rate of 283 L/c/d was more accurate (ISL, 2020).

3.3.1.1 Climate change modelling results indicate that consumption rates will likely increase

The population projections and associated demand summarized in Table 5 assume a constant per capita residential demand of 271 L/c/d until 2060. This means that each person is expected to continue to use the same amount of water every day, even as the conditions become hotter and drier. It is common that hotter, drier conditions lead to increased per capita consumption, mainly due to outdoor watering.

While the Town has published a Water Conservation and Demand Management Policy that enables 3 water restriction stages during times of peak use, WaterSMART did not find any public Water Efficiency Plan that indicates a commitment to implementing strategies that could reduce per capita demand through

reduced water loss or infrastructure efficiency (Town of Sylvan Lake, 2024). While water restrictions can be effective at reducing demand during water shortages, their effectiveness depends on public compliance and enforcement; consequently, they are generally considered a short-term demand management tool rather than a long-term water conservation strategy (Alliance for Water Efficiency, 2015). Besides water restrictions, the Climate Resilience Action plan suggests rain barrel and toilet rebate programs. However, it is unclear if other conservation measures are being actively considered.

Unless the Town implements a Water Efficiency Plan, there is uncertainty that demand could be offset by efficiency gains to realistically facilitate a constant per capita demand over the planning horizon.

3.3.1.2 Historical demand is higher than the projected consumption rate

In their Well System Capacity Analysis Report, ISL comments that the 271 L/c/d consumption rate was inconsistent with the ADD between 2014 and 2018 (ISL, 2020). Instead, they found that an ADD of 283 L/c/d was observed during 2014-2018 and recommended 283 L/c/day be used as an average consumption rate in the Town's Groundwater Flow Model. It is possible that there is a difference in assumptions between the Town's 271 L/c/day residential consumption compared to ISL's 283 L/c/d composite[5] consumption. However, the commentary in the ISL reports indicates that the Water Master Plan may be systemically underestimating demand, which would be consistent with the Town's historical need to over withdraw water. There is insufficient population data and data in the Water Use Reporting System (WURS), managed by AEPA, for WaterSMART to verify actual per capita demand from 2014-2018.

It should be noted that, while the Well System Capacity Analysis identifies the need for a higher ADD, Table 4.1 of the Well System Capacity Analysis is identical to Table 5.1 of the Water Master Plan. In other words, ISL claims to use a composite consumption of 283 L/c/day, however, the instantaneous ADD is identical to that of the Water Master Plan, which assumes a consumption rate of 271 L/c/day. Therefore, there is some uncertainty about which rate of consumption was actually used to evaluate the raw water supply system. It is possible that the system capacity has been assessed against a lower rate of consumption than claimed, possibly leading to a discrepancy between actual system capacity and the system capacity used for planning purposes.

In their 2020 Well System Capacity Analysis work, ISL recommends the Town should consider doing a large-scale consumption and supply capacity study. WaterSMART echoes this recommendation. The per capita consumption rates have not been updated since 2018, are thought to be insufficient compared to observed demands, and currently do not include climate change or water efficiency programming.

3.3.2 Incorporation of Jarvis Bay on Town System

Section 7 of the Water Act License Support Report for New Well 1 West and New Well 2 East (ISL, 2019) states:

[5] Composite consumption accounts for residential, industrial, commercial, institutional, municipal, summer visitor, and water loss consumption (ISL, 2020).

> *"As the Town is planning on bringing the residents of the Summer Village of Jarvis Bay onto the Town water system in the future, and the highest user of groundwater in the area is the Town, impacts to other users is expected to be minimal."*

It is unclear when the Town plans to bring Jarvis Bay onto their water system. Although the population of Jarvis Bay is relatively small compared to the Town, it is worth noting that the Jarvis Bay population does not appear to have been incorporated into the Town's current demand forecasts based on Table 2.3 of the Water Master Plan (ISL, 2020). WaterSMART could not confirm whether this statement was included as part of The Town's application for new water licenses submitted to AEPA in June 2026.

4. Groundwater Flow Model Review and Potential Impacts to Summer Villages

The Town has built their own Groundwater Flow Model by calibrating the AGS's Numerical Flow Model using Town pumping records and monitoring wells to provide a spatially refined model to represent the municipal system. The Town uses their Groundwater Flow Model, pumping tests, and demand projections to forecast demand and plan new source wells accordingly (ISL, 2019, 2026a and b).

Given that the Groundwater Flow Model was prepared to directly support *Water Act* license amendments and applications and operational decision making by the Town, WaterSMART conducted a detailed review to ensure that the Summer Villages' interests were appropriately considered and represented in the license amendments and applications.

4.1 Scenarios Modelled by the Town

The Groundwater Flow Model was originally used to simulate 3 scenarios to assess how each scenario impacted water levels in and around Sylvan Lake (ISL, 2022). The 3 original scenarios and one additional scenario used in the 2026 license applications (ISL, 2026a and b) are summarized in Table 6. All 4 scenarios include the following groundwater users:

- Private residential well owners residing within the Town and along Memorial Trail, modelled at 1,250 m^3/year each.
- Lakewood Golf Course, Meadowland Golf Course, Sylvan Lake Country Club, Hilltop Wedding Centre/Golf Course, modelled at their licensed rates.
    - Lakewood Golf Course (east of Jarvis Bay) and Meadowland Gold Course (south of the Town) appear to respectively divert up to 4,920 and 44,317 m^3/year each. WaterSMART could not find licenses under the other names.
- Sunny Siesta RV Park, modelled at approximately 8,200 m^3/year.
- The neighbouring Summer Villages of Norglenwold and Jarvis Bay, Red Deer County, and Lacombe County were modelled at a 60/40 seasonal resident/year-round split, meaning that 60% of the well users were assumed to use their wells only half the year and the other 40% use their wells all year long. WaterSMART interprets this as 40% of the wells are modelled at 1,250 m^3/year and 60% are modelled at 750 m^3/year.

These users were not represented in the model at their individual locations, but rather clustered as described in Section 3.3 of the Hydrological Modelling Report (ISL, 2022). In addition, the purpose of inclusion was to determine these users' impact on the Town, not the other way around (ISL, 2022). This is noteworthy because it may limit the ability of the Groundwater Flow Model to demonstrate the impacts of the Town's wells on individual users.

Table 6: Groundwater Flow Model Scenarios.

Scenario	Description	Total no. wells	Total modelled pumping rate (m^3/day)
1) Existing Case	Wells 1, 3, 5, 6, 10, 11, 12 pumping at their 2016 to 2021 average annual pumping rates.	7	3,911
2) Licensed Case	Wells 1, 3, 5, 6, 10, 11, 12, 9 and 13 pumping at their licensed maximum annual rates, plus New Well 1 West and New Well 2 East pumping at their requested annual rates.	11	7,033
3) Licensed Case + New Wells	Scenario 2, plus 5 new wells northeast of Town pumping at their proposed maximum annual licensed rates.	16	14,023
4) 2026 Application Case [a]	The scenario modelled in the 2 new license applications as of June 2026, discussed below in section 4.1.1.4	14	12,000

Note: [a] For clarity, WaterSMART has named the modelling scenario utilized in the 2 new 2026 license applications as Scenario 4. Scenario 4 was not included in the original Groundwater Flow Model Report (ISL, 2022).

In the following sections, WaterSMART presents commentary on several discrepancies or concerns that may impact the Summer Villages related to each scenario. Supplementary information is provided in Appendices A and B.

4.1.1.1 Scenario 1 – Existing Case

Scenario 1 simulates how the aquifer responded to the Town's actual water use from 2016 to 2021. The values used to model Scenario 1 are listed in Table 1, Appendix B of the Groundwater Flow Model (ISL, 2022) and are provided for reference in Table 7 below. Under this scenario, ISL determined that the aquifer could support additional diversions.

WaterSMART obtained reported annual water usage data from WURS (GoA, 2023). Table 7 also includes the WURS data for comparison. Notably, the Town reported approximately 27% more water use over the 2016 to 2021 period than was included in the Scenario 1 modelling. WaterSMART was not

provided with sufficient population data to develop an estimate of per capita water usage. However, it is possible that even the elevated 283 L/c/day consumption rate proposed by ISL may be lower than actual consumption, based on available WURS data.

Table 7: Comparison of the Scenario 1 water use and reported water use from WURS.

Well Name	Scenario 1 Water Use (ISL, 2022) [a]	Reported Water Use 2016 – 2021 (WURS)
	Pumping Rate [m^3/day]	Pumping Rate [m^3/day] [b]
Well 1	536	950
Well 3	299	323 [c]
Well 5	534	952
Well 6	533	950
Well 10	771	726
Well 11	727	584
Well 12	511	486
Total	**3,911**	**4,971**

Notes: [a] Appendix B, Table 1 of the Groundwater Flow Model (ISL, 2022).
[b] The annual data provided from WURS was first averaged over 2016 to 2021 and then divided by 365.25 to provide an average daily pumping rate.
[c] 274 on the main well +49 on the standby well.

While Scenario 1 has not been used for any well development scenarios, it raises additional uncertainty about the Town's demand planning.

4.1.1.2 Scenario 2 – Licensed Case

For Scenario 2, the model was used to simulate how the aquifer would respond if the Town were pumping all its wells at their maximum annual licensed pumping rates, including 2 new wells (New Well 1 West and New Well 2 East) located north of Town, approximately 1-2 km east of Jarvis Bay (11 wells total). Notably, the application for a water license for New Well 1 West and New Well 2 East, prepared in 2019, has not been approved, and these wells are not named in the June 2026 applications.

There appears to be inconsistency in the values shown for maximum licensed pumping rates for the Town in the Hydrogeological Model Report. The main body of the report, Appendix B, and public license documents appear to use different licensed values. Transcribed details highlighting this inconsistency are available in Appendix A, Table 10, of this report.

The maximum licensed annual pumping rates as written on the licenses appear to be between 12 - 30% higher than the pumping rates that were used in Scenario 2 modelling. This calls into question a statement

made in the report that "the maximum licensed rates at Wells 1, 3, 9, 11, 12, and 13 can be increased from the rates they are at now, and New Well 1 West and New Well 2 East can be licensed and brought online without negatively impacting the aquifer."

WaterSMART infers that the increased allocation rate issued to Well 3 of 721 m^3/day in November of 2025 is a result of this finding. Well 3 has been incorporated into Scenario 4 at this higher rate, so theoretically, any issues related to this diversion should be captured in assessment of Scenario 4.

4.1.1.3 Scenario 3 – Licensed Case + New Wells

Scenario 3 simulated how the aquifer would respond if 5 new wells were introduced in addition to those considered in Scenario 2. Scenario 3 incorporates Scenario 2 and is therefore prone to the same issue with under-representation of licensed volumes in the model. It does not appear that the theoretical volumes for the 5 new wells under Scenario 3 were pursued by the Town.

4.1.1.4 Scenario 4 – 2026 Scenario

Scenario 4 used a combination of licensed maximum *or* historical average for existing wells in the model, along with projected pumping rates for the proposed wells. However, it is not clear which wells were modelled at licensed or historical rates. WaterSMART has compared these modelled pumping rates to maximum licensed rates to ensure that what is being modelled is equivalent to the maximum possible diversion the Town is licensed to make. This comparison is summarized in Table 8.

When ISL wrote the Hydrogeological Study and Groundwater Flow Model report in 2022, wells 9 and 13 were not active because they did not have pumps. In the Scenario 2 modelling, Wells 9 and 13 were assumed to be pumping at their licensed rates. Note that the status of Wells 9 and 13 remains unknown based on documentation reviewed for this report. Use has not been reported against either of them in the WURS system during the period of record for which WaterSMART has data (i.e., 2014 to 2023). However, Wells 9 and 13 were not included in recently submitted license applications (ISL, 2026a and b).

Table 8: Comparison of the licensed and modeled rates of the Town's current and proposed wells.

Well Name	Status	Licensed Maximum Daily Production Rate [a] (m^3/day)	
		License Documents from ERV as of 2026 (GoA, 2026a)	Modelled Rates used in 2026 License Applications (Scenario 4) (ISL, 2026)
Well 1	Active	655	655
Well 3	Active	721	721
Well 5	Active	654	655
Well 6	Active	655	655
Well 9	Unknown	982	Not included
Well 10	Active	1,635	898
Well 11	Active	1,850	1,850
Well 12	Active	852	852
Well 13	Unknown	Unverified, assumed 202	Not included
Sub-total current wells		**8,205**	**6,286**
Well 14	Proposed	N/A	596
Well 15	Proposed	N/A	1,591
Well 16	Proposed	N/A	259
Well 17	Proposed	N/A	585
Well 18	Proposed	N/A	1,757
Well 19	Proposed	N/A	426
Well 20	Proposed	N/A	500
Sub-total proposed wells		**N/A**	**5,714**
Total current and proposed wells			**12,000**

Note: [a] Where licensed maximum daily production rates are not stated on the license, the licensed maximum annual production rate is divided by 365.25.

Based on the sub total of the current wells' maximum licensed volumes, it appears the modelling includes 30% (i.e., 1,919 m^3/day) less modelled volume than the Town currently has licensed. Notable differences include:

- Well 9 and 13 are not included in modelling, effectively modelled at 0% of what they are currently licensed for. This is likely realistic based on historical use; however, these wells could potentially be returned to service under the existing licenses.
- Well 10 is modelled at a rate 55% lower than it is currently licensed for. Reported use in WURS is approximately 750 m^3/day, which is lower than the modelled value.

While the discrepancy between licensed volumes and modelled volumes is noteworthy, the modelled volumes are consistent with historically reported use. Therefore, the discrepancy between the licensed volume and modelled usage is not considered to pose a material risk to the Summer Villages.

4.2 Town Supply/Demand Deficit

As discussed in section 3.3.1, the Town is projecting to need an ADD of 11,923 m^3/day and a Maximum Day Demand (MDD) of 23,760 m^3/day to meet the needs of 30,000 people in 2035. However, Scenario 4 models the Town pumping at a maximum cumulative rate of 12,000 m^3/day. Therefore, in order to meet the MDD, the Town will require additional daily pumping capacity. Notably, Scenario 4 does not include enough water to meet even the 2025 MDD of 17,798 m^3/day.

With its planned well supply in Scenario 4, the Town has just enough water to meet its projected ADD in 2035, assuming that the applications for 7 new wells are approved. However, the Town does not have sufficient licensed water volume to meet the MDD even in 2025.

4.3 Cumulative Effects

Applications under the *Water Act* typically need to consider the effects of their pumping on neighboring water users. This is often done through pumping tests and drawdown modelling. Drawdown is essentially the drop in groundwater levels that a pumping well induces on its environment. The size of the drop and the distance over which that drop exists depends on the hydrogeology of the area and the scale of the well's diversion.

One well's drawdown can cause a drop in available head on other wells nearby. Available head is an estimate of how much water is available for a well to access. It depends on the groundwater levels and construction of the well. In wells with a low (i.e., deep) water table relative to the height of the pump, available head is low. For these wells, further reduction in available head may result in pump exposure or loss of production capacity. Both outcomes could reduce the amount of available water for the well's user(s).

ISL has simulated cumulative drawdown for Scenario 4 as seen in Figure 4 (ISL, 2026). The contours on Figure 4 indicate the anticipated level of drawdown at different locations based on modelling results. Review of the drawdown contours lead to 2 potential concerns:

1) The modelled level of drawdown could have an impact on the Summer Villages' wells, specifically Jarvis Bay.

2) There is uncertainty around several assumptions included in drawdown modeling that could lead to drawdown being higher than modelled. These uncertainties were shared with the Town as part of the SOC submission and are available for reference in Appendix B.

Figure 4 shows an overlay of individual wells and the modelled drawdown to demonstrate that the modelled drawdown intersects, and therefore could impact other users' wells, including the Summer Villages. Figure 4 includes drawdown contours, labelled in meters below the static water level, taken directly from Water Act License Supporting Report Well 14, 17, 18, 19, 20, georeferenced, and adapted from (ISL, 2026). Potential impacts of drawdown on Jarvis Bay, Birchliff, and Norglenwold are discussed in sections 4.3.1 and 4.3.2.

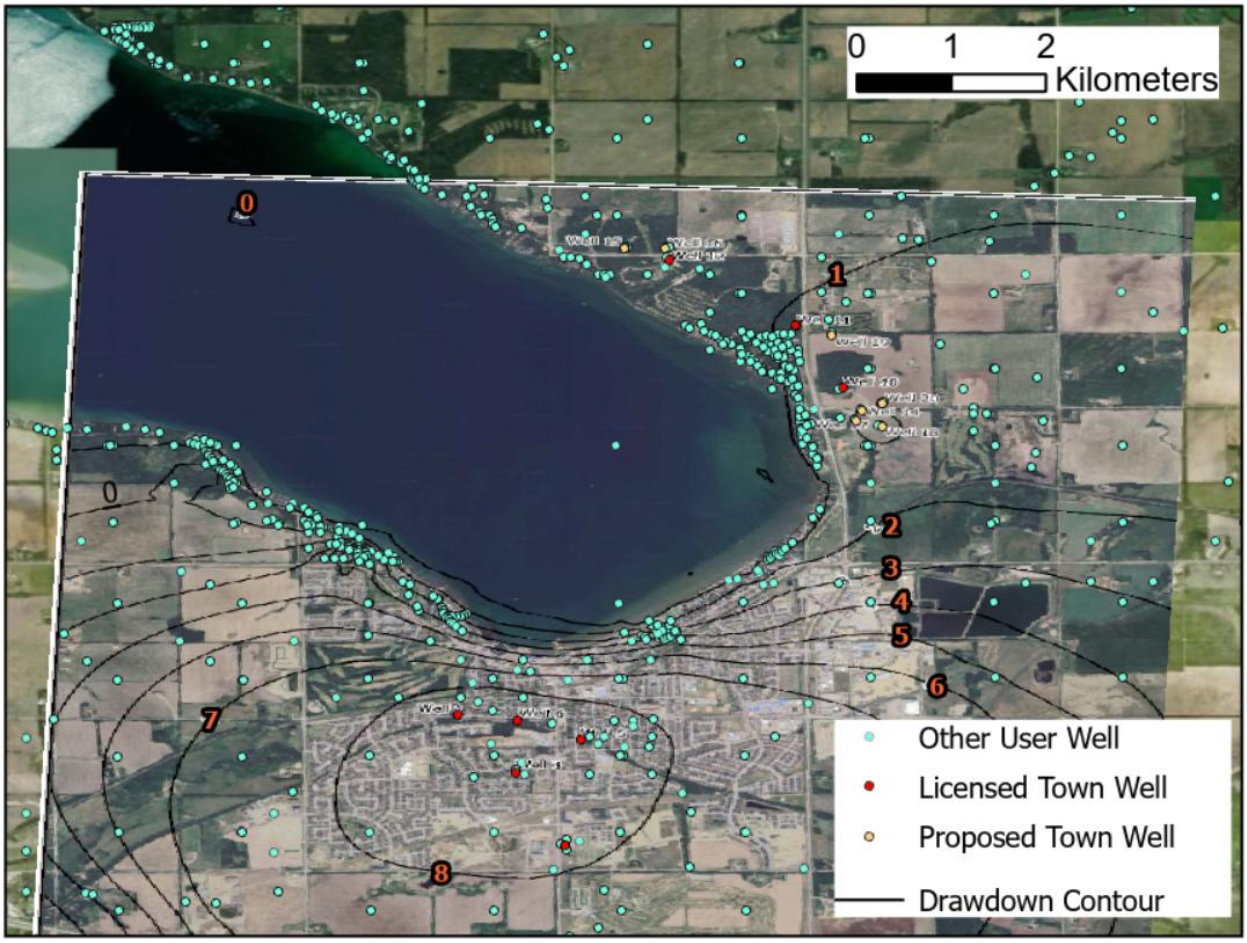

Figure 4: Town and other user's wells with overlay of simulated drawdown contours (in meters below the static water level) associated with Scenario 4 modelling.

4.3.1 Potential Impacts of Simulated Drawdown on Jarvis Bay and Birchcliff

The modelled drawdown in Figure 4 indicates that the drop in available head near Jarvis Bay would be approximately 1 m. The simulated drawdown towards Birchcliff is anticipated to be less than 1 m.

A review of AWWID water well records indicates that throughout Jarvis Bay, static water level ranges from near surface to approximately 100 ft (30 m) below ground surface (bgs) (GoA, 2026b). There does not appear to be a trend between static water level and date of testing. Rather, it appears that the wells support the concept that the Paskapoo is highly fractured/disconnected in this area. For example, a test well drilled in 1986 recorded a static water level of 100 ft bgs, while a source well drilled in 1965 approximately 300 m away recorded a static water level of 7 ft bgs. While it is not the purpose of this study to characterize the water levels in the area, this finding implies that some wells are likely completed in different groundwater-bearing sandstone units that have different hydraulic heads.

For some of the shallower wells or wells in areas with deeper water levels in Jarvis Bay and Birchcliff, a 1 m drop in available head could have a substantial impact on the productivity of the well. An illustrative example is well 352962, tested in 1990, which is on the north side of the Jarvis Bay Campground, near the Town's Well 12, 15, and 16. Completion details of well 352962 are included in Table 9.

Table 9: Assuming a pump is 1.5 m above the screen of GIC Well ID 352962.

Units	Depth	Top of Screen	Static Water Level	Available Head
ft bgs	99	95	87	3.07
m bgs	30.17	28.96	26.5	0.9384

While screen intervals are not available, pump intakes are often located within approximately 1–2 m above the screened interval. Under this assumption, a 1 m drop in available head would eliminate the available submergence above the assumed pump intake, effectively rendering the well inoperable under standard pumping conditions, because a pump must be submerged to be able to draw water.

While this is a single example and not necessarily representative of all nearby wells, it demonstrates that a 1 m drop in available head could represent a critical threshold for some wells in the area. Especially considering the uncertainty associated with simulated drawdown estimates, as discussed in section 4.4, caution is warranted in interpreting modelling results that suggest negligible impacts, as even relatively small simulated drawdowns may exceed functional thresholds for wells with limited available head.

4.3.2 Impacts of Simulated Drawdown on Norglenwold

Based on the simulated drawdown, Norglenwold is currently experiencing between 1 to 4 m of drawdown due to the Town's wells. As demonstrated for Jarvis Bay, 1 to 4 m of drawdown could have a substantial impact on available head of certain wells (section 4.3.1). However, Norglenwold is on the opposite side of Sylvan Lake from the proposed new well development. Therefore, it is unlikely that the predicted drawdown at the Norglenwold wells (as seen in Figure 4) is caused by the new well development. Instead, it is believed that the simulated drawdown experienced by Norglenwold is likely due to existing wells 1, 3, 5, and 6 because they are closest to Norglenwold. It is likely that this level of drawdown has been occurring for many years, since wells 1, 3, 5, and 6 came online in the 1980s.

Notably, the Town was issued a license amendment in 2025 for 18% more water from well 3. However, this increase to well 3 comprises only a 5% increase in the cumulative diversion from wells 1, 3, 5 and 6.

Therefore, the license amendment for well 3 is unlikely to be introducing additional impacts to Norglenwold.

4.4 Uncertainty in Model Assumptions

The Town's Groundwater Flow Model appears to be primarily based on average recharge and average lake level conditions, and it is unclear whether potential impacts under drought conditions, reduced recharge conditions, and/or low lake water levels have been fully evaluated through sensitivity analyses. These conditions would represent periods of vulnerability for domestic groundwater users and could result in greater drawdown than is presented in license application reports prepared for wells New Well 1 West, New Well 2 East, 14, 15, 16, 17, 18, 19, and 20 (ISL, 2019)(ISL, 2026a and b).

The supporting documents for the Town's new license application identify a hydraulic connection between Sylvan Lake and the groundwater system; however, the implications of increased municipal pumping on groundwater flow patterns adjacent to the lakeshore remain uncertain. Notably, it is unclear whether increased pumping could alter groundwater gradients, increase recharge to groundwater from Sylvan Lake, and/or adversely affect groundwater quality in areas supporting domestic groundwater users.

5. Conclusion and Recommendations

The Town is one of the fastest growing municipalities in Alberta, and it relies solely on groundwater. To meet increasing water demands, the Town has recently applied for 44% more total licensed groundwater volume. This volume will come from 7 new wells concentrated near Jarvis Bay, where 60% of the Town's existing water is already sourced. All of the Town's wells are sourced from the Upper Paskapoo Formation, which is also relied upon by many residential wells, including those of the Summer Villages.

The Paskapoo Formation extends along the foothills of the Rocky Mountains from Fox Creek down to Calgary. The aquifer is broadly healthy, and there is evidence that it can still support additional withdrawals in some locations. However, the Summer Villages and the Town rely on a portion of the aquifer that is highly fractured and complex. This heterogeneity makes it difficult to model the impacts of pumping groundwater in and around Sylvan Lake, and there is evidence of localized interference between wells. Careful placement of new wells is critical to manage cumulative effects and ensure water supply reliability for all users.

Jarvis Bay appears to face the highest immediate risk of groundwater supply shortage due to its close proximity to the Town's recently (2026) proposed well developments. While modelling results currently indicate negligible impacts on Birchcliff, uncertainties in the underlying assumptions suggest that some level of risk cannot be excluded, although it would likely be less significant than that expected for Jarvis Bay.

Modelling results also indicate that Norglenwold may experience drawdown on the order of 1 to 4 m, which could materialize as a substantial impact on water yield for some wells. However, this magnitude of drawdown is not anticipated to differ substantially from current conditions. WaterSMART is not aware of any evidence that Norglenwold has experienced adverse impacts on well yields to date.

Half Moon Bay and Sunbreaker Cove are sufficiently far from the Town that their groundwater supplies are expected to remain unaffected by the Town's proposed pumping activities on new wells. However, the literature review highlighted there are possible contamination risks from septic fields leaching into groundwater supplies.

5.1 Key Risks

WaterSMART found several key risks related to the Summer Villages' groundwater supply, specifically:

1) **The Town has potentially underestimated their future water demands.**
   The Town has just enough water to meet its projected ADD in 2035, assuming that the applications for 7 new wells are approved. However, the Town does not have sufficient licensed water volume to meet the MDD even in 2025. Additionally, the projections of ADD and MDD may be understated as they do not include likely increases in consumption due to climate change, nor do they include any of the Summer Villages being brought on to the Town's water distribution system.

2) **Climate change projections indicate that outdoor watering demands around Sylvan Lake are likely to increase.**
   Climate change projections suggest hotter and drier conditions, which could lead to an increase in outdoor watering demand. This demand could drive additional groundwater withdrawals from the Paskapoo by the Summer Villages, the Town, and others around Sylvan Lake.

3) **The Summer Villages are trending towards full time residency.**
   Existing modelling assumes that Summer Village water use is approximately 60% of their allowable allocation. However, there is evidence of increasing year-round residency in these communities, which may lead to higher water use. As such, the Town may currently account for less demand for water from the aquifer than may arise in the future.

4) **Uncertainties in drawdown simulation methodology and assumptions.**
   There are apparent inconsistencies regarding the methods and assumptions used to simulate groundwater drawdown in the modelling conducted by the Town in support of the new wells. These uncertainties could influence the reliability of predicted impacts of the Town's new wells on the Summer Villages, and they warrant further review and sensitivity analyses to confirm the Town's findings.

5.2 Recommendations

WaterSMART recommends that the Summer Villages take the following actions, organized according to whether the actions are intended to address risks for all Summer Villages or for one specifically:

All

- Actively monitor the Town's well development plans and engage in public notice periods when new wells are proposed.
- Encourage the Town to update its water demand forecasts to align with climate change projections and expected population growth. Request formal clarification from the Town on:
    - Operational pumping strategies relative to licensed limits.
    - Future well field development plans and contingency supply options.
- Advocate for inclusion of individual Summer Village wells in future modelling by the Town to enable assessment of well-specific impacts.
- Promote well maintenance education and monitoring among the Summer Villages' residents.
    - This could include promotion of AEPA's "Water Wells that last – A guide for private well owners in Alberta" (Alberta Environment and Protected Areas, 2019).
- Maintain and strengthen septic system management and encourage residents to be aware of surface contamination risks to their groundwater supply.
- Continue active participation in the AEPA Statement of Concern process initiated for licence applications DAPP0157114 (Wells 15 & 16) and DAPP0157117 (Wells 14, 17, 18, 19, & 20). If concerns are addressed to the Summer Villages' satisfaction, request formal conditions on any approved licenses, such as:
    - Mandatory long-term groundwater monitoring.
    - Public reporting of groundwater levels.
    - A defined mitigation/compensation framework for any impacted domestic wells.

Jarvis Bay

- Initiate planning for alternative water supply options (e.g., connection to Town system or regional supply) as a near- to mid-term contingency.
- Develop a domestic well interference response plan, including:
    - Thresholds for action (e.g., reported yield reduction).
    - Emergency water supply provisions.

Birchcliff	• Coordinate with Jarvis Bay on monitoring and response planning due to proximity to proposed wells.
Norglenwold	• Collect information from residents on current well performance and any experienced supply issues to establish trends and explore potential correlations to recent development in the Town. • Reassess risk periodically as new Town wells are developed or pumping increases.
Sunbreaker Cove	• No specific action.
Halfmoon Bay	• No specific action.

6. Closure

This report has been prepared for the exclusive use of The Summer Villages of Sylvan Lake. It is intended solely to present the findings of the Groundwater Literature Review. Documents reviewed are listed in Table 1 of this report. Any findings are limited to the currency and completeness of the documents listed. It is not recommended that this report be widely published or used for any other purpose which may result in external review because of the risk of misinterpretation.

This report was prepared by Hazen and Sawyer Canada Ltd., operating as WaterSMART | A Hazen Company.

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Appendix A: Scenario 2

For Scenario 2, there appears to be a discrepancy between the main body of the Hydrogeological Model Report, Appendix B, and public license documents. A claim is made in the Hydrogeological Model report that additional capacity is available on Wells 1, 3, 9, 11, 12, and 13, and that the requested capacity is available on New Well 1 West and New Well 2 East. However, WaterSMART has found that the modelling results these claims are based on are possibly up to 30% inaccurate.

WaterSMART identified this discrepancy prior to attaining the new license application documents in June 2026. Those new license application documents indicate that Scenario 2 is no longer used by the Town for planning purposes, therefore the discrepancy is not expected to have material impacts going forward. However, it is noteworthy that the license amendment for an increased pumping rate on Well 3 appears to be based on findings that were prone to this discrepancy.

ISL describes Scenario 2 in the main body of the Hydrogeological Flow Report as:

> *"All seven active groundwater source wells pumping at their maximum licensed annual rate. It should be noted that in the case of Wells 1, 5, and 6, this is a lower rate than in Scenario 1, as the wells commonly pump more than the license allows.*
>
> *Currently inactive Wells 9 and 13 were also included and assumed to be pumping at their maximum licensed annual rate.*
>
> *New Well 1 West and New Well 2 East, 2 wells near the north reservoir that had a pumping test conducted in 2018 and a long-term sustainable yield calculated, were also added to this scenario as the Town was considering purchasing the wells. These wells were assumed to be pumping at the calculated long-term sustainable yield."*

As seen in Table 10, the actual maximum licensed annual pumping rates as written on the licenses appear to be between 12% (ERV) and 30% (ISL) higher than the pumping rates that were used in Scenario 2 modelling, assuming that the values included in Groundwater Flow Model Appendix B Table 1 Forward Modelling Scenarios are what were used in the model.

Table 10: Scenario 2 Discrepancies.

Well Name	Groundwater Flow Model Appendix B Table 1. Forward Modelling Scenarios	Groundwater Flow Model Main Body Table 1.1	License Documents that were valid in 2022 from ERV
	Scenario 2 (Licensed Case) Pumping Rate [m^3/day]	Licensed Maximum Daily Production Rate [m^3/day]	Licensed Maximum Daily Production Rate [6] [m^3/day]
Well 1	422	655	655
Well 3	324	589	589
Well 5	422	655	654
Well 6	422	655	655
Well 9	592	982	982
Well 10	1,636	1,635	1,635
Well 11	1,061	1,850	1,850
Well 12	852	852	851
Well 13	202	202	Not available
New Well 1 West	600	*600* [3]	*600* [3]
New Well 2 East	500	*500* [7]	*500* [3]
TOTAL	**7,033**	**9,175**	**8,971**

The discrepancy between WaterSMART and ISL is insignificant assuming that Well 13 is licensed for 202 m^3/day as claimed. However, the discrepancy between the licensed volumes and those used for modelling is substantial.

Note a key finding coming out of the Hydrogeological Model (2022) Scenario 2:

> *"All wells included in this scenario are modelled to have additional pumping capacity available, except for Wells 5, 6, and 10. Wells 5 and 6 are modelled to have less drawdown than Scenario 1 due to the decrease in pumping rate to the maximum licensed annual rates (Appendix B). This suggests that the maximum licensed rates at*

[6] Where licensed maximum daily production rates are not stated on the license, the licensed maximum annual production rate is divided by 365.25.
[7] The pumping rates for New Well 1 West and New Well 2 East were not included in Table 1 of the ISL report. Rather, these are referenced in the Water Act License Support Report.

> *Wells 1, 3, 9, 11, 12, and 13 can be increased from the rates they are at now, and New Well 1 West and New Well 2 East can be licensed and brought online without negatively impacting the aquifer."*

This claim may not be valid given that it is based on modelling of wells pumping at rates that are 30% lower than they are licensed for.

WaterSMART infers that the increased allocation rate issued to Well 3 of 721 m^3/day in November of 2025 is a result of this finding. The maximum daily pumping rates recommended for the licenses of New Well 1 West and New Well 2 East may not in fact be sustainable if Sylvan were to increase its use of the wells as stated in the key finding.

Appendix B: Statement of Concern

During the preparation of this literature review (June 2026) the Summer Villages received notice from AEPA regarding 2 applications for water licenses under the *Water Act* filed by the Town for 7 new groundwater wells. WaterSMART conducted a brief review of the applications and drafted the following preliminary list of questions for the Summer Villages to consider.

The proposed wells are proximate to existing residential developments and domestic groundwater users within Summer Villages communities (specifically Jarvis Bay and Birchcliff) east of Sylvan Lake. Jarvis Bay is within 1 - 2 km of all 7 proposed wells. Birchcliff is within 1 - 2 km of Well 15 and Well 16. The Summer Villages as a whole, including Norglenwold, are concerned that the cumulative effects of existing and proposed municipal groundwater withdrawals have not been sufficiently demonstrated to be negligible for nearby groundwater users, based on the following comments:

- The groundwater impact assessment relies on numerical groundwater model predictions, which indicate limited drawdown impacts on surrounding groundwater users (i.e., <1 m). However, the pumping test results and aquifer parameter interpretations presented in the supporting reports contain uncertainty and, in some cases, do not align with the model results. For example:
    - Observed drawdown at Well 14 during the 72-hour pumping test (at 600 m^3/day) was approximately 7 m. The simulated long-term drawdown in the numerical model is approximately 3 m. This discrepancy is not explained in the report.
    - The selected analytical solution at Well 17 appears to fit the pumping well response but does not fit the observation well data, which shows greater drawdown than predicted by the selected type-curve. This suggests that the aquifer may be less transmissive at greater distances from the pumping well.
    - The selected analytical solution for Well 18 yields an anomalously high transmissivity estimate (5,806 m^2/day), which does not fit the observation well response. This raises uncertainty regarding drawdown propagation away from the pumping well and the risk of potentially underpredicting drawdown away from the pumping well.
- The supporting reports do not clearly demonstrate how the pumping-test-derived transmissivity and storage values compare to the final hydraulic conductivity and storage values assigned within the numerical model.
- The groundwater model appears to be primarily based on average recharge and average lake level conditions, and it is unclear whether potential impacts under drought conditions, reduced recharge conditions, and/or low lake water levels have been fully evaluated through sensitivity analyses. These conditions would represent periods of vulnerability for domestic groundwater users and could result in greater drawdown than is presented in the reports.
- The supporting reports identify a hydraulic connection between Sylvan Lake and the groundwater system; however, the implications of increased municipal pumping on groundwater flow patterns adjacent to the lakeshore remain uncertain. Notably, it is unclear whether increased pumping

could alter groundwater gradients, increase induced recharge from Sylvan Lake, and/or adversely affect groundwater quality in areas supporting domestic groundwater users.

- If the concerns noted in this SOC are addressed to the satisfaction of the Summer Villages and the Town is permitted to withdraw from these wells, then the Summer Villages recommend that AEPA consider requiring a groundwater monitoring and response program as a condition of License approval. Such a program could include long-term groundwater level monitoring, public reporting of results, and a process for investigating and mitigating unforeseen impacts to domestic groundwater wells should they occur.