

April 7, 2026

By e-mail:

Mr. Jeremy Huet
Operations and Utilities Director
Town of Okotoks

Subject: Okotoks South Reservoir Levy Clarification

Mr. Huet

This memorandum documents the outcome of recent discussions regarding offsite levy eligibility and phasing for the proposed Zone 3S Reservoir. The purpose of the discussions was to clarify the intent of storage volumes identified in the 2022 Zone 3S Reservoir report, address concerns related to resiliency and redundancy storage, and establish a defensible basis for near-term offsite levy calculations that supports ongoing development. This memorandum is intended as a clarification of the 2022 Zone 3S Reservoir report and does not revise or supersede the original technical analysis.

The original Zone 3S Reservoir planning assessed existing and growth-related storage using established design criteria (Alberta Environment Standards and Guidelines) and an alternative design standard, Max Day Demand volume, which allows for additional system resiliency. The ultimate reservoir sizing was proposed to be 22,000 m³. Recent efforts to finalize the report prompted renewed review of whether this alternative standard should be utilized for the reservoir sizing in the offsite levy, given the absence of an adopted Town standard defining required resiliency storage and the potential for benefit allocation disputes.

Alternative Storage Standard, Resiliency and Benefit Allocation

The alternative storage standard for resiliency, which applies the projected Maximum Day Demand volume rather than the typical Alberta Environment and Protected Areas (AEPA) reservoir sizing criteria, was identified in the 2022 report as a conceptual measure to enhance reliability during a regional supply interruption. However, the Town does not currently have a formal policy or adopted design standard that defines redundancy targets or outage-based storage requirements.

Based on the prevailing AEPA standards, the initial phase of storage can be appropriately justified as growth-related infrastructure under conventional reservoir sizing criteria. Storage volumes exceeding this baseline, intended to address system redundancy risks such as a single-feed regional transmission pipeline failure and associated repair timelines, would extend beyond currently adopted standards and require additional technical justification, policy direction, and defined cost-allocation methodology between existing users and growth.

Accordingly, it is recommended that the Town undertake further evaluation of outage-based storage requirements to establish a defensible resiliency standard and update its design criteria as appropriate. This approach maintains alignment with current AEPA standards for growth-related sizing, while enabling future phases to formally address system resiliency objectives and ensuring that growth is assigned benefit in a fair and representative manner for levy eligibility.

Zone 3S Reservoir Phasing for Levy Eligibility

To address these concerns, the proposed alternative for the Zone 3S Reservoir is to be phased such that Phase 1 includes only growth-driven storage required to service proposed development. In the case, the Phase 1 storage, currently proposed in the 2022 report to be 8,000 m³, would be fully attributable to growth and is therefore eligible for inclusion in the offsite levy bylaw. The alternative Maximum Day Demand volume calculation which allows for resiliency identified in the earlier report is explicitly deferred and excluded from current levy calculations. Lands required for the ultimate reservoir build-out remain protected to preserve future expansion options once standards and funding responsibilities are clarified.

The following table shows the projected volume requirements for the development of the lands in the Zones 1S, 2S and 3S areas under each of the time horizon scenarios, excluding assessment of the existing system. This is utilizing the Alberta Environment Standards and Guidelines criteria for reservoir volume sizing, which is a standard that has been adopted by the Town.

The Volume Calculation is = A + B + C where:

- A = Fire storage (2,430 m³ for ICI land uses, as per the 2020 Water Master Plan)
- B = Equalization storage (25% of MDD)
- C = Contingency storage (15% of ADD)

This ensures that the initial phase of the new reservoir is sufficient for the projected growth, and can be fully attributable to growth.

Scenario	A - Fire Storage (m ³)	B - Equalization Storage (m ³)	C - Contingency Storage (m ³)	Storage Needed (m ³)
Short Term	2,430	402	282	3,114
Mid Term	2,430	895	477	3,801
Long Term	2,430	1,406	671	4,506
Full Buildout	2,430	3,884	1,554	7,868

As shown above, the proposed 8,000 m³ Phase 1 storage volume is sufficient to support the Full Buildout of the development areas in Zones 1S, 2S and 3S under adopted Alberta Environment sizing criteria. Existing system storage requirements are adequately addressed by the current reservoir infrastructure at the Water Treatment Plant. Accordingly, the Phase 1 volume provides a clear and defensible delineation between growth-related infrastructure and existing system benefit.

Offsite Levy Calculation Support

With the proposed revisions to the reservoir levy eligibility and phasing, further information will be required to support the calculations for distribution of the levy with future development. The proposed full buildout area consists primarily of Residential and Industrial, Commercial, and Institutional (ICI) land uses, in approximately equal areas.

As per the Zone 3S Reservoir Feasibility Study Phase 2 document, ICI land uses were proposed to have “unit equivalents” with the same density as residential units, 12 units/ac (30 units/ha), allowing for the discrete division of leviabile costs based on land area through units and unit equivalents.

The following table shows the full buildout area and unit / unit equivalents for each land use.

Land Use	Area (ha)	Unit / Unit Equivalents
Residential	400	12,000
ICI	470	14,100
Total	870	26,100

In the document, the Phase 1 reservoir costs were estimated to be \$10,500,000 in 2022 dollars, which reflected unit rates and construction cost assumption available at the time of the report.

Utilizing the unit / unit equivalents to distribute costs, the reservoir cost would amount to approximately \$402/unit.

Cost escalation to bring the project cost estimate up to 2026 dollars will likely be required, and other methodologies for distributing levy costs may be investigated.

The other projects recommended in the Zone 3S Feasibility Study, which include the pump station and supply line upgrades, should maintain the same cost splits recommended in the study. As noted in the study, the cost splits apply to the Short Term scenario, which is Phase 1 of the pump station and construction of new supply lines to the reservoir with consideration for overside. These projects work to support both future growth in the Short Term scenario, and the existing system. Further upgrades, which include Phases 2-4 of the pump station, and upsizing of the existing network for the supply lines, are fully attributable to growth.



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Conclusion

In summary, the Phase 1 Zone 3S Reservoir volume is justified under current AEPA-adopted standards and is appropriately attributable to growth for offsite levy purposes. Additional storage intended to address system-wide resiliency objectives remains a valid planning consideration but requires formal policy development, defined service level targets, and a structured cost-allocation framework before implementation. This approach maintains technical defensibility for near-term levy calculations while preserving flexibility for future resiliency planning and phased capital delivery.

Regards,

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