Creative Thinking
Practical Results

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Memo/Transmittal

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Date:	August 23, 2023	**RJC No.:**	KEL.110154.0005

☐ For your review	☒ As requested	☐ For Prompt reply	☐ Other

From:	Deanna Perrin	**Re:**	City of Nelson – Civic Centre Revitalization Project – Current Snow Load Capacity

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As discussed in project meetings, and as documented in our Structural Studies report of July 14, 2023, the existing roof structure of the Theatre portion of the Nelson Civic Building, 719 Vernon Street, is not capable of supporting the current Code mandated snow load. On-site visual review found that truss members have experienced loading sufficient to deform the wood fibres, this indicates that the snow load on the trusses does exceed the truss capacity – corroborating the calculated results.

Available information on the trusses indicates that the snow load capacity is 33 pounds per square foot (unfactored) – significantly below the prescribed 73 pounds per square foot. Since it is unlikely that the recommended roof structure upgrade will occur prior to the upcoming winter the City will need to develop operational procedures to mitigate risk to building users.

A typical approach is for the Owner to prescribe operating limits and operational review procedures. Snow load can be removed from the building (although should not be directed to the adjacent arena roof). Snow build-up should be limited to the available capacity (33 pounds per square foot, or approximately 14 inches of build-up). Note that unit weight of snow and ice vary with moisture content and time – a build up of dry new snow on the order of 18-inches may be acceptable, while the limit for ice will be on the order of 7-inches maximum. In the event that build up is near this limit and a storm is imminent building occupancy should be restricted.

We trust this information is helpful to the City in developing your plans and procedures. Safe operation of the building is the responsibility of the building owner, and the above information is provided to aid in guiding development of safe operation parameters.

Yours truly,

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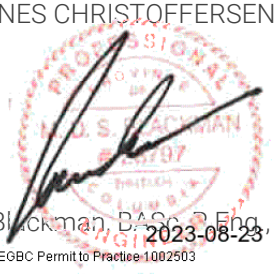

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Principal

XX/xx