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Technical Memorandum

DATE: December 21, 2023

TO: Jarett Hayes, Senior Capital Project Manager
City of Coquitlam

FROM: Sonya Oetterich, M.Sc., R.P.Bio.

RE: **CITY OF COQUITLAM – AUSTIN HEIGHTS FIRE HALL FAÇADE REPAIRS**
Wildlife Assessment
Our File 0456.152-300

1. Introduction

1.1 Project Background

The City of Coquitlam (the City) is planning to complete targeted exterior repairs to the Austin Heights Fire Hall in early 2024. The building was constructed in 1988 and there has been reoccurring damage to the façade from birds (thought to be Northern Flicker). The City is planning to complete the repairs in January or February 2024, in advance of the bird nesting window.

Kerr Wood Leidal Associates Ltd. (KWL) was retained by the City to complete a wildlife assessment to ensure the repair works will not impact birds, year-round protected nests, or other wildlife. This technical memorandum provides the results of the desktop review and site visit and appropriate measures to be implemented before and during the works to mitigate potential impacts to wildlife.

1.2 Location

Austin Heights Fire Hall is owned by the City and is located at 428 Nelson Street in Coquitlam. The fire hall is located in a mixed-use area with single-family residential development to the south and commercial development to the north along Austin Avenue.

1.3 Regulatory Context

Federal and provincial legislation provide protections for wildlife, including birds. Considerations for the following legislation has been incorporated into the assessment and recommendations for the façade repairs:

- **BC *Wildlife Act* -** The BC *Wildlife Act* regulates conservation and management of wildlife species and their habitat in BC, including designation of special protections for certain species. Section 34 of the *Act* protects nests of eagles, peregrine falcons, gyrfalcons, ospreys, and herons year-round. This means that a tree or other structure containing such a nest must not be felled, even outside of the breeding season for these species. Where work is needed near an active nest of the above-listed species, buffers, as determined by a Qualified Environmental Professional (QEP), should be established around the nest to minimize disturbance. In addition, the *Act* provides protections for bats from harassment and killing.

- ***Migratory Birds Convention Act (MBCA) –*** The *MBCA* is administered by Environment and Climate Change Canada and prohibits the injury, molestation, and destruction of migratory birds and their nests. The MBCA also provides year-round protection and additional monitoring requirements for nests of species listed under Schedule 1 (e.g., Pileated Woodpecker).
- ***Species at Risk Act (SARA) –*** The *SARA* is administered by Environment and Climate Change Canada and provides protections for at risk wildlife in Canada, including protections for their habitat and actions for species recovery.

2. Wildlife Assessment

2.1 Methods

Desktop Review

A desktop study was completed to gather information regarding wildlife species with the potential to be present at the project site and use the cavities created in the façade, as well as species that may be impacted by construction disturbance. The desktop review was used to guide the site visit.

The following data sources were used for the desktop review:

- QtheMap (City of Coquitlam 2023)
- British Columbia (BC) Wildlife Tree Stewardship (CMN 2023a)
- British Columbia (BC) Great Blue Heron Atlas (CMN 2023b)
- British Columbia (BC) Coquitlam River Watershed Atlas (CMN 2023c)
- BC Species and Ecosystems Explorer (MOE 2023a)
- CDC iMap (MOE 2023b)

Site Visit

A site visit was conducted by a KWL biologist (Sonya Oetterich, M.Sc., R.P.Bio.) on the morning of December 14, 2023. The weather was mild (7°C), overcast, and rainy. The site visit included inspection of the cavities using binoculars, surveying for bird activity around the façade and in trees in the vicinity of the fire hall, and surveying of the ground below the façade for whitewash and guano.

2.2 Results

Desktop Review

Birds

Northern Flickers (*Colaptes auratus*) have been observed excavating cavities in the façade by fire hall staff (J. Hayes, personal communications, 2023). Northern Flickers (NOFL) are common throughout the Lower Mainland year-round and are highly adaptable to a variety of habitats, including the modified urban environment. NOFL excavate cavities, may reuse nest sites, and have been shown to compete with secondary cavity nesters for existing nest site (Martin et al. 2004). As such, it is possible that NOFL may return to use the existing cavities in the façade during the nesting season.

Other woodpeckers, specifically Pileated Woodpeckers (*Dryocopus pileatus*), are unlikely to use the cavities in the façade. Nests of Pileated Woodpeckers (PIWO) are protected under Schedule 1 of the

Migratory Birds Convention Act. These woodpeckers occur throughout southern BC and are present year-round. However, they almost always nest in cavities they excavated (i.e., very rarely secondary cavity nesters) and they typically use the same sites year over year. In addition, PIWO excavate nesting cavities predominantly in large, solid trees with heart rot, typically set in mature mixed or coniferous forests (Easton 2015).

European Starlings (*Sturnus vulgaris*) are a non-native, invasive species common throughout the Lower Mainland. European Starlings (EUST) often usurp cavities from excavators, including NOFL, and outcompete native secondary cavity nesters for nest sites (Martin et al. 2004); they are also known to nest in cavities in buildings. EUST may also occupy the cavities in the façade during the nesting season.

Swallows are a group of aerial insectivores, typically migrating long distances to overwinter, and returning to the Lower Mainland during the nesting season. Barn Swallows (*Hirundo rustica*) are listed as Threatened under Schedule 1 of the *Species at Risk Act*. Barn Swallows (HIRU) are long-distance migrants, however, have been known to overwinter in the Fraser River delta in small numbers. HIRU are aerial insectivores that prefer open habitats close to foraging and nesting sites and near a source of mud (within 200 m) as they construct their cup nests out of mud and grass. HIRU nest sites are strongly associated with human-made structures (e.g., barns, garages, sheds, houses) with a horizontal ledge or vertical wall (Campbell et al. 1997). Barn Swallows are unlikely to use the cavities in the façade as there is limited open foraging habitat in the vicinity and as they are not known to be secondary cavity nesters.

Unlike Barn Swallows, Tree Swallows (*Tachycineta bicolor*), Violet-Green Swallows (*Tachycineta thalassina*), and Cliff Swallows (*Petrochelidon pyrrhonota*) are secondary cavity nesters, meaning they will readily use cavities excavated by other birds. These birds may also nest in crevices in human-made structures. These birds require open areas, often with lakes and wetlands, for foraging of insects; they preferentially site their nests adjacent to foraging habitats. As such, these swallows are also unlikely to use the cavities in the façade.

Nests of year-round protected birds have not been documented in the vicinity of the fire hall. The nearest documented Bald Eagle (*Haliaeetus leucocephalus*) nests are 4.5 to 5 km away from the site (Burnaby Lake and southwest of the Port Mann bridge) (CMN 2023a). The nearest documented Great Blue Heron (*Ardea herodias fannini*) nest is >1.5 km south of the site at Eaglequest Golf located south of Highway 1 (CMN 2023b). These are well beyond the required buffer distances under provincial best practices for urban and rural land development for the protection of these species (MOE 2005, Province of BC 2014)

Bats

Bats are known to roost in buildings in BC. Little Brown Myotis (*Myotis lucifugus*), Yuma Myotis (*Myotis yumanensis*), Townsend's Big-Eared Bat (*Corynorhinus townsendii*), and Big Brown Bat (*Eptesicus fuscus*) are the most common species of bat found roosting in buildings (Community Bat Programs of BC 2017). The former three species are provincially blue-listed and Little Brown Myotis is also listed as Endangered under the *Species at Risk Act* (MOE 2023a). As per protections under the *Wildlife Act*, it is illegal to evict or exclude bats from roost sites during the maternity season (May 1 to September 1).

Bats typically hibernate in the winter months and leave buildings in the fall to hibernate in a cave or mine. Pregnant females typically arrive at roost sites between March and June. Pups are typically born in early to mid summer and require approximately two months for gestation. Once they can fly, pups may return to the roost regularly until the fall (Community Bat Programs of BC 2017). As such, it is highly unlikely that bats are present in the cavities in the façade in the winter, however, bats may use the cavities as roost sites throughout the spring and summer.

Given the landscape setting, no species or ecosystems of conservation concern are likely to occur at the project location or be impacted by the proposed works (MOE 2023b).

Site Visit

No active use of the façade by wildlife was documented during the site visit (Photo 1). Very limited bird activity was observed during the site visit; this is likely due to the time of year and poor weather conditions. No whitewash or guano was observed on the ground under the façade, however, whitewash (appeared to be dried) was observed on the façade immediately below multiple cavities (Photo 2, Photo 3). This likely indicates use by birds during the nesting season. Many cavities were adjacent to previous repairs (Photo 4).

The surrounding landscape is highly developed with limited canopy cover. Residential street trees, including large cedar trees, were in the vicinity of the project site. These habitat conditions are unlikely to support raptors, or other birds that may require considerations for construction buffers to minimize disturbance.

Photo 1: Austin Heights Fire Hall Facade

Photo 2: Bird Damage on Both Sides of Facade

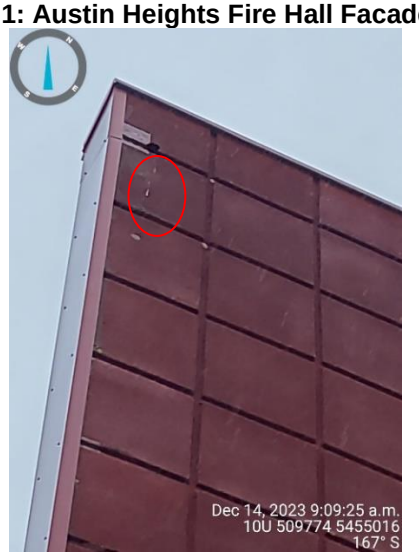

Photo 3: Whitewash Directly Below Cavity

Photo 4: Cavities Adjacent to Previous Repairs

3. Conclusion & Recommendations

No active use of the fire hall façade by wildlife was documented during the site visit, however, whitewash was observed on the façade immediately below multiple cavities, indicating use by birds, likely during the nesting season. The cavities in the façade are most likely used by Northern Flickers and European Starlings during the nesting season. Bats may also use the cavities as roosting sites in the spring and summer. However, use of the cavities in the winter by any of the aforementioned species is highly unlikely. Year-round protected nests were not detected, nor are likely to occur in the vicinity of the fire hall.

Appropriate timing of the façade repair works is imperative to avoid and minimize impacts to wildlife that may use the cavities in the façade during the nesting season. The following timing considerations are recommended:

- Façade repairs should be completed outside of the general nesting window for the area (March 1 to August 31). If works cannot be completed before the commencement of the nesting window, bird nest surveys should be undertaken by a QEP prior to start of works. If active nests or nesting activity is detected in and around the facade, works should be deferred until the QEP has confirmed the nests are fledged.
- Façade repairs should be completed in accordance with guidance for management of bats in buildings (Community Bat Programs of BC 2017). Exclusion (i.e., façade repairs) should occur between November 1 to February 28 to avoid impacts during the maternity season. If works are needed in the fall (September 1 to October 31), a one-way door should be installed to allow any remaining bats to exit prior to sealing the repairs.
- If bird nesting activity or bat roosting is observed in the facade during the repair works, stop work immediately and contact the QEP to provide recommendations.

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Revision History

Revision #	Date	Status	Revision Description	Author
0	December 21, 2023	FINAL		SBO

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