Appendix J Migratory Bird Nest Management Plan

J.1 Background

The Migratory Birds Convention Act (MBCA), 1994 protects migratory birds, their nests and eggs. It prohibits the harming, killing, disturbance or destruction of migratory birds, nests and eggs. Birds not addressed under the MBCA are grouse, quail, pheasants, ptarmigan, hawks, owls, eagles, falcons, cormorants, pelicans, crows, jays, kingfishers, and some species of blackbirds. Most species not protected by the MBCA are protected by the provincial Fish and Wildlife Conservation Act (FWCA). Some species are also protected by provincial and/or federal species at risk legislation.

Birds and their nests and eggs may be inadvertently destroyed through the undertaking of certain industrial activities (e.g. during vegetation clearing). This is referred to as "incidental take". This Migratory Bird Nest Management Plan has been created to reduce the risk of harm to migratory birds due to incidental take related to the construction, operation and closure of the Hardrock Mine. This Plan is intended to apply to native species of bird that nest in Ontario (see Attachment A). This Plan does not apply to European Starling, House Sparrow, Red-winged Blackbird or Rock Pigeon.

Management Plans specific to Bank Swallow, Bald Eagle and Barn Swallow are provided in Appendices F, G and I, and a follow up monitoring plan for breeding birds is provided in Appendix H. Management plans that include supplemental mitigation and management direction relevant to reducing residual impacts on migratory birds include the Wildlife-vehicle monitoring and management plan and the Wildlife-water monitoring and management plan and (Appendices D and E). This Migratory Bird Nest Management Plan is intended to be read and implemented alongside each of these plans. Together, it is expected that implementation of the best management practices contained within the Hardrock Mine BMMP will contribute to the long-term conservation of the local bird communities and their habitats.

J.2 Mitigation

The most effective way to reduce risk of incidental take is to avoid activities that could result in incidental take (e.g., vegetation clearing) during the breeding period for birds. The following mitigation measures will be implemented to reduce the risks to migratory birds and their nests:

- Project personnel and contractors will be educated about the MBCA, the FWCA, the Endangered Species Act, the Species at Risk Act and the protections afforded to birds and their nests under these laws as well as the steps to take if a nest is found.
- Removal of any raptor nests will occur outside of February 1 to July 31 or a period as indicated in any FWCA permits that are obtained.
- Vegetation clearing and site preparation activities that could result in the incidental take of migratory bird nests will occur outside April 20 to August 31 period to the extent feasible.

- If activities that could result in incidental take cannot be avoided between April 20 - August 31, a Qualified Biologist will conduct nest surveys in accordance with the methods outlined in Section J.3 and apply a buffer zone around the nest using guidance provided in Section J.4.

- Excavations will commence outside the critical breeding period for common nighthawk (April 20 - August 15) to the extent feasible. If excavations must be commenced during this time period, nocturnal surveys (as detailed in Appendix H.2) or targeted nest searches (see Section J.3) to detect the presence of common nighthawk (and other ground nesting birds such as killdeer) will be conducted prior to excavations starting and a buffer zone established (see Section J.4) where common nighthawk nesting or suspected nesting is detected.

- Deterrents or exclusion measures may be implemented to discourage birds from nesting in areas where project activities are required in the breeding season and which may cause disturbance or destruction of nests. The use of deterrents should primarily be limited to small areas and for short durations as this is generally when they are most effective. Beyond the removal of vegetation, deterrents may include bird spikes, tape, noise makers, regular presence of humans/activity or use of falconry. The implementation of deterrents will be determined on a situation-specific basis by a Qualified Biologist as the effectiveness of deterrents varies depending on the situation and effectiveness can decline over time. Deterrents should be implemented prior to the nesting season and maintained through the season. Monitoring (Section J.3) should occur prior to project activities starting. If nesting does occur, the deterrent should be removed and a buffer zone established around the nest.

- If an active nest (i.e. a nest under construction, a nest containing eggs or young or where an adult is incubating) is discovered during operation, the following steps will be implemented:

    - The Project personnel/contractor will move away as quickly and quietly as possible and contact the Environmental Superintendent with the relevant details (location, species and any details regarding the presence of eggs or nestlings). Personnel will avoid disturbing the surrounding vegetation and avoid making a direct trail to and from the nest.

    - The nest will be protected with a buffer zone that will be determined using guidance provided in Section J.4 and activities within the established buffer zone restricted until the nest is no longer active.

- If an inactive nest is identified, it will reported to the Environmental Superintendent. Direct removal of the nest will be avoided to the extent possible. However, if nest removal cannot be avoided, GGM will obtain relevant permits authorizing its removal if the nest belongs to:

    - a migratory bird species that re-uses nests (e.g., swallows, great blue heron)

    - a species protected by the FWCA (e.g., owls, raptors)

- additional authorizations may be required if the nest belongs to a species at risk.

J.3 Monitoring

J.3.1 Pre-clearing Nesting Surveys

Prior to undertaking activities that may result in incidental take of bird nests (e.g. vegetation clearing, removal of structures that could support nesting), nesting surveys will be conducted. For large areas of complex and/or dense vegetation (e.g. wetlands, woodlands), it is expected that active nests will be present during the active nesting period, however the ability to detect nests is generally considered low, and the nest search process itself may disturb nesting birds (ECCC 2018). Survey methods will be determined by the Qualified Biologist based on the site-specific conditions (habitat size and type) where the activity will occur. Methods employed will include either passive or targeted nest search methods which will be implemented with consideration of the following:

- ***Passive***: Passive searches for evidence of nesting (i.e. behavioural cues) may be undertaken in areas of large and or complex/dense vegetation
- ***Targeted***: Targeted nest searches may be conducted in situations where there is a reasonable expectation of detecting nests without disturbing them. For example:
  - where vegetation removal is limited (e.g. to one or a few trees)
  - open, urban settings
  - structures, buildings or other human habitation
  - for conspicuous nesting species (e.g. raptors, stick or bank colonial nesting species)

For all nesting surveys:

- Nest surveys will be conducted by a Qualified Biologist with familiarity with:
  - the kinds of bird species occurring in the area
  - the kinds of habitats used by the bird species
  - where species nest (e.g., ground, cavity, canopy, shrub, etc.)
  - how to identify species by sight and sound, and recognize behaviours that birds exhibit with regard to breeding
  - experience in the survey methods to be employed

- Nest surveys will be completed as close as possible prior to the start of any project activities that could result in incidental take. Ideally, project activities should commence within a maximum of 72 hours of a nest survey being completed.

- If project activities have not started within 72 hours following the nest survey, the survey must be repeated to determine whether new nests have been established within the survey area.

- The location (i.e. tree, shrub) of the nest should not be directly marked with flagging tape or other markers. The buffer zone around the nest or suspected nest location should be delineated as per the guidance in Section J.4.

Passive Nesting Surveys

- The survey should be completed throughout the area to be cleared, and in any vegetation that occurs within the 30 m of the area to be cleared.

- Surveys will involve a combination of transects and spot-mapping. The surveyor will walk multiple parallel or perpendicular systematic transects through the area to be cleared/disturbed (and the adjacent 30 m area).

- Behaviour cues will be used to determine that an active nest is present. Along each transect, the location and breeding evidence observed for each bird will be recorded. All signs of breeding activity (i.e. breeding evidence in accordance with Ontario Breeding Bird Atlas protocols, 2001) will be recorded and mapped, including:

    - carrying of food, nest materials or fecal sacs, cavity excavations, calling or singing, an active nest (with incubating bird, eggs or nestlings), an adult entering or existing a cavity, singing males and calling males and females within the area, a pair, young begging for food, distraction displays, adults giving alarm calls or exhibiting agitated behavior

    - Spot mapping will be completed. Visual and auditory cues will be used to locate individual birds, and their location will be marked on a map. As individual birds move around or are detected successively, the number of observations may form a cluster on the map. These clusters can indicate a high likelihood of nesting occurring in that area.

    - A determination of nesting presence will be made by the Qualified Biologist and will be based on either the discovery of a nest location, or through lines of evidence that suggest a nest is present (i.e., suspected nest). Evidence of nesting activity and professional judgment will be used to recommend mitigation (e.g., setbacks), even if a nest is not found.

Targeted Nest Search

- Targeted nest searches will involve visually searching select areas (e.g. trees, shrubs, structures, buildings and the ground) for nests or signs of nesting.
- All confirmed or suspected nest locations will be recorded (GPS and/or mapped location). For each nest that is identified, the following information will be recorded:
    - The nest location (UTMs) using a handheld GPS.
    - The species attributable to the nest (if possible).
    - The nest status (e.g., active or inactive)
    - The nest and general habitat characteristics (e.g., tree species, nest height, dbh and position; and dominant vegetation cover),
    - Nest contents if possible (e.g., presence of eggs, young, or empty, or under construction)
    - Adult behaviour (e.g., nest building, incubating, feeding).

J.3.2 Aerial Survey

Throughout the life of the Project an annual survey will be undertaken by air to document and confirm the location of stick nests and their activity. Methods are detailed in Appendix G.

J.4 Buffer Zones

Once a nest (or suspected nest) location is identified, a setback distance will be identified and delineated to create a buffer zone around the nest, in which project activities and human presence will be restricted while the nest is active.

- The buffer zone area will be flagged or staked according to the recommended setback distance (see below). If a suspected nest cannot be visually located, a setback distance around the approximate nest location will still be prescribed, and the area will be flagged or staked. The buffer zone may be delineated by an assigned coloured flagging tape, stakes or plastic fencing.
- The presence of the buffer zone and the restriction on activities will be communicated to relevant Project personnel by the Environmental Superintendent.
- No activities should occur within the buffer zone until the nest is no longer active. The end of nesting may be determined either by:
    - conservatively estimating the timing of when the nesting activity is expected to end based on observational evidence (e.g., nest-building; egg-laying; age of nestlings) and applying this as an end date for restricted activities in the buffer zone, or

- for nests where nesting activity may be monitored from a distance without disturbance to the nest or nesting birds, the status of the nest may be assessed by a Qualified Biologist and the activity restriction removed once the nesting activity has been determined by the Qualified Biologist to be completed (i.e. nestlings have fledged or the nest fails or breeding behaviors are no longer observed). The nest should be monitored following best management practices such as Bird Studies Canada's nest monitoring code of conduct (BSC undated) and the Cornell Lab of Ornithology's Nest Monitor's Manual (Phillips et al 2007).

- Once the nest is no longer active, a new nest search should be undertaken within the buffer zone prior to recommencing any project activities to assess whether any other bird nests have been established.

- If confirmed or suspected nests are identified, the buffer zone will remain in place until all nesting activity is completed.

- If no confirmed or suspected nests are identified project activities may resume within the buffer zone.

Identification of Setback Distances

The distance used to define a setback is measured as a radius around a nest, group of nests, suspected nest or nest tree or structure. Setbacks should be established by a Qualified Biologist based on best available information. Factors that will be taken into consideration when determining what size of setback to implement include:

- The type and duration of activity (e.g., hours or days; use of heavy equipment; number of workers):

    - Low intensity activities may include activities that are infrequent and/or of short-term duration such as very small crews or a single crew member conducting a short-term activity with no or small scale equipment, small vehicle traffic (car, light truck), regular maintenance activities (that do not result in significant noise/vibration).

    - Medium intensity activities may include operating haul trucks or installation of transmission lines.

    - High intensity activities are activities that result in significant noise and/or vibration, such as tree-felling and harvesting, road construction, blasting, drilling, excavation activities, facilities construction, operation of heavy machinery or regular approach by humans/ presence of human activity.

- species sensitivity (flush and alert distances)

- nest location (ground, shrub or tree), nest concealment, and habitat type and topography (as a natural buffer for noise and a visual barrier)

Setback distances will range depending on the species, with the smallest setback distance applied to urban nesting species that are accustomed to human presence and noise (e.g. American robin, mourning dove) and the largest setback distance applied for species that may be sensitive to human presence or noise (e.g. great blue heron, waterfowl or some raptors) or where high intensity activities are planned.

J.5 Reporting

All active and inactive nests will be immediately reported to the Environmental Superintendent for implementation of mitigation measures and appropriate staff informed of the mitigation measures associated with the nests.

All monitoring survey methods and results as well as actions (e.g. application of buffer zones) that are undertaken each year will be documented in the annual Biodiversity Assessment Report (see Section 7.2 of the BMMP). These results will be considered in conjunction with the results of the other relevant bird management plans (i.e. Bank Swallow, Barn Swallow, Bald Eagle and breeding bird follow-up monitoring program) and used to inform updates and modifications to this plan as required.

Details on all active nests that are identified will be also submitted annually to the Ontario Nest Records Scheme/ Project NestWatch (https://birdscanada.org/volunteer/pnw/index.jsp?lang=EN&targetpg=index&lang=EN&targetpg=index)

J.6 References

Bird Studies Canada. Undated. Nest Monitoring Code of Conduct. https://www.birdscanada.org/volunteer/pnw/index.jsp?targetpg=nwcode

Environment and Climate Change Canada. Guidelines to reduce risk to migratory birds. https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html, Last updated October 30, 2018

Ontario Breeding Bird Atlas Guide for Participants. 2001

Phillips, T., C. Cooper, J. Dickinson, J. Lowe, R. Rietsma, K. Gifford, and R. Bonney. 2007. NestWatch Nest Monitoring Manual. Ithaca, NY: Cornell Lab of Ornithology. http://www.birds.cornell.edu/bbimages/nestwatch/pdf_copy/NestWatchManual.pdf