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March 16, 2023

Filed Electronically

Canada Energy Regulator
Suite 210, 517 Tenth Avenue SW
Calgary, AB T2R 0A8

Attention: Ms. Ramona Sladic, Secretary of the Commission

Dear Ms. Sladic:

Re: NOVA Gas Transmission Ltd. (NGTL)
NGTL West Path Delivery 2023 Project (Project)
Certificate GC-134 (Certificate)
Condition 24: Breeding Bird Survey and Protection
File: OF-Fac-Gas-N081-2020-07 02

Pursuant to Certificate Condition 24,[1] NGTL advises that nest sweeps were conducted prior to the clearing since the start of the breeding period for raptor and owls (March 1, 2023) on the Turner Valley and Lundbreck Sections.

Attached as Attachment 1 is a summary of the survey results as of March 15, 2023, including proposed mitigation. No nests or evidence of breeding behaviour of species listed under the *Species at Risk Act* were identified. NGTL is currently implementing and will abide by the identified mitigation in Attachment 1, where appropriate and required. A summary of the survey methods is provided in the Breeding Bird and Nest Management Plan (Appendix 1F of the Environmental Protection Plan), which has been updated to align with current guidance from Environment and Climate Change Canada and is included as Attachment 2.

If the CER requires additional information with respect to this filing, please contact me by phone at (403) 920-5198 or by email at david_yee@tcenergy.com.

Yours truly,
NOVA Gas Transmission Ltd.

Original signed by

David Yee
Regulatory Project Manager
Regulatory Facilities, Canadian Natural Gas Pipelines

Enclosure

cc: Kevin Hill, Canada Energy Regulator

[1] Filing ID: C22329.

NGTL West Path Delivery 2023 Project Pre-construction Wildlife Survey Details

General Survey Details												Specific Observation Details																	
Timing				Location					Surveyor Details			Nest Location						What was observed						Mitigation					
Start Date (e.g., 05-May-22)	Start Time (24 hrs)	End Date	End Time	Spread	Start KP	End KP	Start UTM (Nad 83)	End UTM	Field Crew	General Survey Comments	Were any nests identified, or was any nesting or breeding behaviour observed? (if yes, complete the following Site Specific Details).	Nest Observation Date	Nest Observation Time	KP	UTM (NAD 83)	Surrounding Land use/ Habitat	Width/Size of habitat	Species	SARA Status	Observation (nest, young, behaviour, etc.)	If eggs obs, incubation days	Estimated Latest Hatch Date	Estimated max fledging date	How was nest marked?	Is the nest active as of March 16, 2023?	Nest ID #	Buffer marked? Size?	Proposed Mitigation and Comments
15-Mar-23	10:35	15-Mar-23	13:41	Longview	5+950	6+200	11U 0695829 5589659	11U 0695833 5589892	JP, ML	Two eagles were seen in and around the known Bald Eagle nest at EPP feature BAEA-1.	Yes	15-Mar-23	11:48	5+768	11U 0695654 5589449	Forested.	>1000m	Bald Eagle	Not at Risk	A pair of bald eagles were seen in the nest and flying around the vicinity of the nest. The male was observed foraging. Nest building and repair were also observed.	Unknown	Unknown	Unknown	The nest is documented and marked in the project Environmental Protection Plan (EPP) and in the "West Path Delivery 2023 Project Longview Section Bald Eagle Nest Management Plan".	Yes	BAEA-1	1000m setback.	The nest is located on federal lands (Bar U Ranch National Historic Site). Mitigation was developed in consultation with Parks Canada and includes monitoring when activity is taking place within the 1000m buffer. On March 15th, 2023, the resource specialists monitored the pair to get a 'baseline' for their level of activity/stress. From March 16th onwards, anytime construction activities take place within the buffer, a resource specialist will monitor the nesting pair for signs of stress. Activities permitted within the 1,000 m setback will be determined based on the eagles response to the disturbance.

Revision Log for the NOVA Gas Transmission Ltd. (NGTL) West Path Delivery 2023 Project
Breeding Bird and Nest Management Plan

Modification to the Breeding Bird and Nest Management Plan Appendix 1F Environmental Protection Plan (EPP)	Description of Change
EPP Appendix 1F – update of the Breeding Bird and Nest Management Plan	The Plan was updated to align with the risk assessment guidance and beneficial management practices available from Environment and Climate Change Canada (EC 2014, ECCC 2018), industry practices (e.g., CEPA 2013, CMIEA 2017), and professional experience and includes the following: • an overall risk assessment of potential harm to birds or their nests for the Turner Valley, Longview and Lundbreck Sections • the importance of avoiding the nesting period(s) of birds to the extent feasible • guidance on planned activities (e.g., vegetation clearing, grubbing, stump removal, stripping, moving of soil piles) that would trigger using non-intrusive methods to detect the presence of nests compared to planned activities that would not trigger a pre-disturbance survey (e.g., grading, trenching, lowering-in, tie-ins, welding) • the timing, frequency, and methods for how non-intrusive surveys for the presence of nests would be undertaken and how active nests, or suspected active nests, will be mitigated • the roles, responsibilities, and communication pathways of project personnel tasked with mitigating the risk of disturbance, destruction, or harm to birds or their nests • guidance on setback distances that will define protective buffers for nests and on the duration that activities within established buffers would be prohibited (except for certain circumstances) • a table of bird species known or likely to be breeding in the Turner Valley, Longview and Lundbreck Sections, including information related to nest type, nest location, and habitat preference that will be useful for risk assessment activities.

NGTL WEST PATH DELIVERY 2023 PROJECT

Bird Nest Management Plan

01193-STN-EN-PLN-0007
Revision 00
Issued for Use

January 2023

Prepared for:

NOVA Gas Transmission Ltd.

Prepared by:

Stantec Consulting Ltd.

Limitations and Sign-off

This document entitled Bird Nest Management Plan was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of NOVA Gas Transmission Ltd. (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by Nathan deBruyn Digitally signed by Nathan deBruyn Date: 2023.01.23 15:41:33 -07'00' _____
(signature)

Nathan deBruyn, M.Sc., R.P.Bio, P. Biol

Reviewed by Feltham, Gail Digitally signed by Feltham, Gail Date: 2023.01.24 08:14:24 -07'00' _____
(signature)

Gail Feltham, B.Sc.

Approved by Digitally signed by Justin McKeown Date: 2023.01.23 14:49:43 -07'00' _____
(signature)

Justin McKeown, B.Sc., P.Biol.

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January 2023

1.0 INTRODUCTION

NOVA Gas Transmission Ltd. (NGTL) applied to the Canada Energy Regulator (CER) and received Certificate of Public Convenience and Necessity GC-134 on December 1, 2022, for the NGTL West Path Delivery 2023 Project (the Project), which consists of the Western Alberta System (WAS) Mainline Loop No. 2 Turner Valley Section (Turner Valley Section), WAS Mainline Loop No. 2 Longview Section (Longview Section) and WAS Mainline Loop No. 2 Lundreck Section (Lundbreck Section). NGTL retained Stantec Consulting Ltd. to develop a Bird Nest Management Plan (the Plan) for the Turner Valley, Longview and Lundbreck Sections. The purpose of the Plan is to provide technical guidance and mitigation measures designed to avoid or reduce the risk of disturbance, destruction, or harm to birds or their nests during Project construction[1]. The Plan is based on risk assessment guidance and beneficial management practices available from Environment and Climate Change Canada (EC 2014, ECCC 2018), industry practices (e.g., CEPA 2013, CMIEA 2017), and professional experience and includes the following:

- an overall risk assessment of potential harm to birds or their nests for the Turner Valley, Longview and Lundbreck Sections
- the importance of avoiding the nesting period(s) of birds to the extent feasible
- guidance on planned activities (e.g., vegetation clearing, grubbing, stump removal, stripping, moving of soil piles) that would trigger using non-intrusive methods to detect the presence of nests compared to planned activities that would not trigger a pre-disturbance survey (e.g., grading, trenching, lowering-in, tie-ins, welding)
- the timing, frequency, and methods for how non-intrusive surveys for the presence of nests would be undertaken and how active nests, or suspected active nests, will be mitigated
- the roles, responsibilities, and communication pathways of project personnel tasked with mitigating the risk of disturbance, destruction, or harm to birds or their nests
- guidance on setback distances that will define protective buffers for nests and on the duration that activities within established buffers would be prohibited (except for certain circumstances)
- a table of bird species known or likely to be breeding in the Turner Valley, Longview and Lundbreck Sections, including information related to nest type, nest location, and habitat preference that will be useful for risk assessment activities.

[1] For this Plan, 'birds' include migratory birds protected under the federal *Migratory Birds Convention Act* and *Species at Risk Act*, and birds protected under the Alberta *Wildlife Act*.

1.1 REGULATORY CONTEXT

The Alberta *Wildlife Act* (s.36[1]) and regulations (s.96) protect birds by prohibiting acts that molest, disturb or destroy a nest of prescribed wildlife at prescribed times. This prohibition includes the active nests of endangered and threatened birds, raptors, upland game birds, all birds protected under the federal *Migratory Birds Convention Act* (MBCA) and nests of birds in wildlife or game bird sanctuaries. Typically, a sensitive raptor nest in Alberta (e.g., belonging to bald eagle [*Haliaeetus leucocephalus*] or other listed raptor species) is considered active during the winter following nesting activity, throughout the next year, with the active designation being dropped on June 1 of the second year of inactivity (GOA 2020). The *Master Schedule of Standards and Conditions* (GOA 2021) specifies setback distances for a variety of bird species in Alberta. Migratory birds and their nests are also protected from harm or possession under the federal MBCA (GOC 1994). Under the updated *Migratory Birds Regulations, 2022* (MBR; GOC 2022a), it is now prohibited to damage, destroy, disturb or remove migratory bird nests only when they contain a live bird or viable egg. However, the nests of 18 bird species listed in the MBR (e.g., pileated woodpecker [*Dryocopus pileatus*]) are protected year-round until they can be deemed abandoned. Under the *Species at Risk Act* (SARA), listed bird species are protected from killing, harming, harassment, or capture (GOC 2002). This includes prohibiting damage or destruction to their residence as defined under SARA for a species listed on Schedule 1.

This Plan describes mitigation to avoid or reduce the risk of disturbance, destruction, or harm to nesting birds in the Turner Valley, Longview and Lundbreck Sections. The Turner Valley Section occurs in nesting zone B4 and B5, the Longview Section is in nesting zone B4, and the Lundbreck Section is in nesting zone A3. The nesting calendar dates are listed by Environment and Climate Change Canada (ECCC) by habitat type and percentage of bird species likely to be nesting in a nesting zone at a given time (ECCC 2018). The full nesting calendar dates reflect the maximum breeding period for each nesting zone and habitat, and will be refined based on elevation, Project location within the nesting zone, and expected nesting species and their nesting habitats and chronology (see Section 1.2.2). Generally, Project clearing or construction work occurring during active nesting periods will require a non-intrusive survey to detect the presence of bird nests, depending on the activity, location, duration, and disturbance level. The following sections further clarify these instances and the sensitive periods associated with nesting birds in each pipeline section.

Bird species known or likely to be breeding in each section are provided in Appendix A (FAN 2007, GOA 2022; eBird 2022). The table also includes conservation status, nest types, and general habitat preferences for each species (FAN 2007). Bird species presented in Appendix A are based on breeding habitat availability within and adjacent to the Project footprint.

1.2 APPLICATION OF THE PLAN

1.2.1 Mitigation Framework

Appendix B illustrates the framework for determining the level of mitigation required. Project activities that may result in the disturbance of nesting birds include:

- Vegetation disturbance (e.g., clearing, brushing, mowing, grubbing)
- Soil disturbance (e.g., soil grading, stripping, moving of soil stockpiles)
- Disturbance of woody debris (e.g., grubbing, mulching, moving, clearing, or burning of brush piles)

Project activities that would not likely result in the disturbance of nesting birds include:

- Road work (e.g., fixing potholes, road grading)
- Pipe installation (e.g., trenching, stringing pipe, lowering-in, welding, backfilling)
- Clean-up (unless it involves an activity mentioned above such as moving of soil or brush piles)

Longer-term duration of above listed activities (e.g., ongoing road work in a specific area) may result in the disturbance of nearby nesting birds. If Project personnel are unsure about whether an activity has potential to cause disturbance or harm, a Qualified Professional (QP) should be consulted to determine if mitigation is necessary.

1.2.2 Timing and Risk Assessment

To avoid or reduce the risk of harm to migratory birds, two time periods must be considered: the Primary Nesting Period (PNP) and the Estimated Nest-Specific Restricted Activity Period (ENSRAP; Section 1.2.3.2). The PNP is the project-specific time period when there is an increased risk of harm to nesting birds. Based on the location of the Turner Valley, Longview and Lundbreck Sections within their respective nesting zones, and a review of bird species likely to occur, the PNP is defined by Stantec using the ECCC nesting calendars when greater than 10% of the species for the respective nesting zone are expected to be nesting for all habitat types combined (i.e., forest, open, wetland). Because bird species at risk (e.g., bobolink [*Dolichonyx oryzivorus*]) have been observed breeding in all three sections, the PNP is extended to August 31 (Gregoire 2020, pers. comm). NGTL is committed to avoiding the PNP to the extent practical, as a first measure of avoiding or reducing risk of disturbance, destruction, or harm to birds or their nests.

The habitat specific PNPs for the Turner Valley and Longview Sections in nesting zone B4 are:

- Forest: April 26 – August 14
- Open: May 5 – August 14
- Wetland: April 27 – August 3

The collective PNP in nesting zone B4, including the August 31 extension for species at risk, for the Turner Valley and Longview Sections is **April 26 to August 31**.

The habitat specific PNPs for the Turner Valley Section in nesting zone B5 are:

- Forest: May 3 – August 10
- Open: May 6 – August 10
- Wetland: May 1 – August 1

The collective PNP in nesting zone B5, including the August 31 extension for species at risk, for the Turner Valley Section is **May 1 to August 31**.

The habitat specific PNPs for the Lundbreck section in nesting zone A3 are:

- Forest: April 22 – August 6
- Open: April 28 – August 11
- Wetland: April 16 – July 31

The collective PNP, including the August 31 extension for species at risk, for the Lundbreck Section is **April 16 to August 31**.

If it is not practical to avoid project activities that could increase risk of harm to nesting birds during the PNP, NGTL is committed to mitigating the risk of harm by undertaking pre-disturbance bird nest surveys. Active nests and inactive specified nests (i.e., abandoned; not occupied by birds or viable egg) discovered outside of the PNP will also be subject to mitigation (e.g., restricted-activity setbacks).

1.2.2.1 Raptor Breeding Periods

Raptors (i.e., hawks, eagles, owls, and falcons) are highly sensitive to disturbance during the breeding period, which often begins before the PNP for migratory birds. A visual search will be undertaken to identify stick nests or cavities that may be used by breeding raptors. The visual search will occur in suitable habitat areas during the leaf-off period (e.g., February to early April) if vegetation clearing is planned to occur in those areas when raptors could be nesting. Stick nests can be reliably detected using aerial survey methods (e.g., using a helicopter or drone) where deciduous trees are present, but ground surveys are recommended for mixedwood or conifer-leading stands. The detection of cavity nests would also require ground surveys. Particular attention should be paid to large cavities, capable of supporting nesting raptors and pileated woodpecker, per ECCC (2022).

1.2.3 Pre-Disturbance Surveys

A pre-disturbance survey will be undertaken if project activities cannot avoid the PNP and have the potential to disturb or harm nesting birds. These surveys will be completed by a QP with knowledge of local bird species, habitat associations, and nesting chronology and behaviour. If an active or suspected nest is discovered, the QP will establish a restricted activity buffer around the nest (Section 1.2.3.2). Project activities will be avoided within the buffer until the nest or suspected nest is complete (i.e., birds have fledged).

Once the survey has been completed by a QP, and assuming no nests or suspected nests were discovered, the project activity (i.e., disturbance) should commence within 24-48 hours, but not more than seven days after the survey is complete. If the project activity does not occur within seven days of the pre-disturbance survey, another survey will be completed before work proceeds within the PNP. If a project activity is ongoing (i.e., if there are gaps in Project activities in the specified area that are less than seven days), a subsequent pre-disturbance survey will not be undertaken. If there is a gap in work activity lasting seven or more days, a new pre-disturbance survey will be undertaken.

1.2.3.1 Non-intrusive Nest Search Methods

Non-intrusive nest searches are completed using transects and used to identify the presence of bird species, locate their relative position in the search area, determine likelihood of nesting based on behavioural cues, identify the location of a suspected nest (e.g., cavity or stick nest) and determine whether a suspected nest is occupied. Search methods involve sit-and-wait observation and walking transects within and adjacent to the area planned for clearing or disturbance (i.e., movement or disturbance of vegetation, soil, or brush piles as described in Section 1.2.1). Parallel transects are used to systematically search the footprint and adjacent areas to increase efficiency of locating nests. Transects will be tracked using a GPS tracking device to record survey coverage. Spacing between crew members as they walk slowly along transects should range from 5-20 m but will vary depending on vegetation type and density. Searches will typically be undertaken from sunrise until approximately 5 hours past sunrise to include the period of highest activity for nesting birds. Generally, nest searches should not occur under cold temperatures (less than 0ºC), heavy precipitation, or when winds are > 20 kph.

1.2.3.2 Discovery of an Active Nest

If an active nest is identified, surveyors will take photographs of the nest and nest site (if the birds do not appear to be stressed) and record GPS coordinates, species, stage of the nest, and nest structure (e.g., tree species and height of nest). Field crews will reduce the amount of time spent at the nest site because a prolonged visit can alert a potential predator and can cause increased stress to adults, nestlings, or affect egg development. An active nest can be identified by:

- Observation of birds or eggs in a nest

- Observation of adult birds repeatedly carrying nesting materials or food
- Observation of adult birds displaying defensive behaviour such as alarm calling, diving, or aggression upon surveyor approach

Once a nest has been identified and documented, a setback and ENSRAP will be assigned to the active nest.

A setback distance defines a buffer zone around an active nest where project activities will be avoided. Recommended nest setbacks for bird species likely to occur in the Project areas range from 30-1,000 m (Table 1), depending on species, habitat type, and level of disturbance. A setback distance is typically defined by a fixed radius around the nest, but occasionally may be non-circular at the QP's discretion in cases of reasonable and pre-existing disturbance (e.g., a QP may establish a setback in a roadside ditch, but not have the buffer overlap the road to allow continued use of the road by traffic). A QP may determine a setback different from what is recommended in Table 1 based on surrounding landscape context, proposed level of disturbance, and the species' expected tolerance to the project activity (EC 2014). Once the setback is determined, the boundaries will be delineated in the field using methods (e.g., flagging, stakes) as determined by the Project's Environmental Inspector (EI), with the survey date and buffer distance clearly marked. Only the outer edges of a setback will be marked; nests and nest sites (e.g., trees) will not be marked as marking the nest can alert predators to a nest location and/or disturb the nest.

Table 1 Recommended Setback Distances from Nests of Bird Species Known or Likely to Breed in Project Areas

Species or Species Group	Recommended Setback (radius)[1]
Songbirds (non-sensitive)	30 m
Woodpeckers (non-sensitive)	30 m
Waterfowl (non-sensitive)	30 m, up to 100 m
Raptors (non-sensitive)	100 m
Shorebirds	30 m, up to 100 m
Pied-billed grebe[1]	500 m
Horned grebe[1]	500 m
Common nighthawk[2]	200 m
Black tern[1]	1,000 m
Great blue heron[1]	1,000 m
Osprey[1]	750 m
Golden eagle[1]	1,000 m
Northern goshawk[1]	500 m
Bald eagle[1]	1,000 m
Ferruginous hawk[1]	1,000 m
Barred owl[1]	500 m

Table 1 Recommended Setback Distances from Nests of Bird Species Known or Likely to Breed in Project Areas

Species or Species Group	Recommended Setback (radius)[1]
Pileated woodpecker[1]	100 m
Peregrine falcon[1]	1,000 m
Olive-sided flycatcher[2]	300 m
Barn swallow[2,3]	50 m (unless blasting, then 100 m)
Bank swallow[2,4]	50 m (unless blasting, then 100 m)
Bobolink[2]	200 m

NOTES:

[1] Setback recommendations based on GOA (2021)

[2] Setback recommendations based on ECCC guidance for species at risk from Gregoire (2020, pers. comm)

[3] Most barn swallow nests are established on anthropogenic structures and as such may be acclimatized to a certain level of regular activity. Alternate setback distances may be established by a QP on a case-by-case basis.

[4] There is limited information on effective setback distances for bank swallow nesting areas. Additionally, if nesting colonies are located near anthropogenic structures (e.g., bridges), they may be more tolerant of human activity than those colonies that are generally further from human activity. Alternate setback distances may be established by a QP on a case-by-case basis.

Once a nest or suspected nest has been identified, the QP will assign an ENSRAP. An ENSRAP represents the date the nest is likely to be complete (i.e., young birds have fledged and are independent from the nest). The ENSRAP is based on species and nest stage at discovery (e.g., eggs or nestlings present). If the nest stage is not able to be determined, nest stage will be estimated at the earliest nesting stage using available evidence. Birds carrying food will generally result in an estimation at the beginning of the nestling stage. QPs will take into consideration the species behaviour and time of year when estimating the stage of a suspected nest. At the end of the ENSRAP, the QP will revisit the nest to check for nest completion and either determine the nest to be inactive or extend the ENSRAP based on their observations. If an ENSRAP extends beyond the PNP, the nest will be considered active until clarified by a QP that it is not active.

1.2.4 Specified Nests

The nests of certain species are protected year-round under the *Wildlife Act* (e.g., great blue heron [*Ardea herodias*] nests; GOA 2020) and species listed on Schedule 1 of the MBR (e.g., pileated woodpecker; GOC 2022a), or during certain times of the year as a residence under SARA (Table 2). If a nest belongs to a specified species (whether it is discovered within or outside the PNP), a QP will be contacted to assess the nest and determine further mitigation.

NGTL WEST PATH DELIVERY 2023 PROJECT
BREEDING BIRD AND NEST MANAGEMENT PLAN

Introduction
January 2023

Table 2 Table of Specified Nests for Bird Species Known or Likely to Breed in Project Areas

Species or Species Group	Protection[1]	Waiting Period	Nest Description
Great blue heron	*Wildlife Act,* MBR	24 months[4]	Large stick nests positioned high up in trees near lakes or wetlands. Typically nests in colonies but can nest as single pairs.
Black tern	*Wildlife Act*	-	Nest in small colonies over shallow water on floating or elevated nest in emergent vegetation.
Osprey	*Wildlife Act*	To June 1 of the second year of inactivity[5]	Large stick nest is often in proximity to water, in open areas and off the ground. Can be found on transmission towers, utility poles, flat-topped trees, tall light fixtures.
Golden eagle or bald eagle	*Wildlife Act*	To June 1 of the second year of inactivity[5]	Large stick nest positioned high up in trees, or on transmission towers, utility poles, or cliffs with limited ground access.
Barred owl	*Wildlife Act*	To June 1 of the second year of inactivity[5]	Typically nest high up in large cavities in mature forest.
Northern goshawk	*Wildlife Act*	To June 1 of the second year of inactivity[5]	Stick nest typically positioned near trunk of tree in mature forest.
Pileated woodpecker	*Wildlife Act,* MBR	36 months[4]	Cavity nest in mature open stands of deciduous of mixed forest
Peregrine falcon	*Wildlife Act*; SARA (SC)	To June 1 of the second year of inactivity[5]	Nests mainly on steep cliffs with ledges but may also use artificial structures such as transmission towers, quarries, silos, or bridges.
Bank swallow[2]	SARA (T)	See notes	Nests in burrows in vertical banks, typically near water. Can be found nesting in silt/sand/gravel deposits, aggregate pits, roadside banks, or excavated banks/material.
Barn swallow[3]	SARA (T)	See notes	Nest cup formed primarily of mud. Commonly found on or within human structures such as buildings, bridges, barns or sheds.

NOTES:

[1] SARA Status Categories: T – Threatened; SC – Special Concern (GOC 2021)

[2] Bank swallow nests are only considered residences during the period of possible occupancy, from the date when an adult is first seen entering or leaving the burrow to the date when a bird is last seen at the burrow, typically from May to late August (GOC 2019a).

[3] A barn swallow nest, whether occupied or not, is considered a residence from May 1 or the date when adults are first seen building or occupying the nest, whichever is earlier, to August 31 or the date when a bird is last seen at the nest, whichever is later (GOC 2019b).

[4] Defined waiting period as defined by per MBR (GOC 2022a). If the nest has not been occupied for the duration of the waiting period, it is considered to be abandoned, and to no longer have high conservation value for migratory birds.

[5] Per GOA (2020)

1.2.5 Incidental Discovery

If project personnel incidentally discover an active or specified nest (Table 2), whether it is within or outside of the PNP, work will temporarily stop and a QP will implement mitigation. If an inactive or unoccupied nest is incidentally discovered and it is not known whether it is a specified nest, confirmation will be sought by an EI and/or QP. If an inactive or unoccupied nest is discovered and there are concerns regarding its removal, a QP will be consulted. Appendix B provides a mitigation framework for determining action required when a nest is found.

1.2.6 Nest Monitoring

If project activities cannot avoid the PNP, and it is not feasible to establish a buffer around an active nest (e.g., in the event of safety or logistical concerns), nest monitoring may be considered when:

- The active nest can be effectively monitored from a distance[2]
- The proposed project activity is short-term and not expected to have an adverse effect on the active nest

During nest monitoring, a QP will observe the active nest from a distance before, during, and after the project activity to assess potential changes in behaviour of the nest occupants. If a bird appears agitated or distressed, the QP may recommend that the project activity be delayed until nest activity is complete. If the nest cannot be effectively monitored, or the proposed project activity is not short-term or likely to have an adverse effect on the nest, the project activity should be delayed until nest activity is complete.

[2] The nests of many species, including most songbirds and ground-nesting birds (e.g., waterfowl) cannot be effectively monitored from a distance. Bird nests that are typically amenable to monitoring include cavity-nesting species (e.g., woodpeckers), stick-nesting species (e.g., raptors), and some cup-nesting species depending on setting. Effective monitoring refers to monitoring that is not likely to cause disturbance or agitation of the nesting birds and is not likely to attract predators to the nest through the creation of visual cues or scent trails.

2.0 REPORTING

Daily reporting of nests or suspected nests will be provided to the NGTL EI on site. The exact format and delivery method of daily reports shall be determined by the EI. The details of these reports will include nest site identifiers (UTM coordinates and a site name), date, name of the QP, and the details of any nests or suspected nests found (i.e., species of bird, nest site, nest stage, ENSRAP, and buffer, if established). Information on the nesting activity of birds will be entered and maintained in a common Project folder. This includes information on nests discovered both within and outside of the PNP, and pertinent information from field surveys completed. Records of consultation between the QP, EI, and responsible authority [3] (if applicable) will also be maintained, including on advice or specific recommendations.

At the end of the PNP, an annual summary report will be prepared. The report will include a list of nests found (e.g., species, location, mitigation actions) and figures indicating their locations. The report will also summarize survey effort and mitigation measures implemented to avoid or reduce the risk of harm to birds.

[3] If active nests are found on Bar U Ranch National Historic Site which is intersected by the Longview Section, Parks Canada will be notified.

3.0 LITERATURE CITED

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Appendix A BIRD SPECIES KNOWN OR LIKELY TO BREED IN THE TURNER VALLEY, LONGVIEW, AND LUNDBRECK SECTION AREAS

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
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Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Canada goose	*Branta canadensis*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Blue-winged teal	*Spatula discors*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Cinnamon teal	*Spatula cyanoptera*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Northern shoveler	*Spatula clypeata*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Gadwall	*Mareca strepera*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
American wigeon	*Mareca americana*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Mallard	*Anas platyrhynchos*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Green-winged teal	*Anas crecca*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Canvasback	*Aythya valisineria*	✓	✓	✓	-	Secure	-	-	Ground; floating vegetation	Open water wetlands; riparian

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Ring-necked duck	*Aythya collaris*	✓	✓	✓	-	Secure	-	-	Ground; floating vegetation	Open water wetlands; riparian
Lesser scaup	*Aythya affinis*	✓	✓	✓	-	Secure	-	-	Ground; floating vegetation	Open water wetlands; riparian
Harlequin duck	*Histrionicus histrionicus*			✓	SC	Sensitive	-	-	Ground	Open water wetlands; riparian – flowing water
Bufflehead	*Bucephala albeola*	✓	✓	✓	-	Secure	-	-	Cavity	Open water wetlands; riparian – flowing water
Common goldeneye	*Bucephala clangula*	✓	✓	✓	-	Secure	-	-	Cavity	Open water wetlands; riparian
Barrow's goldeneye	*Bucephala islandica*	✓	✓	✓	-	Secure	-	-	Cavity	Open water wetlands; riparian
Hooded merganser	*Lophodytes cucullatus*	✓	✓	✓	-	Secure	-	-	Cavity	Open water wetlands; riparian
Common merganser	*Mergus merganser*	✓	✓	✓	-	Secure	-	-	Cavity; ground	Open water wetlands; riparian
Ruddy duck	*Oxyura jamaicensis*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Ruffed grouse	*Bonasa umbellus*	✓	✓	✓	-	Secure	-	-	Ground	Forest, mixedwood
Dusky grouse	*Dendragapus obscurus*	✓	✓	✓	-	Secure	-	-	Ground	Forest, coniferous
White-tailed ptarmigan	*Lagopus leucura*			✓	-	Secure	-	-	Ground	Forest, mixedwood
Spruce grouse	*Falcipennis canadensis*	✓	✓	✓	-	Secure	-	-	Ground	Forest, coniferous
Sharp-tailed grouse	*Tympanuchus phasianellus*	✓	✓	✓	-	Sensitive	-	-	Ground	Grasslands, shrublands
Pied-billed grebe	*Podilymbus podiceps*	✓	✓	✓	-	Sensitive	-	-	Ground	Open water wetlands; lakes
Horned grebe	*Podiceps autitus*	✓	✓	✓	-	Sensitive	SC	1-SC	Ground; floating vegetation	Open water wetlands; lakes
Red-necked grebe	*Podiceps grisegena*	✓			-	Secure	NAR	-	Ground; floating vegetation	Open water wetlands; lakes
Eared grebe	*Podiceps nigricollis*	✓	✓	✓	-	Sensitive	-	-	Ground; floating vegetation	Shallow water wetlands; lake shoreline; rarely nests where fish present

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Mourning dove	*Zenaida macroura*	✓	✓	✓	-	Secure	-	-	Ground; shrub; tree; buildings	Forest clearings; grasslands; shrublands; anthropogenic
Common nighthawk	*Chordeiles minor*	✓	✓	✓	-	Sensitive	SC	1-T	Ground; rooftop	Forest clearings; grasslands; shrublands; anthropogenic
Black swift	*Cypseloides niger*			✓	-	MBAR	E	1-E	Cliff; rock ledge	Forest clearings; often nest near waterfalls
Calliope hummingbird	*Selasphorus calliope*	✓	✓	✓	-	Secure	-	-	Tree	Forest clearings; riparian; subalpine
Rufous hummingbird	*Selasphorus rufus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; forested, mixedwood
Ruby-throated hummingbird	*Archilochus colubris*	✓	✓		-	Secure	-	-	Tree	Forest clearings; grasslands; shrublands; anthropogenic
Sora	*Porzana carolina*	✓	✓	✓	-	Sensitive	-	-	Ground	Shallow water wetlands
Yellow rail	*Coturnicops noveboracensis*	✓	✓		-	Sensitive	SC	1-SC	Ground	Shallow water wetlands

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Virginia rail	*Rallus limicola*	✓			-	U	-	-	Ground; floating vegetation	Shallow water wetlands; riparian
American coot	*Fulica americana*	✓	✓	✓	-	Secure	NAR	-	Ground	Shallow water wetlands
Sandhill crane	*Antigone canadensis*	✓	✓	✓	-	Sensitive	-	-	Ground (stick nest)	Shallow water wetlands; riparian
Killdeer	*Charadrius vociferus*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Wilson's snipe	*Gallinago delicata*	✓	✓	✓	-	Secure	-	-	Ground	Shallow water wetlands
Spotted sandpiper	*Actitis macularius*	✓	✓	✓	-	Secure	-	-	Ground	Open water wetlands; riparian
Solitary sandpiper	*Tringa solitaria*	✓	✓	✓	-	Secure	-	-	Tree	Open water wetlands; riparian
Greater yellowlegs	*Tringa melanoleuca*	✓	✓		-	Secure	-	-	Ground	Open water wetlands; riparian
Black tern	*Chlidonias niger*	✓	✓		-	Sensitive	NAR	-	Ground	Open water wetlands; riparian
Common loon	*Gavia immer*	✓			-	Secure	NAR	-	Ground	Open water wetlands; riparian

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January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Great blue heron*	*Ardea herodias herodias*	✓	✓	✓	-	Sensitive	-	-	Tree (colony)	Open water wetlands; riparian
Turkey vulture	*Cathartes aura*	✓	✓	✓	-	Secure	-	-	Cliff; rock ledge; caves	Forest clearings, rangeland, roadsides, landfills, abandoned buildings
Osprey	*Pandion haliaetus*	✓	✓	✓	-	Secure	-	-	Tree; tower; post	Shallow water wetlands, lakes or marshes
Golden eagle	*Aquila chrysaetos*	✓	✓	✓	-	Sensitive	NAR	-	Cliff; tower	Mountainous areas, riverside cliffs/bluffs, grassland escarpments
Northern harrier	*Circus hudsonius*	✓	✓	✓	-	Secure	NAR	-	Ground	Grasslands; shrublands
Sharp-shinned hawk	*Accipiter striatus*	✓	✓	✓	-	Secure	NAR	-	Tree	Dense forest, ideally with closed canopy
Cooper's hawk	*Accipiter cooperii*	✓	✓	✓	-	Secure	NAR	-	Tree	Forest; rural and suburban residential; agricultural

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Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Northern goshawk	*Accipiter gentilis atricapillus*	✓	✓	✓	-	Sensitive	NAR	-	Tree	Forest, mature coniferous
Bald eagle	*Haliaeetus leucocephalus*	✓	✓	✓	-	Sensitive	NAR	-	Tree; tower	Forest, coniferous or mixedwood
Swainson's hawk	*Buteo swainsoni*	✓	✓	✓	-	Secure	-	-	Tree	Grasslands; agricultural
Red-tailed hawk	*Buteo jamaicensis*	✓	✓	✓	-	Secure	NAR	-	Tree	Forest, mixedwood; grasslands
Ferruginous hawk	*Buteo regalis*	✓	✓	✓	E	At Risk	SC	1-T	Tree; cliff; outcrop; hillside	Forest; Grasslands; shrublands
Great horned owl	*Bubo virginianus*	✓	✓	✓	-	Secure	-	-	Tree; will also use cavity	Forest
Northern pygmy owl	*Glaucidium gnoma*	✓	✓	✓	-	Sensitive	-	-	Cavity	Forest
Barred owl	*Strix varia*	✓	✓	✓	SC	Sensitive	-	-	Cavity	Forest
Great gray owl	*Strix nebulosa*	✓	✓	✓	-	Sensitive	-	-	Tree	Forest
Short-eared owl	*Asio flammeus*	✓	✓	✓	-	MBAR	T	1-SC	Ground	Grasslands; shrubsteppe
Northern saw-whet owl	*Aegolius acadicus*	✓	✓	✓	-	Secure	-	-	Cavity	Forest
Belted kingfisher	*Megaceryle alcyon*	✓	✓	✓	-	Secure	-	-	Cutbank; cliff or hillside	Open water wetlands; riparian

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
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Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Yellow-bellied sapsucker	*Sphyrapicus varius*	✓	✓	✓	-	Secure	-	-	Cavity	Young forest and edge habitat
Red-naped sapsucker	*Sphyrapicus nuchalis*	✓	✓	✓	-	U	-	-	Cavity	Mixed forest
Lewis's woodpecker	*Melanerpes lewis*			✓	-	Secure	-	-	Cavity	Open ponderosa pine and burned forests
American three-toed woodpecker	*Picoides dorsalis*	✓	✓	✓	-	Secure	-	-	Cavity	Coniferous forest, prefers mature
Black-backed woodpecker	*Picoides arcticus*	✓	✓	✓	-	Sensitive	-	-	Cavity	Coniferous forest; prefers burned areas
Downy woodpecker	*Dryobates pubescens*	✓	✓	✓	-	Secure	-	-	Cavity	Deciduous forest; riparian; open areas
Hairy woodpecker	*Dryobates villosus*	✓	✓	✓	-	Secure	-	-	Cavity	Mature woodland; forest edges
Pileated woodpecker*	*Dryocopus pileatus*	✓	✓	✓	-	Sensitive	-	-	Cavity	Mature deciduous or mixed forest
Northern flicker	*Colaptes auratus*	✓	✓	✓	-	Secure	-	-	Cavity	Forest edges and openings; suburban areas

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
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Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
American kestrel	*Falco sparverius*	✓	✓	✓	-	Sensitive	-	-	Cavity	Open areas; grasslands; suburbs
Merlin	*Falco columbarius*	✓	✓	✓	-	Secure	NAR	-	Tree	Forest openings; near lakes or bogs; along rivers
Peregrine falcon	*Falco peregrinus anatum*			✓	T	At Risk	NAR	1-SC	Cliff; tower	Cliff leges; platforms; transmission towers; may use abandoned stick nests
Prairie falcon	*Falco mexicanus*	✓	✓		SC	Sensitive	NAR	-	Cliff; trees	Grasslands; shrubsteppe
Olive-sided flycatcher	*Contopus cooperi*	✓	✓	✓	-	MBAR	SC	1-T	Tree; shrub	Open forest, coniferous; treed bogs; subalpine
Western wood-pewee	*Contopus sordidulus*	✓	✓	✓	-	MBAR	-	-	Tree	Forest, coniferous
Alder flycatcher	*Empidonax alnorum*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest
Willow flycatcher	*Empidonax traillii*	✓	✓	✓	-	Secure	-	-	Shrub	Open water wetlands: riparian
Least flycatcher	*Empidonax minimus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, deciduous

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Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Hammond's flycatcher	*Empidonax hammondii*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, mixedwood
Dusky flycatcher	*Empidonax oberholseri*	✓	✓	✓	-	Secure	-	-	Tree	Forest, coniferous
Pacific-slope flycatcher	*Empidonax difficilis*	✓	✓	✓	-	U	-	-	Tree; shrub; cavity	Forest, coniferous
Eastern phoebe	*Sayornis phoebe*	✓	✓		-	Sensitive	-	-	Anthropogenic structure	Anthropogenic structures; forest clearings
Say's phoebe	*Sayornis saya*	✓	✓	✓	-	Secure	-	-	Anthropogenic structure; cliff cavity	Forest clearings; grasslands; shrublands
Western kingbird	*Tyrannus verticalis*	✓	✓	✓	-	Secure	-	-	Tree	Grasslands; shrublands; agricultural
Eastern kingbird	*Tyrannus tyrannus*	✓	✓	✓	-	Sensitive	-	-	Tree	Open water wetlands; riparian
Cassin's vireo	*Vireo cassinii*	✓	✓	✓	-	U	-	-	Tree	Variety of forests; prefers dry open woodlands
Warbling vireo	*Vireo gilvus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, deciduous
Red-eyed vireo	*Vireo olivaceus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, deciduous

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Canada jay	*Perisoreus canadensis*	✓		✓	-	Secure	-	-	Tree	Forest
Steller's jay	*Cyanocitta stelleri*	✓		✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Blue jay	*Cyanocitta cristata*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, deciduous
Clark's nutcracker	*Nucifraga columbiana*			✓	-	Sensitive	-	-	Tree	Open coniferous forest
Black-billed magpie	*Pica hudsonia*	✓	✓	✓	-	Secure	-	-	Tree	Forest clearings; grasslands; shrublands
American crow	*Corvus brachyrhynchos*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest clearings; grasslands; shrublands; anthropogenic
Common raven	*Corvus corax*	✓	✓	✓	-	Secure	-	-	Tree	Forest, coniferous
Black-capped chickadee	*Poecile atricapillus*	✓	✓	✓	-	Secure	-	-	Cavity	Forest, deciduous
Mountain chickadee	*Poecile gambeli*	✓	✓	✓	-	Secure	-	-	Cavity	Forest, coniferous
Boreal chickadee	*Poecile hudsonicus*	✓	✓	✓	-	Secure	-	-	Cavity	Forest, coniferous
Horned lark	*Eremophila alpestris*	✓	✓	✓	-	Secure	-	-	Ground	Alpine; subalpine

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Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Northern rough-winged swallow	*Stelgidopteryx serripennis*	✓	✓	✓	-	Secure	-	-	Cutbank; cliff	Open water wetlands; riparian
Tree swallow	*Tachycineta bicolor*	✓	✓	✓	-	Secure	-	-	Cavoty	Open water wetlands; riparian
Violet-green swallow	*Tachycineta thalassina*	✓	✓	✓	-	Secure	-	-	Cavity	Open water wetlands; riparian
Bank swallow	*Riparia riparia*	✓	✓	✓	-	Sensitive	T	1-T	Burrow	Riparian; streambank; may use sand or gravel quarries and road cuts
Barn swallow	*Hirundo rustica*	✓	✓	✓	-	MBAR	SC	1-T	Anthropogenic structure	Forest clearings; grasslands; shrublands; anthropogenic
Cliff swallow	*Petrochelidon pyrrhonota*	✓	✓	✓	-	Secure	-	-	Cutbank; cliff; anthropogenic structure	Cliffs, grasslands, anthropogenic areas
Ruby-crowned kinglet	*Regulus calendula*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Golden-crowned kinglet	*Regulus satrapa*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous

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January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Red-breasted nuthatch	*Sitta canadensis*	✓	✓	✓	-	Secure	-	-	Cavity	Forest, coniferous or mixedwood
White-breasted nuthatch	*Sitta carolinensis*	✓	✓	✓	-	Secure	-	-	Cavity	Forest, deciduous
Brown creeper	*Certhia americana*	✓	✓	✓	-	Sensitive	-	-	Cavity	Forest, coniferous
Rock wren	*Salpinctes obsoletus*	✓	✓	✓	-	Secure	-	-	Ground	Dry, high altitude; shrubsteppe
House wren	*Troglodytes aedon*	✓	✓	✓	-	Secure	-	-	Cavity	Forest, deciduous
Pacific wren	*Troglodytes pacificus*	✓	✓	✓	-	Secure	-	-	Cavity; tree	Forest, coniferous
American dipper	*Cinclus mexicanus*			✓	-	Secure	-	-	Ground; cliff	Wetlands; riparian; streams
Gray catbird	*Dumetella carolinensis*	✓	✓	✓	-	Secure	-	-	Shrub	Shrublands; young tree stands
Mountain bluebird	*Sialia currucoides*	✓	✓	✓	-	Secure	-	-	Cavity	Forest clearings; grasslands; shrublands
Townsend's solitaire	*Myadestes townsendi*	✓	✓	✓	-	Secure	-	-	Cutbank; cliff	Forest clearings; grasslands; shrublands

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Varied thrush	*Ixoreus naevius*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Veery	*Catharus fuscescens*	✓	✓	✓	-	Secure	-	-	Ground	Forest, deciduous; riparian
Swainson's thrush	*Catharus ustulatus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, mixedwood
Hermit thrush	*Catharus guttatus*	✓	✓	✓	-	Secure	-	-	Ground; shrub	Forest, coniferous; shrubland
American robin	*Turdus migratorius*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, mixedwood
Cedar waxwing	*Bombycilla cedrorum*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest
American pipit	*Anthus rubescens*			✓	-	Secure	-	-	Ground	Alpine; subalpine
Sprague's pipit	*Anthus spragueii*	✓	✓	✓	-	Sensitive	T	1-T	Ground	Prairie grasslands
Evening grosbeak	*Coccothraustes vespertinus*	✓	✓	✓	-	Secure	SC	1-SC	Tree; shrub	Forest, mature coniferous and mixedwood
Pine grosbeak	*Pinicola enucleator*	✓	✓	✓	-	Secure	-	-	Shrub	Forest, coniferous
Gray-crowned rosy-finch	*Leucosticte tephrocotis*			✓	-	Secure	-	-	Cliff	Tundra; anthropogenic structures

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January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
House finch	*Haemorhous mexicanus*	✓	✓	✓	-	Secure	-	-	Tree	Anthropogenic; dry grassland; open coniferous forest
Purple finch	*Haemorhous purpureus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Cassin's finch	*Haemorhous cassinii*		✓	✓	-	Secure	-	-	Tree	Forest, coniferous
Red crossbill	*Loxia curvirostra*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
White-winged crossbill	*Loxia leucoptera*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Pine siskin	*Spinus pinus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
American goldfinch	*Spinus tristis*	✓	✓		-	Secure	-	-	Shrub	Fields; floodplains; suburban
Chipping sparrow	*Spizella passerina*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest
Clay-colored sparrow	*Spizella pallida*	✓		✓	-	Secure	-	-	Shrub	Forest clearings; grasslands; shrublands
Brewer's sparrow	*Spizella breweri*	✓	✓	✓	-	Sensitive	-	-	Shrub	Sagebrush
Fox sparrow	*Passerella iliaca*	✓	✓	✓	-	Secure	-	-	Ground; shrub	Shrubland; young forest

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January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Dark-eyed junco	*Junco hyemalis*	✓	✓	✓	-	Secure	-	-	Ground	Shrubland; young forest
White-crowned sparrow	*Zonotrichia leucophrys*	✓	✓	✓	-	Secure	-	-	Ground; shrub	Shrubland; young forest
White-throated sparrow	*Zonotrichia albicollis*	✓	✓	✓	-	Secure	-	-	Ground; shrub	Forest clearings; grasslands; shrublands
Vesper sparrow	*Pooecetes gramineus*	✓	✓	✓	-	Secure	-	-	Ground	Forest clearings; grasslands; shrublands
Baird's sparrow	*Centronyx bairdii*		✓		-	Sensitive	SC	1-SC	Ground	Grasslands; shrublands
Savannah sparrow	*Passerculus sandwichensis*	✓	✓	✓	-	Secure	-	-	Ground	Forest clearings; grasslands; shrublands
Song sparrow	*Melospiza melodia*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, mixedwood; riparian
Lincoln's sparrow	*Melospiza lincolnii*	✓	✓	✓	-	Secure	-	-	Ground	Shrubland; young forest
Spotted towhee	*Pipilo maculatus*	✓	✓	✓	-	Secure	-	-	Ground	Forest edges; fields; dense shrub cover
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	✓	✓	✓	-	Secure	-	-	Shrub	Open water wetlands; riparian

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Bobolink	*Dolichonyx oryzivorus*	✓	✓	✓	-	Sensitive	SC	1-T	Ground	Grasslands
Western meadowlark	*Sturnella neglecta*	✓	✓	✓	-	Secure	-	-	Ground	Grasslands
Baltimore oriole	*Icterus bullockii*	✓	✓	✓	-	Secure	-	-	Tree	Riparian; open woodland; urban
Red-winged blackbird	*Agelaius phoeniceus*	✓	✓	✓	-	Secure	-	-	Shrub	Open water wetlands; riparian
Brown-headed cowbird	*Molothrus ater*	✓	✓	✓	-	Secure	-	-	Brood parasite	Forest clearings; grasslands; shrublands
Brewer's blackbird	*Euphagus cyanocephalus*	✓	✓	✓	-	Secure	-	-	Ground; shrub	Forest clearings; grasslands; shrublands
Ovenbird	*Seiurus aurocapilla*	✓	✓	✓	-	Secure	-	-	Ground	Forest, deciduous
Northern waterthrush	*Parkesia noveboracensis*	✓	✓	✓	-	Secure	-	-	Shrub; cavity	Open water wetlands; riparian
Tennessee warbler	*Leiothlypis peregrina*	✓	✓	✓	-	Secure	-	-	Ground	Shrubland; young forest
Orange-crowned warbler	*Leiothlypis celata*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest

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Appendix A Bird Species Known or Likely to Breed in the Turner Valley, Longview, and Lundbreck Section Areas
January 2023

Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Nashville warbler	*Leiothlypis ruficapilla*			✓	-	Secure	-	-	Ground	Second growth; shrubby
Macgillivray's warbler	*Geothlypis tolmiei*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest
Common yellowthroat	*Geothlypis trichas*	✓	✓	✓	-	Sensitive	-	-	Tree; shrub	Shallow water wetland
Cape May warbler	*Setophaga tigrina*	✓			SC-R	Sensitive	-	-	Tree; shrub	Coniferous forest
American redstart	*Setophaga ruticilla*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest
Magnolia warbler	*Setophaga magnolia*	✓			-	Secure	-	-	Tree; shrub	Shrubland; young forest
Yellow warbler	*Setophaga petechia*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, deciduous
Yellow-rumped warbler	*Setophaga coronata*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Townsend's warbler	*Setophaga townsendi*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, coniferous
Wilson's warbler	*Cardellina pusilla*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Shrubland; young forest
Western tanager	*Piranga ludoviciana*	✓	✓	✓	-	Sensitive	-	-	Tree; shrub	Forest, mixedwood
Rose-breasted grosbeak	*Pheucticus ludovicianus*	✓	✓	✓	-	Secure	-	-	Tree; shrub	Forest, mixedwood

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Species[1]		Section			Status[2]					
Common Name	**Scientific Name**	**Turner Valley**	**Longview**	**Lundbreck**	***Wildlife Act***	**AB General Status**	**COSEWIC**	**SARA**	**Nest Site**	**Habitat Preferences[3]**
Black-headed grosbeak	*Pheucticus melanocephalus*	✓	✓	✓	-	Secure	-	-	Tree	Diverse and complex habitats; forest edges
Lazuli bunting	*Passerina amoena*	✓	✓	✓	-	Secure	-	-	Shrub	Riparian; agricultural; burned forest

NOTES:

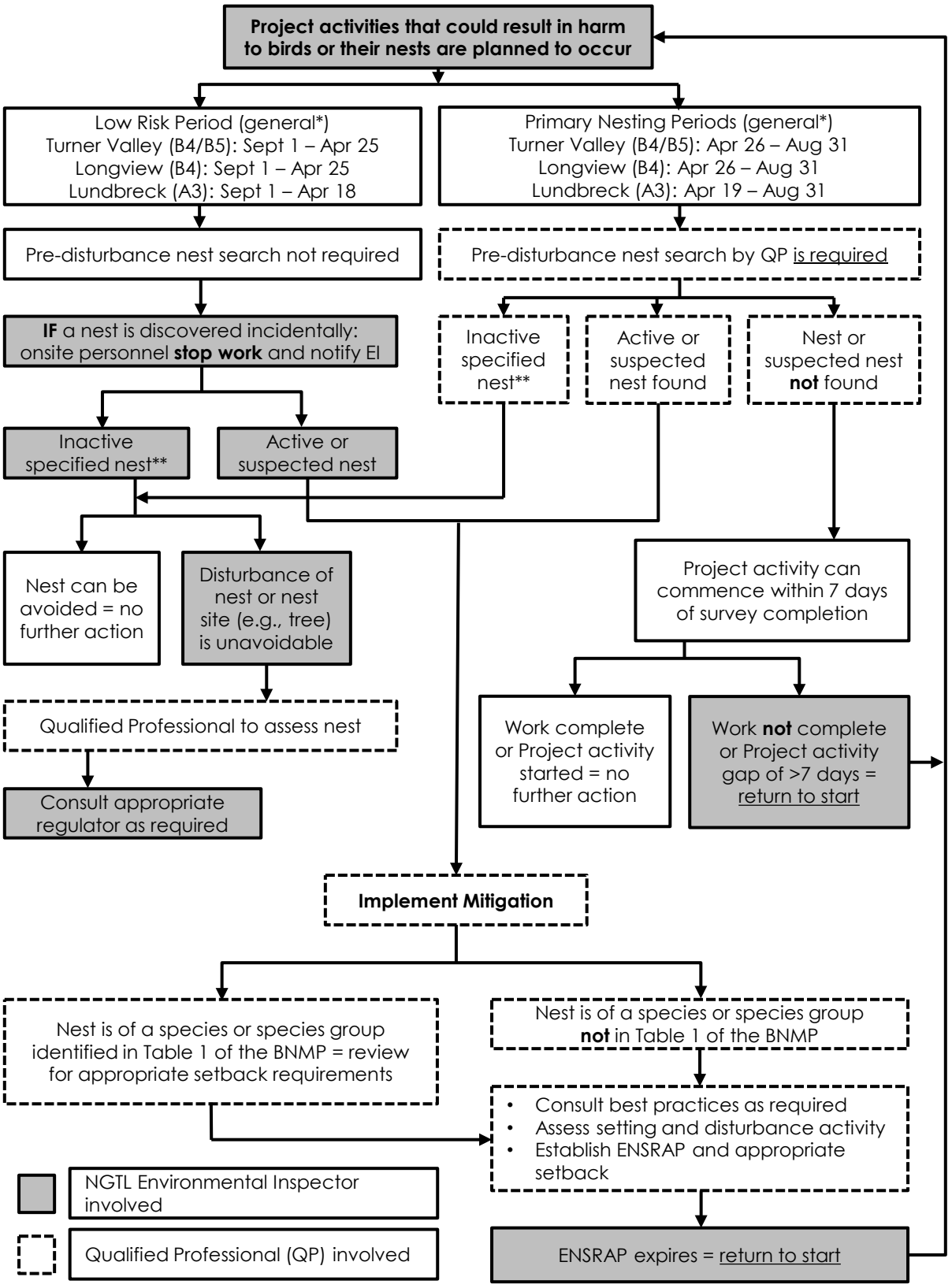
[1] The list of species potentially breeding in the project footprints of the respective sections are a subset of species whose range may overlap the regional assessment areas (RAAs) in the Project's Environmental and Socio-economic Assessment (Stantec 2020) because some habitats that exist in the RAAs are not present in or adjacent to project footprints. Species that are only present during migration or winter are also excluded from this list.

[2] Alberta General Status: Sensitive - species that is not as risk of extinction or extirpation but may require special attention or protection to prevent it from becoming at risk, May Be At Risk (MBAR) - species that may be at risk of extinction or extirpation and is therefore a candidate for detailed risk assessment, At Risk - species known to be at risk after formal detailed status assessment and legal designation as Endangered or Threatened in Alberta, Secure – species that is not At Risk, May Be At Risk or Sensitive, Undetermined (U) - species for which insufficient information, knowledge or data is available to reliably evaluate its general status
Alberta *Wildlife Act*, SARA and COSEWIC: Endangered (E) – facing imminent extirpation or extinction; Threatened (T) – likely to become endangered if nothing is done to reverse factors leading to decline; Special Concern (SC) may become threatened or endangered because of a combination of biological characteristics and identified threats; Not At Risk (NAR) – has been evaluated and found not to be at risk given the current circumstances, -R – status recommendation. Schedule 1 of SARA (1). GOA 2022b; GOA 2022c; GOC 2022b.

[3] BOTW 2021; FAN 2007

[*] Species listed on Schedule 1 of MBR (GOC 2022a)

Appendix B MITIGATION FRAMEWORK FLOW CHART



* Consult BNMP for detailed PNP by habitat type (section 1.2.2) and earlier raptor breeding periods (section 1.2.2.1)

** Nest protected under the *Wildlife Act, MBCA, Species at Risk Act* (section 1.2.4).

If project personnel are unsure if a nest is active or whether it is a specified nest, an EI and/or QP should be consulted.