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COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

May 20, 2021

USDA Forest Service
ATTN: Sandra Gibbons
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: VDOT - State Route 33 Rawley Pike Road Improvement EA

Dear Ms. Gibbons:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Rusty patched bumblebee (*Bombus affinis*, G1/S1/LE/NL) has been documented within a 10km radius of the project area. The rusty patched bumblebee is listed as endangered under the Endangered Species Act by U.S. Fish and Wildlife Service (USFWS) effective March 21, 2017. Since the late 1990s, the Rusty patched bumblebee has declined throughout its historical range including Virginia and is anticipated to be extinct in all ecoregions by 2030. Threats to the rusty patched bumblebee include disease, pesticides, climate change, habitat loss and small population dynamics.

The project area is within a low potential zone indicating good potential habitat for the Rusty patched bumblebee and DCR recommends an inventory for the resource in the project area. With the survey results, we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for the resource in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources. DCR also recommends limiting ground disturbance as much as possible within the project area and avoidance of brush cutting along the road shoulders between May through September as summer flowering could be important to the bee if present. Due to the legal status of the Rusty patched bumblebee, DCR recommends coordination with the USFWS to ensure compliance with protected species legislation.

This project has also intersected the karst bedrock screening layer. Encountering undocumented caves, sinkholes or other sensitive karst features in this area is possible. During every phase of the project, DCR recommends stabilization of the soil around the site. Minimizing surface disturbance, strict use of E&S control measures

appropriate for the location and adherence to best management practices appropriate for karst will help to reduce any potential impact to the karst, groundwater and surface water resources as well as any associated fauna and flora.

If karst features such as sinkholes, caves, disappearing streams, and large springs are encountered during the project, please coordinate with Wil Orndorff (540-230-5960, Wil.Orndorff@dcr.virginia.gov) the Virginia DCR, Division of Natural Heritage Karst Protection Coordinator, to document and minimize adverse impacts. Activities such as discharge of runoff to sinkholes or sinking streams, filling of sinkholes, and alteration of cave entrances can lead to environmental impacts including surface collapse, flooding, erosion and sedimentation, contamination of groundwater and springs, and degradation of subterranean habitat for natural heritage resources (e.g. cave adapted invertebrates, bats). These potential impacts are not necessarily limited to the immediate project area, as karst systems can transport water and associated contaminants rapidly over relatively long distances, depending on the nature of the local karst system. If the project involves filling or “improvement” of sinkholes or cave openings, DCR would like detailed location information and copies of the design specifications. In cases where sinkhole improvement is for storm water discharge, copies of VDOT Form EQ-120 will suffice.

Furthermore, the proposed tree removal associated with the project will fragment Ecological Cores (**C1 and C5**) as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will reduce deleterious effects and preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR recommends efforts to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <http://vanhde.org/content/map>.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

There are no State Natural Area Preserves under DCR’s jurisdiction in the project vicinity.

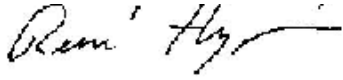
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not

documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dwr.virginia.gov.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "René Hypes", with a stylized flourish at the end.

S. René Hypes
Natural Heritage Project Review Coordinator

Cc: Troy Andersen, USFWS
Wil Orndorff, DCR-Karst