APPLICATION FOR WATER QUALITY CERTIFICATION
Water Division
Water Quality Certification Program

RSA: 485-A:12

Date of Request 1/1/22
Date Request Received by NHDES 1/1/22

I. Applicant Information

Principal Place of Business of the Applicant  Owls Nest Resort, 40 Clubhouse Lane Thornton NH

Mailing Address [Street, PO Box, RR, etc.]  P.O. Box 1684

City/Town and Zip Code  Campton NH 03223

Telephone No.  802-376-8399  Chad Stocker

Email Address  chad@owlsnestresort.com

Name and Title of Signatory Official Responsible for the Activity for which Certification is Sought (e.g., President, Administrator)
Chad Stocker, Development Manager

II. Project Information

Name of Project  Owls Nest Resort Irrigation Water Withdrawal

Name of Town and County that contains the Project  Campton, Grafton County, NH

Name of Receiving Waterbody and Drainage Basin  Pemigewasset River

Summary of Activity (e.g., construction, operation, or other practice or action)
Water Withdrawal for Golf Course Irrigation

III. Additional Submittal Information

PLEASE SUBMIT AS MUCH INFORMATION AS POSSIBLE IN ELECTRONIC FORMAT

phone (603) 271-2457
fax (603) 271-7894
PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

2020-08-18
Please provide an individual response to each bullet, below. If applicable information is contained in the application materials, please provide a reference to the specific section in the application materials that will represent the response to the individual bullets below.

- Type of activity (e.g., construction, operation, other action such as water withdrawal) and the start and end dates of the activity.
- The characteristics of the activity: Whether the activity is associated with a discharge and/or water withdrawal and whether the discharge and/or withdrawal is proposed or occurring.
- The characteristics of the discharge and/or withdrawal
  - Flow rate (cfs)
  - Potential chemical, physical, biological constituents
  - Frequency (e.g., daily, hourly,)
  - Duration
  - Temperature (Celsius)
  - Latitude and longitude (dd:mm:ss)

- The existing and designated use(s) that are potentially affected by the proposed activities. (Designated Uses are listed in the NHDES Consolidated Assessment and Listing Methodology).
- The provision(s) of surface water quality standards (Env-Wq 1700) that are applicable to the designated uses affected by the proposed activities.
- A pollutant loading analysis to show the difference between predevelopment and post-development pollutant loads for a typical year. The objective of the loading analysis is to show post-development pollutant loads do not exceed pre-development pollutant loads. Loading analysis guidance and a simple spreadsheet model will be provided by NHDES. The loading analysis will be used to determine appropriate stormwater management measures, which must be effectively designed, installed, and maintained to ensure compliance with surface water quality standards.
- A description of any other aspect of associated with construction and operation of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.
- An original or color copy/reproduction of a United States Geological Survey Quadrangle Map that clearly shows the location of the activity and all potential discharge points.
- A copy of the final complete federal permit application or federal license application, including the federal permit, license, or project number.
- A copy of the NHDES wetlands permit (RSA 482-A:3), if necessary.
- A copy of the NHDES alteration of terrain permit (RSA 485-A:17), if necessary.
- The name(s) and address(es) of adjoining riparian or littoral abutters.
- A plan showing the proposed activities to scale including:
  - The location(s) and boundaries of the activities;
  - The location(s), dimension(s), and type(s) of any existing and/or proposed structures; and
  - The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.
- For projects that involve a new surface water withdrawal, provide the following:
  phone (603) 271-2457
  fax (603) 271-7894
  PO Box 95, Concord, NH 03302-0095
  www.des.nh.gov

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a copy of the water conservation plan (WCP) submitted to the NHDES Water Conservation Program and the status of NHDES approval, or
- a copy of a waiver approved by the NHDES Water Conservation Program that waives the requirement to submit a WCP prior to or in conjunction with the application for water quality certification.

[Pursuant to Env-Wq 2101, and unless a waiver is applied for and granted by NHDES, all applicants for water quality certification are required to submit a water conservation plan (WCP) for projects that involve a new withdrawal from a surface water prior to or in conjunction with this application. Contact the NHDES Water Conservation Program for guidance related to drafting a WCP and the review and approval process. Information regarding the WCP, including contact information, may be found at NHDES' Water Conservation website.

- If the project is located within ¼ (one quarter) mile of a designated river, as defined under RSA 483 (the Rivers Management and Protection Act), provide documentation showing that the Local River Management Advisory Committee (LAC) has been provided with a copy of this complete application. A list and map of the designated rivers, as well as contact information, may be found at NHDES' Designated Rivers website.

Signature – MUST BE SIGNED AND DATED BY APPLICANT

To the best of my knowledge, the data and information described above, which I have submitted to the New Hampshire Department of Environmental Services, is true and correct. I understand that an approval of the requested water quality certification based upon incorrect data may be subject to revocation of the certification. I have complied with all local regulations or ordinances relative to the proposed activity and have obtained or will obtain, prior to the commencement of any work, all other approvals that may be required.

Signed
Date:

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Temporary Withdrawal 401 WQC Application Information Summary

Project Name: Owls Nest Resort Irrigation Surface Water Withdrawal

Project Location: Campton/Thornton, New Hampshire

Proposed Operation Dates: 4/1– 10/15 annually

Date of Submittal: 1/1/22

Prepared by: Horizons Engineering, Inc.

1) **Type of Activity**

Withdrawal of up to 0.75 cubic feet per second of water over a 24 hour period (482,400 gallons per day) from the Pemigewasset River to refill a lined manmade recreation pond for use in irrigating a new 9 hole golf course (referred to as the Hoot course) and landscaping and lawn in the surrounding residential and commercial areas at the Owl’s Nest Resort (the “Activity”). Water will be discharged to the pond via a dedicated line, and then withdrawn by a separate pumping station for irrigation use.

Water flow will also have the concurrent benefit of circulating through the lined pond to maintain water quality for aquatic recreation (swimming and boating). A separate application for the use as a flow-through bathing place will be submitted to DES. This activity is not predicated by approval of that use, as the primary purpose of the Activity is for irrigation.

The Activity will be active on an **annual basis, beginning on or later than April 1st and ending on or before October 30th**. The withdrawal will not be operated prior to or during or immediately after significant rain storm events (2 year storm and greater), as precipitation contribution to the pond will supplant the need for the withdrawal. The location of the proposed Activity as shown on a [USGS Topopraphic Map](#) is included in Attachment 1. A sketch plan of the Activity is also included.

2) **Characteristics of Activity**

The Activity consists of an annual surface water withdrawal with a proposed 210 day operation window. The Activity will be used for irrigation of the Hoot 9 hole golf course and surrounding areas and for the circulation of water through a man-made recreation pond. The withdrawal is not proposed for any other uses.

3) **Characteristics of the Withdrawal**

The withdrawal will be operated by extending a ridged HDPE suction hose into the Pemigewasset River. The withdrawal will be operated continuously during the active withdrawal period at varying instantaneous rates up to a maximum of 500 gpm (1.1 cfs), which is the limitation of the pumping equipment. The total withdrawal will not exceed 482,400 gallons in a 24 hour period. Pumping equipment consists of a skid mounted approximately 50 hp electric self-priming suction lift centrifugal pump. Photographs the withdrawal location and existing suction intake line associated with the existing registered water withdrawal is included in Attachment 2.

Two 12”x22” Clearflow screens (or equivalent) will be used in a T configuration. This screen configuration would allow for a maximum intake velocity of 0.2 ft/sec. Technical specifications for the proposed intake screens is included in Attachment 3.
The strainer will be held in place due to the rigidity of the intake line, and will be tethered as a precaution. The intake would be removed by hand when not in operation. The intake will be marked with a safety flag and solar light during night operation. Due to the shallow depth of the river (less than 6' in this location), and river width (>250') it is not anticipated to present a hazard to navigation. A barrel-type plastic float may be added to the end of the intake line to support the screens if additional buoyancy is needed. This float would be tethered to top of bank.

4) **Potentially Impacted Designated Uses**
Potential impacts are limited to flow volume of the river. Reduced flow has the potential to increase water temperature and reduce dissolved oxygen levels. However, as the proposed withdrawal is proposed to be less than 1% of the flow during withdrawal operation, impacts are not anticipated.

5) **Applicable WQC Provisions**
The project is required to undergo 401 WQC approval under Env-Wq 1708.12(a). The project anticipates that with the proposed withdrawal limitations the project will not result in a degradation of water quality. This requirement is outlined in Env-Wq 1708.12 (c)(3)(a).

6) **Pollutant Loading Analysis**
No changes in site pollutant loading are proposed as part of the Activity. As such, an analysis is not applicable and the applicant requests waiver of the requirement.

7) **Impacts of the Project to Water Body**
No measurable impacts are anticipated to the Water Body. The proposed withdrawal will be less than 1% of the total flow during operation of the intake. One year of flow statistics from the USGS Gaging Station in Woodstock (USGS 01075000), the closest available station, are included in Attachment 4. Drainage area of this gaging station is approximately 193 square miles. This station is located approximately 7 miles north of the proposed withdrawal point.

USGS StreamStats analysis of the proposed withdrawal point, which has a drainage area of approximately 266 square miles, suggests that during the proposed active withdrawal period (April-October) modeled Q 80 flow during the summer low-flow period is approximately 103 cfs. A copy of the StreamStats model output is included in Attachment 4.

**Withdrawal Operation**
Operation of the proposed withdrawal will be as follows:

a) Withdrawal will operate at a maximum of 1.1 cfs intermittently, with a maximum daily withdrawal of 482,400 gallons (0.75 cfs averaged over a 24 hour period).

b) Once per day during active withdrawal Owl’s Nest staff will check current flows at the USGS Gaging station in Woodstock for instantaneous flow.

c) If measured flows at the Woodstock gaging station are in excess of 120 cfs, no adjustments to the withdrawal rate will be made.

d) If measured flows at the Woodstock gaging station are below 120 cfs but above 60 cfs, withdrawal rate will be reduced so that the withdrawal is not in excess of 1% of the measured flow at the Woodstock gaging station.
e) If measured flows at the Woodstock gaging station are below 60 cfs, the withdrawal will not be operated.

f) A table of withdrawal rates and associated flows at the USGS Woodstock Gaging Station will be submitted to NHDES monthly. The table will include notes of any adjustments in withdrawal rates. An example of the proposed compliance spreadsheet is included in Attachment 5.

**Manmade Storage Pond Operation**

The man-made pond is lined with a synthetic liner constructed to eliminate water exfiltration from the pond. Evaporation loss is expected to average less than 50,000 gallons per during the summer months. Water level in the pond will be controlled by irrigation use, with the stage being lowered by pumping for irrigation demand. The pond is also equipped with an emergency spillway that can overflow during significant storm events. Grading around the pond is such that the only stormwater contribution to the pond is that falling directly on the pond surface. All drainage flanking the pond is routed to a permitted stormwater system that serves of the Owl’s Nest Core Area. This stormwater system was approved under NH Alteration of Terrain permit #AOT1445.

Water for irrigation will be withdrawn from the pond and discharged via the irrigation system for the Hoot golf course and landscaping in developed areas. An irrigation plan will be included in the Water Conservation Plan for the course, which will be submitted under a separate cover. The pond will also be used for swimming, boating, and other recreational uses. The pond will be equipped with multiple aerators to maintain water circulation. No chemical addition or other modifications to water quality are planned at this time. If chemical treatment were to be required to manage water quality, treatments would be properly permitted with NHDES prior to implementation. As stated previously, the area surrounding the pond is graded so that stormwater runoff from both hardscaped and turf areas will not flow into the pond. As such, stormwater runoff from the development is not expected impact pond water quality. This includes runoff from both hardscaped areas, and grass areas that are treated with turf maintenance products.

Recharge of the pond by precipitation will offset some of the irrigation needs of the Hoot course. With an area of approximately 9.5 acres, a one-inch storm event falling on the pond will result in approximately 250,000 gallons of water that will be available for irrigation use.

The operating pond stage will have ~0.67 feet of freeboard to allow for storm event storage. Pond stage will be monitored and logged with an electronic stage monitor, and controls will be configured to automatically shut off the river withdrawal (Activity) once the set stage has been achieved. This will allow full detention of at least a 25-year storm with no discharge to the emergency overflow. In the event of a larger storm event, the pond emergency spillway will discharge into the overall Owl’s Nest Core Area stormwater system. This system is design to collect stormwater from development surrounding the pond and route it to a detention and infiltration basin system located at the north end of the Owl’s Nest property. This system is designed to infiltrate events up to a 20 year storm event for the entire development. The stormwater system discharges to overland flow, where additional infiltration will occur. The system does not have a direct surface water discharge, so the Activity is not expected to discharge to Waters of the US.
A copy of the Alteration of Terrain plans for the pond, including details on the spillway are being submitted electronically under a separate cover due to file size.

8) **USGS Location Map**
   A USGS Project Locus Map is attached in Attachment 1.

9) **Federal Permits**
   No Federal Permits are anticipated for the proposed Activity.

10) **Wetlands Permit**
    No dredge or fill is associated with the proposed Activity, and as such no wetlands permit is required. The intake line is already in place and no excavation or fill within the jurisdictional limits is proposed. The intake screen will be suspended mid-water column and as such no bottom impacts are anticipated. This has been verified by the NHDES Wetlands Bureau.

11) **Alteration of Terrain Permit**
    No alteration of Terrain Permit is required for the proposed Activity as, as installation of necessary infrastructure is already complete and operation of the Activity does not involve any earthwork. The project has obtained an Alteration of Terrain Permit for construction of the man-made pond ( Permit # AOT1445), and pond construction is complete.

12) **Riparian Abutters**
    Site: Thornton Lot 16-1-9
    Thornton Abutters:
    
    16-3-50 *(across river)*
    Warren Laura C
    Gerald R Warren
    Physical Address:
    2458 US Rte 3 Thornton NH 03258
    Mailing Address:
    Same
    
    16-2-8 *(across river)*
    Warren, Gerald R
    Warren, Laura
    Physical Address:
    US Rte 3
    Mailing Address:
    2458 US Rte 3 Thornton NH 03258

    15-3-1 *(across river and Interstate)*
    JAB Realty NH LLC
    2378 US RTE 3 Thornton NH 03258
    Mailing Address:
    Same

    16-1-18
 Warner, Joanna F  
Physical Address:  
32 Notchway Rd  
Mailing Address:  
188 Leonard Rd  
Stafford Springs, CT 06076

FarrenKopf, Dennis  
Physical Address:  
Notchway Rd  
Mailing Address:  
17 Cortland Drive  
Bethel, CT 06801

Campton Abutters:  
I 93 Interstate

3-3-2 (golf course, owner)  
LCJ Holdings, LLC  
Physical Address:  
Owl St.  
Mailing Address:

3-3-1  
State of NH?

3-4-9  
LCJ Holdings, LLC  
Physical Address:  
Owl St.  
Mailing Address:

3-4-9-1  
LCJ Holdings, LLC  
Physical Address:  
Owl St.  
Mailing Address:

13) Plan Showing Activity  
General plans for the Activity are included in Attachment 1.

14) Water Conservation Plan  
A Water Conservation Plan is currently in place for Owl’s Nest Resort. However, this plan requires updating to include the new irrigation system for the 9 hole Hoot golf course. Irrigation plans for the course and surrounding residential/commercial areas are currently being
developed. As such, Owl’s Nest requests the WQC be contingent upon NHDES approval of a revised Water Conservation Plan to include the Hoot 9 hole course.

15) Designated River LAC Notification
The Pemigewasset River is listed as a designated river. A copy of this application will be provided to:

Pemigewasset River Local Advisory Committee
c/o Lakes Region Planning Commission
103 Main St. Suite 3
Meredith, NH 03253

A copy of the certified receipt will be forwarded under a separate cover.