



State of Utah

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Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF DRINKING WATER
Kenneth H. Bousfield, P.E.
Director

September 11, 2013

Evan D. Miller
Powder Mountain Ski Resort
P.O. Box 270
Eden, UT 84310

Dear Mr. Miller:

Subject: **Plan Approval**, Well Drilling, Hidden Lake PWS Well (WS008),
System #29028, File #9428

On August 16, 2013, the Division of Drinking Water (the Division) received the plans and specifications for the subject project from George W. Condrat, P.E., P.G., of Loughlin Water Associates, LLC, a consultant working for the Summit Group.

The Summit Group's Master Plan shows the development of 2,500 estate homes, condos, town houses, and cabins at the Powder Mountain Resort. The Phase 1 of the Summit at Powder Mountain PRUD has plans for 154 lots. The water infrastructure being developed by the Summit Group would become part of the Powder Mountain Water and Sewer District. The Division issued plan approval in a letter dated February 21, 2013, to drill the Summit Well (identified as WS006 in the Division's database) as a source for this development. However, a test well drilled at the Summit Well location indicated inadequate water to support Phase 1 of the planned development. A second test well was drilled at the Hidden Lake site which indicated there may be adequate water to support Phase 1 from an upper aquifer, about 1,500 feet down. There is also a lower aquifer, about 2,500 feet down. The decision was made to discontinue the Summit Well project and to drill a production well at the Hidden Lake site into the upper aquifer.

We understand that this project consists of drilling a well, named the Hidden Lake PWS Well and identified as WS008 in the Division's database, to provide drinking water to Phase 1 of the Summit at Powder Mountain PRUD. The proposed well is anticipated to be drilled with a 19-inch minimum borehole and a 14-inch casing to a depth of approximately 1,600 feet. It is anticipated that the completed well will be tested pump at 150 gpm.

We have completed our review of the plans and specifications, stamped and signed by George W. Condrat, P.E., P.G., and William D. Loughlin, P.G., and dated August 13, 2013, and found they basically comply with the applicable portions of *Utah's Administrative Rules for Public Drinking Water Systems*. On this basis, **the plans for the drilling the Hidden Lake PWS Well (WS008) are hereby approved.**

This plan approval pertains to well drilling, development, aquifer testing, and disinfection of Hidden Lake PWS Well (WS008) only. Please be aware that discharge permits may be required by Utah Division of Water Quality for discharges generated during well drilling and aquifer drawdown test.

The Division previously issued a conditional plan approval dated July 22, 2013, for the Hidden Lake 415K Gallon Tank (ST004) and well equipping of the Hidden Lake PWS Well (WS008) under File #9319, with the stipulation of requiring submittal of aquifer drawdown test data. **Once the drilling of the Hidden Lake PWS Well (WS008) is completed, a 24-hour or stabilized drawdown constant-rate pump test shall be conducted and the data submitted to the Division to determine the safe yield of this well.**

The safe yield is the basis for determining the maximum number of service connections that a well can serve. Based on the minimum sizing requirements of 800 gallons per day of source capacity for each residential connection for indoor use, Phase 1 (154 lots) would require a minimum safe yield of 85.6 gallons per minute (gpm) from a well. The safe yield of a well is defined in the Division's rules as two-thirds of the 24-hour or stabilized drawdown constant-rate pump test. Therefore, a well to supply the indoor water use to Phase 1 connections would be required to be tested, as a minimum, at 128.3 gpm during a 24-hour or stabilized drawdown constant-rate pump test. If any outdoor watering is allowed for the Phase 1 connections, additional source capacity would be required at the rate of 3.39 gpm of source capacity per acre of outside irrigation. Any other use of water such as swimming pools, water features, etc., would also require additional source capacity.

If the Hidden Lake PWS Well (WS008) alone does not provide an adequate safe yield of water for Phase 1 of the Summit at Powder Mountain PRUD, the Summit Group is required to drill a second production well or develop an additional water source in order to meet this water system's source requirement.

We have also reviewed your submission of the Preliminary Evaluation Report (PER) for the Hidden Lake Well provided by your consultant, Loughlin Water Associates, LLC. The Division concurs with this report. **This PER must be refined and a complete Drinking Water Source Protection (DWSP) Plan submitted within one year of the date of this letter.** Refer to *R309-600-13(6)* and *R309-600-7(1)*. You must submit proof that the delineation has been submitted to Weber County to be covered under the Weber County Source Protection Ordinance before the well can receive an operating permit. The proof of coverage under the ordinance may be submitted to the Division before the DWSP Plan is due.

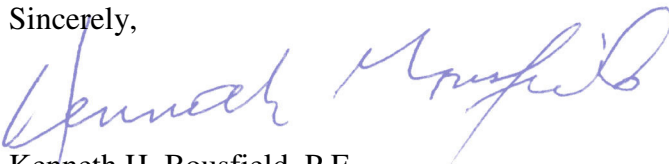
You are required to submit the additional information outlined in *R309-515-6(5)(b)* and *(c)* for review in order to obtain an operating permit for this well. **An Operating Permit must be obtained from the Director before the Hidden Lake PWS Well (WS008) may be put in service.** A checklist outlining the well approval process, including the items required for well equipping and operating permit, is enclosed for your information.

The Hidden Lake PWS Well is referenced as WS008 in our inventory. Please label the well water samples collected for new source chemical analysis with your water system number **UTAH29028** and **WS008** (for both the facility ID and sample point ID) on all laboratory forms for this source. This will ensure proper identification and entry of the new source chemical analysis results in our database.

Approvals or permits by local authority or county may be necessary before beginning construction of this project. As the project proceeds, notice of any changes in the approved design, as well as any change affecting the quantity or quality of the delivered water, must be submitted to the Division. We may also conduct interim and final inspections of this project. Please notify us when actual construction begins so that these inspections can be scheduled.

Project approval must be renewed if construction has not begun or if substantial materials have not been ordered within one year of the date of this letter. If you have any questions regarding this letter, please contact Bob Hart, of this office, at (801) 536-0054, or Ying-Ying Macauley, Engineering Section Manager, of this office, at (801) 536-4188.

Sincerely,



Kenneth H. Bousfield, P.E.
Director

REH

Enclosure — Well Approval Checklist

cc: Louis Cooper, Env. Director, Weber-Morgan Health Department, lcooper@co.weber.ut.us
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DDW-2013-008784

DIVISION OF DRINKING WATER
Checklist for New Public Drinking Water Wells

System Name: _____ System Number: _____

Well Name & Description: _____

1. Approval to Drill the Well

- Project Notification Form
- Preliminary Evaluation Report (PER) concurrence
- Well drilling specifications and plans
- Valid Start Card or authorization to drill letter from the Division of Water Rights

2. Approval to Equip the Well

- Project Notification Form
- Well location data
- Certification of well seal
- Well driller's report (well log)
- Aquifer drawdown test results (step drawdown test & constant-rate test) for well yield determination**
- Chemical analyses of the well water
- Plans and specifications for equipping the well
 - Pump information (e.g., pump specifications, pump curve & operating point, motor information, etc.)
 - Well head discharge piping
 - Well house design

3. Operating Permit to Introduce the Well Water

- Documentation of valid water right(s)
- Design engineer's statement of conformance with approval conditions
- Design engineer's statement of conformance with the Rule for any deviation from the plan approval
- Evidence of O&M manual delivery
- As-built drawings
- Recorded land use agreements or documentation that the requirements for coverage under the City/County source protection ordinance have been met
- Satisfactory bacteriological results