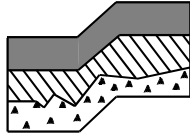


MEMO



TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

TO: // **Mr. Scott Bevan**
FROM: // **Carolyn S. Decker, P.E.**
DATE: // **July 13, 2021**
RE: // **Nelson Group One - Groundwater**

Scott,

As requested, we have completed some additional analysis regarding the groundwater levels at the Nelson Group One project in Redmond, Washington. The purpose of the analysis was to determine when the project would be able to dewater at 500 gallons per minute (gpm) in accordance with the City of Redmond requirements.

Middour Consulting, LLC has completed the dewatering design for the project. Based on their analysis the project is able to dewater at less than 500 gpm at any time during the year. However, this analysis is based on two critical items. The first is that the transmissivity of the aquifer is 6 square feet per minute and the second is that the water level is lowered to the bottom of slab elevation 25.5 feet. A transmissivity of 6 square feet per minute is not uncommon for the Redmond Aquifer but additional testing should be completed to confirm this assumption. The second assumption will require additional effort on the part of the development team so that the elevators can be constructed properly. This will require that the elevation pits are constructed using a coffer dam or ground freezing to create a watertight area for the construction of the elevators. The groundwater will be lowered to at least 25.5 feet so the watertight structure will need to be designed and constructed to account for a maximum of two- and one-half feet of water. This approach has been successfully completed on another project within the Redmond Aquifer.

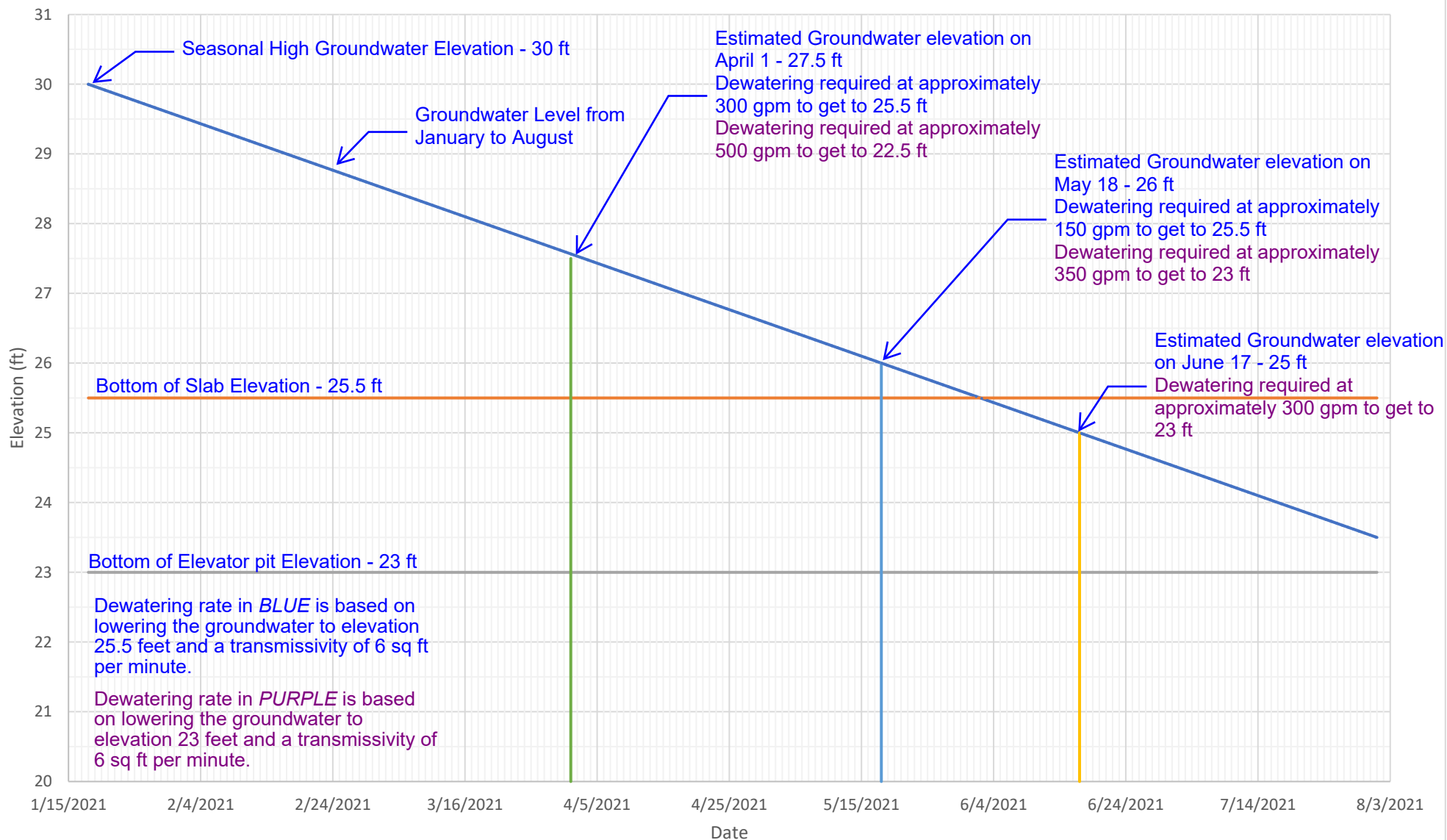
We have prepared a graph showing the approximate drop in groundwater from the seasonal high to the seasonal low for the project site. This graph is attached. The groundwater drop is based on onsite data collected from August 2019 through April 2020. The slope of the groundwater drop has been compared to a site a couple of blocks to the west and the project site immediately to the south. The slope of the line is consistent with the other two projects. The graph shows the estimated groundwater level at various times throughout the year and the approximate gpm of the dewatering at that time. The gpm's noted on the graph are based on lowering the groundwater to elevation 25.5 feet.

The dewatering design described above is based on lowering the groundwater from an elevation of 30.5 feet to 25.5 feet, 5 feet total. Depending on the level of the groundwater at the time of construction it is possible that the natural groundwater level will be low enough to allow for complete dewatering of the site, including the elevator pits. In order to determine the groundwater level before and during construction the groundwater elevation will need to be monitored. The City of Redmond has a series of groundwater monitoring wells throughout the area that could be used to complete this monitoring. In addition, there are three monitoring wells onsite, and these wells can be maintained for the start of the project to allow for onsite groundwater elevation monitoring.

In order to confirm that the dewatering system designed by Middour Consulting, LLC does not exceed the 500 gpm limit regardless of the time of year, tracking and reporting will be necessary. For this project we propose reporting the total gallons discharged on a monthly basis. This will allow for typical fluctuations of the gpm without going over the allowed limit. Based on our calculations, at 500 gallons per minute for 30 days the project is allowed to discharge 21,600,000 gallons.

We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Nelson Group One - Groundwater Elevations



— Groundwater Level
 — Bottom of Slab
 — Bottom of Elevator
 — 6/17/2021
 — 5/18/2021
 — 4/1/2021