STATE OF COLORADO

Ebert - DNR, Jared <jared.ebert@state.co.us>

Mining Permit M1978-052 and M1977-153: Acceptance by DWR of Hazeltine Slurry Wall

Stitt, Ryan <Ryan.Stitt@denverwater.org> Mon, Jan 23, 2017 at 2:25 PM
To: "jared.ebert@state.co.us" <jared.ebert@state.co.us>
Cc: "Piede, Brad" <Brad.Piede@denverwater.org>

Jared,

Attached are the liner approval for Hazeltine and the re-confirmation of the liners for Howe-Haller A and Howe-Haller B as we discussed on the phone. I am still working on a time to meet on site to determine what is left for having these permits closed.

Are there days/times during the week that are generally better for you?

Thanks,

Ryan Stitt

303-628-6539

2 attachments

Hazeltine Reservoir liner approval-signed.pdf
166K

Howe Halley re-liner approval.pdf
152K

COLORADO
Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 821
Denver, CO 80203

December 7, 2016

Greg J. Monley, P.E.
Kumar & Associates, Inc.
2390 South Lipan Street
Denver, CO 80223
Transmission via email: gmonley@kumarusa.com

RE: CLAY LINER APPROVAL
HOWE-HALLER RESERVOIR A (WDID 0203374)
HOWE-HALLER RESERVOIR B (WDID 0203390)
SECTION 9-T2S-R67W, WATER DIVISION 1, WATER DISTRICT 2

Dear Mr. Monley:

The purpose of this letter is to confirm the liner approval for the Howe-Haller Reservoir A and Howe-Haller Reservoir B that were originally issued in 2000, 2006, and 2008. Howe-Haller Reservoir A and Howe-Haller Reservoir B are mostly located in the N1/2 of Section 9, the S1/2 of the S1/2 of Section 4, and the SW1/4 of the SW1/4 of Section 3, all in Township 2 South, Range 67 West of the 6th P.M., and were originally part of the Howe Pit (DRMS M1978-052) (WDID 0203009). The reservoirs were previously tested and approved on May 17, 2000 (Howe-Haller Reservoir B West), August 1, 2006 (Howe-Haller Reservoir A) and September 24, 2008 (Howe-Haller Reservoir B East), as meeting the design standard.

According to the information provided, the two reservoirs were damaged by surface water erosion from the flooding of September 2013 and the spring of 2015. You have initially provided a damage assessment and seepage evaluation report dated January 20, 2016 that presented an assessment of the damaged areas and the results of the geotechnical exploration performed to determine whether the compacted clay liner had been impacted by the flood. A site inspection was performed by the SEO on March 1, 2016 to assess the reservoir damages. Based on the site observations it was determined that the damages were limited to surface erosion of the bank slopes with the exception of the spillway area of Howe-Haller Reservoir A. Therefore we requested that the Howe-Haller Reservoir A be monitored for 30 days after the repair was completed to be sure that the liner for the pit was not damaged during the 2013 flood and is not intercepting ground water. Construction to rehabilitate the slopes of the two reservoirs and replaced the failed spillway for Howe-Haller Reservoir A was conducted from mid-April to the end of July 2016. A second site inspection was performed by the SEO on September 21, 2016 to observe conditions in the rehabilitated reservoirs following repair. Temporary spillway piezometers were observed inside and outside of the clay liner. Your final report dated November 2, 2016 indicates that monitoring began mid-July 2016. Based on the water level readings in the outside piezometers compared to the inside piezometers, you concluded that there were no significant changes in water level for the inside piezometers in comparison to ground water fluctuation in the outside pierzometers and therefore the compacted clay liner **still meets the design standard** referenced in the August 1999 State Engineer Guidelines for

Howe-Haller Reservoir A and B
Clay Liner Approval
December 7, 2016

Lining Criteria for Gravel Pits (1999 SEO Guidelines). **Meeting the design standard requires that during reservoir operations all water inflows and outflows for the liner perimeter enclosed area be accounted for on a monthly basis**.

Based on this office observed site conditions, we agree that Howe-Haller Reservoir A and Howe-Haller Reservoir B continue to meet the design standard for ground water seepage for lined reservoirs in accordance with the 1999 SEO Guidelines. Water shall not be impounded in Howe-Haller Reservoir A and Howe-Haller Reservoir B except pursuant to lawful diversions allowed by statute or decree. At all other times, Denver Water or their successor has the responsibility to ensure that all inflow of water into the ponds from any source, including precipitation and ground water inflows is removed to prevent any out-of-priority storage of water or secure a Water Court approved augmentation plan or State Engineer approved substitute water supply plan to replace such out-of-priority storage. Prior to ANY use of this site, Denver Water or their successor will need to coordinate with Brent Schantz, River Operations Coordinator, to review operations, measurement structures, and accounting.

Please contact me at the number below if you have any questions.

Sincerely,

Ioana Comaniciu, P.E.
Water Resource Engineer

cc: Brent Schantz, River Operations Coordinator (Brent.Schantz@state.co.us)
Louis Flink, Diversion Records Coordinator (Louis.Flink@state.co.us)
WDID File (0203374 & 0203390)