

April 27, 2009

**IDWR
Permit to Appropriate Water
No. 23-11387**

RE: Analysis and recommendations for Palisades Creek proposed sand point well and expected replenishment outcomes in connection with the IDWR water usage condition.

Lot identification and specifics

Property Owner: Jeffrey Aleixo

Property Deed No.: 1273155

Lot Description: Lot 27, Block 1 of 1st Amended Palisades Creek Ranch Division No. 1
Part of the NW1/4 and S1/2 of Section 25 and the E1 of Section 26, T. 1 N., R. 44 E.,
B.M. Bonneville County, Idaho

Lot size: 3.489 acres

Approximate stream frontage: 535 linear ft.

Purpose: The owner wishes to have a minimal impact on the stream and surrounding wildlife by utilizing a sand point well for the utilization of his water right issued by the IDWR.

Project requirements: To divert water in connection with this right, the right holder shall use a pump that is installed outside the high water mark of Palisades Creek or installed in a shallow well or sump constructed or excavated outside the high water mark but near enough to Palisades Creek that diversions of water from it cause the flow of Palisades Creek to be diminished by at least 50% of the diversion rate within a 24 hour period. If the right holder elects to install a well or sump, prior to its construction or excavation, the right holder shall submit a report prepared by a licensed professional engineer or geologist that demonstrates the depletion requirement of this condition and shall receive written approval from the Department. If the permit holder does not employ a shallow well or sump, only a flexible pipe may extend from the pump to the water below the high water mark, and the intake for the flexible pipe shall be screened with ¼-inch or smaller mesh to protect fish and wildlife.

Project Soils: A geotechnical investigation was prepared by Materials Testing and Inspection in the area of the Aleixo property. The soils were found to be Poorly Graded Gravel with Sand (GP) as defined by the Unified Soil Classification System. Soil permeability for this type of soil typically exhibit infiltration values in excess of 24 inches per hour.

Recommendations:

1. The surface elevation of the sand point well shall be no higher in elevation than 8 feet from the high water mark of Palisades Creek
2. The location of the well shall be no more that 30 linear feet from the high water mark of Palisades Creek.
3. Upon construction of the well, verify the soil type at the proposed well location is Poorly Graded Gravel with Sand as noted above.
4. Well Casing Specs:
 - 4' Diameter Corrugated Metal Pipe
 - Perforations – 1/8" wide slits, 8 inches long orientated vertically around the circumference of the pipe. 25 slits per row. (1 slit every 6 inches)
 - Provide 6-inch spacing between each perforated row.
5. Top of pump to be placed 10 feet below irrigational seasonal low water table elevation.

Conclusion and Remarks:

As a result of our site observations and analysis, the proposed location of the sand point well (See Site Map) and current soil conditions, this site offers excellent subsurface hydrology. As such we would expect at least a 50% diversion rate to the proposed shallow well site to be supplied by Palisades Creek Water.



Jeff Freiberg, P.E.