



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
Toni Hardesty, Director

October 24, 2007

Mr. Tom Neace, P.G.
Idaho Department of Water Resources
Ground Water Protection Section
322 East Front Street
Boise, ID 83720

RE: Valley Club Subdivision, Hailey ID

Dear Tom:

Representatives from DEQ and IDWR met September 13, 2007 to review a project intended for water rights mitigation at the Valley Club Subdivision located north of Hailey, Idaho east of Highway 75. The Valley Club Subdivision uses two public water system wells for both domestic and irrigation use. The project is intended to offset additional water withdrawals from the wells during the irrigation season. Both wells are completed in fluvial glacial sediments consisting of fine to coarse grained gravel at depths of 140 feet below ground surface with the water table at 71 and 64 feet. Studies have indicated ground water is hydraulically connected to the surface water of the Big Wood River in several reaches. Brockway Engineering is the consultant for the subdivision.

It was determined at the meeting that the project meets criteria under the shallow injection well program administered under IDWR Rule (IDAPA 37.03.03). The criteria includes the boring or excavation is less than 18 feet in depth; is deeper than the largest straight line surface dimension; and the surface water is intended to be injected as a subsurface emplacement of fluids.

A surface water right has been secured by Valley Club to divert from water in the Hiawatha Canal, which is supplied by water from the Big Wood River. The project will divert surface water from the Hiawatha Canal and pipe the water underground to a pumping plant near the Valley Club wells. The surface water will be filtered then injected underground into 3 inch perforated distribution pipes placed in constructed basins approximately 3 feet in depth. In cross-section, topsoil overlies a bed of clean gravel, in which the pipes are placed horizontally. The 3 inch perforated distribution pipes allow infiltration to ground water through an 18 inch layer of uniform C33 medium sand. C33 medium sand is material used in intermittent sand filters. A sampling apparatus is to be installed after the in-line filter and prior to injection.

The constructed infiltration basins are located greater than 500 feet from four nearby public water system wells; the two serving Valley Club and two serving adjacent developments. In discussions with the DEQ Drinking Water staff, the 500 foot setback distance to the public water system wells may not be an appropriate factor to determine that the project does not subject the public water system wells to a Ground Water Under the Direct Influence of surface water determination (GWUDI).

DEQ is concerned that pathogens associated with surface water may cause adverse affects to ground water quality. In the IDWR Injection Well Rule (IDAPA 37.03.03.050.01), the minimum standards for

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shallow injection wells are that the injected fluid meets Ground Water Quality Standards. Section 37.03.03.050.03.b.iii lists several water treatment technologies as options that the (IDWR) Director may require. DEQ recommends that IDWR issue a shallow injection well permit for the proposed Valley Club Subdivision surface water injection well project.

Since the project has the potential to degrade ground water quality by introducing surface water, DEQ is requesting that IDWR issue a conditional UIC permit requiring treatment of the surface water prior to injection to meet ground water quality standards, including pathogen removal. Pathogens are not listed under numerical standards in the Ground Water Quality Rule (IDAPA 58.01.11), however, this location is adjacent to four public water system wells and adequate treatment of the recharge water is needed prior to injection.

If the recharge water is not treated to ground water quality standards, then the public water system wells in the area may eventually be impacted by surface water and subject to additional DEQ Public Drinking Water System Rules as a Surface Water System (IDAPA 58.01.08). A GWUDI determination would need to be completed for the four public water system wells due to the site hydrogeologic conditions and the infiltration basins located between the four public water system wells. The private wells in the area may also be impacted by surface water; however, Public Drinking Water System Rules would not be applicable to protect the private users. In order to be protective for all ground water users, treatment for pathogen removal and disinfection to remove viruses prior to injection is preferred.

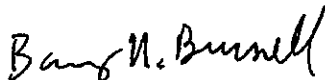
DEQ recommends a characterization of the recharge water quality prior to injection. Characterization should include: sampling for common ions, metals, nutrients, microbial constituents and an initial scan for pesticides and volatile organic chemicals as identified in the "Guidance for Developing Ground Water Quality Monitoring Program for Managed Recharge Projects by Land Application," 2006. DEQ highly recommends monitoring surrounding and downgradient wells during recharge.

http://www.deq.idaho.gov/water/data_reports/ground_water/reports.cfm#recharge.

If there are plans for the project to undergo a pilot test to demonstrate if the proposed filtration system is capable of removing potentially harmful microbial constituents prior to the water entering the aquifer, then DEQ would like to participate in the study.

Thank you for your cooperation in protecting Idaho's ground water quality.

Sincerely,



Barry N. Burnell
Water Quality Division Administrator

BNB:TM:bmm

c: Charles E. Brockway, Brockway Engineering
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