

MEMO

TO: File 97-7423

FROM: CPadilla

DATE: July 12, 2011

RE: Licensing Review Memo and DEQ Report

Timeline:

Application Received: November 19, 2002

Permit Issued: March 6, 2003

Proof of Beneficial Use: March 19, 2003

Field Examination: August 20, 2003

Point of Diversion: The PD is one well that provides water for 30 homes in the Three Waters Park Subdivision. I found information on DEQ's website pertaining to this PWS. I have attached the Source Water Assessment Report to this memo for informational purposes.

Overlap Analysis of PD: There are not any other water rights diverted from the PD for this right.

POU: The place of use is made up of 30 homes in Three Waters Park. I have identified the 30 lots in the map below by reviewing up-to-date taxlot data. DEQ reported that as of 2002 23 of the lots contained seasonal homes while 1 lot contained a full-time residence. That leaves 6 lots unaccounted for, but, I believe that they were stubbed-in at the time proof was filed because there is no ^{evidence} other to the contrary and the right holder did file proof for 30 homes.

Overlap Analysis of POU: Initially, it appeared that this right overlapped 97-7291. But, right 97-7291 is appurtenant to homes to the east of the Three Waters Park subdivision. There are no other rights beside 97-7423 that covers Three Waters Park.

Diversion Rate: The diversion rate recommended by the field examiner is based on 60' of depth to water. There is no evidence that corroborates the claim that the depth to water is 60'. However, DEQ reported 20' depth to water and had some background information about the well. I believe that DEQ's information is more accurate and will re-calculate the theoretical diversion rate capacity for the well as follows:

$$8.8 \times 3\text{hp} \times 0.7/20' + (2.31 \times 55 \text{ psi}) = 18.48/147 = 0.13 \text{ cfs}$$

Diversion rate is the smaller of the two; capacity of the system (0.13 cfs) or permitted rate (0.20 cfs).

Volume: The volume will be calculated using the department standard of 1.2 afa/home.
30 homes x 1.2 af = 36 afa

Even though most of the homes were considered vacation homes, the full volume should be allowed because that is the benefit of having a municipal right; as long as the homes are stubbed-in they can benefit from the full allowed volume.

Amendment?: No. Right developed as permitted.

THREE WATERS PARK (PWSNO 1090235) SOURCE WATER ASSESSMENT REPORT

November 19, 2002



State of Idaho Department of Environmental Quality

Disclaimer: This publication has been developed as part of an informational service for the source water assessments of public water systems in Idaho and is based on data available at the time and the professional judgement of the staff. Although reasonable efforts have been made to present accurate information, no guarantees, including expressed or implied warranties of any kind, are made with respect to this publication by the State of Idaho or any of its agencies, employees, or agents, who also assume no legal responsibility for the accuracy of presentations, comments, or other information in this publication. The assessment is subject to modification if new data is produced.

SOURCE WATER ASSESSMENT FOR THREE WATERS PARK

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like Three Waters Park, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for Three Waters Park* describes factors used to assess the well's susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use, well site characteristics, potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for Three Waters Park is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction. A 20-foot deep well located about 30 feet from Priest River supplies drinking water to 1 full time and 23 seasonal homes in Three Water Park. The park is located at the head of Priest River. The well log for the Three Waters Park well is not on file with DEQ, so several construction features used to assess vulnerability to contamination are unknown. The well was dug in 1967 and deepened to 20 feet in 1977. The water system was not in compliance with the *Idaho Rules for Public Drinking Water Systems* when it was inspected in 1997. Among other deficiencies, the casing terminated below ground and the well seal was not visible for inspection. Work completed in November 2001 raised the well casing and vent the required distance above grade.

The 1997 sanitary survey also noted violations of required separation distances between the well and the river and the well and septic system components serving lot 30. IDAPA 16.01.08 (rules) specify a minimum 50 foot separation distance between public drinking water wells and surface water; a minimum of 50 feet between sanitary sewer lines and a well; and a minimum of 100 feet between a well and individual septic tank. Maps in the public water system file for Three Waters Park that were drawn after 1997 show that the sewer line is located more than the minimum distance from the well. The system applied for a waiver from the required setback between the river and the well in October 2002. If the waiver is granted, the park plans to relocate the septic tank and sewer lines immediately, and to relocate a water line, which will eliminate a broken section that may be a source of bacterial contamination.

Well Site Characteristics. Hydrologic sensitivity scores are derived from information on the well log and from the soil drainage classification inside the recharge zone delineation. Soils in the well recharge zone for The Three Waters Park well are generally poorly drained to moderately well drained. Soils in these drainage classes provide some protection against migration of contaminants toward the well. Because the well log is unavailable, no information is at hand about the soil types above the water table at the Three Waters Park well site.

Potential Contaminant Inventory. Land inside the protection zone delineated for Three Waters Park is mostly devoted to seasonal homes. Though only 30 feet from the river, the well is apparently above the flood plain. Results of two microscopic particulate analyses conducted in 2002 determined that a hydraulic connection between the river and the well is very unlikely. The Outlet Bay Water and Sewer District wastewater land application site lies about 970 feet north of the well.

Water Quality History. Three Waters Park has experienced recurrent episodes of total coliform bacteria contamination during last three years, probably due to a break in the water distribution lines. The park plans to replace all the distribution lines in 2004. Annual tests for nitrates show concentrations ranging from 0.135 to 0.206 mg/l. The Maximum Contaminant Level (MCL) for nitrate is 10 mg/l.

Susceptibility to Contamination. An analysis of the Three Waters Park well, incorporating information from the public water system file and the potential contaminant inventory, ranked the well highly susceptible to microbial and inorganic chemical contamination because of the septic tank and surface water impinging on the sanitary set back zone. If the system is granted a waiver from the surface water setback, and relocates the septic tank, the susceptibility to microbial and inorganic chemical contamination will be in the moderate range. Susceptibility to contamination with volatile (VOC) or synthetic (SOC) organic chemicals is moderate. Unknown risks related to well construction and hydrologic sensitivity account for 8 of the 9 points in the final SOC and VOC susceptibility scores.

The complete analysis worksheet for your well is on page 6 of this report. Formulas used to compute final scores and susceptibility rankings are at the bottom of the worksheet.

Source Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Operating and maintaining the well in conformance with the *Idaho Rules for Public Drinking Water Systems* should be one of the primary drinking water protection goals for Three Waters Park. Correspondence in the Three Waters Park water system file shows that the system is working with Panhandle Health to bring the physical plant into compliance. The system has completed microscopic particulate analyses on samples from its well. The scores on both tests were zero. Three Waters Park has applied for a waiver of the required setback distance between the well and Priest River, and contingent on its approval, is ready to proceed with relocating a septic tank, sewer lines and a troublesome water distribution line. The system monitors water quality faithfully, and is prompt to notify its customers when problems emerge.

A voluntary measure every system should employ is development of an emergency response plan. There is a simple, fill-in-the-blanks form available on the DEQ website to guide systems through the emergency planning process.

The Association should also investigate ground water protection programs like Home*A*Syst. These programs are designed to help well owners assess everyday activities for their potential impact on drinking water quality. Topics include septic tank management, petroleum product storage, handling and storing lawn and household chemicals and similar activities. Because the association does not have direct jurisdiction over the entire recharge zone for its well, it will be important to form partnerships with neighboring landowners and public agencies to regulate land uses that can degrade ground water quality. Some of them may not be aware that their property is in a sensitive area where household, agricultural or business practices could have a negative impact on a public water supply. Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance.

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

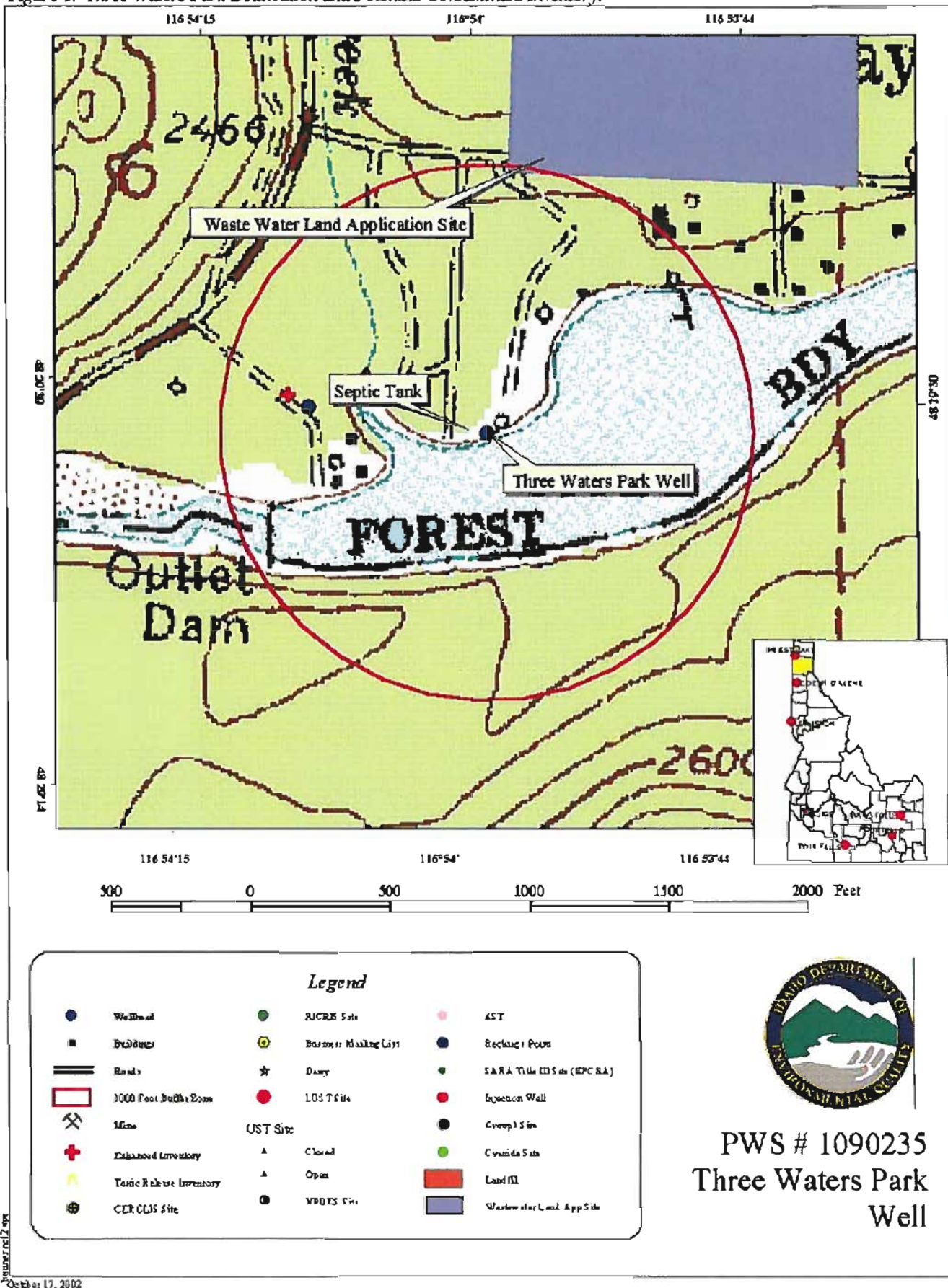
DEQ Website: www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper of the Idaho Rural Water Association (208) 343-7001 for assistance with drinking water protection strategies.

Idaho Rural Water Association Website: www.idahoruralwater.com

Home * A * Syst Website: www.uwex.edu/homeasyst

Figure 1. Three Waters Park Delineation and Potential Contaminant Inventory.



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October 17, 2002