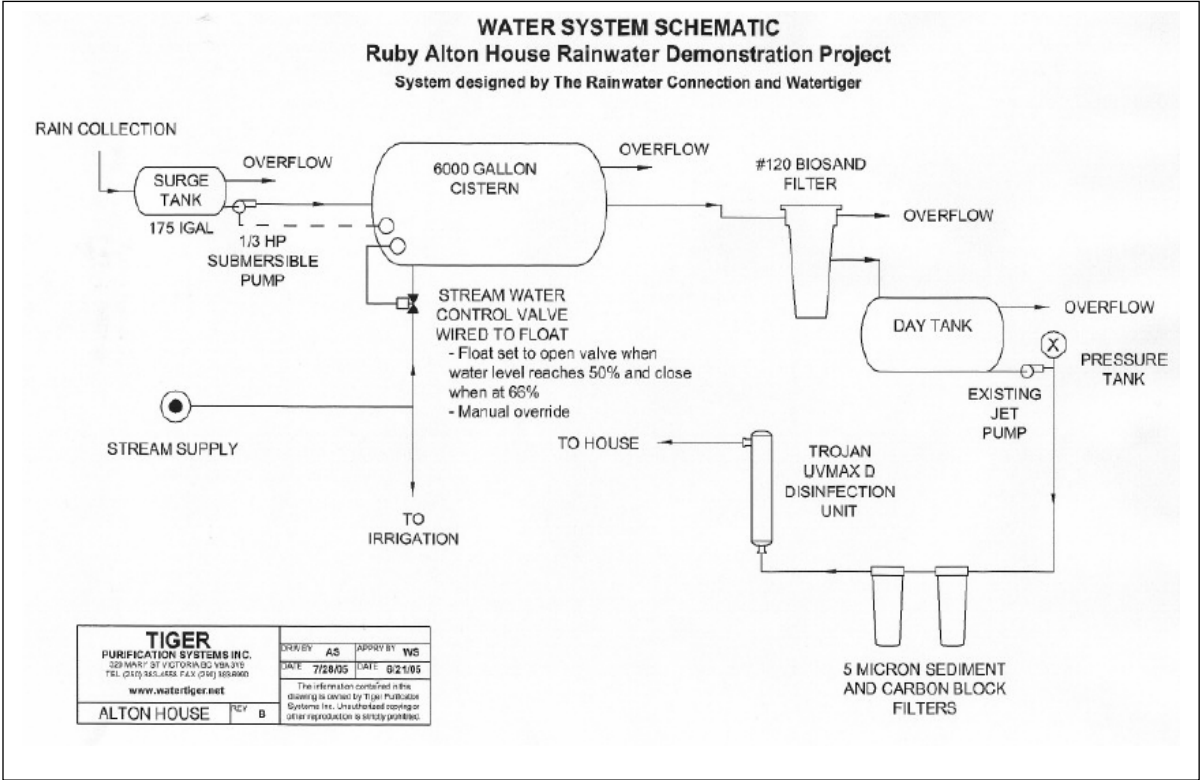


# 1.0 SUMMARY DESCRIPTION

The Ruby Alton system provides a good quality source of rainwater to mix with an existing stream water supply source, and a water purification system to provide potable water for a four person rural residential home that previously relied entirely on the water from a nearby stream.

The *Water System Schematic* below shows the interrelationship of the system components.



**Key features of the Alton House system include:**

- Potable water system using rooftop catchment of rainwater to supplement the present stream water supply;
- Estimated 141,000 litres (31,000 Imperial gallons) of rainwater catchment annually from a 180 m<sup>2</sup> (1,940 sq. ft.) catchment area;
- In a year with average precipitation levels, rainfall combined with storage of approximately 27,200 litres (5,980 Imperial gallons) will provide over 60% of the annual water needs for a water conserving, 4 person household assumed to use 151 litres or 33.3 Imperial gallons per person per day. (See May 25, 2005 report *Water Balance Table and Water Requirements in Appendix A*);
- Three stage cleaning of the water before it enters the cistern (leaf and large debris removal, sediment removal in catchment pipes, and mesh screen filtration);
- Gravity rainwater flow to surge/ pump tank and transfer pump to cistern;
- Manual or automatic supply of stream water to the same cistern;

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- Polypropylene lined steel cistern measuring 14 feet 7 inches in diameter and 6 feet high with a nominal capacity of 28,370 litres (6,240 Imperial gallons);
- Gravity flow from cistern to BioSand filtration system and house day tank; and
- Additional particle filtration (to one micron) and rural standard UV light for final disinfection.