



Water Quality Information for Management Plan

Roza Irrigation District (Roza) water flows through an open canal, into either open or closed laterals before its delivery on-farm. Roza water is derived from the Cascade Mountains in the state of Washington, which is located west of the grower's land. The United States Bureau of Reclamation (USBR) Yakima Project maintains five reservoirs for irrigation and flood control purposes. Three of these reservoirs, Kachess, Keechelus, and Cle Elum, provide storage water for Roza via the Yakima River. The storage water comprises one third of Roza's irrigation water. Roza's irrigation water is derived from the Cascade Mountain's rain and snow pack runoff to the Yakima River. The Roza Dam is located at river mile 127.9 on the Yakima River and is Roza's legal point of diversion. Landowners within Roza's district boundary have water allotments. Water is not delivered until the yearly assessment is paid.

Roza operates and maintains the irrigation conveyance structures for the diverted Yakima River water. This water is not used or intended as a potable water source.

Historical usage and weather data is used to maximize irrigation efficiency within the District. Roza's daily water ordering system allows the grower control and flexibility in water usage and distribution. Irrigation application can be changed as conditions change. The grower complies with the Roza-Sunnyside Board of Joint Control (RSBOJC) policy of not allowing highly turbid on-farm runoff to Roza drains, which discharge agricultural return flow to the Yakima River. This policy supports water conservation efforts in minimizing soil erosion and improving water quality by reducing sediment loading to the Yakima River.

The Roza Irrigation District has a May 10, 1905 water right, which is junior to districts with a prior water right date. In the event of a drought, each landowner has an equitable but reduced proratable amount of water delivered on-farm.

Irrigation agricultural return flow is directed to Roza drains, joint drains, and wasteways. The return flow may also infiltrate to groundwater. The surface water which does not infiltrate returns to the Yakima River.

Irrigation surface water is sampled and analyzed every three weeks 4.95 miles downstream from the Roza Dam diversion location for the following parameters: Water Temperature, pH, Specific Conductance, Dissolved Oxygen, Turbidity, Total Suspended Solids, *E. coli* Bacteria, Total Nitrogen Species: Nitrate-Nitrite (inorganic form), Total Kjeldahl Nitrogen



(organic form), Ammonia (seldomly), and Total Phosphorus. There are five additional milepost sites on the Roza Canal (11.5, 32.8, 59.0, 75.1, and 94.7) where *E. coli* Bacteria and Turbidity are sampled and analyzed on a three-week basis. In addition, Water Temperature, pH, and Specific Conductance are measured at the 59.0, 75.1, and 94.7 locations. The RSBOJC Water Quality Laboratory, an accredited lab through the Department of Ecology and funded by both the Roza and Sunnyside Valley Irrigation Districts, performs all the field sample collection and most of the sample analysis. The USBR Columbia-Pacific NW Regional Laboratory in Boise, Idaho performs the nutrient sample analysis of Nitrate-Nitrite, Total Kjeldahl Nitrogen, Ammonia, and Total Phosphorus. All laboratory results are retained on file by the Water Quality Department in both hard copy and electronic formats for the District's water users, and/or general public.