Flow Measurement Protocol
Double Diamond/Porter Creek System

I. Flow measurement
   A. Location - Flow will be measured in the 10" steel pipe at or near the Jackass Creek crossing. This should be an ideal location for measurement and minimal turbulence is expected.

   B. Devices
      1. Ultrasonic - The Department's Polysonic Time-Flyte Model TF-P ultrasonic flowmeter will be used for measurement. In situations of ideal laminar flow, this meter is expected to have less than +/- 2 percent error. However, if the ultrasonic meter does not work at this location, or if it provides unreasonable results compared to the field evaluation (difference greater than 20 percent), another measurement using the Collins meter will be performed.
      2. Collins - The Collins pitot-tube type flowmeter will be used if necessary. If the ultrasonic meter does not work, or it provides unreasonable results, the Collins measurement will preside.

II. Pumps
   A. River pumps - The pumps delivering water from the Payette River to the system will be **off** during the period of flow measurement and system analysis. The gate valve located on the discharge side of the 60 hp pump shall be closed in order to isolate these pumps from the system. After completion of flow measurements and system analysis, the river pump may be turned on and a measurement made of the Porter Creek water if the system owner so wishes.

   B. 40-Horsepower Booster Pump - Measurements will be made with the 40 horsepower booster pump, located downstream of the Payette/Porter connection, operating and not operating. The gate valve located on the bypass of the booster pump will be closed while the booster is on, and open when the pump is off.

III. Laterals
   A. Wheel lines - Up to seven wheel lines may be operated during the exam. Each wheel line has approximately 25 nozzles.

   B. Hand lines - Up to two hand lines may be operated during the exam. One is located on the East side of the road, in the NENE corner of Section 26. The second hand line, which is longer than the other laterals, will run parallel to the Payette River and will be connected to the 6" steel mainline.

   C. Minimum Lateral Pressure - In an effort to determine system capacity of an adequately operating system, laterals which are operating ineffectively due to low pressure will be turned off. Laterals must maintain an average nozzle discharge