

Bonneville Second Powerhouse Corner Collector Bypass System Tier I Sediment Evaluation

February 4, 2002. The Bonneville Second Powerhouse Corner Collector Bypass System location is within the Columbia River on the Washington side near the shoreline of Cascade Island, immediately downstream, and at distances of approximately 400 feet and 2000 feet from the existing Second Powerhouse outfall. The system will discharge water containing juvenile salmonids at the downstream tip of Cascade Island. The Project Plan estimates the 31,000 cubic yards of material to be dredged from the Plunge Pool Site (see Figure) are to be placed in the half mile section of river downstream from River Mile (RM) 145, which contains material substantially the same as the dredge material. This length of river has more than enough depth to place the dredge material.

The (1) surface grab sample and the 8 in-water subsurface (borings) within the plunge pool consist of overburden materials and bedrock. In addition to the in-water samples, 41 upland sites (borings and test pits) were also collected from the proposed upland construction site downstream of the Second Powerhouse and contain similar material. The overburden consists of fill (500 CY of riprap), alluvium, slide debris material and a poorly graded alluvial material referred to as “crystal sands” (poorly graded micaceous silty sand to sand). All the samples recovered from the drillings and surface sample is considered native material derived primarily from historical and prehistoric slides in the area prior to any man made activity in the area. The bedrock unit consists of the sedimentary Weigle Formation.

The dredging will only consist of overburden. The samples collected from the in-water area at the site of the proposed plunge pool dredging indicate the majority of the material to be disposed of consists of 80% gravel, 18% sand with fines representing <2% of total material with an estimate of <1% volatile solids.

The majority of the material to be disposed of consists of gravel (80%) and sand (18%), with fines representing <2% of total material with an estimate of <1% volatile solids. This material is consistent with native material in the area and the newly exposed surface will be similar material or bedrock. There is no reason to believe that the material associated with the plunge pool dredging is contaminated. Material from the area of contamination at the East End of Bradford Island does not show any evidence of migration toward the second Powerhouse (sampling event in July 1997 described above, see figure). This dredging activity meets the requirements outline above and in Table 5-2 of the DMEF. This Tier I report considers all material suitable for unconfined, in-water placement without further characterization.