Appendix M

Whipple Creek Watershed Plan

Whipple Creek Use Attainability Initial Discussion

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Background

The permit requirement to create a plan that restores designated uses does not consider whether those uses are attainable using AKART. Designated uses for Whipple Creek are specified in Chapter 173-201A using no basin-specific data; instead, the designated uses are generic to the waters of the state where salmon are present. That is salmon spawning, rearing and migration. Along with salmon habitat, the standards call for bacteria levels that allow full contact recreation.

Basically, a designated use can be removed if conditions causing its loss are irreversible. However, irreversible is a relative term. Federal law lays out conditions whereby an unattained designated use is irreversible.

It is apparent that the Whipple Creek designated uses once existed and they are either not being met or are severely degraded due to over 100 years of mechanized reconfiguration of the basin land cover and hydrology. As we develop our plan, we should consider the extent to which our remedies are attempting to reverse the irreversible.

While a use attainability analysis is beyond the scope of this project, adaptive management restoration goals should consider attainability as proposed management actions are prioritized for implementation.

Regulatory Framework

Federal

Under **40 CFR 131.10(g),** federal law allows states to remove a designated use which is not an existing use, as defined in § 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
4. Dams, diversions or other types of *hydrologic modifications* preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
6. Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

State

The state or Washington (section 173-201A.440 WAC) allows the alteration of a designated use through a use attainability analysis meeting the standards of federal law.

Hydrologic modifications in Whipple Creek

Clark County MS4 as a hydrologic Modification to Waters of the State

By their very nature, stormwater facilities are hydrologic modifications. These include everything from roadside ditches and driveways to regional stormwater facilities that replace natural elements of the watershed hydrology.

Many hydrologic modifications were built before municipal stormwater permits were in effect and therefore were legally built before water quality standards of state or federal law regulating storm sewer construction.

In Whipple Creek Watershed, hydrologic modifications are extensive, altering watershed hydrology since settlement and forest clearing over 100 years ago.

Restoring stream hydrology to that assumed to fully support the designated use of salmon habitat requires that hydrologic modifications created since settlement and before the first NPDES stormwater permits be removed or somehow mitigated to the point where their effect is removed. To do so will cost huge sums of money beyond the realm of reason. These numbers are in the $100,000,000 and up range in a basin where the current total stormwater utility fee is less than $400,000 per year.

Manmade barriers to fish migration exist in Whipple Creek. The most notable is the full barrier created by box culverts under Interstate Freeway 5. As long as the I-5 barrier exists, all use by salmon above I-5 is lost.

Removing hydrologic modifications within the MS4 regulated by the permit is a legitimate requirement for restoring designated uses under an NPDES permit. This includes retrofitting the MS4 to reduce hydrologic modifications.

Fish Barriers

Fish barriers such as the I-5 culvert are not part of the permitted MS4 and eliminate a designated use not possible to mitigate by an action on the MS4.

Physical conditions related to the natural features of the water body

These conditions include lack of a proper stream substrate, which is a gravel substrate to support salmon spawning and healthy macroinvertebrate populations. Ecology's use of relationships between BIBI scores, (which are dependent on gravel substrate sample collection sites) highlights the critical importance of gravel substrate for the beneficial use of salmon spawning, rearing and migration.

Gravel substrate exists naturally in very limited areas of Whipple Creek watershed: main stem below Union Road, lower Packard Creek and Miners Creek near the mouth of Whipple Creek. In these areas, salmon spawning is possible, but not in other areas of Whipple Creek watershed.

Human Caused Pollution and the MS4

The MS4 contains many areas where Clark County cannot fully control pollutant sources. Simple examples are roof and pavement runoff from residences. These areas must be treated by stormwater BMPs in the MS4 to approach the water quality standards for fecal coliform bacteria.

Treatment to remove bacteria from runoff is by one method: infiltration to ground water or deeper interflow. There are no other treatment BMPs available in the SWMMWW.

Many parts of Whipple Creek are underlain by clayey soil and weathered sediment that do not allow infiltration. In these sub-basins, no bacteria treatment is possible using standard BMPs. In these areas, it is not possible to remove bacteria from the MS4 discharges using known technology under AKART.

Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact

Assuming we apply AKART at the state level and MEP at the federal level, it becomes clear that the implementation of a plan to restore the current designated uses would not only place substantial economic and social impact on the residents of Whipple Creek watershed but also on the entire area of the MS4 permit.