



SUMMIT WATER QUALITY COMMITTEE

PO Box 2308
249 Warren Ave
Silverthorne, CO 80498

970-468-0295 Ext 116
Fax 970-468-1208

March 11, 2010

Mr. Scott Franklin, Moffat EIS Project Manager
Corps Denver Regulatory Office
9307 S. Wadsworth Blvd.
Littleton, CO 80128

Ref: SWQC Comments on Moffat Collection System DEIS

Dear Mr. Franklin

The Summit Water Quality Committee (“SWQC”) is comprised of the local governments and major municipal dischargers in Summit County, Colorado. The organization is formalized by intergovernmental agreement and has been actively involved in water quality monitoring and assessments and the implementation water quality improvement projects in the Blue River watershed since the early 1980’s. In particular, SWQC developed and administers a successful and renowned water quality management program for Dillon Reservoir. Denver Water assists the Committee with routine monitoring costs and participates in most Committee meetings.

The SWQC has discussed the Draft EIS for the Moffat Collection System Project (“Project”). Rather than take a position in favor or against the proposed Project, SWQC has identify potential impacts the Project may have on water quality or SWQC members in hopes that 404 permit conditions will be imposed to mitigate these impacts.

Following is a list of issues SWQC has identified for your consideration.

1. The DEIS identifies average monthly releases from Dillon Reservoir in Appendix H, Table H-3.35. In this table monthly average releases rarely go below 50 cfs and the DEIS text implies that Denver Water does not intend to reduce flows below that 50 cfs level although they have the ability to do so in some circumstances (page 4-81).

As you know, a monthly average may include flows below that value. When releases below Dillon Reservoir drop below 50 cfs it has the potential for significant impacts to the Silverthorne Joint Sewer Authority’s Blue River WWTP (“JSA”). The JSA’s discharge permit limits are tied by the Colorado Department of Public Health and Environment (“CDPHE”) to the 50 cfs release from Dillon Reservoir and intervening inflows. Any reduction from the 50 cfs release even for a few days could be a problem, in spite of the fact that the monthly average release is still 50 cfs. For example, the JSA estimates that a flow of 35 cfs for three days would result in permit changes

mandating approximately \$5M in capital costs for new metals removal processes, plus operation and maintenance costs into perpetuity. We note that the DEIS did not consider the potential impact of increased metals concentrations on the JSA.

Since the DEIS concludes that impacts to the JSA will be negligible (page 4-84), SWQC requests a 404 permit condition that would hold the project to that conclusion by requiring that daily releases from Dillon Reservoir do not drop below 50 cfs

2. The DEIS screens analysis of impacts to wastewater treatment facilities to those where the proportion of effluent to low flow in the receiving water increases by 15% or more. This approach fails to recognize impacts that result from loss of dilution that does not meet this criterion. For example, EPA Region 8 Guidance for Whole Effluent Toxicity testing (August 1997) mandates additional bio-monitoring in situations where the ratio of effluent to stream flow dilution is greater than 10%. This will be the case for the JSA as a result of reduced flows in the Blue River and will require substantial additional costs.

Since the DEIS concludes that impacts to the JSA will be negligible (page 4-84), SWQC requests a 404 permit condition that would hold the project to that conclusion by requiring that these new permitting costs be paid for by the beneficiary of the Project.

3. SWQC and member jurisdictions have implemented extensive measures to protect Dillon Reservoir from fine sediment and phosphorus bound to particulate that result from erosion. This includes an award winning construction site inspection and education project and stringent land use regulations for the protection of water quality from erosion and sedimentation.

The DEIS indicates that Dillon Reservoir will be drawn down more from May to September (page 4-28 and Table H-2.5) which would expose more of the shoreline during runoff and rainfall season. SWQC is concerned that concentrated stormwater discharged at drainage outfall points at numerous points around the lake will create gullies and generally degrade the fragile exposed shoreline carrying sediment into the reservoir. This is both a new source of pollution and a problem of murky water adjacent to the Town of Dillon's and Town of Frisco's marinas.

Since the DEIS concludes that water quality in Dillon Reservoir is not expected to change due to the Project, SWQC requests a 404 permit condition that would hold the project to that conclusion by requiring that a stabilized channel be constructed from the point where each stormwater pipe outfall or natural drainage enters into Dillon Reservoir; to the reservoir's lowest anticipated water's edge over time as the shoreline gets more exposed during summers.

4. Neither the water quality or the air quality sections of the DEIS recognize the potential for increased fugitive dust. One of the largest contributors of phosphorus loading to Dillon Reservoir is associated with precipitation (see Dillon Clean Lakes Study, Final Report, August 1983, Western Environmental Analysts, Inc.). Precipitation carries phosphorus bound to fine particulate matter into the reservoir.

The DEIS indicates the end of September reservoir elevation would be reduced by 3 feet on average; with a maximum monthly reduction of 16 feet (page 4-28). SWQC is concerned that increased shoreline exposure will result in an increase in fugitive dust. Increased fugitive dust would result in increased phosphorus loading through precipitation as the concentration of particulates in the air increases. Figures 1 and 2 below show how the reduction in reservoir level translates into increased exposed surface area with the potential for dust generation. This impact was seen in 2002 during the drought when there was a significant increase in shoreline exposure.

The DEIS does recognize that the Eagles Nest Wilderness Area, which virtually abuts Dillon Reservoir, is managed under the Clean Air Act as a Class I area suitable for the most stringent level of protection (page 3-262). The DEIS fails to recognize the potential for increased air and water pollution from fugitive dust. SWQC requests a 404 permit condition requiring the development of a fugitive dust control plan for the increasingly exposed shoreline area that will occur in the future as a result of the project.

Figure 1

**New Dillon Reservoir - Potential Fugitive Dust Generation
(Water Elevation vs. Percentage of Lake Bottom Exposed to Wind)**

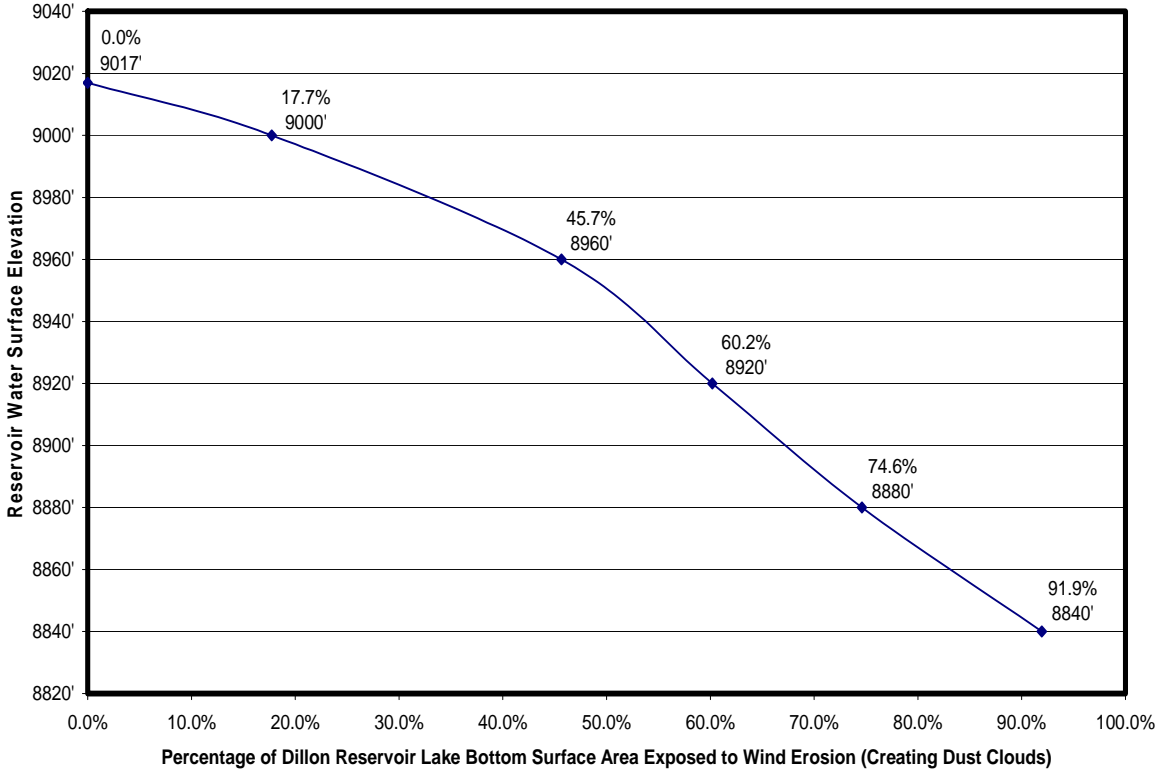
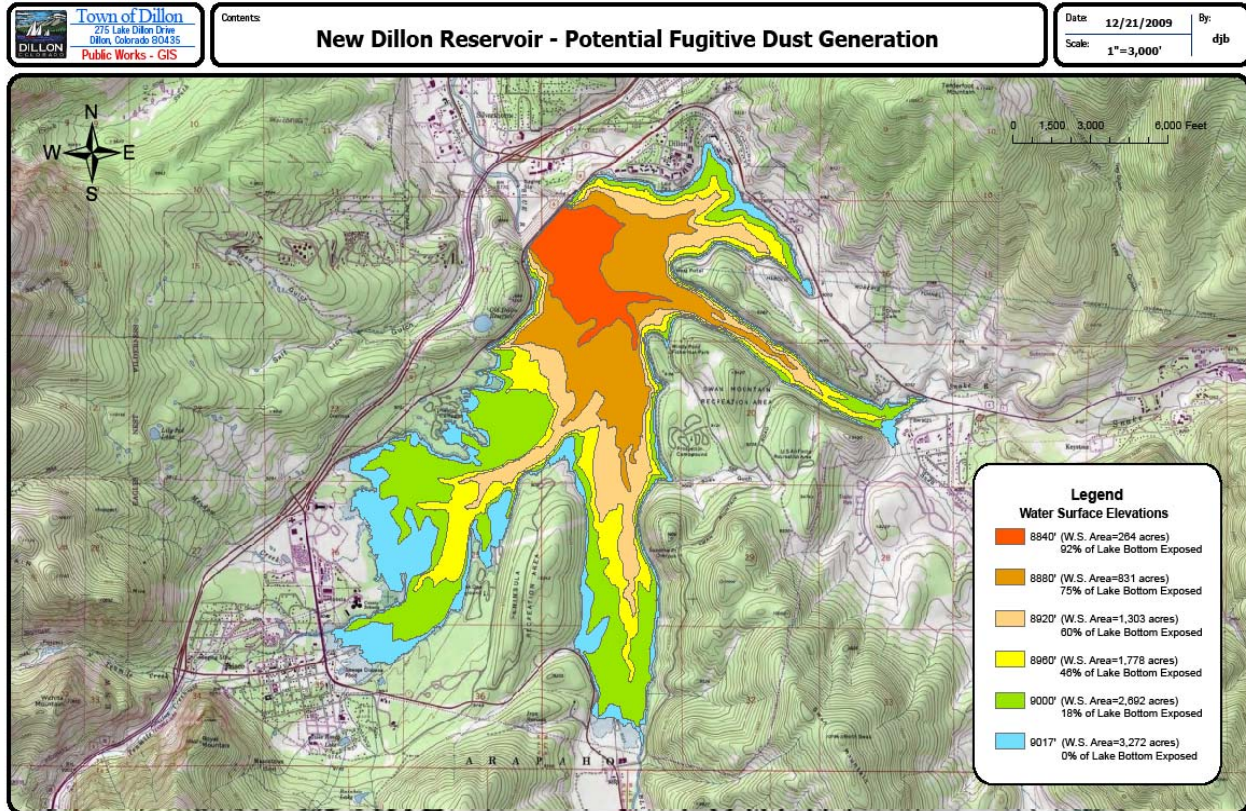


Figure 2



5. The DEIS states that there would be no changes to WWTP discharge permits due to the Project. However, the only WWTP evaluated in the Blue River watershed is the JSA. There are three major municipal discharges into Dillon Reservoir. These facilities could be affected by the increasingly fluctuating reservoir level associated with the Project.

Dischargers to Dillon Reservoir must meet permit limits at the edge of their mixing zone. Increasingly fluctuating reservoir levels make the definition of this mixing zone ambiguous. In order stay in compliance with their permit limits dischargers may be required to modify their facilities to utilize the mixing zone, or to upgrade their treatment plants to be capable of treating to a level that complies with permit limits at the end of pipe. For example, the Snake River Sewer Treatment Plant (“SRWWTP”) discharges into the Snake River arm of Dillon Reservoir. If their mixing zone changed as a result of fluctuation in Dillon reservoir the SRWWTP has estimated that it would cost \$400k to \$1.5M to extend their discharge pipe out ½ to 2 miles into the reservoir to chase their mixing zone. Their other alternative would be to construct metals removal facilities (estimated cost in 2004 was over \$14M plus annual O&M, see Figure 3 below).

Since the DEIS does not disclose impacts to WWTPs discharging into Dillon Reservoir one is left to conclude there are no impacts. SWQC requests a 404 permit condition that would hold the project to that conclusion by requiring that the applicant, the Project beneficiary, offset any costs to wastewater dischargers as a result of changes in

discharge permit conditions as a result of increasing fluctuations in the reservoir, such as the example provided for SRWWTP.

SWQC members take water quality very seriously. Several of the members mentioned above are in the process of permitting their own water storage facility, Old Dillon Reservoir. In this case, the applicants have agreed with CDPHE to ongoing monitoring to evaluate additional phosphorus loading to Dillon Reservoir, and then to mitigate that on a pound for pound basis (draft 401 Certification attached as Figure 4 below). We would hope that the Moffat Project will be held to the same high standard of water quality protection as our own project. Thank you for the opportunity to comment.

Sincerely,

Mike Bittner,
Chairman, SWQC
Operations Superintendent, JSA

CC: CDPHE Steve Gunderson and John Hranac

Figure 3 - Costs of Metals Removal at SRWWTP

Table 4-2
Capital Cost Opinion for Metals Removal at the Snake River WWTP¹¹

Item	Cost
Membrane system (includes pump station, MF and RO membranes, and chemical feed system)	\$6,000,000
Building to house membrane facilities (at \$200/sq ft)	\$2,000,000
Lime precipitation facilities (including lime storage facilities, slurry tank, rapid mix tank and mixer, flocculation tank, clarifier, sludge holding tank and plate and frame press)	\$1,000,000
Building to house lime precipitation facilities (at \$200/sq ft)	\$500,000
Cost of Project Components	\$9,500,000
<i>Contingency (25%)</i>	<i>\$2,375,000</i>
Total Construction Costs	\$11,875,000
<i>Engineering, Legal, and Administration Costs (20%)</i>	<i>\$2,375,000</i>
Total Project Cost	\$14,250,000

¹¹Based on the December 2004 Engineering News Record Construction Cost Index (ENR CCI) of 7308.

Table 4-3
O&M Cost Opinion for Metals Removal at the Snake River WWTP

Item	Cost Per Year
Additional labor	\$70,000
Power	\$113,000
Chemicals	\$66,000
Residuals disposal	\$4,000
Membrane replacement budget (replacement every five years)	\$63,000
Total Annual O&M Cost	\$316,000

DRAFT
Old Dillon Reservoir
401 Water Quality Certification Special Conditions

The applicant will monitor discharges from Old Dillon Reservoir to determine any water quality impacts associated with the development of the "new" Old Dillon Reservoir. Initial monitoring includes water quality parameters associated with the water quality standards for Salt Lick Gulch and Dillon Reservoir and the concentration of phosphorous and quantity of water discharged to Dillon Reservoir.

Water quality monitoring of Salt Lick Gulch will be at a site below the mixing zone of the discharge from Old Dillon Reservoir. This sampling location is intended to capture the water quality of Salt Lick Gulch after water from Old Dillon Reservoir is returned to the stream or brought from Dillon Reservoir as proposed under the reservoir operations plan. Monthly monitoring at this site will begin as soon as possible to capture pre-construction baseline information and then will be sampled monthly for a period of three years from the completion of the reservoir reconstruction. Sampling parameters are identified below on Table 1.

Sampling of the discharge from Old Dillon Reservoir to Dillon Reservoir for phosphorous will be weekly. This sampling frequency is intended to accurately determine the phosphorous concentration used to calculate a phosphorous load. Monthly monitoring of the discharge for other parameters identified on Table 1 will be used to identify any water quality concerns with the reconstruction of Old Dillon Reservoir. Sampling this discharge for a period of three years from the end of the reservoir reconstruction is expected to be adequate time to allow for the reservoir to stabilize and the applicant time to collect sufficient phosphorous data to calculate a phosphorous load.

The results of this sampling will be submitted in electronic format to the Water Quality Control Division (Division). The submittal of the data will coincide with the Division's annual data call.

The measured phosphorous concentration in addition to the measured volume discharged to Dillon Reservoir will be used to determine a phosphorous load for Old Dillon Reservoir to Dillon Reservoir. This load will then be used to determine a phosphorous wasteload allocation per Water Quality Control Commission, 5 CCR 1002-71, Regulation 71, Dillon Reservoir Control Regulation. At this time it is not known if the applicant will receive allocation from the reserve pool or from reduced current allocations. It is expected that the applicant will work with the Summit Water Quality Committee and other stakeholders to determine an Old Dillon Reservoir phosphorous wasteload allocation and modify the control regulation as necessary and as soon as possible.

Figure 4 - Draft 401 Certification, Old Dillon Reservoir Project