



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 2, 2006

Dr. Daniel P. Swenson
Regulatory Branch
U.S. Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053

Subject: Hemet/San Jacinto Integrated Recharge and Recovery Program Draft
Environmental Impact Statement (EIS), Riverside County, California
[CEQ# 20060357]

Dear Dr. Swenson:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ) NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act. EPA has also reviewed the Special Public Notice (PN 200401197-DPS), dated September 12, 2006, for the subject project. Therefore, these comments have also been prepared under the authority of, and in accordance with the provisions of the Federal Guidelines (40 CFR 230) promulgated under Section 404(b)(1) of the Clean Water Act (Guidelines).

Eastern Municipal Water District (EMWD) has applied to the U.S. Army Corps of Engineers (Corps) for a permit under Section 404 of the federal Clean Water Act to construct 15 groundwater recharge basins in the San Jacinto River. The proposed project would have direct, permanent impacts to approximately 108 acres, including 53.1 acres of waters of the United States.

We have rated this Draft EIS as EC-2 – Environmental Concerns-Insufficient Information (see enclosed "Summary of Rating Definitions"). We are concerned about the proposed project's potential impacts to waters of the U.S.; aquatic resources; biological resources, including endangered species habitat; and air quality. The Final EIS should provide additional information regarding these impacts and how they will be avoided or mitigated. In addition, the Draft EIS does not clearly demonstrate that the applicant's proposed project is the least environmentally damaging practicable alternative (LEDPA) to meet the project purpose. We recommend the Final EIS thoroughly analyze project alternatives to demonstrate the LEDPA. Our detailed comments are enclosed.

We appreciate the opportunity to review this Draft EIS and request a copy of the Final EIS when it is officially filed with our Washington, D.C., office. If you have any questions, please call me at (415) 972-3843, or have your staff call Jeanne Geselbracht at (415) 972-3853.

Sincerely,

/signed by Laura Fujii for/

Enrique Manzanilla, Director
Communities and Ecosystems Division

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Enclosures: Summary of Rating Definitions
EPA's Detailed Comments

cc: Mark Adelson, Santa Ana Regional Water Quality Control Board
Jill Whynot, South Coast Air Quality Management District

EPA DETAILED COMMENTS
HEMET/SAN JACINTO INTEGRATED RECHARGE AND RECOVERY PROGRAM DRAFT EIS
OCTOBER, 2006

Clean Water Act Section 404

The Federal Guidelines (40 CFR 230) promulgated under Section 404(b)(1) of the Clean Water Act (“Guidelines”) provide the environmental criteria that must be met before the U.S. Army Corps of Engineers (Corps) can issue a Section 404 permit for the proposed project. The Final EIS and Record of Decision (ROD), which must be completed before the Corps issues a Section 404 permit for this project, need to clearly demonstrate that the project complies with the Guidelines. In EPA’s April 12, 2005, scoping comments to the Corps regarding the proposed project, we recommended that the Corps integrate the requirements of Section 404 with the National Environmental Policy Act (NEPA) in the formation of project purpose and alternatives, analysis of impacts, and development of mitigation measures. However, the consideration of Section 404 and compliance with the Guidelines is limited in the Draft Environmental Impact Statement (EIS) (p. 5-2) to a brief generic description of the permit program. Based on our review of the Draft EIS, we believe there is insufficient information to make a determination as to whether the proposed project complies with several provisions of the Guidelines. Our specific concerns regarding project purpose; alternatives; project-related impacts to waters, endangered species and other characteristic fauna; and mitigation are discussed below.

Alternatives Analysis

The Draft EIS provides insufficient information to clearly demonstrate that the applicant’s proposed project is the least environmentally damaging practicable alternative (LEDPA) to meet the project purpose, as required under the Guidelines (40 CFR 230.10(a)).

Project Purpose. The purpose statement is a key component of the alternatives analysis both in the EIS and for the purpose of demonstrating the LEDPA. As we stated in our scoping letter, the project purpose should be broad enough to allow for the consideration of smaller-scaled projects and a sufficient range of alternatives that avoid or minimize impacts to waters of the United States. According to the Draft EIS (page 1-4) the basic project purpose is water supply. The document further describes “water supply” as a water dependent activity, indicating that the project requires access or proximity to or siting within a special aquatic site (i.e., wetlands) to fulfill the project purpose (40 CFR 230.10 (a)(3)). Please note no jurisdictional wetlands appear to occur within the project site. More importantly, however, we do not agree that the proposed project is water dependent because practicable water supply alternatives that avoid discharges to waters of the United States may exist. These alternatives include ground water injection/extraction wells, water treatment at expanded water filtration plants, and/or water conservation. The conclusion in the purpose statement that water supply projects are water dependent is unsupported and introduces a bias in the Draft EIS towards in-river alternatives.

According to the Draft EIS (page 1-4), the overall project purpose is to conduct aquifer recharge to the upper San Jacinto groundwater basin to supply water to help meet the rights of the Soboba Band of Luiseno Indians, offset aquifer overdraft, provide drought protection, and accommodate future growth in the Hemet/San Jacinto area. However, the Draft EIS does not justify why all four purposes must be met in order to have a feasible water supply project. The purpose statement also includes four project objectives, each with a specific volume of water storage. The objectives are to:

- 1) Satisfy the Soboba Band of Luiseno Indians' water rights as set forth in a Draft Settlement Agreement by providing an annual average supply of 7,500 acre feet from the San Jacinto Watershed Groundwater Basin (SJWGA). The Metropolitan Water District would store up to 40,000 acre feet of imported water in the Upper Pressure Subbasin of the SJWGB as advance deliveries under the Draft Settlement Agreement.
- 2) Offset the existing overdraft of the Hemet/San Jacinto area groundwater supply, estimated at 10,000 AFY.
- 3) Provide 15,000 AFY of water storage to help meet projected demand increases.
- 4) Provide 45,000 acre-feet (over four years) of conjunctive use/drought management water storage, contributing to the water storage goals identified by the CALFED Bay-Delta Program.

These specific objectives are used in the Draft EIS as a basis for analyzing alternatives and, in certain cases, eliminating alternatives from further consideration. The four objectives taken together result in a project with a specific desired size requirement and, consequently, constrain the analysis of less damaging, practicable alternatives to meet a more generic project purpose. We consider the term "overall project purpose" to mean the basic project purpose plus consideration of costs and technical and logistical feasibility. As indicated in the Draft EIS (page 2-19), a project alternative that does not fully meet all of an applicant's particular objectives, in this case water volumes, may still be practicable for the purposes of Section 404 permitting. For instance, we would expect smaller-scale water supply projects to be available and capable of being done, unless clearly demonstrated otherwise.

Recommendation: We recommend that the Final EIS clarify that the overall project purpose is water supply and that alternatives to meet the overall project purpose are not necessarily dependent on filling waters of the U.S.

Alternatives. The following alternatives either completely avoid discharges to waters, in which case a Section 404 Permit is not required, or substantially reduce impact to the San Jacinto River and potentially represent the LEDPA. In each case the Draft EIS does not provide sufficient information to clearly demonstrate that these alternatives are either impracticable or do not meet the project purpose. The alternatives analysis in the Final EIS should be revised to focus on alternative water supply projects that are practicable (i.e., available and capable of being done) and that avoid or minimize impacts to waters of the U.S. Comments on specific alternatives are discussed below.

Hemet Water Filtration Plant Expansion Alternative. This alternative water supply project avoids impacts to the riverine functions and biological resources associated with the San Jacinto River. Although this alternative could provide potable water to existing well users and to new customers within EMWD's service area, thus meeting the water supply project purpose, it does not fully meet all the specific project purposes identified above (Draft EIS, page 2-19). This alternative does not include a groundwater storage/extraction component. However, the Draft EIS provides insufficient information to clearly demonstrate that this alternative is not practicable. In fact, the Draft EIS indicates that future negotiations with the Tribe could lead to the delivery of potable water from the plant to the Soboba Reservation.

The Draft EIS states that this alternative would not support the CALFED program. We are not aware of any specific commitment to implement a ground water storage project in the San Jacinto River under the CALFED Program. Groundwater storage projects are a component of the CALFED Program and southern California is identified as one of four regions in California that could potentially provide storage (CALFED Bay-Delta Program Programmatic Record of Decision (ROD), August 28, 2000). The CALFED ROD also includes a memorandum of understanding, signed by EPA and the Corps, stating that specific CALFED actions must comply with the requirements of the Section 404 permit program, including compliance with the Guidelines.

Recommendation: If CALFED implementation remains a component of the EMWD's project purpose, the geographic scope of the alternatives analysis should be substantially expanded to evaluate other potential sites for groundwater storage in southern California which are less environmentally damaging than the subject proposal. The Final EIS should provide a detailed discussion of these other groundwater storage sites, including how they would help meet the overall project purpose.

Hemet Water Filtration Plant Expansion Alternative with Groundwater Injection/Extraction Wells. This alternative would avoid filling waters of the U.S. However, it was not carried forward for detailed analysis in the Draft EIS (page 2-25). Although several operating constraints and cost are given as reasons for eliminating this alternative, the Draft EIS does not provide information to substantiate these statements. We note that much of the study area is mapped as Quaternary Alluvium, generally consisting of coarse-grained and permeable valley fill (Draft EIS, page 3-4). Although no soil map is provided in the Draft EIS, the description of soil properties indicates that five of the seven soil series within the study area are well drained soils (Draft EIS, Table 3.1-1). These data suggest that sites outside the riverbed with permeability rates sufficient for effective use of injection wells may exist.

Recommendation: The Final EIS should provide evidence supporting the statement that no practical sites exist outside the riverbed that have sufficiently high permeability for effective use of injection wells, and cite the pertinent literature.

The Draft EIS (p. 2-26) indicates that another constraint to using groundwater injection wells outside waters of the U.S. is that groundwater injection would not allow for water to be retained in the aquifer long enough to meet State water quality standards. However, the Draft EIS does not provide information regarding retention time requirements for water injected into the aquifer.

Recommendation: The Final EIS should cite the relevant regulatory requirements for groundwater injection, including the State Water Resources Control Board's restrictions to the discharge of residual chlorine into the groundwater.

The Draft EIS (page 2-26) also indicates this alternative would not be a cost-effective means of providing treated water. However, no cost estimates, cost comparisons with other alternatives, or potential sources of funding are provided to support this statement either for the purposes of complying with the Guidelines or for disclosing the socioeconomic impacts of the proposed project and alternatives (Draft EIS, pp. 4-93, 94). For the purposes of Section 404 permitting, an alternative that is more expensive than the applicant's proposed project is not necessarily impracticable in terms of cost factors.

Recommendation: The Final EIS should provide cost estimates for this alternative and the other alternatives analyzed in the EIS, compare the costs against one another, and identify funding sources for the project.

Robert A. Skinner Filtration Plant Alternative. According to the Draft EIS (p. 2-29), this alternative could be used to meet proposed Program Objectives 1 through 3. However, it was eliminated from detailed evaluation in the Draft EIS because the document "evaluates a more practical alternative for increasing water deliveries to the eastern Hemet/San Jacinto area (i.e., the Hemet Water Filtration Plant Expansion Alternative)." Elsewhere, though, the Draft EIS (p. 1-29) states that the Hemet Water Filtration Plant Expansion Alternative would not completely meet all the objectives of the Program either. Because the Robert A. Skinner Filtration Plant Alternative is not evaluated in detail, it is unclear why this alternative is less practical than the Hemet Plant alternative. Furthermore, a less practical alternative is not necessarily an unreasonable one from the standpoint of 40 CFR 1502.14(a). It appears that the Skinner plant alternative could also be combined with a smaller infiltration pond project outside waters of the U.S. which may meet not only the overall project purpose of water supply, but all four stated Program Objectives as well.

Recommendation: The Final EIS should evaluate this alternative to determine its practicability pursuant to the Guidelines. If it is practicable, it should be evaluated in detail in the Final EIS. The Final EIS should also evaluate this alternative in combination with other elements that make it practicable and responsive to the project proponent's stated Program Objectives. If such a combination alternative is practicable, it should be evaluated in detail in the Final EIS.

No Action Alternative . Under the No Action Alternative, the recharge basins would be within the San Jacinto River channel but outside of waters of the U.S. (Draft EIS, p. 2-20). This alternative would provide one third of the recharge capacity of the proposed project. Although the Tribal obligations under the Draft Settlement Agreement and other water storage and supply objectives would not be fully met under this alternative, the Draft EIS assumes that other actions beyond the scope of this project would occur to address these issues. It remains unclear why the applicant could not feasibly move forward with a smaller-scaled water supply project sited outside of waters.

The four alternatives discussed above all would supply water and avoid discharges to waters of the U. S. and are preferable to the proposed project from a Clean Water Act perspective. However, should it be clearly demonstrated that complete avoidance is not practicable, the range of alternatives needs to be expanded to include a water supply alternative(s) that minimizes impacts to waters.

Recommendation: We recommend that an alternative be developed that reconfigures the proposed project by using smaller and/or fewer recharge basins in an effort to avoid waters to the extent practicable. The Final EIS should evaluate such an alternative.

Project-Related Impacts

Riverine Functions. The Draft EIS does not include an assessment of the characteristic riverine functions associated with the San Jacinto River. Nevertheless, the Draft EIS (p. 4-44) states that while impacts to 53.1 acres of waters of the U. S. would be considered significant because of the loss of habitat value, the proposed recharge basins would not result in a loss of other current functions or values associated with waters. A similar statement is reiterated in the mitigation section and used as the rationale for mitigating impacts to open waters of the U.S. exclusively through off-site preservation at only a 1:1 ratio (p. 4-50). In the absence of a functional assessment, we cannot determine if the applicable ecosystem functions have been adequately considered or if the extent of project-related impacts has been fully disclosed.

We recognize that the reach of the San Jacinto River in the project area is no longer in pristine condition. Nonetheless, the river likely retains some capacity to perform several ecosystem functions in addition to faunal support. Within the project area, the existing levees along the San Jacinto River are set back far enough to allow for a rather extensive floodway channel varying from 1300 to 1400 feet in width. Portions of the project area within waters of the U.S. are frequently flooded and mapped as active floodplain with an inundation recurrence interval between 1 and 10 years¹. The current proposal would convert approximately 57% to 62% of the existing floodway into a series of 15 recharge basins, leaving a 600-foot-wide section of unobstructed river channel, referred to as a

¹ Lichvar, R. W. and M. Ericsson. 2003. Map Series of Aquatic Resources for San Jacinto and Portions of the Santa Margarita Watersheds. U.S. Army Corps of Engineers Engineer Research and Development Center. Washington D.C.

“bypass channel.” Construction would involve grading and excavating 108 acres of the floodway to form the basins and surrounding berms. Operation and maintenance activities would involve annual grading of this area to clean and repair the basins as necessary. In addition, although the applicant proposes to grade within the bypass channel to maintain a low flow channel far enough away from the basins (Draft EIS, p. 2-5), the Draft EIS does not appear to include the bypass channel in the estimate of affected acres. It appears from the Draft EIS that the proposed project will result in long-term or permanent impacts to the river.

Given the size and long-term nature of the proposed project, the San Jacinto River floodway cross-section and geomorphic form would be altered such that most of the floodway would no longer be able to: 1) convey flows associated with the 1-10 year flood event; 2) establish characteristic topographic complexity associated with a braided stream system; 3) support characteristic vegetation in terms of structure, density, and species composition; 4) mobilize, transport or deposit sediment during moderate flood events; and 5) maintain characteristic permeability and porosity of shallow subsurface deposits within and adjacent to the recharge basins. EPA is concerned that these physical and biological alterations will degrade the overall functional condition of the San Jacinto River within the project area. Specific ecosystem functions that could be adversely affected include: sediment transport, surface and groundwater storage and exchange, cycling of elements and compounds, detention of particulates, plant community, spatial structure of habitat, and habitat connectivity.

According to the Draft EIS (p. 4-44), the ponds are specifically designed to enhance groundwater recharge. In the context of ecosystem function, the term enhance usually refers to actions taken to improve the characteristic condition of a particular function(s). While the proposed recharge basins will certainly increase the volume of introduced water that is stored in the groundwater, this activity has little to do with improving the natural ecosystem function involving surface and groundwater storage and exchange. To the extent the recharge activity saturates the shallow subsurface deposits in the river, the project may actually reduce porosity and the ability of the river deposits to transmit and store shallow groundwater through natural processes. The applicant plans to operate monitoring wells near the basins and adjust flows into the basins as needed in an effort to manage this impact (Appendix B, page 14).

Recommendation: The Final EIS should include a thorough description of the riverine functions associated with the reach of San Jacinto River in the project area and discuss in detail how these functions would be affected by the proposed project and other alternatives. The Final EIS and ROD should describe the mitigation and compensation measures that would be required to offset these impacts.

Endangered Species. As stated in the Draft EIS (page 4-43), the proposed project would have a significant impact on habitat and individuals of San Bernardino kangaroo rat (SBKR) (*Dipodomys merriami parvus*), a federally listed endangered species. The project would directly affect 110.3 acres in and near the San Jacinto River, all of which is

designated critical habitat for the SBKR. The United States Fish and Wildlife Service's (USFWS) biological opinion regarding the issuance of an incidental take permit for implementation of the Multi-Species Habitat Conservation Plan (MSHCP) includes a discussion of the SBKR (pp. 288-299) ². It appears that the proposed project area is also within the Western Riverside County MSHCP Conservation Area. The biological opinion concludes that all remaining populations of the SBKR are at risk due to their small size. Furthermore, the San Jacinto River and Bautista Creek populations are especially vulnerable to extirpation due to the limited range for SBKR in these drainages. Notwithstanding these risks, the USFWS was able to render a non-jeopardy opinion for the SBKR based in part on the fact that no known population of the SBKR would be affected by implementation of the MSHCP and individuals in nearly all modeled habitat will be protected within the MSHCP Conservation Area or avoided until species-specific conservation objectives are met.

Given the size of the project and biological importance of the area, we are concerned that the proposed recharge basins may jeopardize the continued existence of or adversely modify critical habitat for the SBKR (40 CFR 230.10(b)(3)). The Draft EIS provides insufficient information regarding the consistency of the proposed project with the protection and management of the MSHCP Conservation Area. Even if the specific MSHCP thresholds are determined not to be met, the proposed project is likely to contribute to significant degradation of waters of the U.S. through the direct loss of wildlife habitat and geomorphological processes necessary to maintain the phases of Riversidean alluvial fan sage scrub, an important element in the long-term survival of the SBKR (40 CFR 230.10(c)(3)). Furthermore, much of the proposed bypass channel area is currently mapped as unvegetated streambed (Draft EIS, Figure 3.3-1) and, under the proposed project, would be graded in the future to maintain a low flow channel. Therefore, we would not expect the 600-foot-wide bypass channel to support a characteristic mosaic of pioneer, intermediate, and mature associations of Riversidean alluvial fan sage scrub associated with a more braided stream system.

Recommendation: The Final EIS should include the biological opinion and demonstrate how the proposed project and other alternatives would be consistent with the goals and objectives of the MSHCP. The Final EIS and ROD should specify the mitigation measures that will be required to protect the SBKR and its habitat.

Mitigation. The mitigation, as currently proposed, is not adequate to fully offset unavoidable impacts to waters of the U.S. (40 CFR 230.10(d)). According to the Draft EIS, the applicant proposes to mitigate impacts to Southern Willow Scrub and Mule Fat Scrub plant communities at a 3:1 ratio to be achieved through preservation of existing habitat at a 2:1 ratio and creation of new habitat at a 1:1 ratio for a total of 1.8 acres. Mitigation for impacts to 50.4 acres of undisturbed Riversidean alluvial fan sage scrub

² U.S. Fish and Wildlife Service. June 22, 2004. Memorandum entitled Intra-Service Formal Section 7 Consultation/Conference for Issuance of an Endangered Species Act Section 10(a)(1)(B) (TE-088609-0) for the Western Riverside County Multiple Species Habitat Conservation Plan, Riverside County, California

would be at a 2:1 ratio and for 10.8 acres of disturbed Riversidean alluvial fan sage scrub at a 1.5:1 ratio, presumably through preservation of existing habitat, for a total of 117 acres. Impacts to additional open waters of the U.S. would be mitigated through off-site preservation at a 1:1 ratio. The Draft EIS does not provide any additional information regarding the specifics of the proposed mitigation plan.

The compensatory mitigation proposed in the Draft EIS for unavoidable impacts to aquatic resources is not sufficient for three reasons. First, the Draft EIS does not establish that the potential adverse impacts are unavoidable. Second, the Draft EIS does not document how the proposed compensatory mitigation replaces acreages and functions that would be lost to the proposed project. Third, the compensatory mitigation relies heavily on preservation of existing aquatic resources, a method which does not result in a gain of aquatic resource area or functions.

It appears, based on the information available, that the proposed compensatory mitigation is not consistent with the requirements of the Regulatory Guidance Letter (RGL 02-2) issued jointly by the Corps and EPA on 24 December 24, 2002. In addition, the Draft EIS does not explain how the emphasis on preservation of existing resources can be reconciled with the current direction of the federal mitigation program for achieving no-net-loss of acreage and functions of aquatic resources.

Recommendation: Our comments above set forth the types of functions that we believe need to be addressed by any compensatory mitigation package. Once the LEDPA is identified, the applicant needs to develop a detailed mitigation plan to offset all unavoidable impacts to waters of the United States. The mitigation plan should be consistent with RGL 02-2 and the mitigation guidelines and monitoring requirements established by the Corps Los Angeles District. To minimize the temporal loss of functions and the uncertainty regarding mitigation success, we recommend that the Corps require an approved final mitigation plan prior to project authorization.

Recommendation: We request that EPA and the other resource and regulatory agencies be provided an opportunity to review and comment on the draft mitigation plan. The mitigation plan should also be included in the Final EIS and ROD.

Air Quality

General Conformity

The South Coast Air Basin is a Severe-17 nonattainment area for 8-hour ozone. The Draft EIS (p. 4-81) states that project-related emissions of nitrogen oxides (NO_x) represent a small portion of the total State Implementation Plan (SIP) and that the project's NO_x emissions for off-road equipment and on-road vehicles are well within the SIP budget for these sources. The document concludes that the NO_x emissions would, therefore, be accounted for in the SIP budget estimates and that the project conforms to

the SIP. Additional information is needed to demonstrate that the project conforms to the SIP.

Recommendation: A conformity determination should be included in the Final EIS with related mitigation commitments. The Corps should work with the South Coast Air Quality Management District (SCAQMD) to ensure that anticipated emissions from the proposed project are consistent with the applicable SIP.

The South Coast Air Basin is nonattainment for particulate matter less than 2.5 microns in diameter (PM_{2.5}). However, the Draft EIS does not provide emissions projections for PM_{2.5} or indicate whether the project conforms to the SIP.

Recommendation: Since the statutory grace period for PM_{2.5} conformity ended on April 5, 2006, conformity must also be demonstrated for that pollutant. The de minimis levels for PM_{2.5} were published on July 17, 2006 (see 71 FR 40420). These de minimis levels apply to all direct and indirect emissions of PM_{2.5}, including any precursor emissions. The Final EIS should provide the project's emissions estimates for PM_{2.5} and include a PM_{2.5} conformity determination. If you need additional information regarding general conformity for PM_{2.5}, please contact our office.

Construction Mitigation Measures

The Draft EIS does not include mitigation measures to minimize air pollutant emissions from project construction activities. In light of the project area's non-attainment status for PM_{2.5}, PM₁₀, CO, and ozone, we recommend a number of measures to minimize construction emissions.

Recommendation: The Corps and the applicant should consult with the SCAQMD and prepare a fugitive dust mitigation plan. You may wish to contact Mike Laybourn at the SCAQMD (909-396-3066) for advice on fugitive dust mitigation responsibilities and options. At a minimum, we recommend the following measures be included in the project fugitive dust mitigation plan, and referenced and adopted in the ROD:

- Water active construction sites as needed or apply a non-toxic soil stabilizer;
- Vehicles hauling soil or other loose materials will be covered with tarp or other means;
- Cover or apply soil stabilizers to exposed stock piles;
- Sweep adjacent paved streets with water sweepers in the event soil materials are carried onto them;
- Limit traffic speeds in the construction area and along access roads;
- Cover or apply soil stabilizers to disturbed areas within five days of completion of the activity at each site; and
- Reclaim and revegetate disturbed areas as soon as practicable after completion of activity at each site.

Recommendation: The Corps and the applicant should develop and implement a plan complying with best practices for mitigating exhaust emissions from construction equipment. Some best practices are listed below. The Final EIS should evaluate the feasibility of measures such as these to reduce construction emissions, referencing any which are adopted in the ROD.

- Use particle traps and other appropriate controls to reduce emissions of diesel particulate matter (DPM) and other air pollutants. Traps control approximately 80 percent of DPM, and specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions;
- Visible emissions from all heavy duty off road diesel equipment should not exceed 20 percent opacity for more than three minutes in any hour of operation;
- Use diesel fuel with a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, substantially reducing DPM emissions;
- Minimize construction-related trips of workers and equipment, including trucks and heavy equipment;
- Lease or buy newer, cleaner equipment (1996 or newer model);
- Employ periodic, unscheduled inspections to ensure that construction equipment is properly maintained at all times and does not unnecessarily idle, is tuned to manufacturer's specifications, and is not modified to increase horsepower except in accord with established specifications.