

RECLAMATION

Managing Water in the West

Equus Beds Aquifer Storage Recharge and Recovery Project

Equus Beds Division, Wichita Project, Kansas

Record of Decision No. GP-2010-01



Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Approved:



Michael J. Ryan
Regional Director
Great Plains Region



Date

Record of Decision

Equus Beds Aquifer Storage Recharge and Recovery Project

I. Introduction

This Record of Decision (ROD) documents the Bureau of Reclamation's selection of the Preferred Alternative for the Equus Beds Aquifer Storage Recharge and Recovery Project (ASR). The Regional Director of Reclamation's Great Plains Region¹ made the agency's decision to administer Federal funds authorized by Public Law 109-299 (October 5, 2006)² for funding and implementation of the ASR Project. Federal funding for construction costs would be administered by Reclamation through a cost-share agreement with the City of Wichita, Kansas. The ASR Project would become the "Equus Beds Division" of Reclamation's Wichita Project. The City would be responsible for the operation, maintenance, and liability of the new division.

Federal funding to assist the ASR Project is a Federal action subject to the National Environmental Policy Act of 1969 (NEPA). An essential goal of NEPA is to encourage agencies to consider environmental values in their discretionary actions and decision-making authorities. Reclamation is guided by U.S. Department of the Interior NEPA Regulations.³ In the Equus Beds ASR Project, Reclamation is the lead agency with compliance and oversight responsibilities under NEPA. The U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and Kansas Water Office helped develop the EIS as cooperating agencies.

Reclamation prepared the *Equus Beds Aquifer Storage Recharge and Recovery Project Environmental Impact Statement* (EIS), distributed as a Draft EIS in July 2009 and then revised and distributed as a Final EIS in December 2009. Two alternatives were considered in detail. The Preferred Alternative for both Reclamation and the City, the 100 MGD (60/40) Alternative with Federal Funding, was identified in the Final EIS. The Preferred Alternative is also the environmentally preferred alternative and though there is only one action alternative for the project, it was designed with mitigation measures and Best Management Practices.

The background and basis for selecting the Preferred Alternative is presented in the remainder of this document. Reclamation is satisfied that NEPA responsibilities and compliance are complete and that the decision to select the Preferred Alternative has been made in an informed and reasoned manner. The decision is based on information contained in the EIS, including the draft and final versions, along with corresponding appendices and supporting information in the project file. Public comments were considered and responses are provided in the Final EIS Appendix F.

¹ The Great Plains Region extends over nine 9 states: Montana, North Dakota, South Dakota, Wyoming, Colorado, Nebraska, Kansas, Oklahoma, and Texas. The Regional Office is located in Billings, Montana.

² Public Law 109-299, enacted by the 109th Congress on October 5, 2006, may be cited as the "Wichita Project Equus Beds Division Authorization Act of 2005."

³ See 43 CFR Part 46, published in the *Federal Register* on October 15, 2008. These are consistent with 40 CFR Parts 1500-1508, referred to as the "Council on Environmental Quality (or CEQ) Regulations."

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II. Project Background

The City has planned for the ASR Project for more than 10 years. It has design features taken from the Equus Beds Ground-Water Recharge Project, a pilot project conducted from April 1995 to May 2002. The pilot project served as a test model for the full-scale ASR design. A summary of the ASR project and its origins is described in Reclamation's 2009 Final EIS. Through its efforts, the City has involved a number of organizations, agencies, and citizens in planning the project. City, State, and Federal participants are supporting the effort and the project has developed into a Regional Economic Partnership.

The purpose of the ASR Project is to provide a safe and reliable water source to Wichita and the surrounding area while protecting the water quality of the Equus Beds aquifer. Equus Beds is a local aquifer that provides an important source of water for a variety of uses. Wichita's growing population is creating a need for sustainable water supplies in the near future. There is a need to protect the aquifer water quality from intrusion by saline water from nearby underground sources.

The ASR Project would collect water from the Little Arkansas River and from ground wells near the river and move it into the aquifer. In practice the project would recharge the aquifer, raise the water table over time, and yield good quality water. Recharging the aquifer would protect it from salt water intrusion. Water collected from the Little Arkansas would be pre-treated to reduce contaminant levels before injection into the aquifer. An inter-connecting system of wells, pipes, and ponds would be constructed to collect and move the water. Figure 2-1 in the Final EIS shows the basic workings of the ASR Project.

In July 2003 the City published the *Final Environmental Impact Statement for Integrated Local Water Supply Plan Wichita, Kansas* (also referred to as the Burns and McDonnell Report [2003]). That document analyzed several alternatives. Although technically not a Federal EIS, it was prepared using processes similar to NEPA. The 2003 study included two ASR alternatives designed to respond to the City's water needs to the year 2050 and protect the aquifer. The ASR alternatives would have collected water at either 100 million gallons per day or 150 million gallons per day (MGD) to recharge the Equus Beds aquifer. The study alternatives proportionally varied the volume of water taken directly from the Little Arkansas River and from nearby ground (bank storage) wells. These proportional levels were identified as options under the 100 MGD and 150 MGD alternatives. Options were developed as a means to evaluate aquifer recharge and supply.

The City later determined that 100 MGD was sufficient to meet their needs through 2050. Their preferred option was identified as one that would collect 60 MGD from the Little Arkansas River during high stream flow events and 40 MGD from nearby bank storage wells to deliver a total of 100 MGD into the aquifer. The City informed Reclamation that it was their intent to pursue construction of a project to meet the 100 MGD ASR 60/40 Alternative (Inter-office memo: J. Blain to B. Claggett, "Another EIS Question, Selected Alternative" Feb. 6, 2008). This alternative became the Preferred Alternative in the EIS.

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In 2005 the U.S. Congress wrote the Wichita Project Equus Beds Division Authorization Act, directing the Secretary of the Interior (Secretary) to use the City's plans, designs, and engineering and analyses to the extent possible in the planning of the ASR. The Act further recommended that the Secretary ensure the available information be used in a manner consistent with applicable Federal laws and regulations.

In 2007 the Secretary designated Reclamation as the lead agency to oversee environmental compliance for Federal funding of the ASR Project. The City's 2003 study provided a starting point for the EIS. In planning the EIS, Reclamation prepared an agreement⁴ with the City to guide expenditure of Federal funds. Environmental compliance was included in the agreement to ensure expenditures were consistent with NEPA regulations.

In February 2008 Reclamation began the EIS scoping process, presenting the City's preferred option to the public as the Proposed Action. Reclamation used the City's study information in publicly announcing⁵ the EIS and the 100 MGD (60/40) ASR Project. Scoping comments from the public, agencies, tribes, and other organizations did not substantiate a need for different alternatives to consider in addition to the Proposed Action. Nor were significant and key issues identified that would provide a basis for developing other alternatives. The EIS therefore focused on two primary alternatives; one for Federal action and one without.

Because Federal involvement in the Equus Beds ASR Project is limited to administration of funds, Reclamation's primary duty is to review and disclose environmental consequences of the project before the City is reimbursed for construction costs. This responsibility is accomplished through Reclamation's EIS. From the outset, the City has agreed to incorporate environmental practices into the project, improving performance of the Preferred Alternative.

The City has implemented some early phases of the ASR Project independent of Federal funding as part of construction of their overall water system. For certain works they are obligated to honor contract commitments already in place. This is described in the Final EIS and changes of reimbursement needs between the Draft and Final EIS have been noted. The Final EIS considers the construction activities for the remainder of the project in Phases IIB through IV.

⁴ Agreement No. 08FC602285 is a Cooperative Agreement for cost-sharing activities. The agreement was established under the authority of Section 10(C) of Public Law 109-299.

⁵ A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on February 29, 2008 (73 FR 11146). That notice indicated that the Proposed Action would include the diversion of 100 million gallons per day (100 MGD) of water from the Little Arkansas River. The scoping notice posted on the Equus Beds Internet website provided additional details and visual aids of the proposed ASR Project.

Equus Beds Aquifer Storage Recharge and Recovery Project**III. Alternative Selected for Implementation**

As the final agency action under NEPA, Reclamation hereby selects the Preferred Alternative in the Final EIS for implementation. It was adequately developed, properly evaluated, and is qualified for selection. Details of the alternative are found in the Final EIS (pages 16-19). Mitigation measures from the Final EIS are included in this alternative and are confirmed in Section V of this Record of Decision.

The Preferred Alternative selected is the **100 MGD ASR (60/40) with Federal Funding Alternative**. Table 2-1 in the Final EIS (p. 20) displays the various facilities of the alternative. The full-scale project is being constructed in four phases with Phases I-IIA completed to date. Reclamation's selection of the Preferred Alternative would initiate reimbursement of construction costs with Federal funds up to 25% of project costs or \$30 million (indexed to 2003). As construction costs for Phases IIB-IV are incurred by the City, they would be submitted to Reclamation for review for reimbursement eligibility. The review is controlled by a cost-share agreement⁴ established between Reclamation and the City. Reimbursement funds would be distributed as they become available and in accordance to the agreement.

Public Law 109-299 established a sunset (termination) date of the legislation's authorization for 10 years from enactment in October 2006. Compliance requirements under NEPA are satisfied with the approval of this ROD and Federal reimbursement of construction costs may begin.

A. Alternatives Considered in Making the Decision

All of the ASR Project alternatives from the City's 2003 study were identified in the 2009 Draft EIS. Each was addressed with an explanation of why it was set aside or brought forward for detailed analysis. All were presented to make the public aware of the other alternatives and options initially considered for the project. In the 2009 Draft EIS, an alternative was added for water conservation only, but it was not developed further as a stand alone alternative for reasons explained.

During preparation of the Draft EIS Reclamation reviewed the alternatives initially developed in the City's 2003 study. A concurrent review by the City indicated their preference for the 100 MGD ASR Plan with 60/40 Option, with or without Federal funding. They felt that alternative design would best meet their needs and were committing their resources and funds towards its development (Intra-office memo: B. Claggett to C. Webster, "Equus 60/40" Feb. 13, 2008).

Based on the City's preference and no need for other alternatives, the 100 MGD ASR (60/40) Preferred Alternative was carried into the Final EIS as the only action alternative. Reclamation recognizes that this is unusual in an EIS. However, the City is fully capable of constructing the project independent of Federal funding and they have made a commitment towards the Preferred Alternative. There are no other alternatives for the ASR Project that

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would meet the necessary criteria, and the agency decision is limited to funding administration.

Given the City's intention, selection of any alternative other than the Preferred Alternative would be counter-productive and inconsistent with the ASR Project purpose and need. Reclamation concluded that further consideration and detailed analyses of other action alternatives were not needed and would be unproductive. Therefore, available choices for Reclamation's action are limited to two funding alternatives. Both Draft and Final EIS documents focused on these two reasonable alternatives (40 CFR 1502.14):⁶ the Preferred Alternative and the No Action Alternative.

The **No Action Alternative** would not reimburse eligible construction costs with Federal funds through a cost-share agreement. It is identified as the **100 MGD ASR (60/40) without Federal Funding Alternative**. As explained in the Final EIS, the City is pursuing the Preferred Alternative and may choose to do so without Federal assistance. The EIS did not consider the No Action Alternative as one in which there would be no Equus Beds ASR Project. The EIS explains that in effect, the two alternatives are mostly the same except for differences of socio-economic consequences due to cost-sharing.

B. Agency Preferred Alternative

The Preferred Alternative, **100 MGD ASR 60/40 Alternative with Federal Funding**, was identified in the Draft and Final EIS as Reclamation's Preferred Alternative.⁷

C. Environmentally Preferable Alternative

Reclamation recognizes the Preferred Alternative as the "environmentally preferred alternative."⁸ While being the only action alternative available, it was designed with Best Management Practices and other measures to conserve physical, biological, and heritage resources. Mitigation measures were essentially designed into the alternative where they would be reasonable and effective.

⁶ In addition to 40 CFR 1502.14, this term includes alternatives that are technically and economically practical or feasible and meet the purpose and need of the proposed action (43 CFR 46.420(b)).

⁷ The term *Preferred* refers to the alternative which the bureau believes would best accomplish the purpose and need of the Proposed Action while fulfilling its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors. It may or may not be the same as the bureau's proposed action, the non-Federal entity's proposal, or the environmentally preferable alternative (43 CFR 46.420(d)).

⁸ CEQ Regulations provide that a bureau must identify the environmentally preferable alternative(s) in the record of decision. Interior's NEPA Regulations clarify that it is not necessary that the environmentally preferable alternative(s) be selected in the record of decision (43 CFR 46.450). But here, it was selected.

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The Preferred Alternative has specific features that:

1. Address the key issue of protecting the Equus Beds aquifer from further degradation due to saline water intrusion.
2. Buffer impacts that would occur to low-income or minority communities by contributing Federal funds and helping to offset future monthly water costs.
3. Use environmentally friendly materials and methods in construction.
4. Jointly use lands already dedicated to utility infrastructure such as existing rights-of-way for power lines, roads, and pipe lines.
5. Minimize construction impacts using Best Management Practices (BMPs) and other industry standards for health and safety.
6. Address concerns of other resource management agencies that provided comments on the project.

The Preferred Alternative has been designed to reduce the amount of mitigation necessary. The individual resource sections in Chapter 4 of the Final EIS provide information on mitigation and the extent needed. Reclamation concludes that the design of the Preferred Alternative is environmentally beneficial. There are no major impacts that would occur and the recommended mitigation measures are reasonable and effective.

IV. Decision Rationale

Reclamation's decision to select the Preferred Alternative was made after considering environmental effects in the Final EIS and after considering the City's preference for an alternative that would meet the purpose and need.

Consideration was based on information provided in the EIS, supporting information contained in the project file, and on public comments received on the EIS. Comments from government agencies, public and private organizations, and individuals were reviewed for key and substantive issues. Responses to all of the comments on the Draft EIS are found in Appendix F of the Final EIS.

Consideration was also given to Reclamation's mission of managing, developing, and protecting water and related resources in an environmentally and economically sound manner in the interest of the American public. In making the decision Reclamation considered the expenditure of Federal funds consistent with environmental conservation.

The project includes a surface water diversion structure, treatment plants, pipelines, wells, settlings basins, access roads, power lines, and other infrastructure (Table 2-1 of the Final EIS describes the ASR facilities). Construction of these components would cause physical impacts on the landscape. During construction periods there would be short-term and intermittent impacts. These include noise and air impacts from machinery, staging areas disturbed for material stockpiling, and active excavation corridors for laying pipes and cables. These impacts cannot be avoided but can be managed to minimize nuisance and disruption to humans and wildlife.

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Reclamation has considered the following in reaching its decision:

1) Environmental Considerations

- a. Only minor effects would occur to geological resources. Impacts where they occur would be readily mitigated with BMPs normally used in construction projects.
- b. There would be a permanent loss of 65 acres of prime farmland that would be dedicated to the project for infrastructure needs. While unavoidable, the Preferred Alternative would to the extent available use lands already dedicated to non-agricultural uses, especially utilities, to minimize the loss of farmlands.
- c. Stream flows in the Little Arkansas River would be protected to support aquatic life. While flow requirements in the river are established primarily for irrigation, water would be available to meet flows for protecting vegetation, wildlife, and fish. The U.S. Fish and Wildlife Service and Kansas State Department of Wildlife and Parks were consulted on river flows and protection of aquatic resources.
- d. Diversions would cause overall decreases in median flows in the Little Arkansas River. However, base flows would be protected and increased over time. This would provide an overall benefit to the river and resources dependent upon regular flows.
- e. The effect of the project on the main stem of the Arkansas River would be inconsequential. This indicates the relatively small impact that the project would have on surface water resources in the affected area.
- f. There would be a decreased reliance by the City on water from Cheney Reservoir. This is expected to result in improved flows in the North Fork Ninnescah River below the reservoir. This would benefit water rights holders, aquatic and riparian communities, and recreational users.
- g. Water quality of the Little Arkansas River would be improved as the river receives more water (discharge) of higher quality from the Equus Beds aquifer.
- h. Increased flows in the North Fork Ninnescah River should provide net positive benefits to water quality and aquatic life.
- i. Water quality in the Equus Beds aquifer would improve over time. In addition, increased water levels in the aquifer would be expected to help stem the infiltration of saline water from nearby sources.
- j. Higher water tables in the Equus Beds aquifer would benefit local groundwater users. Benefits would include reduced pumping costs, protection of water quality, and increased water availability.
- k. There would be some minor and short-term impacts on air quality, noise levels, and esthetics. BMPs would be implemented to control impacts as they occur during construction. Population and industrial growth that increase these impacts are expected to continue, whether or not project costs are shared.
- l. There would be no significant concerns for the project with regard to climate change. In terms of climate change effects on the project, increased underground storage of the City's water supply in the Equus Beds aquifer would reduce evaporation losses over time, conserving the source.

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- m. No adverse effects would occur to the four threatened or endangered species identified for the project area – the Arkansas darter, Arkansas River shiner, interior least tern, and whooping crane. (A total of six species were mistakenly mentioned in the Final EIS). The U.S. Fish and Wildlife Service was a cooperating agency and provided assistance in protecting the habitats of Federally listed species.
- n. BMPs for management of invasive species (Hazard Analysis and Critical Control Points or HACCP) would be implemented to prevent the movement of invasive species into or out of the construction area.

2) Other Considerations

- a. *Economic factors*: Federal funding contributions to the project would help defray costs that might have a disproportionate effect on low-income or minority communities. The level of Federal funding assistance would assist in keeping monthly water bill increases within levels (2.5%) established by the U.S. Environmental Protection Agency.
- b. *Federal laws*: The Wichita Project Equus Beds Division Authorization Act of 2005 provided the basis for Federal involvement in the Equus Beds ASR Project. Congress intended the Secretary to assist the City in funding and implementing the project. Reclamation's decision, in support of the Secretary, would therefore be consistent with Public Law 109-299.
- c. *EIS Rating*: The U.S. Environmental Protection Agency rated the Draft EIS as "LO," or *Lack of Objections*. The LO rating indicates that the EPA has not identified any potential environmental impacts requiring substantive changes to the proposal. The EPA review provides opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

No Action Alternative

Reclamation did not select the No Action Alternative because the Federal government's contribution of funds provides a positive benefit for buffering project costs that would otherwise be passed onto consumers through their monthly water bills. In the case of low-income and minority communities affected by the project, Federal funding would keep future cost increases near the 2.5% economic threshold established by the U.S. Environmental Protection Agency.

The No Action Alternative would not fulfill Public Law 109-299 in which Congress intended the Secretary to provide funding and assistance for the project. Reclamation finds that the Preferred Alternative is consistent with laws and better meets the condition for assistance under Public Law 109-299.

Equus Beds Aquifer Storage Recharge and Recovery Project**V. Means to Avoid or Minimize Environmental Harm**

Chapter 4 of the Final EIS describes the measures and practicable means that the Equus Beds ASR Project would implement to avoid or minimize environmental harm. These were developed into mitigation measures and included monitoring activities for early detection of undesirable environmental conditions. The following monitoring and mitigation commitments would be implemented as part of the decision:

1. Soils would be protected using erosion and sedimentation control plans. BMPs would be used to protect and recover exposed soils.
2. Care would be taken to minimize the footprint whenever construction is required in riparian areas, hedgerows, and other sensitive areas important to wildlife.
3. Water quality monitoring would continue and mitigation measures to reduce atrazine, turbidity, chloride, and bacteria levels would be instituted as needed to comply with water quality standards.
4. Residents would be informed of pending noisy construction activities so that conflicts might be resolved.
5. To the extent practicable, environmentally friendly and energy efficient technology would be used during construction and operation of the project.
6. The City would consult in advance with the Kansas State Historic Preservation Office on ground-disturbing activities likely to affect archaeological sites.
7. The U.S. Fish and Wildlife Service (FWS) would review any Clean Water Act Section 404 permit(s) during the final design phase for each segment of the project. Should wetland mitigation be needed, a separate evaluation and report would be completed by FWS pursuant to the Fish and Wildlife Coordination Act.
8. BMPs for management of invasive species (Hazard Analysis and Critical Control Points or HACCP) would be implemented to prevent the movement of invasive species into or out of the construction area.

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VI. Implementation

Selection of the Preferred Alternative for the Equus Beds ASR Project represents Reclamation's final decision. The proposed agency action may proceed in a manner consistent with the Preferred Alternative. In the event circumstances arise where modifications are needed or there is a need to review this decision in its extent, Reclamation may amend, revise, or withdraw this Record of Decision. Changes that are contemplated would be announced in a timely manner. In the event that the cost-share agreement modifications are needed, Reclamation shall review any proposed changes with respect to this Record of Decision.