

## CHAPTER 5

### ***COORDINATION AND PUBLIC INVOLVEMENT***

#### **5.1 INTRODUCTION**

The National Environmental Policy Act (NEPA) requires federal agencies to follow a process of environmental analysis, consultation, disclosure, and public involvement when taking actions such as construction, funding, or permitting. The process is intended to identify the significant impacts to the human environment and provide an opportunity for interested individuals, organizations, and government agencies to participate in the analysis and to be informed of the proposed action and its effects. For actions with a high probability of significant adverse environmental impact, the centerpiece of NEPA analysis is the Environmental Impact Statement (EIS). Although the Wichita ILWSP would be constructed without federal funding, federal action could be required for issuance of a permit pursuant to Section 404 of the Clean Water Act. In this case, flow would be diverted from the Little Arkansas River and will require the issuance of a Section 404 permit from the U.S. Army Corps of Engineers (Corps).



#### **5.2 PUBLIC INVOLVEMENT**

The initial mechanism for public participation in NEPA is the scoping process. The purpose of scoping is to identify significant environmental issues, which require study, sort out insignificant issues, and thereby focus the scope of the environmental document. High priority was given to public involvement from the early stages of this study.

Since the inception of the ILWSP in 1993, the City has pursued an active program to inform the public and governmental agencies about the aquifer recharge,

storage and recovery project. Presentations and informational materials have been provided to the City Council, Chamber of Commerce and Groundwater Management District No.2. Public meetings have been held in the Cities of

Wichita, Halstead and Sedgwick, and agency meetings have been held in the City of Topeka with attendees from federal, state and local governmental entities. Tours of the demonstration facilities have been conducted and informational brochures on the demonstration project have been prepared and distributed to visitors. Monthly progress reports have been distributed to interested parties since 1995. In addition, public comment was solicited on the Draft EIS (DEIS).

##### **5.2.1 PUBLIC MEETING NOTICES**

In early October 1997, through published public notices, press releases, and direct

mail, the City invited the public and federal, state, and local agencies to participate in the scoping process for the ILWSP. Notices for the public scoping meetings were published in the following newspapers:

- The Ark Valley News
- The Harvey County Independent
- The Times-Sentinel
- The Wichita Eagle

### **5.2.2 PUBLIC SCOPING MEETING**

Three public scoping meetings were held on October 20, 21, and 22, 1997, in Wichita, Cheney, and Halstead, Kansas respectively, to solicit input on the scope of the EIS. A total of 36 individuals attended these meetings. Attendees had the opportunity to view displays about the proposed plan and the framework for the EIS, ask questions about and discuss the plan with knowledgeable representatives from the City and the City's design and environmental consultant, and register their comments and suggestions concerning the proposed plan and the EIS. The public was also invited to submit written comments by mail or fax by November 22, 1997.



### **5.2.3 DRAFT EIS**

Comments received from the public and government agencies as a result of the scoping meetings were used to tailor the content of the EIS so that issues specific to this study and the potentially affected population were addressed. Examples of issues raised by the public and government agencies were water quantity, water quality, water rights, vegetation and wetlands, and impacts on specific threatened, endangered, and state species of special concern (Table 5-1).

Notices of availability of the Draft EIS (DEIS) and public meeting were published in area newspapers. These notices informed the public that the DEIS was available for review, where it could be viewed, and when and where the public meeting was held.

### **5.2.4 PUBLIC MEETING**

Public meetings for the Draft EIS was held shortly after the Draft EIS was made available for review. A public meeting was held in Halstead on April 23, 2002 at the High School. A second public meeting was held in Wichita on April 24, 2002 at City Hall. The purpose of these meetings was to (1) present the conclusions of the DEIS and (2) provide an opportunity for the public to comment. Approximately 30 people attended the two meetings and participated in the process.

**5.2.5 FINAL EIS**

Comments on the Draft EIS received from the public and the cooperating government agencies were addressed in the Final EIS. Once the Final EIS has

been prepared, a Notice of Availability will be published and the Final EIS will be distributed. After 30 days, a Record of Decision will be prepared and issued.

**Table 5-1 EIS SECTION NUMBERS FOR SIGNIFICANT ISSUES IDENTIFIED DURING SCOPING**

SIGNIFICANT ISSUES	SECTION REFERENCE
<b>ALTERNATIVES</b>	
1) Raise the price of water to encourage conservation.	1.3.4, 2.3.1
2) Reduce demand for water by reducing lawn watering through changes in building codes to specify low-water use grasses and prohibit in-ground sprinkler systems.	1.3.4, 2.3.1
<b>ENVIRONMENTAL CONDITIONS AND IMPACTS</b>	
<b>Water Quantity</b>	
1) Expansion of the local well field could decrease the water table for those with private water wells in northwest Wichita.	2.3.3, 4.4.2.1.2
2) Address affect on streamflow in the North Fork of the Ninnescah River below Cheney Reservoir.	4.4.1.2.3
3) Quantify, through hydrologic analysis, changes in hydrology in the Little Arkansas and Arkansas rivers including: duration of bankfull conditions, duration of out-of-bank flows, increased baseflow from a recharged Equus Beds, and flow duration curve.	4.4.1.2.1, 4.4.1.2.2
4) Estimate the impacts of hydrologic changes in the Little Arkansas, Arkansas, and North Fork of the Ninnescah rivers on bedload transport and channel morphology.	4.4.1.2.1, 4.4.1.2.2, 4.4.1.2.3
5) Establish minimum, seasonally variable, flow releases from Cheney Reservoir.	4.4.1.2.3
6) Estimate changes in Equus Beds groundwater levels under different scenarios of storage, usage, and precipitation patterns.	4.4.2.1.1
7) Describe changes in the hydrology of Cheney Reservoir including storage volumes (total and for the various sub-pools), water level, surface area in terms of average changes and degree of fluctuation.	4.4.1.2.3, 4.4.1.3.4

<b>SIGNIFICANT ISSUES</b>	<b>SECTION REFERENCE</b>
<b>Water Quality</b>	
1) Expansion of well field could disturb a hazardous groundwater site near 57th St. and Broadway	4.4.2.1.2
2) Address impacts on water quality in the North Fork of the Ninescah River caused by changes in streamflow below Cheney Reservoir.	4.4.1.4.3
3) Address source water protection for the City’s investments at Cheney Reservoir and the Equus Beds.	4.4.1.4.4
4) Address the potential intrusion of a plume of highly saline water into the Equus Beds aquifer from the Burrton area.	4.4.2.2.1
5) Address impacts of high atrazine content in Little Arkansas River water.	3.3.1.4, 4.4.1.4.1
6) Address the impact of induced infiltration on the water quality of the Local Well Field caused by increased withdrawal from the Local Well Field.	4.4.2.2.2
7) Expanded use of the Bentley Well Field could induce greater infiltration of high saline waters.	4.4.2.2.3
8) Address impacts on the concentrations of arsenic and other trace elements in ground and surface waters.	4.4.1.4.1
9) Estimate changes in water quality in Cheney Reservoir and North Fork of the Ninescah River below Cheney Reservoir.	4.4.1.4.3, 4.4.1.4.4
<b>Water Rights</b>	
1) Address the interplay of water rights under the ILWSP, notably conjunctive use opportunities and constraints.	2.3.4, 3.3.3, 4.4.3
2) Describe the contractual relationship between the City and the USBOR relative to water from and the operation and ownership of Cheney Reservoir.	1.3.3.2, 2.3.4
<b>Vegetation and Wetlands</b>	
1) Riparian and wetland vegetation could be adversely impacted by lowering groundwater levels in the Wichita-Valley Center Floodway.	4.7.1, 4.16
2) Estimate impacts on bank stability, riparian wetlands, riparian vegetation, and oxbow lakes associated with the Little Arkansas, Arkansas, and North Fork of the Ninescah rivers.	4.4.1, 4.4.2, 4.7.1, 4.7.2

<b>SIGNIFICANT ISSUES</b>	<b>SECTION REFERENCE</b>
3) Estimate impacts on wetlands of recharging the Equus Beds including changes in water depth and duration of saturation.	4.7.1
4) Address changes in aquatic vegetation in Cheney Reservoir.	4.4.1.3.4, 4.4.1.4.4
5) Quantify the changes in the amount of area and length of North Fork of the Ninescah River inundated above Cheney Reservoir and affected vegetation communities as a result of the proposed changes in operation of the reservoir.	4.4.1.3.4, 4.15
6) Potentially affected wetlands should be identified and delineated pursuant to methodology of the U.S. Army Corps of Engineers, Natural Resources Conservation Service, and U.S. Environmental Protection Agency.	2.4, 3.6.1, 4.7.1
<b>Fish and Wildlife</b>	
1) Address impacts to fisheries, riparian wildlife, and their habitats in the Little Arkansas River, the North Fork of the Ninescah River, and Cheney Reservoir caused by changes in flow or water level fluctuations.	4.4.1.3.4, 4.7.3, 4.7.4
2) Estimate fish mortality caused directly by water withdrawal from the Little Arkansas River and Cheney Reservoir.	4.4.1.3.4, 4.7.3
3) Address impacts to shorebirds, waterfowl, warblers, and woodpeckers caused by changes in operation of Cheney reservoir.	4.4.1.3.4, 4.7.3, 4.7.4
4) Address impacts to fisheries and wildlife management practices including scheduled drawdowns and moist-soil management caused by changes in operation of Cheney reservoir.	4.4.1.3.4, 4.7.3, 4.7.4
<b>Species of Special Concern</b>	
1) Assess impacts to and describe any needed mitigation for federal threatened and endangered species including bald eagle, peregrine falcon, least tern, piping plover, and whooping crane.	4.7.4
2) Address impacts to and describe any needed mitigation for the Arkansas darter, Arkansas River shiner, and speckled chub which occur or have designated critical habitat in North Fork of the Ninescah River downstream of Cheney Reservoir.	4.7.4.5, 4.8
3) Assess impacts to and describe any needed mitigation for state threatened or endangered species including white-faced ibis and snowy plover.	4.8.3, 4.8.4

<b>SIGNIFICANT ISSUES</b>	<b>SECTION REFERENCE</b>
4) Prepare and submit to U.S. Fish Wildlife Service a Biological Assessment if potential impacts to federally listed and candidate species are identified.	Appendix B
5) Include a plan to enhance, mitigate, or reduce adverse impacts to threatened or endangered species.	4.15, 4.16
<b>Socioeconomics</b>	
1) Address impacts that changes in the operation of Cheney Reservoir could have on recreation at the lake and North Fork of the Ninnescah River including boating, swimming, water skiing, sailing, angling, wildlife appreciation, hiking, horse back riding, camping, hunting, trapping, and shooting.	4.4.1.3.4, 4.14
2) Changes in operation at Cheney Reservoir could affect the original cost allocation of the reservoir project and repayment obligations.	2.3.4, 4.4.1.3.4
3) Address the positioning of Wichita as a major hub of regional water supply as a result of the enhanced water supply developed under the ILWSP.	1.1, 1.2, 1.3
4) How will groundwater mounding in the Equus Beds impact local land owners and water users.	4.4.2.1.1, 4.7.1, 4.16
6) Evaluate potential impacts to Land and Water Conservation Fund properties including state parks, state wildlife areas, county parks, and city parks.	4.4.1.3.4, 4.14
<b>Aesthetics</b>	
1) Address the impacts of changes in Cheney Reservoir operations on aesthetics such as views of exposed dead trees, mudflats, and water clarity.	4.4.1.3.4, 4.13

**5.3 AGENCY COORDINATION**

**5.3.1 SCOPING MEETINGS**

Three scoping meetings were held for cooperating government agencies. Table 5-2 contains a list of the agencies and meetings attended. The first meeting was held in Wichita on October 21, 1997. The second meeting was held in Kansas City, Missouri on November 5, 1997, and the third meeting was held in Emporia,

Kansas on November 6, 1997. Agency representatives provided initial comments at these meetings and were requested to submit written comments on November 22, 1997.

**5.3.2 PROJECT MEETINGS AND OTHER COMMUNICATIONS**

Meetings among the City of Wichita, Burns and McDonnell, and cooperating

agencies were frequently held to discuss and resolve questions concerning preparation of the EIS and related procedures. Meetings, as a form of inter-agency coordination, were supplemented with frequent telephone calls (person-to-person and conference) and facsimile communications.

**5.3.3 FORMAL CONSULTATIONS**

During the course of preparing the EIS, state and federal agencies provided necessary data for assessing impacts to sensitive habitats, wildlife, and fisheries, and for planning mitigation. The FWS was consulted, as required by Section 7 of the Endangered Species Act, for their concurrence on the likely impacts to federally listed threatened or endangered species and their recommendations for mitigation. The State Historic Preservation Officer in Kansas was consulted, pursuant to Section 106 of the

National Historic Preservation Act of 1966, for concurrence regarding the effect on cultural resources at the sites and potential mitigation.

**5.3.4 EIS DOCUMENT REVIEW**

The City and cooperating agencies reviewed the chapters of the EIS and supporting documents for technical content, scientific rigor, accuracy, completeness, and consistency. The City’s Water and Sewer Department provided final technical and other quality reviews and is responsible for the content of the EIS.

**5.3.4.1 Chapters**

Each principal chapter of the EIS was subjected to a sequential review and revision process before being incorporated into the Draft EIS. The City made the first review. After their comments were addressed, each chapter

**Table 5-2 COOPERATING AND COORDINATING AGENCIES**

<b>COOPERATING AGENCIES</b>		<b>MEETINGS ATTENDED</b>
<b>Federal</b>	U.S. Environmental Protection Agency, Region 7	Nov '97, Jul '98
	U.S. Bureau of Reclamation	Oct '97, May '98, Jul '98, Apr '99
	U.S. Geological Survey	Nov '97, May '98, Jul '98, Jul '99, Dec '99
	U.S. Fish and Wildlife Service	Nov '97
<b>State of Kansas</b>	Kansas Water Office	Oct '97
	Kansas Department of Health and Environment	Oct '97
	Kansas Department of Wildlife and Parks	Nov '97
	Kansas Department of Agriculture, Division of Water Resources	Oct '97, Apr '99, Jul '99
	Groundwater Management District No. 2	Oct '97, Jun '98
<b>COORDINATING AGENCIES</b>		
<b>State of Kansas</b>	Kansas Corporation Commission	Oct '97, May '98, Apr '99
	Kansas Conservation Commission	Oct '97
	Sedgwick County Conservation District	Oct '97

was submitted to FWS and KDWP for review and comment.

#### **5.3.4.2 Supporting Documents**

The third-party contractor and other organizations (Table 5-3) performed a number of studies in support of the EIS. The City for technical adequacy independently reviewed these studies.

#### **5.4 EIS PREPARATION TEAM**

An interdisciplinary team of qualified federal and state government personnel and consultants were responsible for the preparation of the Wichita Water Supply Study EIS.

#### **5.4.1 FEDERAL LEAD AGENCY**

There is no Federal Lead Agency at this time.

#### **5.4.2 THIRD-PARTY CONTRACTOR**

Burns and McDonnell, Inc., Kansas City, Missouri, was the third-party consultant which had primary responsibility for preparation of the EIS. The contributors and their roles and expertise are listed in Table 5-4.

#### **5.4.3 OTHER CONTRIBUTORS**

Many other individuals contributed information to the EIS as personal communications through the telephone or written contact.

**Table 5-3 EIS SUPPORTING DOCUMENTS**

<b>Title</b>	<b>Organization</b>	<b>Year</b>
Water Supply Study	Burns & McDonnell	1993
Environmental Assessment for the Equus Beds Groundwater Recharge Demonstration Project	Burns & McDonnell	1994
Annual Aquatic Monitoring Report for Little Arkansas River	Burns & McDonnell	1995
Annual Aquatic Monitoring Report for Little Arkansas River	Burns & McDonnell	1996
Local Well Field Feasibility Study Data Review and Initial Work Plan	Burns & McDonnell	1996
Equus Beds Groundwater Recharge Demonstration Project, Summary of Activities for Calendar Year 1996	Burns & McDonnell	1997
Annual Aquatic Monitoring Report for Little Arkansas River	Burns & McDonnell	1997
Customer and Water Demand Projection Reevaluation	Burns & McDonnell	1997
Quality Assurance Plan for Water Quality Sampling Analysis, Equus Beds Groundwater Recharge Demonstration Project	Burns & McDonnell	1997
State and Federal and Agency Update Meeting, Raw Water Supply Projects, City of Wichita, Kansas	Burns & McDonnell	1997
Local Well Field Expansion Test Well Project, Final Environmental Assessment	Burns & McDonnell	1997
Aquatic Monitoring Report for Little Arkansas River	Burns & McDonnell	1995-97
Annual Aquatic Monitoring Report for the North Fork of the Ninnescah	Burns & McDonnell	1997
Equus Beds Groundwater Recharge Demonstration Project, Summary of Activities for Calendar Year 1997	Burns & McDonnell	1998
Annual Aquatic Monitoring Report for the North Fork of the Ninnescah and the Ninnescah Rivers	Burns & McDonnell	1998
Aquatic Monitoring Report for the North Fork of the Ninnescah and the Ninnescah Rivers	Burns & McDonnell	1997-98
Report on Pipeline Improvements at Key Locations Along City's 48-Inch Well Field Supply Main	Burns & McDonnell	1998
Operation and Testing Manual for the Equus Beds Groundwater recharge Demonstration Project	Burns & McDonnell	1998
Equus Beds Groundwater Recharge Demonstration Project, Summary of Activities for Calendar Year 1998	Burns & McDonnell	1998
Cheney Reservoir Field Study	Burns & McDonnell	1998
Report on Raw Water Delivery With 48-Inch Pipeline Replacement	Burns & McDonnell	1999
Local Well Field Concept Development Study	Burns & McDonnell	1999
Aquatic Monitoring Report for the Little Arkansas River	Burns & McDonnell	2000

<b>Title</b>	<b>Organization</b>	<b>Year</b>
Aquatic Monitoring Report for the North Fork of the Ninescah and the Ninescah Rivers	Burns & McDonnell	2000
Concept Design Study of the Equus Beds Aquifer Recharge, Storage and Recovery Project	Burns & McDonnell	2000
Instream Flow Incremental Modeling Report – Little Arkansas River	Burns & McDonnell	2000
Instream Flow Incremental Modeling Report – North Fork of the Ninescah River	Burns & McDonnell	2001
Atrazine in Source Water Intended for Artificial Groundwater Recharge, South-Central Kansas	US Geological Survey	1998
Changes in Groundwater Levels and Storage in the Wichita Well Field Area, South-Central Kansas	US Geological Survey	1998
Status of Groundwater Levels and Storage in the Wichita Well Field Area, South-Central Kansas	US Geological Survey	1998
Baseline Water Quality and Preliminary Effects of Artificial Recharge on Groundwater, South-Central KS	US Geological Survey	1999

**Table 5-4 BURNS & McDONNELL EIS CONTRIBUTORS**

<b>Name</b>	<b>Education and Discipline</b>	<b>Years Experience and Expertise</b>	<b>EIS Roles</b>
Robert Sholl	M.S. Botany, B.S. Botany	29, Environmental Impact Analysis	Third Party EIS Oversight, Quality Assurance, Scoping
Fred Pinkney	Ph.D. Plant Ecology and Statistics, M.S. Range Ecology, B.S. Range Science	29, Environmental Impact Analysis, Water Resources Study, NEPA Compliance	Third Party EIS Project Manager, Agency Liaison, Quality Assurance
Justin Meyer	M.A. Ecology and Evolutionary Biology, B.S. Biology	3, NEPA Compliance	NEPA Compliance Specialist
Frank Norman	M.A. Botany, B.S. Systematics and Ecology	13, Wetland Science, Botany	Wetland Impact Analysis and Mitigation
Gene Foster	M.S. Water Resources Engineering, B.S. Civil Engineering	21, Hydrologic Analysis, Facilities Siting, Permitting	Hydrologic Evaluation and Impact Analysis
Cyril Welter	Graduate Studies in Landscape Architecture, M.S. Urban and Regional Planning, B.A. Economics	21, Routing Studies, Socioeconomics, Public Involvement	Socioeconomic, Quality Assurance
Dan Shinn	M.A. Anthropology, B.A. History	11, Cultural Resources, Archeology	Cultural Resources
Hannah Huffman	B.A. Anthropology	2, Archaeology	Cultural Resource
Ryan Boyce	M.A. Geography(Pending), B.A. Environmental Studies	4, GIS, Remote Sensing	GIS, Mapping
Nancy Trobisch	M.A. Education.	15, Technical Writer, Editor	Technical Editor
Kristi Wise	M.S. Wildlife Biology	4, Wildlife Biology, Environmental Science	Biological
Andrew Grammer	M.S. Botany	2, Botany, Wetlands Ecology	Wetlands
David Stous	B.S. Geology M.S. Water Resources	30, Hydrogeology, Geology, Siting, Permitting, Modeling	Hydrogeologist
Jeff Klein	B.S. Civil Engineering M.S. Env. Engineering	15, Water supply planning & Engineering, Agency coordination, Siting, Modeling	Project Engineer
Frank Shorney	B.S. Civil Engineering M.S. Env. Health Engineering	35, Project Management, Water supply planning, Agency coordination	Project Manager
David Vallejo	B.S. Civil Engineering M.S. Env. Engineering	4, Water supply planning & Engineering	Water Supply Engineer
Carla Ballard	B.S. Civil Engineering	7, Environmental Impact Analysis, NEPA Compliance	Assistant EIS Project Manager
Randall Root	B.A. Biology	11, Wetland Permitting, Wetland Design	Wetlands
Mark Latham	M.A. Anthropology	11, Cultural Resources, Archeology	Cultural Resources



STATE OF KANSAS  
DEPARTMENT OF WILDLIFE & PARKS

Operations Office  
512 SE 25th Ave.  
Pratt, KS 67124-8174  
Phone: (620) 672-5911 FAX: (620) 672-6020



3 May 2002

Mr. Jerry Blain, P.E., Water Supply Projects Administrator  
Wichita Water & Sewer Department  
City Hall, Eighth Floor  
455 North Main Street  
Wichita, KS 67202-1677

Ref: D5.0400  
HV, KM,  
RN, SG  
Track: 19960558

Dear Mr. Blain:

We reviewed the draft environmental impact statement (EIS) sent by Burns & McDonnell regarding the City of Wichita's Integrated Local Water Supply Plan (ILWSP). The plan includes using ground and surface waters and recharging aquifers to meet the city's project water use needs by 2050. The preferred alternative in the EIS is the 100 MGD.

Of the action alternatives, the 100 MGD alternative appears to have the fewest overall negative effects to terrestrial and aquatic wildlife habitats. Currently, we do not have additional concerns or recommendations to make regarding the draft EIS for the ILWSP. However, we do offer some corrections and clarifications to consider in the final EIS. The Bald Eagle is state-listed as threatened not endangered as stated on page 3-38 under section 3.6.4.3 Bald Eagle. On page 3-41 under section 3.6.4.6 Arkansas Darter, we infer that the state-designated critical habitats mentioned are south of the Arkansas River not the Ash River. On page 3-43 under section 3.6.5.2 Eastern Spotted Skunk, state-designated critical habitats also include all suitable habitats in the Big Slough drainage basin besides the Cowskin Creek drainage basin. And last, on page 4-58 under section 4.8.4 Snowy Plover, the Department has designated critical habitats for the Snowy Plover; however, none of these habitats are within the project area. We are pleased to see that the EIS includes possibilities for biological studies and monitoring to assess potential affects to aquatic and terrestrial wildlife and their habitats.

If you have any questions, please E-mail me at [chrish@wp.state.ks.us](mailto:chrish@wp.state.ks.us) or call me at extension 198. Thank you for the opportunity to make these comments.

Sincerely,

Chris Hase, Aquatic Ecologist  
Environmental Services Section

xc: KDWP Reg. 4 F&W Sup., Swan  
KDWP Reg. 4 Pub. Lands Sup., Clark  
KDWP Reg. 4 Parks Sup., Stark  
KBS, Liechti  
KDHE, Mueldener  
USFWS, Gill  
Burns & McDonnell

Response to comments on the Draft EIS from the State of Kansas, Department of Wildlife and Parks comment letter, May 3, 2002.

1. We concur with your opinion about the 100 MGD alternative and its impacts on terrestrial and aquatic wildlife habitats.
2. The wording in Sections 3.6.4.3, 3.6.4.6, 3.6.5.2, and 4.8.4, respectively, has been changed in the EIS as requested to accurately reflect the status of the species and critical habitat location.
3. Thank you for your comment. We look forward to working with the Kansas Department of Wildlife and Parks and the U.S. Fish and Wildlife Service to further assess the potential environmental impacts of the ILWSP.



**KANSAS  
STATE  
HISTORICAL  
SOCIETY**

◆  
**Cultural Resources  
Division**

◆  
6425 S.W. 6th Avenue  
Topeka, Kansas  
66615-1099

PHONE# (785) 272-8681  
FAX# (785) 272-8682  
TTY# (785) 272-8683

◆  
**KANSAS HISTORY  
CENTER**

Administration  
Center for Historical Research  
Cultural Resources  
Education / Outreach  
Historic Sites  
Kansas Museum of History  
Library & Archives

**HISTORIC SITES**

Adair Cabin  
Constitution Hall  
Cottonwood Ranch  
First Territorial Capitol  
Fort Hays  
Goodnow House  
Grinter Place  
Hollenberg Station  
Kaw Mission  
Marais des Cygnes Massacre  
Mine Creek Battlefield  
Native American Heritage  
Museum  
Pawnee Indian Village  
Pawnee Rock  
Shawnee Indian Mission

April 23, 2002

Jerry Blain  
Water Supply Projects Administrator  
Wichita Water and Sewer Department  
City Hall, Eighth Floor  
455 North Main Street  
Wichita, KS 67202-1677

RE: Integrated Local Water Supply Plan  
Draft Environmental Impact Statement (EIS), Sedgwick County

Dear Mr. Blain:

Our office has received the Draft EIS concerning the above referenced project. Enclosed you will find an edited copy with our comments. The comments on the Cultural Historical Summary (Section 3) are too numerous to itemize here. Section 4 (pages 65 -67) has a number of statements that need clarification. First, several sites are mentioned but no site numbers are provided. Our office requests that the site numbers be included in the EIS so that our review of the document can be as thorough and accurate as possible. Second, numerous statements by the SHPO are referenced, but no letters are included as an appendix and no correspondence dates are provided. Our office requests that such information be included so that we can assess the report's accuracy.

If you have any questions or need additional information concerning these comments, please contact Will Banks at (785) 272-8681, ext. 214.

Sincerely,

Ramon Powers  
State Historic Preservation Officer

Richard Pankratz, Director  
Historic Preservation Office

Response to comments on the Draft EIS from the Kansas State Historical Society comment letter, April 23, 2002.

1. The EIS has been modified to address the comments from the Kansas State Historical Society in Chapter 3, Section 3.9 and Chapter 4, Section 4.12.
2. We have included the site numbers of the recorded sites around Cheney Reservoir, but have eliminated the discussion of the other sites mentioned as within or adjacent to proposed construction areas. These proposed construction areas have been altered or eliminated for the final ILWSP and, therefore, no longer pose threats to known cultural resources in those areas.
3. The Kansas State Historic Preservation Office has not commented on any these sites or this project; therefore, the text in question in Section 3.9 of the EIS has been removed.

Populations and Low-Income Populations" requires each Federal agency to identify and address such potential impacts of its programs, policies, and activities. This process also requires that these parties have had adequate access to participation in project planning.

In accordance with "Final Guidance for Incorporating Environmental Justice concerns in EPA's NEPA Compliance Analyses" (USEPA 1998), this determination is made by reviewing demographic data for the study area, and comparing the percentages of both minority and low-income persons in that population to the percentage present at national levels. Standardized guidelines provide percentages for comparison. The guidelines for determining low-income were identified from the Bureau of the Census, Series P-60 on Income and Poverty. The poverty rate for the nation in 1990 was 13.1 percent. If the percentage of persons below the poverty level equals or exceeds 13.1, the area is then considered to be "low-income".

Minority populations as defined by the Council for Environmental Quality Council include members of the following population groups: American Indian or Alaska Native; Asian or Pacific Islander; Black, not of Hispanic origin, and Hispanic. For purposes of Environmental Justice analyses, the Council states that a minority population should be identified where either: "a minority population in the affected area exceeds 50 percent, or the minority population in the affected area is meaningfully greater than the minority population percentage in the general population."

Table 3-16 summarizes 1990 census data on minority and low-income populations in the areas that would be impacted by each component of the proposed project. The components include the Equus Beds Well Field and Recharge Basin, the Bentley Reserve Well Field, and both options of the Local Well Fields, in addition to the general project area. Figure 3-15 indicates the locations of the well sites for the Local Well Field Component in relation to the various census tracts that were included in the analysis.

The City of Wichita had a 1990 population of 304,011, of which 11.3 percent were Black, 1.2 percent were American Indian or Alaska Native, 2.6 percent were Asian and Pacific Islander, and 5 percent were Hispanic of all races. These percentages serve as the benchmark for comparison to the study areas. The percentage of persons below the poverty level in Wichita in 1990 was 12.5 percent, 1 percent higher than the state of Kansas, but less than that of the nation.

3.9 CULTURAL RESOURCES

Where are the References Cited for the Cultural Resources Section?

*Re Clovis. This has not been demonstrated, so it should not be presented as accepted.*

of Wyoming. Within the state of Kansas, the Central Great Plains region is divided into a number of smaller physiographic regions based upon differences in landforms. Of these areas, the proposed project cuts through three: the Flint Hills, the Arkansas River Lowland, and the Wellington-McPherson Lowland.

with a large leaf-shaped chipped-stone projectile point. Groups were highly mobile, and collected berries, seeds, roots, small game, clams, and other locally available plant and animal resources to supplement their diet. This period has been divided into four phases, based primarily upon changes in projectile point forms over time: Pre-Clovis (prior to 10,000 BC); Llano (10,000 - 9,000 BC); Folsom (9,000 - 8,000 BC), and Plano (8,000 - 6,000 BC).

*esp w/ reference to KS*

Human occupation of the Central Great Plains can be divided into six broad time periods or stages based upon differences in how people interacted with their environment. Through time, different adaptations produced variations in settlement patterns, cultural materials, and subsistence economics. These time periods, from earliest to latest are: Paleo-Indian, Archaic, Early Ceramic, Middle Ceramic, Late Ceramic, and Historic. Particular artifacts, settlement patterns and house types, as well as the exploitation of different plant and animal species characterize each period. Although each period has been given a name, and is identified by a number of particular characteristics, the periods do not represent isolated cultures, but rather a continuation of cultural development through time. Each period was influenced by those proceeding it as well as the development of new technologies, innovations, and the influx of materials and ideas from neighboring regions.

*not this is accurate*

Although human occupation of the Central Great Plains prior to 10,000 years BC is poorly documented and is virtually unknown in Kansas (Brown and Simmons 1987:IX-2), recent work in the state has indicated there may be an as yet unrecorded Pre-Clovis complex in the region. A single site in Marion County, Kansas (14MN12) may contain a Pre-Clovis occupation level, although three dates taken from the site are inconsistent, and therefore not accepted as convincing evidence of human presence during this time period. What additional evidence there is of a Pre-Clovis occupation in the Central Great Plains comes from sites in adjacent states (northeast Colorado, south-central Nebraska, and northwest Missouri). These sites have produced humanly modified stone and bone artifacts in contexts which suggest a Pre-Clovis age, although the evidence remains controversial and is not completely accepted by the professional archaeological community.

**3.9.1 THE PALEO-INDIAN PERIOD (10,000-6,000 BC)**

The start of this period is traditionally marked by a noticeable warming trend toward the end of the Ice Age. People of this period typically traveled together in small bands, hunting now-extinct, large Ice Age animals, and collecting various types of plants and smaller animals. The typical hunting tool was a spear, tipped

The earliest well-documented evidence of human activity in the Central Great Plains is based on several sites attributed to the Llano complex (10,000-9,000 BC). This culture is identified by a distinctive

projectile point type with a centrally flaked flute known as "Clovis" found near the remains of large Ice Age animals, particularly the mammoth. The Clovis point is the earliest known projectile point in North America and is identified as a spear point rather than an arrow point. Other artifacts recovered from Llano sites and related to the hunting and butchering of mammoth are cylindrical bone and ivory fore-shafts/projectile points, scrapers, knives, cobble choppers, graters, bifaces, and hammerstones (Brown and Simmons 1987:IX-4). No sites attributed to the Llano culture have yet been excavated in Kansas. This phase is represented only by isolated surface finds of Clovis projectile points, and no direct association of extinct Ice Age animal remains and Llano artifacts has been documented (Logan 1998:33; O'Brien 1984:28).

The Folsom complex (9,000-8,000 BC) follows Llano, and is also characterized by the presence of a distinctive projectile point in association with extinct Ice Age animal remains. In this case, however, the leaf-shaped "Folsom" point, with an extended central flute, has replaced the Clovis point, and a now-extinct form of bison has replaced mammoth as the primary source of food and raw materials. Surface finds of Folsom projectile points have been recorded throughout Kansas, although they appear to be concentrated in the northeast and southwest corners of the state (Brown and Simmons 1987: figure 9.7). The Twelve-Mile Creek site (14LO2) located in Scott County, west-central Kansas, may represent the only excavated Folsom complex in the state. This site has produced several skeletons of extinct bison in direct association with a leaf-shaped projectile point. The

identification of the point as Folsom, however, is uncertain (O'Brien 1984:28)

The next phase of cultural development dates from 8,000-6,000 BC and is called Plano. It is characterized by a wide variety of chipped stone projectile point and knife forms. The most widely hunted animal resources are now-extinct forms of bison, horse, and camel at early sites, and the m dated to 7 complex c Indian cul characteri point/knife Kansas ar Meserve/l Agate Bas new forms flaking alc central flu types. Th longer the region, ra leaf-shaped

*You need to mention:  
Norton Bonabed  
DB site  
Laird site  
These all have paleoindian intact materials in deposits*

Due to the scarcity of excavated Plano sites in Kansas, almost all of the information regarding this phase is observed from nearby states. Three Kansas sites which may contain Plano deposits are: the Tim Adrian site (14NT604), a possible Hell Gap quarry site; site (14SG515), a possible Cody complex containing Scottsbluff and Eden points and a Cody knife, located in Sedgwick County near Wichita; and the Sutter site (14JN309), a possible Fredrick complex containing leaf-shaped projectile points with parallel flaking (Brown and Simmons 1987:IX-10&11).

Although the Paleo-Indian period is poorly known in the Central Great Plains

Affected Environment

and in Kansas, the absence of known sites does not exclude their existence in the state, and within the project area. It has been suggested (Brown and Simmons 1987:IX-11) that the absence of recorded sites may be due to two factors: 1) a lack of intensive surveys in the western two-thirds of the state; and 2) the difficulty of locating Paleo-Indian sites in the eastern two-thirds of the state due to their burial beneath other soil deposits. Although the majority of Paleo-Indian sites are butchering and kill sites of large game, Wheat (1978) has defined four types of human behavior which would result in the formation of different types of sites: 1) mass kill sites; 2) butchering sites; 3) long-term campsites; and 4) short-term campsites. It is possible that all of these forms are present in Kansas.

Mastodon, mammoth and bison remains have been recorded in Harvey and Sedgwick Counties. The presence of Paleo-Indian projectile points and the remains of Ice Age animals hunted by these peoples indicates the potential for Paleo-Indian sites in these areas of Kansas. Brown and Simmons (1987:XX-6) suggest the "probability for bison jump and animal trap sites being present [particularly in western Kansas] is high."

**3.9.2 THE ARCHAIC PERIOD (6,000 BC TO AD 1)**

The people of the Archaic period practiced a way of life centered on hunting and gathering, with a dependence at least in part on bison as a key component of their diet (Hofman 1996:80). Due to the extinction of Ice Age animals in the late Pleistocene approximately 9,000-8,000 years ago, hunting strategies shifted to smaller game animals including the modern

bison, as well as deer and elk, and a greater dependence upon wild plant foods. This change is characterized as a shift from an economy focused on large game, to one based on a wide variety of resources (Logan 1998:34). During this period, hunter-gatherer groups were dependent entirely on the exploitation of wild plant and animal resources. ? Populations became less nomadic and more focused on the seasonal exploitation of resources located in specific areas. Settlements became more permanent, and populations increased. Pit houses appeared in upland hunting-processing camps (bison kill areas), and new food storage and processing technologies developed. Grinding slabs became a common feature of the prehistoric tool kit as seed processing became important. At approximately 5,500 BC, people began to experiment with the manufacture of ceramic objects. The number of chipped-stone tool types increased as tools were manufactured for a variety of specialized uses, and the atlatl, or throwing stick, became common.

Evidence of human occupation in Kansas during the Archaic is as difficult to come by as that of the previous period. Few Archaic cultures have been defined for the area, and those that have are based on only a few excavated sites. With the exception of the Flint Hills region, which contains a fairly well known Archaic complex, there are no clearly defined cultures within the project area. Within the Flint Hills region, five cultural complexes/phases have been defined: the Logan Creek complex; Munkers Creek phase; Chelsea phase; El Dorado phase; and Walnut phase.

*What about Nebo Hill?*

*No!  
They were still highly mobile, but just more regional*

*These #'s should be updated or made current.*

the Potawatomi, Kickapoo, and other tribes first to reservations and later to Oklahoma. With the granting of state status in 1861 and the end of the Civil War in 1865, Euro-American settlement in the region increased dramatically. In the 1870s, the cattle business boomed, and the "cowboy era" arrived in Kansas along with the railroad. These developments also left their mark in the form of recorded historic sites.

### 3.9.7 RECORDED SITES AND SPECIFIC SITE TYPES

**Recorded Sites.** As of 1987, the number of recorded archaeological sites within the counties affected by the alternatives of the proposed project are as follows: Harvey - 54; Reno - 15; and Sedgwick - 45 (Brown and Simmons 1987: figure 6.1). These numbers provide a rough comparison of the density of known sites within the project area as of that date. Although helpful in predicting the possibility of encountering unrecorded sites in some areas, these figures do not indicate the presence or absence of sites in any given location.

A number of specific site types have also been documented within the area crossed by the proposed project, and within the surrounding area utilized by Native American peoples. These are: lithic quarries/collection stations; rock shelters; tipi rings, stone alignments, and earthen construction; human burial areas; and rock art sites.

#### **Lithic Quarries/Collection Stations.**

Although little systematic excavation of quarry sites has taken place in Kansas, a number of sites have been recorded in the Flint Hills region of the project area. This region is known for the presence of

chert or flint outcrops utilized by Native American peoples, and although only one of the recorded sites is close to the project area, there is the potential for locating as yet unrecorded quarry sites in the area. Butler County has four sites located within the region of the project. (Brown and Simmons 1987:XX-2).

**Rock shelters.** Rock shelters have been recorded primarily in the southeast and north-central half of Kansas. There are no recorded sites within the region of the project area (Brown and Simmons 1987:XX-2). The potential for locating unrecorded sites of this type is dependent upon the presence of rock outcrops of sufficient size to offer protection to Native peoples, and therefore locations suitable for habitation.

**Tipi Rings, Stone Alignments, and Earthen Construction.** The occurrence of recorded tipi rings, stone alignments, and earthen construction are rare due to extensive cultivation of the Kansas landscape. Prior to Euro-American occupation these features were undoubtedly more common and sites may still occur in more arid or dissected regions less subject to destructive cultivation. Earthen "council circles" attributed to astronomical registers have been recorded in McPherson county at the Paint Creek or Udden site (14MP1), and at the Sharps Creek or Swenson site (14MP301). These two sites are represented by a low central mound 20-30 meters in diameter surrounded by a shallow ditch or a series of oblong depressions. The maximum relief of the features is 44-88 centimeters (Brown and Simmons 1987:XX-6).

the inclusion of a site on the NRHP is in accordance with the Department of the Interior's regulations 36 CFR 60.4. Impacts to cultural resources would be considered significant if the project would damage or destroy any sites eligible for the NRHP.

The water conservation component, redevelopment of the Bentley Well Field, and expansion of the Local Well Field would have no adverse impacts to known cultural resources in the project area.

Ten archaeological sites have been recorded within or adjacent to Cheney Reservoir, of which nine are prehistoric and one is historic. Four of the prehistoric sites have been completely or partially inundated by the reservoir. None of the recorded sites are listed on the National Register of Historic Places (NRHP), considered unevaluated or ineligible for inclusion in the NRHP.

Most of the prehistoric sites are classified as unknown prehistoric. These unknown prehistoric sites are classified as lithic scatters, consisting mostly of flakes and a few discarded tools. At least three of the sites are lithic workshops, where cores of raw chert or quartzite were reduced during the early stages of chipped stone tool production.

Identified prehistoric components were identified at three sites. They include two Middle Ceramic sites and a Plains Woodland site, but all three have been inundated by the reservoir.

The historic site was a surface scatter of a nineteenth century farm site.

Construction of new water pipelines from the reservoir to the City of Wichita would

not cross through any known archaeological sites, but may have impact on a known historic and prehistoric trail. The proposed line would cross the Indian trail that leads to the Salt Plains in Oklahoma. The significance of this trail has not been determined and it is not listed in the NRHP.

The Equus Beds ASR component has several options that would require construction of pipelines, wells, holding ponds, overhead transmission lines and access roads in an area of high archaeological site density. The distribution of the sites is primarily limited to terraces along the major streams and tributaries. Typically, sites found more than 0.5 mile from these water resources are historic farmsteads or other Euroamerican sites, dating from the late nineteenth through the twentieth centuries. Due to the age and abundance of these farmsteads, most would not be considered eligible for inclusion in the NRHP.

Under the No-action alternative, agricultural practices would remain the same and no disturbances from construction would occur. Therefore, cultural resources would not be impacted by the No-action alternative.

In summary, the ILWSP project area includes numerous known archaeological resources and potential for many more. None of the sites known in the area are included in the NRHP, but most are considered unevaluated. Most of the known cultural resources would not be directly or indirectly impacted by this project. Those sites within or adjacent to the proposed construction areas are limited to one prehistoric and three historic sites. Few details are recorded

*these sites should be listed*

*has the SHPO stated this?*

*these are 2 sites give #5*

Environmental Consequences

about the prehistoric site, classifying it as unevaluated. All of the historic sites are farmsteads, with two being considered unevaluated and the third as ineligible for inclusion in the NRHP.

4.13 VISUAL RESOURCES

The main elements of visual character are landform, land cover, land use, visual variety, and uniqueness. These elements combine to create a variety of landscapes. Impact to visual character is a function of how the project changes these aspects of the landscape.

Landscape management deals with the visual harmony or disharmony of the components of the landscape, including the topography, vegetation, land use, and any human intrusions. The basic concepts considered are landscape character, visual variety, and deviations from the landscape character (U.S. Department of Agriculture 1973). Impacts on the landscape generally result when human alterations to the topography, vegetation, or land use contrast with the natural character of an area. In general, strong contrast with these components results in visual disharmony, while changes that conform to the existing visual components are less noticeable.

Significant visual impacts would result if any of the alternatives would create visual disharmony. Such disharmony would result from dramatic changes in the visual character of the viewshed, a noticeable reduction in visual variety, or sharply contrasting deviation. Visual impacts would be significant if the disharmony created would be viewed by large numbers of people, alter current points of recognized scenic value, or alter

state or federally designated scenic areas.

The construction of additional wells and basins within the existing well fields, pre-sedimentation plant and associated facilities, or new river intake would impact all components of landscape character. Removal of vegetation and loss of cropland would alter the viewshed of some areas. Little of the land in the well field would be converted from crops to wells. The well structures will be enclosed in 21-foot by 33-foot buildings that would rise 9 to 10 ft. above the existing grade elevation (Burns & McDonnell, 2000) and would add vertical contrast to the landscape. The proposed new intake for the Little Arkansas River could contrast with the riparian landscape. The lighting on the pre-sedimentation plant could create a visual contrast at night where none currently exists. The well field, however, would not contribute to light pollution because the wells would not be routinely lighted.

The appearance of a basin will not be incongruous with the appearance of other facilities typically found in agricultural areas, i.e., farm ponds, although the basins would be more rectangular in shape and surrounded by an eight-foot fence and lit at night for security. For the most part, these sites would not be located near any residences. Should it develop that a lighted area need be located near a residence, planners would work with those residents to mitigate any adverse effect.

No areas designated as scenic by state or federal agencies are located in the area, therefore, none would be impacted by this project.

*when were these determinations made by the SHPO.*

*These letters from the SHPO, if there are letters, should be included in this document.*

This page intentionally blank

STATE OF KANSAS

BILL GRAVES, GOVERNOR  
Jamie Clover Adams, Secretary of Agriculture  
109 SW 9th Street  
Topeka, Kansas 66612-1280  
(785) 296-3558  
FAX: (785) 296-8389



Division of Water Resources  
David L. Pope, Chief Engineer  
109 SW 9th Street, 2nd Floor  
Topeka, KS 66612-1283  
(785) 296-3717 FAX (785) 296-1176

KANSAS DEPARTMENT OF AGRICULTURE

May; 6, 2002

Mr. Jerry Blain  
Wichita Water & Sewer Department  
City Hall, Eighth Floor  
455 North Main Street  
Wichita, KS 67202-1677

RE: DWR A-95            2002.095

Dear Mr. Blain:

This will acknowledge receipt of your letter and attachments dated April 3, 2002 regarding the Integrated Local Water Supply Plan in the City of Wichita, Sedgwick County, Kansas.

If a pipeline and/or cable crosses a stream with a drainage area greater than 50 square miles, a permit is required, except when the installation is by directional boring or attachment to existing bridging structure. Also, if the proposed crossing is above the original channel bottom, the project will require a permit if the drainage area is 240 acres or more, depending on its geographical location.

The project may require approval from the local community if it is located in an identified Special Flood Hazard Area (floodplain) and the community participates in the National Flood Insurance Program. The lowest level of the structure may need to be elevated above the base (one percent chance) flood level. If the elevation is accomplished by the placement of fill material in the floodplain, approval of plans for the placement of the fill material may be required from this office. Approval from our office also involves environmental review by other state agencies.

If you have questions regarding water structures, please contact Jean Darrah at (785) 296-2855.

Sincerely yours,

A handwritten signature in cursive script that reads "Bob Lytle".

Bob Lytle  
Environmental Scientist  
Technical Services Section

RFL:ssc

pc: Bruce Falk, Water Commissioner, Stafford Field Office

Response to comments on the Draft EIS from the Kansas Department of Agriculture comment letter, May 6, 2002.

1. Thank you for the stream crossing information explaining the conditions under which a permit would be required. Should a stream crossing be anticipated with an ILWSP facility, the City will contact the Kansas Department of Agriculture for advice and direction.
2. Thank you for the information concerning Special Flood Hazard Area designations and National Flood Insurance Program participants. Should the placement of an ILWSP facility affect either program, contact with the local community or the Kansas Department of Agriculture will be made.



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII  
901 N. 5TH STREET  
KANSAS CITY, KANSAS 66101

**MAY 22 2002**

Mr. Jerry Blain, P.E.  
Water Supply Projects Administrator  
Wichita Water and Sewer Department  
City Hall, Eighth Floor  
455 Main Street  
Wichita, Kansas 67202-1677

Dear Mr. Blain:

Re: Draft Environmental Impact Statement for Integrated Local Water Supply Plan, Wichita, Kansas

Thank you for the opportunity to review this draft Environmental Impact Statement. Typically, the Environmental Protection Agency's reviews are performed under the authority of the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. However, presently, this project has not been filed with the Council of Environmental Quality, and therefore, procedurally, these comments do not constitute a formal review under NEPA. Since this document is not a 'Draft Environmental Impact Statement' as defined by NEPA, I am unable to give this document a rating. Furthermore, if it is established that this project does require review under NEPA, the prescribed process for filing and comment will have to be followed (see enclosure). We hope the comments listed below serve to improve the document and better inform the public as to the environmental impacts of the project. These comments are not intended to discourage the process that you have chosen to use in preparing this document for the project; on the contrary, we encourage the early involvement of all regulatory agencies as well as the public for better and more informed decision-making.

As you have indicated in the document (p. 5-1), it is not clear whether this project is subject to NEPA, but may in fact be -- if there is either: 1) federal money spent on the project, or 2) federal permit requirements, such as a Section 404 permit from the U.S. Army Corps of Engineers. EPA strongly suspects that even without federal money, the project will require a Clean Water Act Section 404 permit, and in such case, would be subject to NEPA. Assuming that is the case, there are several procedural requirements for the proper documentation and filing of Environmental Impact Statements. As one example, upon establishing a federal "lead" agency for the project, an official 'Draft Environmental Impact Statement', which may or may not be identical to this draft dated December 2001, will have to be filed with the Council of

Response to comments on the Draft EIS from the U.S. Environmental Protection Agency, Region VII comment letter, May 22, 2002.

1. Your review of the Draft EIS for the ILWSP and comments provided are appreciated. We understand EPA's position relative to providing a rating for the EIS and the potential steps that may have to be followed should the project ultimately require review under the National Environmental Policy Act (NEPA) process.
2. Thank you for the information relative to filing an EIS under the NEPA process. We will endeavor to use the ILWSP EIS to satisfy the NEPA process when and if a lead federal agency is identified.

Environmental Quality, and a public comment period, which follows that document's posting in the federal register, will have to follow that filing. I have spoken to Mr. Fred Pinkney of Burns and McDonnell, the contractor who prepared the Draft, and reviewed this process with him.

#### Clean Water Act, Section 404

If the final project includes the discharge of dredged or fill material into a Water of the United States, then a permit under Section 404 of the Clean Water Act is likely to be required from the Corps of Engineers. If you have not already contacted the Corps, we would urge you to do so. A person to contact at the Kansas City District, Corps of Engineers, Kansas State Office, El Dorado, Kansas, in the Regulatory Program is David Hobbie. He can be contacted at 316-322-8247.

The purpose of the Clean Water Act is "to maintain and restore the chemical, physical, and biological integrity of our nations waters." Just because a stream is already degraded, does not signal that we should not protect it in the terms just mentioned. If we are to ensure that our nation's waters are safe for the general public, we must continue to ensure that streams are not further degraded.

The Arkansas River channel has degraded due to changes in the watershed, related to both channel work, as well as development. Downstream communities are experiencing problems due to work in the upstream portions of the Arkansas River watershed. We would have major concerns about additional channelization work to the river due to the adverse impacts associated with channelization. Generally the benefits created by channelization projects are far outweighed by the adverse impacts they create. These types of projects tend to move problems from one area to another, either above, below or within a project area. Stream channelization projects, which straighten and/or shorten river reaches increase the flow velocity within the river. This typically creates or aggravates existing erosion problems and increases flooding downstream. Cumulative losses to the lotic, or free flowing river or stream ecosystem can occur in the following manner:

- Changes in bed substrate and stream length result in changes in habitat (e.g. sand, silt or gravel changed to concrete or other unnaturally occurring substrate, the elimination of riffle and pool areas, destruction of backwater areas, removal of irregular bank boundaries and snags, etc.). Habitat changes can change plant and animal community structures (diversity, which is the number of different species present, as well as population, which is the total number of members within each species). Intermittent or headwater streams, which are the first to be channelized, play an important role the primary production of plant and animal food for downstream areas. These streams can also provide spawning and rearing habitat for forage fish species.
- Typically trees and other vegetation are removed from the banks, which increases the amount of sunlight reaching the water surface (increasing stream temperatures), lowers the amount of dissolved oxygen in the stream and eliminates tree and leaf litter from entering the stream, which serves as food for animals at the bottom of

3. Thank you for providing the information concerning the Clean Water Act, a Section 404 permit, and a point of contact with the U.S. Army Corps of Engineers, Kansas City District.
4. We understand there would be potentially significant impact from channelization of most any river, including the upstream portion of the Arkansas River watershed. However, the ILSWP does not propose any stream channelization as part of the project.

food webs. Vegetation has the natural ability to filter pollutants, such as phosphorous, nitrogen, pesticides, sediment and others before they can enter the adjacent stream, maintaining stream water quality. When water quality is degraded, there is usually an associated change in the diversity of species inhabiting the stream.

- Bank erosion can result in increased turbidity, which can affect less tolerant species, especially smaller fish species. Sediment can effectively smother benthic organisms (aquatic life that lives on or in the stream bed). It can also limit light penetration which can limit microscopic plant production.
- Changes in water amounts and frequency in adjacent areas reduces the ability of areas to recharge (slowly release water to) streams, which is especially important to species during drier times of the year.
- If trees and vegetation are removed along the stream bank, increased amounts of pollutants, such as nitrogen, phosphorous, E-coli bacteria, pesticides, sediment, etc. can enter the stream through non-point source runoff. Such pollutants can impact public health, as well as the health of other aquatic organisms.
- Increased pollutants, such as nitrogen and phosphorous, can increase demand for oxygen by bacteria which can decrease the amount of available oxygen to other aquatic species, such as fish.
- Intermittent and ephemeral streams are valuable in filtering out pollutants due to the direct contact of the flowing water with the stream bed, which ensure the viability of aquatic species, as well as water quality.

When looking at the City of Wichita, one must consider both the Little Arkansas and the Middle Arkansas watersheds, as Wichita is at the downstream end of the first, and the upstream end of the latter. We are concerned about the existing water quality of the area due to urbanization and rapid population increases and their contributions to the downstream watershed, which has some more serious problems. The impacts that may result cumulatively due to many channelization projects within the Arkansas River will continue to add to sediment runoff which is already a serious threat to water quality in the Middle Arkansas - Slate watershed. In addition, according to state 305(b) monitoring data, only 20-50 percent of the waters in this downstream watershed are meeting their intended uses.

Under Section 404 of the Clean Water Act, projects must be in compliance with the Guidelines established under Section 404(b)(1). Under this Section dredge and fill activities in waters of the United States are to be evaluated through a sequencing process asking: First, can adverse impacts to the aquatic ecosystem be avoided through the selection of a least environmentally damaging practicable alternative? The placement of fill for a commercial development, such as stated in both project purposes, is not water dependent, and less damaging practical alternatives are presumed to exist. Second, can any unavoidable impacts be minimized through appropriate and practicable measures? Third, can any unavoidable adverse impacts which remain after minimizing measures have been taken, be compensated through appropriate and applicable measures?

5. We concur with the concerns expressed by EPA on water quality that may occur with channelization projects and urbanization and rapid population increases. As stated in Response No. 4 above, the ILWSP, as proposed in this EIS, does not include any channelization in either the Arkansas or Little Arkansas rivers or their watersheds.
  
6. Thank you for the information relative to the Section 404(b)(1) guidelines. The approach described in your comment has been followed in the development of feasible alternatives to be considered in the ILWSP – to avoid impacts first, minimize impacts second, and compensate unavoidable impacts as a last option.

The 404(b)(1) Guidelines, Part 230.10, Restrictions on Discharge, states that no discharge shall be permitted if there is a practicable alternative which would have less impact on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences. Practicable alternatives include those that (1) do not involve a discharge of dredged or fill material into waters of the United States, or (2) involve discharges of dredged or fill material at other locations in waters of the United States. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology and logistics, in light of the overall project purposes. Any applicant for a Section 404 permit should be aware that neither increased costs of alternatives nor an unwillingness to pursue practicable alternatives does not necessarily mean that the alternative is impracticable or unavailable.

### Potential Project Impacts

One portion of the document that warrants more, or perhaps clearer, study, is that which describes the project's impacts to the Little Arkansas River. The description of the river and the project's impacts to that river is located in several places in the document. EPA recommends that a water balance discussion of the Little Arkansas River System, which includes clear and detailed discussion of all inputs and outputs (flow, infiltration discharge or recharge, withdrawals for the Project, etc) and their ultimate impact to the Little Arkansas River flow regime. Such a discussion, presumably, would more clearly articulate what will happen to the River as a result of the project, and would answer the questions listed below:

The discussion should discuss how the river flow regime will change over time (as the Equus Beds Aquifer is recharged). Presumably, the current condition of the river will be impacted by withdrawals for the project. Over time, as the Equus Beds Aquifer is recharged, it will also begin to gain more and more water through induced infiltration, until the Equus Beds are recharged to some equilibrium level and the entire system is at equilibrium. However, it is not clear how long it will take to reach equilibrium, and what status of the river is before equilibrium is reached. A water balance discussion of the Equus Beds would aid in this analysis.

Table 2.7 states that under the 100 MGD Diversion Alternative, "Low flows will increase. Median flows will increase, except during May and June when the flows will decrease." This is, at best, only partially correct. Figure 4-6 lists the flow of the Little Arkansas River at the mouth (and, presumably, in Wichita from the source wells to the mouth) the flow is dramatically reduced (by more than 50%) throughout the year. Presumably, then, Table 2.7 refers to flows in the stretch between Halstead and Wichita. However, it is not clear under what circumstances this would be correct. The preferred alternative will withdraw up to 100 MGD (approx. 150 cfs) to be used to recharge the Equus Beds Aquifer, and when the water is available, an additional 60 MGD (90 cfs) for city use. (Note that at Valley Center, this amounts to  $\frac{1}{2}$  to  $\frac{2}{3}$  of the mean daily discharge of the river -305 cfs; see Table 3-2). The infiltration rate resulting from higher Equus Bed levels is listed at 'about 10 cubic feet per second (cfs) in every month except May and June.' (p. 4-6. Note that if footnote #4 on p. 4-8 is accurate, the infiltration rate above Halstead would be only 4 cfs). This suggests that the river level will be higher only when Equus Beds Recharge withdrawal rates are below 10 cfs (7 MGD).

7. As suggested, an overall water balance for the Little Arkansas River basin has been prepared and presented in Section 4.4.1.2.1 (Figure 4-8) of the EIS. This water balance shows the magnitude of all system inputs and withdrawals for each of the four scenarios under average conditions, providing a clearer picture of the potential impacts to the Little Arkansas River flow regime.
8. It is not possible to give a definitive answer to this question as posed because we cannot predict future climatic conditions. There will be wetter years when significant amounts of water can be diverted for recharge of the Equus Beds aquifer and drier years when aquifer withdrawals will exceed recharge. Correspondingly, the amount of groundwater discharge to the Little Arkansas River during these conditions will also fluctuate as well. The best way to answer this question is in terms of long-term average conditions.

Using the water supply demands anticipated during the early years of project operation, the net recharge to the Equus Beds aquifer is estimated to average about 17.6 cubic feet per second (cfs) (12,700 acre-feet per year (AFY)) for the 100 MGD option and 21.0 cfs (15,200 AFY) for the 150 MGD option. Net recharge is defined as natural and artificial recharge less water supply and irrigation demands. With an assumed storage deficit of 250,000 acre-feet (AF), the average fill time for the aquifer is 21 years with the 100 MGD recharge capacity option and 17.6 years with the 150 MGD capacity option.

As discussed in Section 4.4.1.2.1 and shown in the water balance illustrated in Figure 4-8, the average groundwater discharge to the Little Arkansas River is estimated to increase by 14 to 17 cfs from current conditions with implementation of the ILWSP. This increase would occur very gradually over a number of years and would include years with both positive and negative changes in groundwater discharge.

For example, impacts on the flow (reduction) in the Little Arkansas River may be slightly greater than the average values shown in Figure 4-8 during the early years of project operation. This could result if all of the proposed diversion facilities are constructed and operational at a time when groundwater discharges to the Little Arkansas River still approximate current conditions (that is, they have not yet increased due to aquifer replenishment). These additional impacts though would be relatively small. Conversely, increases in the flow regime of the river could also be slightly greater than shown in Figure 4-8 during the later years of project operation, when aquifer replenishment is nearing equilibrium. Under this condition, even these impacts to the river would also be relatively small.

9. The information presented in Table 2.7, regarding flow increases do apply to the Little Arkansas River upstream of the proposed collector wells for the Local Well Field Expansion. Downstream of these collector wells, flow in the Little Arkansas River would be reduced under most conditions, although not to less than 20 cfs. While these flow reductions in the lower Little Arkansas River are significant, this urban reach of the river is also significantly altered from its natural state.

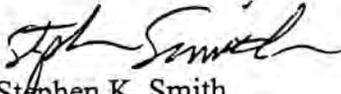
The total diversion capacity of the project from the Little Arkansas River would be either 100 MGD (155 cfs) or 150 MGD (232 cfs) depending on the alternative scenario selected. Even

How often will the pumping for the Equus Beds Recharge be active? Judging from Figure 4-4, it appears that there will be no pumping approximately 65% of the time (i.e. to the right of where the "Current" and "ILWSP-100MGD" lines intercept-or between 35% and 100% of the time), at some reduced pumping rate 19% of the time (between 16% and 35% on the graph) and, though the graph doesn't show, presumably at full pumping rate 15% of the time.

Figure 4-4 suggests that with the project, Mean Daily Flow will be 20-30 cfs more than under current conditions, for about 40% of the time (approximately. I am looking at the graph roughly between 45% and 85%). However, as mentioned, induced infiltration will result in an increase of only 10 cfs. The gap between the 'current' line and the 'ILWSP-100MGD' line appears to be larger than it should be.

Thank you for the opportunity to comment on this draft Environmental Impact Statement. If you have any questions, you can contact me at 913-236-9510 or [smith.stephenk@epa.gov](mailto:smith.stephenk@epa.gov).

Sincerely,



Stephen K. Smith  
NEPA Reviewer  
U.S. EPA Region 7

so, average diversions will be only a fraction of the maximum diversion capacity. As shown in Figure 4-8, average diversions for recharge above Valley Center are 38.4 cfs for the 100 MGD alternative and 47.9 cfs for the 150 MGD alternative. Also, due to a corresponding increase in groundwater discharge, the net depletions above Valley Center average only 17.7 and 23.5 cfs, respectively, compared to the No-action alternative. There will be long periods when the diversion system is either shut down or operated at partial capacity because there is insufficient flow in the river. These average depletions amount to less than 8 percent of the average flow in the river, not the half to two-thirds of the flow in the river as stated in the comment.

The statement in Section 4.4.1.2.1 of the EIS referenced in the comment relates to the median, not average or mean, flow in the Little Arkansas River at Halstead, and not to infiltration rate. Therefore, the 40 percent and 60 percent ratio of groundwater discharge above and below Halstead respectively (footnote 4) does not apply as referenced in the comment.

The last sentence of Comment No. 9 suggests that river levels will be higher only when ASR withdrawals are below 10 cfs. However, flows in the Little Arkansas River at Valley Center, for example, are predicted to be higher more than 60 percent of the time with the ILWSP in place (Figure 4-4). Diversions for recharge will exceed the increase in groundwater discharge (refer to Figure 4-8 and the previous paragraph) many times during the life of the ILWSP. The purpose of the project is to provide the City with an enhanced water supply. Therefore, implementation of the ILWSP will cause a net average depletion of approximately 8 percent in the flow of the Little Arkansas River.

10. The interpretation of the flow duration plot at Valley Center (Figure 4-4, Section 4.4.1.2 Water Quantity) presented in this comment (Comment No.10) is not totally correct. Any time the flow in the Little Arkansas River above Sedgwick exceeds 40 cfs, operation of the recharge diversion system may be initiated. The reader is referred to the discussion of the recharge diversions addressed in Section 4.4.2.1.2 of the EIS. The desired information on recharge pumping is shown in Figure 4-30. For the 100-MGD alternative, no recharge diversions would occur about 55 percent of the time; diversions less than 100 MGD would occur about 30 percent of the time while maximum diversions (100 MGD) would occur about 15 percent of the time.
11. Flow duration curves are a plot of the complete universe of mean daily flows, sorted from highest to lowest, against percent of time. Two mean daily flows that have the same duration cannot be directly compared because they occur on different dates. In Figure 4-4, Section 4.4.1.2 Water Quantity, for example, the median, or 50 percent duration, flow for the No-action alternative at Valley Center was 59.2 cfs and occurred on May 13, 1968. The median flow for the 100-MGD alternative was 79.8 cfs and occurred on February 2, 1996. In addition, a number of factors influence the magnitude of these two flows, not just a difference in groundwater discharge. The difference between these two flows, 20.6 cfs, is coincidentally approximately the same as the difference between the average groundwater discharge under these two scenarios (see Figure 4-8, Section 4.4.1.2 Water Quantity).



Office of Federal Activities

# EIS Filing System Guidance

---

## ENVIRONMENTAL PROTECTION AGENCY

### *Filing System Guidance for Implementing 1506.9 and 1506.10 of the CEQ REGULATIONS*

*published in the FEDERAL REGISTER, March 7, 1989, Part II*

#### PREAMBLE

In 1978, the Council of Environmental Quality (CEQ) and the Environmental Protection Agency (EPA) entered into a Memorandum of Agreement on the allocation of responsibilities of the two agencies for assuring the government-wide implementation of the National Environmental Policy Act of 1969 (NEPA). These responsibilities are consistent with the 1978 CEQ NEPA-Implementing Regulations (40 CFR Parts 1500-1508).

The Memorandum of Agreement transferred to EPA operational duties associated with the administrative aspects of the environmental impact statement (EIS) filing process. The Office of Federal Activities has been designated the official recipient in EPA of all EISs. It should be noted that the operational duties associated with the administrative aspects of the EIS process are totally separate from the substantive EPA reviews performed pursuant to both NEPA and Section 309 of the Clean Air Act.

The purpose of the EPA Filing System paper is to provide guidance to Federal agencies on filing EISs, including draft, final, and supplemental EISs. Information is provided on (1) Where to file; (2) number of copies required; (3) information required in the transmittal letter; (4) steps to follow when a Federal agency is adopting an EIS or when an EIS is being withdrawn, delayed or reopened; (5) review periods; (6) notice of availability in the Federal Register, and, (7) retention of filed EISs.

On August 10, 1988, following consultation with CEQ, EPA sent the draft paper to 26 Federal agencies for comment prior to its submission to the Federal Register for formal publication and implementation. EPA received comment letters from 16 agencies. Although this preamble does not respond to each comment individually all were carefully considered. A synopsis of the comments, other than editorial, and EPA's response follow:

January 2 and January 6.

The last paragraph of this section has been deleted at the request of CEQ. CEQ will remain solely responsible for notification to the public of referral actions due to the process timeframes called for in the current CEQ Regulations.

### *Section 5--Time Periods*

The section heading and opening paragraph have been edited to address many comments requesting clarification of time periods for draft and final EISs. The time period for review and comment on draft EISs shall not be less than 45 "calendar" days. CEQ Regulations do not address a review period for a final EIS. It is a 30 "calendar" day wait period during which no decision may be made to proceed with the proposed action.

Additional information has been added to address the question concerning calculated time periods ending on non-work days. When a calculated time period ends on a non-working day, the assigned time period will be the next working day.

Section 1506.10(b) of the CEQ Regulations allows for an exception to the rules of timing. Language has been included on exceptions relating to cases of an agency decision which is subject to a formal internal appeal. When exceptions are made by an agency, it is important to inform EPA so that it is accurately reflected in the Notice of Availability.

It was requested that the paper cite examples where both extensions and reductions of time periods have been granted by EPA and where CEQ has approved special cases. EPA appreciates the point but has declined to present examples since these are done on a case-by-case basis and each case is considered on its individual merits.

One commenting agency was concerned with having to request reductions and extensions of time periods in writing to EPA. The agency felt this put too much stress on a formal, and possibly time-consuming process. Language has been added indicating EPA will accept these requests by telephone, but agencies should follow up in writing to ensure that EPA can maintain a complete record of the decision-making process.

One commenting agency requested that guidance be provided for filing of non-Federal EISs, i.e., those prepared by state and local governments where Federal statutes specifically identify these governments as the "Federal official for the purposes of NEPA compliance." EPA's position is that EISs prepared by state and local governments for these Federal programs are considered "Federal" EISs by virtue of the fact that they are prepared in response to a Federal statute -- NEPA. Therefore, the same filing procedures apply to the filing of these "non-Federal EISs" as those that apply to filing of Federal EISs.

## **GENERAL COMMENTS**

55978).

The EPA filing system was created to provide an official log and public announcement of EISs received by EPA and to guarantee that the requirements of NEPA and the CEQ Regulations are satisfied. It is a complete and separate filing system from the Environmental Review Process System which fulfills separate requirements under Section 309 of the Clear Air Act for EPA to review and comment on EISs (and other actions) of Federal agencies.

### 3. Filing an EIS—Draft, Final and Supplemental

Federal agencies are required to prepare EISs in accordance with Section 1502 of the Regulations and to file the EISs with EPA as specified in 1506.9. The EISs must be filed no earlier than they are transmitted to commenting agencies and made available to the public. If an EIS is hand carried to EPA, the person delivering the document must complete a form stating that transmittal to all agencies is being made simultaneously with the filing with EPA. This will assure that the EIS is received by all interested parties by the time the EPA Notice of Availability appears in the Federal Register, and therefore allows for the full minimum review periods prescribed in 1506.10. EPA will acknowledge by a phone call to the sender that it has received an EIS forwarded by means other than hand carried.

If EPA receives a request to file an EIS and transmittal of that EIS is not complete, the EIS will not be filed until assurances have been given that the transmittal process is complete. Similarly, if EPA discovers that a filed EIS has not been transmitted, EPA will retract the EIS from filing and not refile the EIS until the transmittal process is completed. Once the agency has fulfilled the requirements of 1506.9 and has completed the transmittal process, EPA will reestablish the filing date and the minimum time period, and will publish this information in the next Notice of Availability. Requirements for circulation of EISs appear in 1502.19 of the Regulations.

Federal agencies file an EIS by providing EPA with five (5) copies, including appendices. Material which is incorporated into the EIS by reference is not required to be filed with EPA. The agency filing the EIS (usually the lead agency if more than one is involved) should prepare a letter of transmittal to accompany the five copies of the EIS. The letter should identify the name and telephone number of the official responsible for both the distribution and contents of the EIS, should state that the transmittal has been completed; and should be addressed to:

**[editor's note: the address and phone number below for filing EISs at EPA have been updated to reflect changes since original publication of this guidance in the *Federal Register*]**

US Environmental Protection Agency  
Office of Federal Activities  
EIS Filing Section  
Mail Code 2252-A, Room 7241

also encourages agencies to notify all reviewers and interested parties of the corrected review periods.

#### **4. Notice in the Federal Register**

EPA will prepare a weekly report of all EISs filed during the preceding week for publication each Friday under a Notice of Availability in the Federal Register. At the time EPA sends its weekly report for publication in the Federal Register, the report will also be sent to the CEQ. Information included in the report for each EIS is the same as the data entered in EPA's computerized data file. This includes an EIS Accession number (created by EPA), EIS status (draft, final, supplemental), date filed with EPA, the agency or bureau that filed the EIS, the state and county of the action that prompted the EIS, the title of the EIS, the date comments are due and the agency contact. Amended notices may be added to the Notice of Availability to include corrections, changes in time periods of previously filed EISs, withdrawals of EISs by lead agencies, and rescission of EISs by EPA. A rescission including nullifying the date the EIS was filed can occur, as explained earlier, if, after a filed EIS is published in the Federal Register. EPA is subsequently informed that the EIS has not been made available to commenting agencies and the public by the lead agency.

#### **5. Time Periods**

The minimum time periods set forth 1506.10(b),(c), and (d) are calculated from the date EPA publishes the Notice of Availability in the Federal Register. Review periods for draft EISs, draft supplements, and revised draft EISs shall extend 45 calendar days unless the lead agency extends the prescribed period or a reduction of the period has been granted. The wait periods for final EISs and final supplements shall extend for 30 calendar days unless the lead agency extends the period or a reduction or extension in the period has been granted. If a calculated time period would end on a non-working day, the assigned time period will be the next working day (i.e., time periods will not end on weekends or Federal holidays).

It should be noted that 1505.10(b) allows for an exception to the rules of timing. An exception may be made in the case of an agency decision which is subject to a formal internal appeal. Agencies should assure that EPA is informed so that the situation is accurately reflected in the Notice of Availability.

Under 1506.10(d) EPA has the authority to both extend and reduce the time periods on draft and final EISs based on a demonstration of "compelling reasons of national policy." A lead agency request to EPA to reduce time periods or another Federal agency request to formally extend a time period normally takes the form of a letter to the Director, Office of Federal Activities (OFA), EPA outlining the reasons for the request. EPA will accept telephone requests; however, agencies should follow up such requests in writing so that the documentation supporting the decision is complete. A meeting to discuss the consequences for the project and any decision to change time periods may be necessary. For this reason EPA asks that it be made aware of any intent to



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Kansas Field Office  
315 Houston Street, Suite E  
Manhattan, Kansas 66502-6172

May 21, 2002

Mr. Jerry Blain  
Water Supply Projects Administrator  
Wichita Water & Sewer Department  
City Hall, Eighth Floor  
455 North Main Street  
Wichita, Kansas 67202-1677

Dear Mr. Blain:

This is in response to your letter of April 3, 2002 requesting our review and comments on a Draft Environmental Impact Statement (DEIS) for the Integrated Local Water Supply Plan Wichita, Kansas. My staff has reviewed the subject DEIS and offer the following comments for your consideration. We assume you have also contacted the Department of Wildlife and Parks, Environmental Services for information on their concerns regarding specific state resources.

### General Comments

The proposed project is multifaceted with plans to develop a number of local water resources for consumptive use within the greater metropolitan area of Wichita, Kansas. The project is designed to meet a projected consumptive daily demand of 112 million gallons per day and a maximum day demand of 223 million gallons per day (MGD) by 2050. In order to meet the future projected demand the City of Wichita has embarked on a long term plan to develop additional water supply sources and to protect the sources it currently utilizes. The preferred plan involves recharging the aquifer in the Equus Beds Well Field, and Local Well field by capturing water at several places from the Little Arkansas River for aquifer recharge and direct usage, continued use of Cheney Reservoir, and by induced infiltration of water from the Arkansas River near the Bently Reserve Well Field. When fully operational the Little Arkansas River projects will be capable of capturing and diverting all but 20 cfs of the entire rivers flow 78 percent of the time. Given the multiple sources of water and potential for impacts we believe the DEIS is well written and clearly defines the alternatives and resources and does not attempt to obscure the potential for adverse impacts. We appreciate the clarity and candor.

Response to comments on the Draft EIS from the U.S. Department of the Interior, Fish and Wildlife Service comment letter, May 21, 2002.

1. We appreciate your opinion concerning the clarity and quality of the EIS.

### Major Concerns

The Service is concerned that the minimum desirable stream flow of 20 cfs ( 7 day average low flow with a 10% chance of occurring in any one year) will take conditions existing during a period of critical stress and establish those conditions as the norm on the lower reach of the Little Arkansas River. We assume that fish can survive under a flat flow of 20 cfs for 7 days but can they survive this low flow condition 78% of the time?

This situation is ameliorated somewhat by the increase in base flow with implementation of the ASR and by the fact that a major surface water withdrawal resulting in the flat flow of 20 cfs (Local Well Field,) is very near the mouth of the Little Arkansas river, within the developed area of Wichita and just above it's confluence with the Arkansas River. A second consideration is that without the proposed preferred alternative the City will rely more heavily on Cheney Reservoir and the Ninnescah River to meet its projected water supply needs. The North Fork of the Ninnescah River is home to the Arkansas Darter (*Etheostoma cragini*) a federal candidate species. If depletions to the Little Arkansas and Arkansas River under the preferred alternative are not implemented, withdrawals from Cheney Reservoir and the North Fork of the Ninnescah under existing water rights will increase under the No Action Alternative.

Median flows in the Little Arkansas River with the project in place will reduce the median flow of the Arkansas River down stream of their confluence by about 4 %. The Arkansas River upstream and downstream of Wichita is critical habitat for the Federally listed as threatened Arkansas river shiner (*Notropis girardi*). Although the reach of river within Wichita is degraded and generally unsuitable for Arkansas River shiners the excluded section remains important to recovery efforts because it serves to connect the upper section with the lower section during periods of high flow. Maintenance of this connection is essential to successful egg development and movement of juvenile Arkansas River shiners between the two sections. Depletion of Arkansas River flows by 4% downstream of Wichita is of concern to the Service since this is designated critical habitat for the shiner. There would be no immediate affect to the species however since the habitat is currently unoccupied and peak flows (according to the DEIS) are expected to increase by 18%. To address our concerns and those of the Kansas Department of Wildlife and Parks regarding depletions to flow the City of Wichita is to implement a monitoring program to determine pre-and post- project impacts to aquatic resources resulting from modification of the normal rate and range of fluctuation of flows in the Little Arkansas River and the Arkansas River. The design and implementation schedule for the study have yet to be developed.

### Fish and Wildlife Coordination Act Comments

The Fish and Wildlife Service will review the U.S. Army Corps of Engineers section 404 permit(s) for the proposed project during the final design phase for segments of this project. We fully expect that site specific wetland functional assessments will document the need for wetland mitigation acreage and sites. Our comments on this DEIS therefore do not preclude a separate

2. We concur with the U.S. Fish and Wildlife Service's (FWS) evaluation of the aquatic system with the ILWSP in place and operating. With implementation of either of the ASR system alternatives, low flows are expected to increase in the Little Arkansas River. Without implementation of the proposed preferred alternative and the 100-MGD component of the ILWSP, the City will be forced to rely more heavily on Cheney Reservoir storage to meet its water supply needs. If withdrawals from the Little Arkansas River are not implemented, withdrawals from Cheney Reservoir could subsequently increase, possibly adversely effecting flow in the North Fork of the Ninnescah River below the reservoir and habitat of the Arkansas darter, a federal candidate species.
3. Designation of the Arkansas River upstream and downstream of Wichita as critical habitat for the federally threatened Arkansas River shiner is recognized in the EIS. The importance of minimizing the potential impact of the ILWSP on this reach of river possibly attained through alteration of surface water flows is also recognized.
4. To help determine if the ILWSP will impact the species, the City has committed to developing a Hydrobiological Monitoring Program (HBMP) in cooperation with KDWP and FWS. A HBMP would be designed to evaluate, in part, the pre- and post-project impacts to aquatic resources resulting from modification to the normal rate and range of fluctuation of flows in the Little Arkansas and Arkansas rivers. It would be used to recommend and develop management actions to avoid or minimize adverse impacts and to enhance beneficial impacts.
5. We concur. We fully expect FWS to be asked to participate in the public review of a U.S. Army Corps of Engineers Section 404 permit application for the ILWSP should an individual permit be necessary.

evaluation and report by the Service which may be necessary pursuant to the Fish and Wildlife Coordination Act when the Corps of Engineers issues a Public Notice for a section 404 permit for segments of this project.

#### Endangered Species Act Comments

All mention of Critical Habitat in the DEIS and biological assessment is state designated. The only federal critical habitat in this project area is the mainstem Arkansas River above and below the City of Wichita, for the Arkansas River shiner.

Although the DEIS outlines some information and study needs for threatened and endangered species, further coordination is needed with the Service, since the preferred alternative does have potential for impacts to Federally designated critical habitat. Impacts to the Arkansas River shiner (Federally listed) and the Speckled chub (State listed) are identical. If the 4% reduction in median flow in the Arkansas River within the City of Wichita will result in a measurable reduction further downstream from the City, where federally-designated critical habitat for the Arkansas River shiner occurs, this action may adversely modify such critical habitat. In this case, the Corps of Engineers or other federal permitting agency should initiate formal consultation with this office pursuant to section 7 of the Endangered Species Act. Through that consultation process, the significance of the adverse modification will be addressed. If on the other hand, the effects of the flow reduction will not be felt downstream from Wichita in the critical habitat reach of the river, consultation will not be necessary. Please advise us which scenario is expected to occur, and all entities may then proceed accordingly.

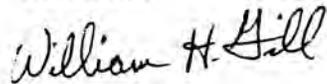
#### Summary Comments

The DEIS is generally well done and does not attempt to mask or hide potential problems arising from implementation of the preferred alternative. However, one of the uncertainties encountered in the City's DEIS is the potential for impact to biological resources resulting from alteration of flows within the Little Arkansas and Arkansas Rivers. There are uncertainties and gaps in the information concerning how fish species, in particular, will respond to alterations in the rate and range of fluctuation of flows to the extent that populations may be adversely impacted. A decrease in the median flow of the Arkansas River by 4% is intuitively "not good" and increase in maximum flow by 18% is intuitively "not bad", if the two are added together is the result good, bad or indifferent? As natural resource managers, we would like to fill the gaps in information, and leave ourselves enough room to remedy adverse impacts should they occur. Adaptive management involves decision making that takes into account these uncertainties and gaps in information, collects data to fill in the gaps, and then modifies the project to eliminate unacceptable adverse impacts. The City of Wichita is, to its credit, apparently committed to such an adaptive management strategy.

6. The information concerning the federal critical habitat for the Arkansas River shiner has been incorporated in the EIS. Thank you for the information.
7. As you are aware, the ILWSP does not have a lead federal agency identified and formal consultation pursuant to Section 7 of the Endangered Species Act has not been initiated. As indicated in the comment, formal consultation with FWS may be entered into at some time in the future in response to request from a federal agency for review of an application for a permit required for implementation of the ILWSP. It may also be needed should the project be projected to adversely impact the designated critical habitat for the Arkansas River shiner downstream of Wichita. Discussions with FWS will be initiated to coordinate the development of the HBMP, and will be used to determine the need to initiate formal consultation. The City of Wichita is committed to working with FWS and KDWP to identify and mitigate potential impacts for the ILWSP.
8. As stated in Response No. 7 above, the City is committed to working with FWS to assess and mitigate environmental impacts resulting from implementation and operation of the ILWSP. The City practices and effectively employs adaptive management on a daily basis, and proposes to continue that process to minimize impacts that could result from the ILWSP.

For technical assistance on matters pertaining to Endangered Species and the Fish and Wildlife Coordination Act, the City of Wichita or the Federal Agency that funds, provides a grant or issues a permit for segments of this project may contact the Field Supervisor, U.S. Fish and Wildlife Service, 315 Houston St., Suite E, Manhattan, Kansas 66502 (785 539-3474 ext; 105).

Sincerely,



William H. Gill  
Field Supervisor

cc: Kansas Department of Wildlife and Parks, Environmental Services, Pratt, KS.

ES, Program Supervisor, South, Denver CO.

ES, Federal Activities, Grady Towns, Denver, CO.

WHG\drc

This page intentionally blank



United States Department of the Interior  
BUREAU OF RECLAMATION  
Great Plains Region  
OKLAHOMA CITY FIELD OFFICE  
4149 Highline Blvd., Suite 200  
Oklahoma City, Oklahoma 73108

O/K-KL

MAY 10 2002

Mr. Jerry Blain, P.E.  
Water Supply Projects Administrator  
Wichita Water & Sewer Department  
City Hall, Eighth Floor  
455 North Main Street  
Wichita, Kansas 67202-1677

Subject: Comments on Draft Environmental Impact Statement (DEIS) For Integrated Local Water Supply Plan, Wichita, Kansas (Your April 3, 2002 Letter)

Dear Mr. Blain:

When multiple Department of the Interior (Department) agencies review a National Environmental Policy Act (NEPA) document, as is the case here, the Department's policy is to provide a consolidated response. However, because there is no Federal project at this time, the Department has recommended that each agency individually provide their comments on this document directly to the proponent, the City of Wichita. Consequently, the comments contained herein are the Bureau of Reclamation's (Reclamation) general comments on the DEIS and do not represent a coordinated Department response. If the subject plan becomes a Federal project, it may be necessary to perform additional studies and alternatives development, which may result in the need for additional analysis. In that case, a NEPA compliance process and review would be needed and a coordinated Department response would be conducted.

**General Comments**

1. There are several sections in the DEIS that state that there would be "extra water available (underlined for emphasis) in the flood storage pool" under "new operating modifications" as part of the ILWSP. As discussed with your staff, at best this is a misleading concept, and at worst, it is not true. Under current operating criteria, the City can deliver municipal water from Cheney Reservoir regardless of reservoir elevation or current operational pool. The only limiting factors on water delivery are the state water rights permit limits and the maximum physical pipeline and pumping plant capacities. Under the ILWSP, the amount of "water available" in the flood control pool would not change. Rather, the new conjunctive use permit and the increased pumping capacity on the Cheney pipeline have, in fact, increased the City's legal and physical

Response to comments on the Draft EIS from the U.S. Bureau of Reclamation comment letter, May 10, 2002.

1. The City understands the position of the U.S. Department of the Interior and the U.S. Bureau of Reclamation (Reclamation) relative to the ILWSP. Other federal agencies that were asked to review the Draft EIS have expressed similar thoughts in their responses. Your comments are appreciated, however, and serve to improve the overall quality of the EIS for the ILWSP.
2. We understand the concern that Reclamation has with some of the wording in the EIS referring to "extra water available in the flood storage pool" under "new operating modifications". While the explanation that is currently presented in the EIS can be considered to be somewhat misleading, the intent was to make a rather complex subject more understandable to the public. The City concurs that, under the ILWSP, the physical amount of water contained within the flood pool at Cheney Reservoir will not change. However, as stated in the Reclamation comment, the City's new conjunctive use permit and the increased pumping capacity on the Cheney pipeline does increase the City's capability to deliver more water from Cheney Reservoir within a given time period. Changes in Section 2.3.4 Cheney Reservoir Component have been made to clarify the wording in the EIS and more accurately describe the City's current and future operational activities from Cheney Reservoir.

capability to deliver more water from Cheney Reservoir on both a daily and annual basis. However, the amount of water available in the flood control pool has not changed.

2. Although the DEIS discusses new operating modifications for the flood control pool, there is no acknowledgment that the Army Corps of Engineers actually directs the operation of Cheney Reservoir whenever the reservoir is in the flood control pool (elevation 1421.6 - 1429.0). Their decisions as to how floods are routed through Cheney Reservoir have a direct impact on how long the reservoir would remain in the flood pool, which in turn has a direct impact on how long the City would be able to pump at the 80 MGD rate before they would have to revert to the 47 MGD rate. (Also, see General Comment No. 4)

3. If the City were to pump water from Cheney Reservoir at the increased rate of 80 MGD whenever the reservoir was in the flood control pool, in theory less water would flow downstream as "flood releases". There is no discussion in the DEIS to indicate that this issue was considered and/or evaluated.

4. We have discussed Reclamation's M&I firm yield for Cheney Reservoir on several previous occasions. Although this issue is significantly less critical under the City's new conjunctive use water rights permit than it was under the Cheney Reservoir water rights permit, we believe it is appropriate to revisit the issue since one feature of the ILWSP is related to the firm yield. As previously discussed, Reclamation originally computed and published Cheney Reservoir's firm yield as 52,600 acre-feet per year. This number was based on streamflow data through May 1956 when Reclamation was required to finalize the various planning reports for the Wichita Project and submit them to Congress for project authorization purposes. In the 1957 report that went to Congress, Reclamation stated that as of May 1956, "the critical period has not yet ended and the storage-yield relationship for Cheney Reservoir should be reviewed prior to construction in light of the hydrologic data available at that time." The critical period subsequently ended in 1959. In 1960, Reclamation did, in fact, review the complete critical period data and using that data, recomputed a revised firm yield of 42,900 acre-feet per year. This information is relevant to the new ILWSP since the new operating modifications provide for daily maximum pumping from the conservation pool of 47 MGD (the average daily equivalent of 52,600 acre-feet per year) rather than 38.2 MGD (the average daily equivalent of 42,900 acre-feet per year). In theory, if all the firm yield assumptions are valid and the City were to pump 47 MGD from Cheney Reservoir during a "critical period" (similar to the one that ended in 1959), Cheney Reservoir would run out of water before the critical period ended.

5. It appears 27 water supply sources were initially identified for potential consideration. Eleven of the sources were considered viable. Three water supply plans were developed from these sources. We suggest a brief discussion of criteria of viability be added to the document.

6. Clean Water Act Section 303 (d) List of water quality limited lakes and associated limiting pollutants as compiled by the State of Kansas designates Cheney Reservoir with two specific impairments: 1. eutrophication - biological community impacts, and excessive nutrient/organic loading; and 2. siltation - chronic turbidity that impacts development of trophic state.

3. The City concurs that the operation of the flood control pool at Cheney Reservoir is under the sole direction of the Corps. As stated in the comment and recognized by the City, the Corps makes all decisions about when and how fast to release any water stored in the flood control pool (that is, when the reservoir's pool elevation is between 1421.6 and 1429.0 feet). The Corps is not being requested to change its policy by the City nor would Corps policy need to be modified with implementation of the ILWSP. The proposed operating modifications for Cheney Reservoir as described in Section 2.3.4, Cheney Reservoir Component, of the EIS will only affect how the City schedules water withdrawals from the reservoir. This section has been modified to include some of your suggestions.

After a flood event has occurred, the amount of water the City would be able to capture from the flood control pool before it is released will depend primarily on how long this water is retained or remains in the flood control pool. The faster this water is evacuated, the less time the City would have to withdraw water from the flood control pool; therefore, the less benefit this water would have to the City from a water supply perspective. While the reservoir's two existing outlets have a combined discharge capacity of 3,600 to 5,900 cfs,<sup>1</sup> it was assumed in the operations model that the flood control pool would be evacuated at a constant rate of 2,000 cfs. This rate is considered to be fairly conservative (that is, high) since it was derived considering the existing downstream channel capacity below Cheney Reservoir, which is reported to be 1,900 cfs.<sup>2</sup> The City assumes that the Corps would be reluctant to release water from Cheney Reservoir at a flow rate that exceeds the downstream channel capacity unless conditions at that specific time warrant more extreme action.

4. The proposed increase in water withdrawal rate from Cheney Reservoir is from 47 to 80 MGD, a difference of about 51 cfs. This increase in withdrawal rate is fairly insignificant when compared to typical reservoir release rates made by the Corps from the flood control pool. However, it is true that the rate of "flood releases" from Cheney Reservoir could be reduced at times with the proposed increased diversions in the ILWSP. Impacts on the frequency, magnitude and duration of releases from Cheney Reservoir with and without the ILWSP in place are discussed in the EIS in Section 4.4.1.2.3. As shown in Figures 4-10 and 4-11, implementation of either one of the ILWSP alternatives will increase downstream releases from Cheney Reservoir slightly when compared to current conditions; downstream releases will be significantly increased with the ILWSP in place when compared to those that would occur with the No-action alternative.
5. As you indicated, the City and Reclamation have discussed the sequence of events that occurred and led up to the Reclamation's current estimate of firm yield of 42,900 acre-feet per year from Cheney Reservoir. This historic information concerning the firm yield

---

<sup>1</sup> The uncontrolled morning glory spillway has a discharge capacity of 3,000 cfs at the top of the surcharge pool. When water levels are within the flood control pool (elevation 1,421.6 – 1,429.0 feet), this discharge is estimated to range from zero to about 2,000 cfs. Over these same pool elevations, the river outlet has a discharge capacity that ranges from 3,600 to 3,900 cfs. Therefore, the total discharge capacity from the flood control pool is estimated to range from 3,600 to about 5,900 cfs.

<sup>2</sup> COE. Pertinent Data for Cheney Reservoir. <<http://www.usace.army.mil/projects/pertdata/cheney.htm>>.

We suggest the EIS address how project implementation may impact existing designated lake impairments.

### Specific Comments

#### ES-4 Cheney Reservoir.

“New operating modifications would allow use of water in the flood storage pool...” Use of Cheney Reservoir water for water supply purposes is already allowed under current operating criteria. 8

“...should the City need more water at a time that extra water (underlined for emphasis) is available in the flood storage pool...” As previously discussed, we do not believe that there is “extra” municipal water in the flood control pool. The City is allowed to pump water from Cheney Reservoir regardless of the reservoir elevation subject to the annual water right’s maximum limit. 6

“When water levels in the flood storage pool drop to a predetermined low level...” It is our understanding from telephone communications with your staff that no such “predetermined low level” exists. 10

Based on discussions with your staff, it is our understanding that the intent of this paragraph is to state that the City would deliver up to 80 million gallons per day (MGD) from Cheney Reservoir whenever the reservoir is in the flood control pool (elevation 1421.6 - 1429.0) and that they would deliver up to 47 MGD from the reservoir whenever the reservoir was in the conservation pool (elevation 1392.9 - 1421.6). Based on this understanding, we suggest that the paragraph be revised to read as follows: 17

“**Cheney Reservoir.** Use of this existing surface water storage reservoir would be continued in conjunction with the Equus Beds groundwater aquifer. Under new operating criteria, the City would deliver up to 80 MGD from Cheney Reservoir whenever the reservoir was in the flood control pool (elevation 1421.6 - 1429.0) and up to 47 MGD whenever the reservoir was in the conservation pool (elevation 1392.9 - 1421.6).” (Also, see General Comment No. 4)

**Section 2.3.4 Cheney Reservoir Component.** Most of this section is identical to the ES-4 narrative. We suggest that this section be revised as follows for the same reasons cited in the ES-4 discussion. Delete both paragraphs and replace with the following:

“**Cheney Reservoir Component.** Use of this existing surface water storage reservoir would be continued in conjunction with the Equus Beds groundwater aquifer. Under new operating criteria, the City would deliver up to 80 MGD from Cheney Reservoir whenever the reservoir was in the flood control pool (elevation 1421.6 - 1429.0) and up to 47 MGD whenever the reservoir was in the conservation pool (elevation 1392.9 - 1421.6). The objective is to maximize recharge storage in the aquifer and to maximize use of storage in Cheney Reservoir. Use of these 12

estimates for the Wichita Project completed by Reclamation has been added to Section 3.3.1.1 of the EIS. As also has been discussed, the operations model used in the development of the ILWSP varies the actual daily withdrawal rate from Cheney Reservoir based on a number of factors. The 47-MGD withdrawal rate, which is assumed to apply when the pool elevation in Cheney Reservoir is at or below 1,420 feet, is treated only as a maximum withdrawal rate. During an extended drought, the ILWSP operations model attempts to regulate water withdrawals from both Cheney Reservoir and the Equus Beds aquifer to balance the storage deficits of both municipal water sources while providing for the City's water demands.

6. As suggested, a discussion of the criteria of viability has been added to Section 2.2.1 - Alternatives Selection Process of the EIS and included in Appendix A, Viable Water Resources Criteria.
7. The City recognizes that the State of Kansas has designated Cheney Reservoir as water quality impaired due to eutrophication and siltation under the Clean Water Act, Section 303(d). The City does not believe that the ILWSP will adversely impact Cheney Reservoir, and may ultimately improve the overall water quality of the lake especially when compared to the conditions that may eventually exist with the No-Action alternative. As discussed in Section 4.4.1.4.4 of the EIS, none of the ILWSP alternatives include any physical modifications to the existing watershed above Cheney Reservoir or to wastewater discharges to the reservoir. Therefore, the mass loading of nutrients and organic material, and reservoir siltation should not change from current conditions nor affect the existing water quality as a result of ILWSP implementation. The amount of water available in the reservoir for dilution of these constituents may change with time. As shown in the operations model, water quantity moving through the total system with the ILWSP in place should generally increase, thereby potentially lowering nutrient and organic concentrations and possibly decreasing turbidity that could result with more stable reservoir water levels. Also, the frequency of reservoir releases should increase, providing more opportunity for moving or flushing these constituents through the reservoir. In general, it is expected that the water quality impairments that are currently found in Cheney Reservoir will either not change significantly as a result of project implementation or improve slightly with the ILWSP in place. These neutral to positive water quality impacts with the ILWSP would be much more beneficial and significant if compared to the projected No-Action alternative. Section 4.4.1.4.4 of the EIS has been modified.
8. Comment Nos. 8, 9, 10, and 11 from Reclamation revolve around the Executive Summary in the EIS. The City believes that "new operating modifications" under the ILWSP may be either related to administrative or procedural changes or modifications of facility capacities. The City concurs with Reclamation that Cheney Reservoir is designed to be a municipal water supply and is used in that manner. Part of the total ILWSP development was to increase the capability of the City to transmit up to 80 MG of water daily instead of 47 MGD from Cheney Reservoir to Wichita for treatment and distribution.
9. In Response No. 2 above, "extra water" available in the Cheney Reservoir flood control pool was discussed. The City concurs that water from the reservoir may be transmitted, treated and distributed to satisfy municipal water demands up to the limits set forth in the City's

existing conjunctive water right issued by the State of Kansas. The City also concurs that the physical amount of water contained in the Cheney Reservoir flood control pool has not changed. As stated in Response No. 2 above, Section 2.3.4 and the Executive Summary of the EIS has been modified to reflect these changes.

10. The City agrees that the referenced statement from the Executive Summary is an oversimplification of the proposed operation of the ILWSP. Each of the water supply sources available to the City, including Cheney Reservoir and the Equus Beds Aquifer, will be used conjunctively to satisfy the City's water demands. Under most conditions, none of these sources would be capable of individually supplying all of the water needed by the City. When the flood control pool or the conservation pool in Cheney Reservoir are full or nearly full (pool elevation 1,420 feet or higher), withdrawals from Cheney Reservoir will be given preference over withdrawals from the Equus Beds Aquifer; however, both sources will still be utilized much of the time. During a dry period when it is necessary for the City to rely on stored water to meet its water demands, water will be withdrawn from both Cheney Reservoir and the Equus Beds Aquifer in an attempt to balance the storage deficits of both sources.
11. Comment Nos. 8, 9, and 10 above in addition to the current Comment No. 11 from Reclamation recommend specific alterations to wording on Page ES-4 of the Executive Summary in the EIS. A revised paragraph was suggested for use; however, as written, the recommended wording does not exactly explain the proposed changes for Cheney Reservoir included in the ILWSP. The City believes that the only real change, when compared to current operational policies, is to allow for an increased maximum withdrawal rate (from 47 to 80 MGD). Using the paragraph provided by Reclamation, the City will include the following wording in the EIS:

“Cheney Reservoir. Use of this existing surface water reservoir will continue with only administrative or procedural changes or modifications of facility capacities. With the new conjunctive use water right permit and larger capacity water withdrawal facilities at the dam in place, the City would be able to withdraw up to 80 MGD from the reservoir when there is water stored in the flood control pool (between elevations 1,421.6 and 1,429.0 feet). This will allow the City to capture more of the water that would otherwise be released downstream by the Corps, thereby reducing withdrawals from the Equus Beds aquifer. At surface water pool elevations below 1,421.6 feet, the maximum withdrawal rate from the reservoir will revert to its current flow rate of 47 MGD”.

12. The wording originally in Section 2.3.4 has been changed as requested to more accurately reflect water withdrawal rates from Cheney Reservoir. The revisions suggested in Section 2.3.4 by Reclamation to maintain consistency with the information presented in the Executive Summary have been used as a starting point, and modified as necessary. The following paragraphs have replaced the referenced section:

#### “2.3.4 Cheney Reservoir Component

Use of this existing surface water reservoir will continue with only administrative or procedural changes or modifications of facility capacities. With the new conjunctive use water right permit and larger capacity water withdrawal facilities at the dam in place, the City would be able to

withdraw up to 80 MGD from the reservoir when there is water stored in the flood control pool (between elevations 1,421.6 and 1,429.0 feet). At pool elevations below 1,421.6 feet, the maximum withdrawal rate from the reservoir will revert to its current limit of 47 MGD.

These changes in operating criteria will permit the City to capture more of the water in the flood control pool of the reservoir that would otherwise be released downstream by the U.S. Army Corps of Engineers (Corps) as the flood control pool is evacuated. Use of this surface water from Cheney Reservoir when it is available will allow the City to reduce withdrawals from the Equus Beds aquifer, therefore maximizing the amount of aquifer recharge that may be occurring at the time. This additional amount of aquifer recharge water will then be available for use during drier or drought conditions when water levels in Cheney Reservoir are lower and surface water inflow to the reservoir is low. The use of water from these two water sources in a balanced manner will minimize the need for the City to acquire and develop additional water supply sources from outside the local area to meet projected water demands.

waters “as-available” allows the Equus Beds to be recharged for later use during drought conditions and minimizes the need for additional water supply sources from outside the region.” (Also, see General Comment No. 4)

**Figure 3-2, page 3-7.** The surcharge pool data is incorrect; replace with the following data:

elevation - 1,453.4  
surface area = approximately\* 26,000 acres  
capacity = 451,347 acre-feet (estimated\*)

\* Note: there is no official published reservoir data above elevation 1450.0.

**Section 3.6.4 Threatened, Endangered, or Candidate Species.** Because this analysis spanned several years, we suggest documenting the date of the initial and the most recent update of the TE&C species list provided by the FWS. (Regulations require that Federal action agencies request updates of TE&C species lists every 90 days from the FWS to ensure that appropriate species are analyzed.)

**4.4.1.3.4 Cheney Reservoir.** Change elevation 1393 to 1392.9 for consistency with other elevation data and change the word “could” to “would” in line 16 of the first paragraph.

**Section 4.4.1.4.4 Cheney Reservoir.** This section briefly discusses the development scenarios impacts to Cheney Reservoir. General statements are made regarding changes in constituent concentrations being modest and generally positive with implementation of alternatives. We suggest the document address how potential reservoir operational changes may impact nutrient, total dissolved solids and trace element concentrations as a result of the project.

**Section 4.7.1 Wetlands.** The discussion on wetlands is highly generalized, i.e. if there is sustained pumping there will be impacts, and if there isn't sustained pumping there won't be impacts. The analysis should determine the reasonably foreseeable pumping requirements for each alternative and then determine the impacts to wetlands as a result of the pumping or any other related action that may impact them. Any revised discussion in this section should be coordinated with the discussion in Section 4.7.3 Wildlife, which currently indicates there would be impacts to wetlands if there is drawdown, but again does not attach any specific effects to the alternatives.

**Section 4.7.3 Wildlife.** There is no discussion of the alternatives' impacts on the 10,000-acre Wildlife Management Area at Cheney Reservoir. Discussion in Section 4.14 Recreational Resources indicates that this wildlife area would potentially be impacted by lower water levels under some of the alternatives. Suggest that the analysis and discussion of the impacts to the Wildlife Management Area be incorporated into this section. It may be useful to obtain any goals and objectives from the agency managing the Wildlife Management Area, and use this information to assess impacts of the alternatives.

13. The data provided by Reclamation for Cheney Reservoir's surcharge pool maximum elevation, approximate surface area, and estimated storage capacity has been reviewed and incorporated as recommended into Figure 3-2, Section 3.3.1.1 of the EIS.
14. The City appreciates Reclamation's concern that additional threatened, endangered, or candidate species of flora and fauna could have been added to the federal list of species during the time the ILWSP has been under consideration and this EIS has been in preparation. Admittedly, reference to all formal and informal correspondence with state and federal agencies has not been included in the EIS. The federal policy for acquiring the most recent information concerning the listing of "TE&C" species is acknowledged. Please also note that the May 21, 2002 letter from the U.S. Fish and Wildlife Service (FWS) did not identify additional species for inclusion in the EIS nor did the May 3, 2002 letter from the Kansas Department of Wildlife and Parks (KDWP). Development of the recommended Hydrobiological Monitoring Program will also provide an opportunity for KDWP and FWS to identify if any additional information is needed to evaluate possible ILWSP impacts to state or federal listed threatened or endangered species. The information received from Reclamation and other agencies referenced in this response have been incorporated as appropriate into the EIS.
15. The Cheney Reservoir conservation pool elevation data presented in Section 4.4.1.3.4 of the EIS has been changed as recommended to maintain consistency. The recommended verb tense change has also been made.
16. Nutrient loading in Cheney Reservoir will continue to vary with the ILWSP in place depending on inflow volumes and season, water storage volume in the reservoir, and agricultural practices used in the upstream watershed. According to City representatives, a Citizens Management Committee is actively working with land owners and local resource and land management agencies in developing a watershed protection program that educates, promotes, and implements a series of best management practices in the North Fork of the Ninnescah watershed above Cheney Reservoir. By developing and implementing this watershed protection program, a positive impact on total suspended solids and nitrogen and phosphorus nutrient levels in Cheney Reservoir is expected. However, no reduction to trace element nor total dissolved solid concentrations is expected. Section 4.4.1.4.4 has been revised to include this information.
17. The City recognizes that the discussions in the EIS relative to wetland impacts are rather generic. Wetland impacts resulting from implementation of the ILWSP, if they are present, would occur as a result of project construction or operation. Wetland impacts due to construction depends on the placement of the project facilities. Several years ago, Reclamation prepared an environmental assessment (EA) and Finding of No Significant Impact (FONSI) for the Equus Beds Aquifer Recharge Demonstration Project. Environmental commitments made in that EA and are still being followed by the City today.

One of the environmental commitments in the 1995 EA is to avoid and minimize any impacts to wetlands due to the location and construction of project facilities. A process to implement this commitment was established. Project facilities are tentatively located based on geologic and engineering considerations. A field review of the natural resources (wetlands, cultural

resources, riparian vegetation, etc.) at these tentative locations is then made. If a specific natural resource will be impacted, the project feature is relocated in the field to an adjacent area that avoids the specific resource, thereby either removing the impact or decreasing the significance of the impact. Since the actual location of project facilities will be developed in phases and determined at a later time, the accurate evaluation of construction-related environmental impacts is difficult to accomplish for alternative comparison purposes.

An estimate of the total amount of land area that would be disturbed during construction and on which land use would be changed is included in the EIS by alternative. As a result, a general comparison of impacts can be made. However, specifically identifying how many acres of wetlands or which cultural resources sites would be impacted during construction disturbance and operations is not possible at this time nor included in the EIS since project facilities have not been located on the ground. Possible operational environmental impacts are further complicated by establishment of the final conditions under which some of the ILWSP components will be “turned on” and the frequency, duration and intensity with which the project will actually be operated.

When the recharge diversion wells or collector wells for the expanded Local Well Field are operating, flows in the Little Arkansas River will be decreased. However, the diversion wells will not operate unless the discharge at Valley Center is above 40 cfs and above 20 cfs at the mouth of the Little Arkansas River. In addition, the baseflow in the Little Arkansas River will increase over time due to recharge of the Equus Beds aquifer. Overall, these flow impacts should not significantly reduce groundwater levels along the river or impact riparian wetlands. However, it is very difficult to accurately predict the location and magnitude of any impacts that may occur to riparian wetlands. This is the reason that the EIS recommends implementation of a biological monitoring plan. General concurrence with this approach and the use of adaptive management is found in the letters from FWS dated May 21, 2002 and KDWP dated May 3, 2002.

As a potential project benefit, increased groundwater levels in the Equus Beds well field area may restore some wetland areas that have been dry in recent decades. Therefore, the net impacts to wetlands due to this project are not expected to be significant and could even be positive.

Revisions to Sections 4.7.1, Wetlands, and 4.7.3, Wildlife, have been made to reflect the above discussion. In addition, discussions in both sections in the EIS are now in agreement as recommended by Reclamation in terms of anticipated wetland impacts.

18. The City concurs that the impacts of proposed alternatives to the Cheney Reservoir Wildlife Management Area were not discussed in detail. In fact, impacts to Cheney Reservoir and the Wildlife Management Area due to implementation of any of the proposed alternatives will be positive compared to the “No-Action” alternative. In addition, KDWP and FWS did not indicate in their comment letters to the DEIS that any impacts to the Wildlife Management Area at Cheney Reservoir would occur or should be discussed in the EIS.

Conversations with KDWP personnel on October 28, 2002 at Cheney Reservoir indicated that no specific goals and objectives have been established for the Wildlife Management

This page intentionally blank

**Section 4.7.4.8 Whooping Crane.** The last paragraph of this section states that displaced whooping cranes will move to "less disturbed areas in the vicinity, such as QNWR or CBWA." Suggest citing information that supports this finding and verifies that carrying capacity and/or other environmental aspects are adequate at both QNWR and CBWA for the potentially displaced whooping cranes.

**Section 4.12 Cultural Resources.** It appears that the cultural resource inventory conducted for the EIS is at the Class I level. However, if any Federal agencies become involved in the implementation of the proposed project, an on-the-ground Class III survey/inventory of all areas affected by the project would need to be performed. If the inventory revealed any cultural resources which would be affected by the proposed project, the Federal agency(s) would need to implement a signed Memorandum of Agreement or a signed Programmatic Agreement with the State Historic Preservation Officer (SHPO).

**Section 4.14 Recreational Resources.** This section is very general and provides limited analysis of the effects of the alternatives on recreation at Cheney Reservoir. There were a number of public comments related to recreation at Cheney Reservoir, which don't appear to be addressed by the analysis presented in this document, such as how changes in operations based on each of the alternatives will impact lake-side facilities, boating, sailing, etc.

Suggest that the analysis on Cheney Reservoir recreation be expanded. Consider factors such as anticipated reservoir levels for each of the alternatives in conjunction with season of use, types of use, types of facilities, and related data, to determine the anticipated impacts on the quantity and quality of recreation at the reservoir. If impacts on recreation at Cheney Reservoir are anticipated, suggest considering options for mitigation.

With regard to the first paragraph under "Cheney Reservoir", all releases from the flood control pool are through the controlled "River Outlet Works". The uncontrolled spillway only becomes operational if the reservoir were to rise into the surcharge pool. Based on this information and the comments provided in ES-4, we suggest that the first paragraph on page 4-68 be rewritten as follows:

**"Cheney Reservoir** Should the City's need for more water arise at a time when Cheney Reservoir is operating within the flood control pool, deliveries from the reservoir to the City's water treatment plant could be increased from the conservation pool maximum of 47 MGD to the flood control pool maximum of 80 MGD. This would allow the City to utilize a larger portion the water stored in the flood control pool that would otherwise be released through the river outlet works under the direction of the Army Corps of Engineers." (Also, see General Comment No. 4)

The four consecutive paragraphs under Recreational Resources, Cheney Reservoir on pages 4-69 and 4-70 beginning with "Reclamation set the priorities..." and ending with "...from both sources simultaneously, if necessary." have many misstatements and misrepresentations. We suggest that these four paragraphs be replaced with the following two paragraphs:

Area. Given the fact that water levels with each of the proposed alternatives will be as high and more stable than without alternative implementation (Section 4.4.1.3.4 Cheney Reservoir) indicates that the overall net impact to the Wildlife Management Area and Cheney Reservoir in general will be positive. Changes in Section 4.14 have been made to reflect these impacts and concepts.

19. Whooping cranes have not been documented using habitats found along the Little Arkansas River or the North Fork of the Ninnescah during annual migration events. The EIS discussion was intended to indicate that if this remote combination of events possibly occurred, it was likely that the cranes would temporarily move to suitable habitat found nearby, such as on the QNWR and the CBWA, while pipelines or wells were installed. QNWR and CBWA personnel confirm that designated critical habitat for the species is found on each area and that sufficient habitat exists at either location to temporarily satisfy any needs additional populations might require. Section 4.7.4.8 has been altered to clarify this concept.
20. Cultural resource surveys of the entire project area have not been completed. Project facilities are proposed to be developed in phases, and cultural resource field inventories are completed, as these facilities are tentatively located on the ground. If a cultural resource property is identified and would be impacted, an attempt to avoid the cultural resource property by relocating the proposed facility is made. This process was first proposed in coordination with the Kansas SHPO and is currently being maintained. Discussions with the SHPO to develop a MOA or MU detailing the requirements pertaining to cultural resources have been initiated for the ILWSP.
21. As a result of this comment and the following two comments, Section 4.14, Recreation Resources, has been revised. A more detailed discussion of the recreational impacts resulting from the public comments received during the scoping process and the alternatives presented in the EIS has been added.

One of the 42 “highly significant” issues identified and reported during the scoping process (Appendix D) centered on recreation at Cheney Reservoir and the North Fork of the Ninnescah. The comment requested that impacts to recreation due to operational changes at Cheney Reservoir be described relative to boating, swimming, water skiing, sailing, angling, wildlife appreciation, hiking, horse-back riding, camping, hunting, trapping, and shooting.

To provide an answer to the comment, impacts to recreation resulting from the no-action alternative, current operation, and two proposed alternatives are compared (Section 4.14, Recreation Resources). Hydrologic information used in the assessment is found in Section 4.4.1.3.4, Cheney Reservoir, and helps describe the water level changes that are expected to occur under each alternative.

22. We concur that the wording in the referenced paragraph (second paragraph, Section 4.14, Recreation Resources) is not totally correct. While the suggested revised paragraph provided by Reclamation is certainly an improvement, the City does not believe that it is totally accurate. Therefore, we have taken the liberty of inserting into the EIS using the basic paragraph suggested by Reclamation with one or two modifications. The wording originally

"There are five allocated pools within Cheney Reservoir: surcharge, flood control, conservation, fish and wildlife, and dead (see Figure 3-2). Each pool serves different purposes and is defined by top and bottom elevations that were determined during Reclamation's planning and design process. The surcharge pool (elevation 1429.0 - 1453.4) is designed to temporarily store inflow from the probable maximum flood (PMF) which would result from the worst storm of record. Flood releases from the surcharge pool would be at the direction of Reclamation. The flood control pool (elevation 1421.6 - 1429.0) is designed to temporarily store inflow from lower frequency floods. The size of the flood control pool is based on downstream flood protection benefits that were defined during Reclamation's planning process. Flood releases from the flood control pool would be at the direction of the Army Corps of Engineers. The conservation pool (elevation 1392.9 - 1421.6) is designed to permanently store municipal and industrial (M&I) water for the City of Wichita. M&I releases from the conservation pool are controlled by the City of Wichita. The fish and wildlife pool (elevation 1378.5 - 1392.9) is a minimum pool that was established in the 1960 authorization for the Wichita Project, Public Law 86-787. There are no scheduled releases from this pool. The dead pool (elevation 1368.0 - 1378.5) is the portion of the reservoir which is located below the lowest release structure elevation, i.e. no reservoir can be made below elevation 1378.5. In the last 10 years, Cheney Reservoir has fluctuated between elevation 1416 and 1428. However, most of the time the fluctuation was between elevation 1419 and 1422.

Although there is no minimum pool for recreation, recreation is an authorized secondary purpose of the Wichita Project. Public recreation use of the reservoir in recent years has average around 1 million visitors per year. The initial funding for recreation facilities was \$338,000 (1960 price level). Although the water supply is the primary purpose of the Wichita Project, the plan to limit releases from the reservoir to a maximum of 47 MGD when the reservoir at or below elevation 1421.6 will minimize the impact of reservoir operations on public recreation use." (Also, see General Comment No. 4)

**Section 4.15 Mitigation Summary.** The first mitigation measure states that construction activities "will minimize impacts to wetlands, riparian areas, native grasslands, undisturbed old areas, woodlands, lakes and ponds." Suggest supplementing this with more specific information on how impacts would be minimized.

Similarly, the second mitigation measure states, "Electrical transmission facilities will be constructed to reduce the potential for electrocution of birds and other wildlife." Again, suggest supplementing this with information on how the facilities would be constructed to reduce this potential.

**Section C.6 RESERVOIR PHYSICAL DATA.** There are several misstatements in the first paragraph of this section. "Normal pool" is a Corps of Engineers term and is equivalent to Reclamation's "conservation pool". The spillway at Cheney Reservoir is at the top of the flood control pool (elevation 1429.0) not at the top of the water supply (conservation) pool (elevation 1421.6). For consistency with other elevation references in the report, elevation 1,393 should be 1,392.9. The City is not currently limited to withdrawals from the reservoir only when it is between elevations 1,392.9 and 1,421.6. These elevations define the conservation pool, but the

included in Section 4.14 of the EIS has been changed as requested to more accurately reflect the conditions that would be expected to occur at Cheney Reservoir with the preferred ILWSP alternative in place.

23. The wording in Section 4.14, Recreational Resources, has been revised as requested to more accurately describe the water storage within Cheney Reservoir. A few modifications to the paragraphs have been made. Recreational resource discussions now included in Sections 3.11.1 and 4.14 of the EIS have been modified to include more recent recreation use data obtained from KDWP (2002) and to clarify the basic recreational impacts that may occur with the different ILWSP alternatives.
24. Additional explanation has been inserted into the first bulleted item in Section 4.15, Mitigation Summary, describing practices to be used to minimize impacts to wetlands or other important ecosystems. These processes are also explained in more detail in Sections 4.7.1 and 4.7.2, Wetlands and Vegetation, respectively. Since phased construction activities will likely disturb more than 5 acres, a NPDES permit would probably be required, including a soil erosion control plan and stormwater pollution prevention plan.

Additional discussion concerning possible electrocution and collision with electrical distribution facilities due to any of the potential ILWSP alternatives has been added to Section 4.7.3, Wildlife. The item in Section 4.15, Mitigation Summary, to which the comment refers has been revised to be more descriptive and to reference Section 4.7.3 where additional information may be found. Both KDWP and FWS will be contacted during design for advice or recommendations relative to phase conductor spacing and power line construction in general to avoid raptor or other large bird electrocution and collision.

25. The wording originally in Appendix C, Section C.6 of the EIS has been revised to correct the items included in Reclamation's comment to accurately reflect Cheney Reservoir nomenclature and water storage data.

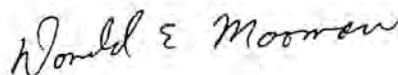
City can withdraw municipal water from the reservoir even when it is in the flood control pool or the surcharge pool. We recommend that this paragraph be rewritten as follows:

**“C.6 RESERVOIR DATA** The ILWS system includes two principal water storage facilities, Cheney Reservoir and the portion of the Equus Beds Aquifer in the City’s well field. The relationship between water levels, water surface areas and storage in Cheney Reservoir are listed in Table C-5 and shown graphically in Figure C-3. The fish and wildlife pool at Cheney Reservoir lies between elevations 1378.5 and 1392.9. The water supply storage pool (conservation pool) for the City lies between elevations 1392.9 and 1421.6.

**Appendix D.** The document did not make a clear connection between how significant issues were used to drive the analysis and what actions may have been proposed to resolve issues. Suggest providing additional information, possibly in a table, that identifies the disposition of each comment or issue (e.g. significant issue, issue is irrelevant to the decision, etc.), and identifies where the comment or issue, if carried forward, is addressed in the document.

If you have any questions or need any additional information, please contact Mr. Fred Landefeld at (405) 606-2908.

Sincerely,



Donald E. Moomaw  
Deputy Area Manager

cc: Mr. Fred Pinkney  
Burns & McDonnell  
9400 Ward Parkway  
Kansas City, Missouri 64114-3319

bc: D-108 (Stewart), GP- 4300 (Epperly), TX-Walkoviak

WBR:KLandefeld:fc:05-10-02  
Filename:Wieiscmt.wpd

26. As indicated in the comment, a number of significant issues were identified in the scoping process. A table of the significant issues raised by the public has been developed as recommended, and includes the corresponding section numbers in the EIS where discussions have been added for clarification. This table of significant issues has been added to Appendix D. The table has also been added to Chapter 5, Consultation and Coordination along with additional discussion to Section 5.2.2, Public Scoping Meeting.



**the Chamber**  
Wichita Area Chamber of Commerce

May 22, 2002

Mr. Jerry Blain, P.E.  
Wichita Water & Sewer Department  
City Hall, Eighth Floor  
455 N. Main  
Wichita, KS 67202-1677

Dear Jerry:

The Wichita Chamber has regularly received reports and updates on the Integrated Local Water Supply Plan (ILWSP) developed by the City of Wichita. We welcome the opportunity to provide comments for the Environmental Impact Statement for this plan.

Safe, reliable, high quality and multiple sources of water supply are essential as the foundation for the economy and quality of life for the Wichita/Sedgwick County area. The Draft Environmental Impact Statement addresses a five-point strategy. We support this strategy and stand ready to assist in carrying out the strategy.

The Equus Beds, which are being threatened by salt intrusion, provide about half of the current supplies. A critical feature of the ILWSP is the Aquifer Storage and Recovery Project (ASR), which will increase supplies, and provide a hydraulic barrier to mitigate the intrusion and protect the aquifer. The ASR Project will also produce higher base flows in the Little Arkansas River thereby helping the environment in the area of and downstream from the Project. So, this phase of the ILWSP serves three very important purposes. To date, all the engineering studies and the results from the ASR Demonstration Project indicate superior results and prove full-scale project feasibility. We support moving forward with this innovative and environmentally conscious solution.

Multiple sources of supply are critical for the City of Wichita to continue as a regional water supplier and also to provide the foundation for anticipated future growth. Developing local sources to the extent possible while also encouraging conservation is a wise overall management and development strategy. A diversity of supply provides needed backup and protection. To this end, the Bentley Reserve Well Field and the Local Well Field can provide additional supplies during times of need. It will be important, as is pointed out in the Draft Environmental Impact Statement, to use these supplies as supplemental sources due to their relatively lower quality.

The City of Wichita is to be commended for its foresight in developing the integrated strategy and for its ability to manage and carry out that strategy. The City of Wichita is to be commended as well for its interest in and initiatives to protect and enhance the environment as a central part of this overall strategy.

Finally, planning cannot stop with the implementation of this strategy. Developing resources of the magnitude needed for the metropolitan area of Wichita is an extremely long-range proposition. Planning must continue in order to identify the source(s) of supply needed to sustain and improve the quality of life for future generations. Upon implementing the current ILWSP, most if not all local sources will be developed. Therefore, in the distant future, construction of new reservoirs may be required or pipelines from existing reservoirs may be needed. Difficult decisions lie ahead, just as difficult decisions had to be made as the current ILWSP was developed and is now being carried out. We look forward to continuing leadership by the City of Wichita beyond the current ILWSP.

Thank you very much.

Sincerely,

Gerald H. Holman  
Senior Vice President

Response to comments on the Draft EIS from the Wichita Area Chamber of Commerce comment letter, May 22, 2002.

1. We concur that maintaining the quality and diversity of a water supply is an integral part of the ILWSP and of a safe and reliable water supply for the City of Wichita. Your support of the ILWSP throughout its development is appreciated.
2. A willingness to think “outside the box” was an important concept during the planning of the ILWSP. As you noted, protection and enhancement of the environment was an important part of the total plan.
3. We concur that the additional water supply sources and plans will ultimately have to be developed and implemented by the City for future generations. Innovative planning will also have to be a part of this future effort.

**PUBLIC HEARING**  
for the City of Wichita's proposed  
**INTEGRATED LOCAL WATER SUPPLY PLAN**

April 23rd & 24th, 2002

**COMMENT SHEET**

Please write any comments or questions you may have concerning the City of Wichita's Integrated Local Water Supply Plan in the space below.

At last someone talks public honesty of the 50s drought. From the outside the acre ft. gain by the pilot project was not very good. Milford has up front debt but a sure thing. It is Wichita's money & Wichita's choice. I hope it works out. Because of drainage & compaction I have been using a deep till system for several years. I know it helps recharge. Do not expect me to be perfect. The new TMDL will be tough enough. The hog issue was a huge problem that did not exist. I am anti-corporate hog. The end result was the rural-urban split over a fairy tale. I know one family who still won't drink their water 3/4 mile uphill from a few hogs. Safe yield & 6 in avg. recharge are feel good terms. Mike Wythow said pump water against the salt plume at Burton. We now pump it out. The above applies to water in general. It is all related. I agree doing nothing is a bad option.

Name:	Address:	Wilbur and Lois Kurr 9025 S. Mission Rd. Sedgwick, KS 67135
Phone No. (Optional) 772-5607		

Please have someone call me to discuss my question.

If you cannot give us your questions or comments tonight, please mail this form to:  
Mr. Jerry Blain P.E., Water Supply Projects Administrator, Wichita Water & Sewer Department, City Hall, Eighth Floor, 455 North Main Street, Wichita, Kansas 67202-1677

Thank you for participating in the EIS process.

Response to comments submitted on the Draft EIS on comment sheets and in letters by individuals at the Public Hearing.

Wilbur and Lois Kurr

1. The City appreciates your candor and your opinion. All of the planning studies completed by the City emphasize and support the economic feasibility of the ILWSP.
2. We concur that deep conservation tillage provides the greatest advantage to your agriculture enterprise. The potential impact of large-scale corporate agricultural enterprises may not be advantageous to the individual operator.
3. As you know, one of the primary goals of the ILWSP is to maintain the good water quality that has been found throughout the years in the Equus Beds aquifer for all users. The City sincerely believes that the selected alternative provides an excellent opportunity for a sustainable water supply for everyone.

## NO-TILL AND SOIL RUNOFF?

By Jim Shroyer, Extension Specialist, Crop Production

Results from a three-year tillage study at the East Central Experiment Field near Ottawa provide answers to that question. The study site was ten acre field in a grain sorghum-soybean rotation with 2-5% slopes. Soils were a mixture of Eram-Lebo and some Dennis=Bates complex. The treatments were a combination of: no-till, with fertilizer deep-banded 3-5 inches deep and herbicides broadcast on the surface; and conventional tillage system, which included a chisel-disk-field cultivator, with fertilizer and herbicides incorporated. For grain sorghum 70 lb N, 30lb P<sub>2</sub>O<sub>5</sub> and 11 lb K<sub>2</sub>O/a were used and atrazine and Dual (metolachlor) were used for weed control. No fertilizer was used for soybeans and Roundup Ultra and Dual were used to control weeds.

Averaged over the three years, 49% of the total rainfall left the field in the no-till system and 29% ran off the field in the conventional tillage system. The researchers explained this difference in runoff was due to the looser and drier soil after each tillage operation in the conventional tillage system. This allowed more water to infiltrate into the soil.

However, there was three times greater soil loss (sediment) in the water that left the field in the conventional tillage system than with the no-till system.

There were greater concentrations of soluble phosphorus, atrazine, and Dual in the runoff with the surface applications of fertilizer and herbicides in no-till. The greatest losses of soluble phosphorus and herbicides in the runoff occurred early in the season after the first rains.

### What's the bottom line?

Plant nutrients and pesticides leave the field in runoff water and attached to soil particles. No-till doesn't necessarily reduce the amount of runoff, as some people think, but it certainly reduces the amount of soil leaving the field. Unfortunately, the common practice of using surface applications of fertilizers and pesticides in a no-till system, instead of incorporating these products into the soil causes them to be lost in the runoff. If these products were incorporated, there would be less chance of them being in the runoff.

## POTENTIAL EARLY SEASON SORGHUM

### INSECTS

1. **Common concerns-either localized or statewide**
  - Wireworms & other seed attacking insects – Suspect wireworms and/or others (such as seed corn beetle) as one possibility where poor emergence is being observed.
  - Chinch bugs – Adults appear to have overwintered in wheat in some south central locations. Higher numbers could occur this year. Adults are already plentiful in some seedling corn fields.
  - Greenbugs – heavy flights out of wheat from southern areas can coincide with sorghum emergence and result in light to heavy numbers on small sorghum plants. This is serious at times though it has been rare in recent years.
  - Cutworms – Damage is most likely during the first two weeks following planting. In sorghum infestation is more common during from late May to mid-June.
2. **Occasional pest insects** – not usually anticipated, but damaging during some years.
  - Billbugs – This is becoming more of a common problem. Injury occurs from emergence up to a month after planting. Suspect it when you have a complaint about loss of stand, leaves of small plants with feeding injury, or complaints about plants dying. A good clue is when you find leaves with a pattern (or rows) of oblong holes. Billbug damage is almost always confined to areas of fields infested with yellow nutsedge.
  - Black Sugarcane Rootstock Weevil – If you are examining injury to small plants, you may observe some leaves exhibiting a pattern of scattered tiny, round, pinpoint sized holes. This could be feeding by the adult, a miniature black weevil. Look for it in the vicinity of symptomatic plants. The larvae develop later in the summer. By looking at mature plants, you may see the very small, whitish grubs in a blackened cavity near the base of the stalk close to where the braced roots are attached.

# Economic yield booster: soil tilth Your plant's life support system

*in working with  
Chuck Hoff  
John Tractor  
I have a lot  
of info on  
this*

The Case IH Crop Production Soil Management group has identified four agronomic focus areas: soil tilth; seedbed conditions; plant food availability; and crop residue management. Each can impact yields and each can be enhanced by matching the plant's needs to the appropriate soil management tool. In this first of a four-part series, we look at soil tilth.

**W**hen you get right down to it, the soil is what matters most for your crops. It holds them in place and supplies all their needs other than those provided by sunlight and air. Even water must first make its way through soil before the roots can use it. You're not simply tilling your fields; you're preparing a life support system for your plants. The more favorable you make this life support system, the more your plants will reward your efforts with higher yields.

"If you have a good soil environment, you'll grow a good root system," says world champion corn grower Francis Childs. "You'll have a very healthy plant and you're going to have a high yield."

For agricultural crops, a good soil environment:

- Maximizes water/air permeability to reduce ponding, runoff and erosion.
- Allows good early root growth.
- Increases air and water exchange and plant food availability.
- Enables percolation of excess water deep into the soil.

- Enables the roots to go deep to provide moisture needed during dry times.
- Increases yields and your profit potential.

A healthy soil has approximately 50% mineral, soil and organic matter and 50% pore space (air and water). To be most effective, this balance of soil and pore space also has an even distribution of aggregate size and distribution.

Soil with good tilth — having near that 50/50 balance of soil and pore space — readily absorbs water, lets the excess drain through and allows roots to reach moisture reserves.

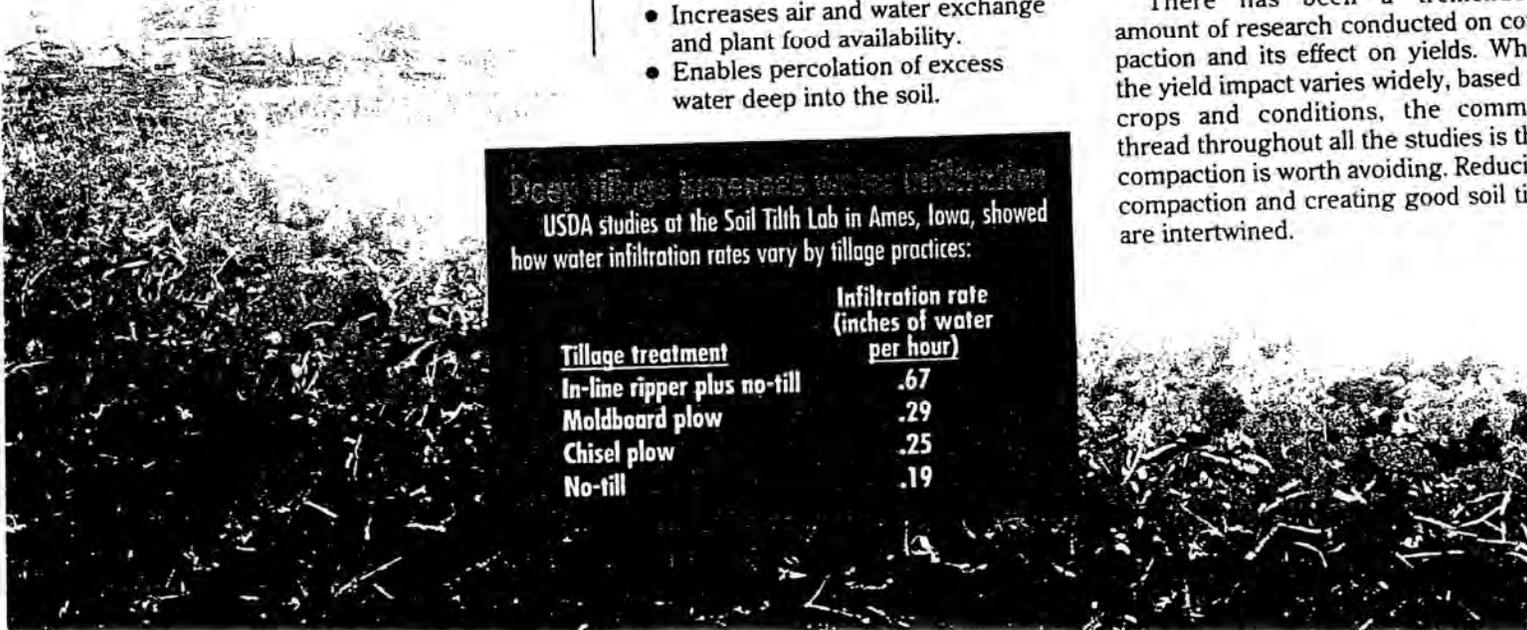
### Creating good soil tilth

Compaction is the enemy of soil tilth. It compresses those valuable pore spaces which reduces the soil's ability to hold and move water and air. Compacted soils hinder root growth and subsequent plant development.

There has been a tremendous amount of research conducted on compaction and its effect on yields. While the yield impact varies widely, based on crops and conditions, the common thread throughout all the studies is that compaction is worth avoiding. Reducing compaction and creating good soil tilth are intertwined.

*Deep tillage increases water infiltration*  
USDA studies at the Soil Tilth Lab in Ames, Iowa, showed how water infiltration rates vary by tillage practices:

Tillage treatment	Infiltration rate (inches of water per hour)
In-line ripper plus no-till	.67
Moldboard plow	.29
Chisel plow	.25
No-till	.19



The way you manage field traffic and utilize soil management (tillage) equipment can improve soil tilth even on the tightest soils. "You need to recognize the effects of traffic compaction and know what inputs your plants require from the soil," explains Kent Senf of the Case IH Crop Production Soil Management group. "Then you can choose the most effective tillage inputs to get the changes your plants need."

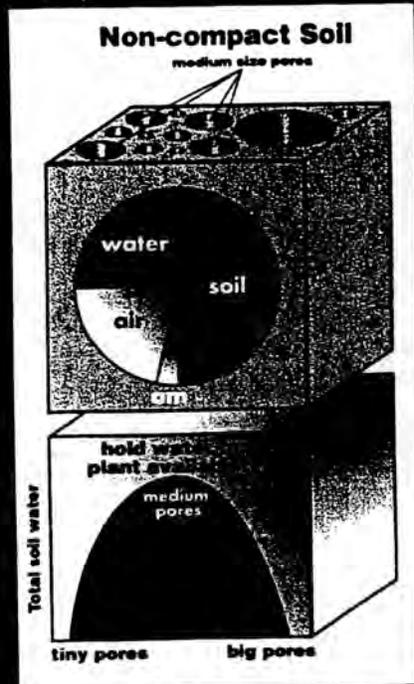
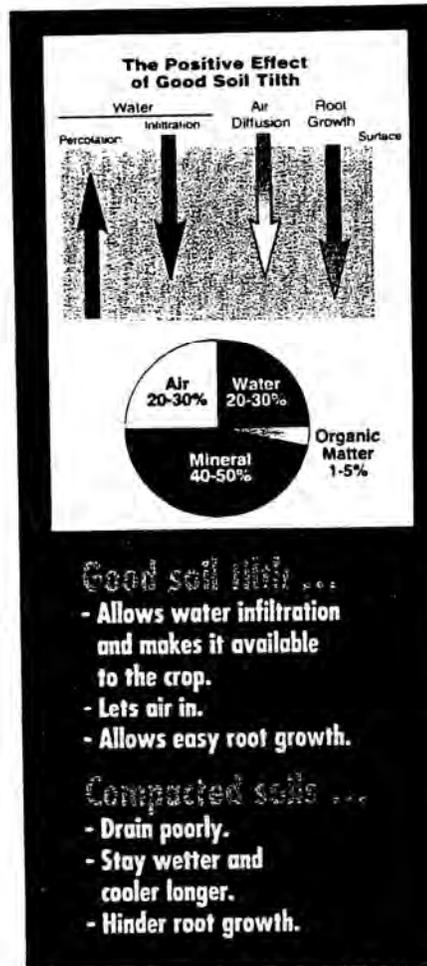
For example, Senf says, using a Case IH ripper with the patented tiger points can be a very effective method of reducing subsoil compaction and creating a healthy soil environment.

Use deep primary tillage to shatter compaction layers and reorient the shattered soil aggregates. This improves soil tilth and allows greater utilization of water by the plant.

While a moldboard plow provides near total inversion of crop residue which can add valuable organic matter, deep non-inversion tillage with tiger points gives the best water infiltration rates. A study at the Soil Tilth Lab in Ames, Iowa, showed a deep-running in-line ripper provided nearly twice the water infiltration rates provided by the second most effective tool, a moldboard plow.

Use secondary tillage to prepare the type of seedbed your plants need. Thanks to an increasingly broad range of seedbed preparation tools and integrated harrow attachments, you can manage crop residues and soil tilth without compromising the other. Reducing compaction and improving tilth are among the best long-term soil

management steps you can take. Water usage, root growth, nutrient utilization ... all these vital plant functions are enhanced when soil tilth is improved. By using the right implements at the right times, you can help make your soils become the best possible life support system for your plants and in turn gain higher returns from your investments in tillage, seed and fertilizer. 



Compaction is the enemy of soil tilth. Here are ways to reduce compaction and improve soil tilth.

Reduce compaction by:

- Keeping heavy equipment off wet soils.
- Adopting controlled traffic patterns.
- Reducing tractor tire pressures to minimum recommended levels.
- Using tracks rather than tires for large tractors and grain wagons, especially if you farm compaction-prone soils.
- Using wider implements (to reduce the number of passes).
- Using compaction-causing implements, such as heavy offset disks, only as needed for specific tillage and residue management needs.
- Carrying the least amount of tractor weight needed for the job (reduce axle loads).
- Varying tillage depths from year to year.

Improve soil tilth by:

- Deep-tilling at least once every three to four years.
- Installing or improving drainage systems (tile or surface) as needed.
- Managing soil residues.
- Maintaining surface residues to reduce erosion; inverting surface residues as needed to build organic content.

This page intentionally blank

5825 Memphis  
Wichita, KS 67220

May 23, 2002

Jerry Blain, P.E.  
Water Supply Projects Administrator  
Wichita Water and Sewer Department  
City Hall, Eighth Floor  
455 North Main Street  
Wichita, KS 67202-1677

Dear Jerry,

Thank you for the opportunity to review and comment on the Draft Environmental Impact Assessment (DEIS) for the City of Wichita's Integrated Local Water Supply Plan (ILWSP). The City, your department and Groundwater Management District 2 are to be commended for your proactive stance to preserve both the quality and quantity of the City's water supply, especially, the Equus Beds Aquifer. As my comments reflect, I am, however, concerned that the additional water supply will be used in an inefficient manner by increasing the ability of the City to provide water which will encourage the current trend of expansion and development in rural areas, rather than encouraging growth within or contiguous to the City.

I would like to offer the following comments and reflections regarding the DEIS:

#### CONSERVATION IMPACTS

- It would seem that much more could be done to conserve water resources within the City
- The DEIS states an assumption of a 16% conservation rate but does not define the comparison implied (16% compared to what/when?)
- While water rates for industry are apparently the same as for residential users, the industrial user has little seasonal fluctuation and therefore is not subjected to the higher tier costs faced by residential users in summer months
- A conservation rate structure (other than rate based) should be available to low-use residential users. Perhaps the KGE conservation rate could be used as a model
- Incentives for retrofitting older homes with low-flow/low-flush options should be instituted, particularly in low-income neighborhoods. A tremendous volume of water could be conserved by doing so. The City has offered such incentives to farmers in the Cheney Reservoir program, why not do it for residences?

#### LAND CONVERSION IMPACTS

- The only land conversion impacts considered in the DEIS are those associated with the construction and operation of facilities of the ILWSP.
- The DEIS states that "The primary long term effect will be... facilitation of current trend in area population growth which would not be a significant impact";

Response to comments submitted on the Draft EIS in letters by individuals during the public comment period.

Ellie Skokan

1. The City appreciates and concurs with your opinion concerning the need to maintain the quality and quantity of the current water supply and the Equus Beds Aquifer. While we understand your concerns about growth and expansion, much of the water supply developed will be used within the city's current geographic service area. Growth and expansion will also occur as long as the City of Wichita's water supply service policy remains the same.
2. Water conservation efforts being planned and in place with the City are described in Section 2.3.1 of the EIS. While conservation can be enforced through regulations, public education and commitment to daily conservation is equally as important. The City regularly provides advice and information on water conservation through a variety of programs and efforts. The City believes that continuing these conservation programs will increasingly attract public participation. Your concerns are appreciated.
3. The projected water demand in the year 2050 has been reduced by 16 percent due to the implementation of a variety of water conservation practices. Discussions describing these estimated water savings are presented in Section 1.3.4 and numerically shown in Table 1-2. The water conservation reduction was applied to the projected average day demand and the maximum day demand from the year 2000 through 2050 throughout the City's estimated service area. The City believes that 16 percent is a reasonably obtainable goal.
4. Industrial water users generally do require more of a base water volume for use that extends throughout the year and less seasonal fluctuation. Very often this base water use volume used by industry is consistently higher all year, forcing them to stay in a higher tier of costs year-round. If an industry uses water for cooling, similar seasonal increases in water use would occur as it does with residential users in summer months.
5. As you know, no water user experiences an increase in water rate and cost until 110 percent of the winter water consumption rate is exceeded. If low water use residential users do not exceed 110 percent of their winter water consumption rate, no rate or cost increase would occur. The City believes that a "conservation rate structure" is already in place for low water use residential users.
6. An incentive program for fixture replacement and retrofitting older homes may be instituted by the City in the future if the value of water conserved would approach the cost of water treatment and supply. For the last decade, new water fixtures that are available for purchase and as replacement have been low-flow or reduced-flow designed, as required through the Clean Water Act, as amended. While the use of only these fixtures may be difficult to enforce, the City continues to encourage their use programs similar to the Cheney Reservoir program mentioned in your comment.
7. We concur that the EIS concentrates on land use impacts that result from the actual construction and operation of the proposed ILWSP. Additional land use changes may occur

due to the availability of a dependable water supply and the addition of new customers outside of the City's current service area. These land use issues will continue as growth in the Wichita area and surrounding region continues. Predicting the extent of these changes is more difficult to substantiate due to shifting individual preferences, other available water supplies, and the general economy. These patterns of population increase and urban expansion are anticipated to continue as long as the City continues to accommodate the projected population growth estimated to occur through the year 2050. The EIS recognizes that these patterns are likely to occur (Section 4.20, Cumulative Impacts), but does not attempt to define in detail the impacts that result from these patterns.

8. As background for the ILWSP, the City's objective is to meet the estimated water demand projected to develop through the year 2050. Estimates of the projected water demand were developed using population projections from the U.S. Bureau of Census, City customer data, the U.S. Department of Commerce - Bureau of Economic Analysis, and the Wichita-Sedgwick County Metropolitan Area Planning Department (MAPD). Without the ILWSP in place, the City would limit water delivery to both new customers within the present service area boundary and, as much as possible, new water delivery to customers outside its service area. Even with these conditions, land use changes will occur within and outside the City's current service area. Urban and other growth would continue because the City is required by statute to serve new customers within its service area boundary. Eventually, the City would not be able to maintain system pressure during maximum or peak water use periods. Land use changes will continue to occur outside the City's service area boundary or incorporated area as agriculture is replaced by more urbanized development around the City and other small communities in 3- or 4-county area. This development is anticipated without the City providing a dependable water supply. The economic value of the loss of "\$100-165 million from 1,000 to 2,000 acres per year" in agricultural production as indicated in the comment would be more than offset by the increase in land value due to higher density development.

Wording in the EIS has been reviewed and revised as needed to make sure that any inconsistencies have been corrected.

This page intentionally blank

that "Subdivision development... would be facilitated"; and, that land use changes "... would not be considered adverse or significant." This is in contradiction to the MAPD Comprehensive Plan Update Vol.2, Issue 2, 4/6/1999 which determined that the loss of farm land due to city expansion in the Current Trends scenario is estimated to be 1000 - 2000 ac per year with a \$ 100 - \$ 165 million production loss in 30 years. Such expansion will continue if water is available, as shown by the DEIS

- The same Current Trends scenario for City growth will also lead to an estimated \$ 52 million additional expenditure for water and sewer facilities over and above that needed for growth limited to in-fill and contiguous development (MAPD, op cit).
- The DEIS, itself, states "In the long-term, a significant deterioration in air quality could occur..." in rural areas due to additional air pollution sources from urban expansion

#### LITTLE ARKANSAS ALLUVIUM IMPACTS

- There is no information provided in the document regarding the presence of groundwater users in the area of the Local well field. Any such users with wells within ½ m of the field would be impacted since these wells are projected to be operational 40 % of the time. While it can be presumed that no one is using this water for drinking purposes, it is my understanding that many City residents have wells for watering lawns, gardens, etc.
- There does not seem to have been any outreach to the low income and minority community which would be affected by the local well field expansion. The DEIS merely states that such a community exists in the area. I have followed this project closely and recall only a few (2?) meetings in Wichita and none in the affected community. More work should be done on this count to address any Environmental/Social Justice Issues.
- I would like further information regarding the impact of replacing groundwater with river water due to pumping in the local well field. The DEIS states this is "...not considered to be a significant project impact." Given, the possible contaminants in the Little Arkansas system, I think the rationale for such a decision should be given.

#### NORTH FORK NINNESCAH/CHENEY RESERVOIR IMPACTS

- The information on negative impacts on recreational users should be more widely disseminated. While agencies have been in the loop, I wonder what effort has been made to include the affected users in the discussion (ex. Ninnescah Yacht Club)
- It is unfortunate that this project will not rectify the current situation of little or no flow below Cheney Reservoir. The DEIS estimates that even with some increase in flow volume, the flow will still be less than 75% of the Minimum Desirable Streamflow (MDS) 7 of 12 months of the year.

9. Continued growth within the City's current service area is producing demands that exceed the system capacity. In addition, existing City facilities continue to age, requiring increasing maintenance as time passes. Continuation of the current trends, including expansion of the City's service area, will result in additional expenditures for expanding sewage treatment facilities and associated infrastructure. In reality, these needs will occur in the future whether or not the ILWSP is implemented. While these impacts may be considered to be cumulative in nature, they are outside of the scope of the EIS and the ILWSP and do not need to be addressed in the EIS.
10. The City believes that the statements in Section 4.5 of the EIS are correct. First, impacts to air quality due to ILWSP construction activities would be temporary. Second, impacts to air quality due to the conversion of agricultural land to an urban setting with residential areas, vehicles and industry would be adverse and represent a significant change. As a result, the statements in Section 4.5 have been modified in the EIS to improve clarity.
11. It is projected that the collector wells associated with the Local Well Field expansion will be operated at full capacity approximately 40 percent of the time. Operation of these collector wells could reduce groundwater levels in their immediate vicinity or cone of depression by 10 to 15 feet; these drawdowns will decrease rapidly at larger distances from these wells. Private wells within 0.5 mile of these collector wells could be impacted; however, these impacts should not adversely affect the operation of these private wells unless they are both quite close to a collector well and quite shallow.
12. Environmental justice discussions are presented in Sections 3.8 (Table 3-16) and 4.11 of the EIS. Two low income or minority areas were identified – the City of Sedgwick, Kansas and the area of the Local Well Field in Wichita. The first public scoping meeting for the ILWSP was held at the Minisa Recreation Building at 704 West 13<sup>th</sup> Street in Wichita. This location was centrally located in the proposed Local Well Field expansion. The general area containing the Local Well Field was identified in the EIS as an area having a larger percentage of minority and low-income population. However, anyone living next to or near the Little Arkansas River (the City of Sedgwick, Kansas) from north of Halstead south to Wichita and the confluence of the Little Arkansas and the Arkansas rivers could potentially be impacted. From an Environmental Justice standpoint, the analysis conducted and included in the EIS found that there would be no disproportionate share of impacts on low income or minority populations in the ILWSP project area.
13. In the ILWSP, installing horizontal collector wells in the alluvium of the Little Arkansas River and the floodway would expand water production from the Local Well Field. The river and floodway alluvium is made up of fine to coarse sand and gravel with only small amounts of silt and clay. As a result, a strong hydraulic connection exists between surface water flowing in the river and the groundwater in the alluvial aquifer. Water naturally migrates back and forth from the river to the aquifer. Because of the constant exchange and mixing of river and ground water, overall water quality tends to be similar. The installation and operation of the new collector wells will not impact this ongoing process.

As discussed in Sections 3.3.1.4, 3.3.2.3, 4.4.1.4.1, and 4.4.2.2.2 of the EIS, the blending of Little Arkansas River water and nearby alluvial groundwater is not considered to be a

significant water quality impact. Water quality in the river and adjacent alluvium is considered good at the present time. If this were not true, the river could not be used as a source of water for recharging the Equus Beds aquifer. It is always possible that the Little Arkansas River could become temporarily contaminated in the future. This contamination would most likely result in an immediate cessation of pumping until water sources such as the Local Well Field or the Equus Beds would not be impacted.

14. The Ninnescah Yacht Club, the City of Cheney, local citizens and the recreating public were provided an opportunity to raise issues at the public scoping and other informational meetings, and to comment on the DEIS at the public hearing. Comments made at various meetings and used to prepare the EIS are described and summarized in Chapter 5 of the EIS.
15. The success rates for meeting the MDS in the Ninnescah River are discussed in Section 4.4.1.2.3. These rates vary from a low of about 55 percent in November to a high of about 85 percent in July. These success rates will remain unchanged or improve slightly with implementation of the ILWSP. The project will tend to increase the frequency and duration of releases from Cheney Reservoir although there will still be significant periods with little or no flow below the dam. However, with no ILWSP, the frequency and duration of releases from the reservoir will be reduced to about half of their current occurrence. Establishing a minimum release from Cheney Reservoir would adversely impact the yield of this water supply reservoir. To meet the City's projected water demands, this reduction in yield would have to be offset by increased yield from other project components or other supply sources, all of which would result in increased environmental or social impacts.

This page intentionally blank

## ARKANSAS AND LITTLE ARKANSAS RIVERS IMPACTS

- Analysis of stream data is based on median monthly flows between 1923 - 1996. While this makes comparison of past and future changes convenient, it ignores the levels of flow which have the greatest impacts on riparian ecosystems - i.e., the high flood stages and the low water drought conditions. I'm not sure what data would be more beneficial for comparisons, but some attention should be given to these extreme data points for an adequate analysis
- Are there any users of Arkansas River water below Wichita who would be impacted by the projected decrease in flow?
- The Local well field expansion and the ASR are projected to decrease flow in the Little Arkansas below Valley Center (5-40% of the time) and through the City (more than 90% of the time). This in turn will lead to decreased groundwater availability and decreased wetlands. The impacts of these alterations do not seem to have been adequately addressed in the DEIS.
- The relationship between decreased streamflows in the Little Arkansas and the concurrent concentration of any contaminants in that system has not been addressed. It is mentioned briefly as an impact on the Arkansas River system, but does not seem to be included in the Little Arkansas analysis.
- I do not find any mention of organic pollutants in either river. Only routine water analysis data is presented in the DEIS. I know that atrazine is a recurring problem in the Little Arkansas basin and I believe data collection and analysis regarding atrazine was done by the USGS in conjunction with the City's pilot ASR project. Why is this information not in the DEIS? What is the impact of these contaminants and how will they be addressed?
- A critical issue regarding the heavy dependence on Little Arkansas River basin water (in the ASR project) as an additional water source does not seem to be addressed in the DEIS. What is the projection for water availability during periods of prolonged drought, such as the 1930's and 1950's. During these periods, no water will be available for recharge, withdrawals from the Equus Beds will remain limited, and Cheney Reservoir must be maintained at the Fish and Wildlife Pool level. This issue speaks to the importance of a more rigorous conservation plan.

## BIOLOGICAL ASSESSMENT AND IMPACTS TO THREATENED AND ENDANGERED SPECIES

- The data for the conclusions in this section seem to be minimal. One would expect that a greater database would have been gathered and analyzed before the DEIS was completed (examples include survey of Eagle nesting sites, consideration of the critical habitat for the Arkansas Darter in the area of the Bentley well field, consideration of loss of wetlands on white-faced ibis, etc.). I question the adequacy of doing a hydrobiological assessment after completion of the DEIS, it would seem it should precede such an assessment. While such monitoring during the life of the project will be critical, if no baseline data is gathered now, it will be nearly impossible to assess any future impacts. In addition, once changes have occurred, it is too late, especially for threatened and endangered species.

16. The City concurs that the impact of altering high and low flows also need to be considered in the evaluation of a project like the ILWSP. Median monthly flows are used to show how the project could affect stream discharge on a seasonal basis (please see Figure 4-3). However, flow duration curves presented in Figure 4-4 show the frequency of stream discharges over the entire range of flows. Flows presented in Figure 4-4 indicate that extremely low, or drought flows will be enhanced by project development and, during high flows, impacts with the project in place become largely insignificant.
17. Kansas Division of Water Resources' records indicate there are only a small number of water rights downstream of Wichita which divert water from the Arkansas River. This situation is likely due to the relatively poor quality of this water probably due to the high chloride content, which makes it less desirable for irrigation and other uses. The proposed project diversions are of such a small magnitude compared to the typical discharge in the Arkansas River that they should not have a discernible impact to these downstream water users.
18. When the recharge diversion wells upstream of Wichita or the collector wells proposed for the Local Well Field are operating, flows in the Little Arkansas River will be reduced. However, the diversion wells will not operate unless the discharge at Valley Center is above 40 cfs; a MDS of 20 cfs or more in the Little Arkansas River will be maintained at the confluence of the Little Arkansas River with the Arkansas River. Hydrologic model results predict that the baseflow in the Little Arkansas River will increase with time as the Equus Beds aquifer is recharged. Overall, the potential flow impacts resulting from implementation of the ILWSP should not significantly reduce groundwater levels or impact wetlands along the Little Arkansas River. However, it is difficult to predict the specific location and magnitude of impacts that may occur to wetlands due to the variable frequency and duration of the ILWSP when operating. This is the reason why the City recommends implementation of a HBMP in the EIS.

Increasing groundwater levels in the Equus Beds well field area with time may ultimately restore some wetlands that have been dry in recent decades. This is one reason why discussions in the EIS indicate that the net impact to wetlands due to the ILWSP are not expected to be significant and could even be positive. Again, the proposed HBMP will be designed to assist in quantifying wetland impacts, whether positive or negative.

19. As discussed in Section 4.4.1.4.1 of the EIS, water quality in the Little Arkansas River improves moving downstream. This indicates that the water entering the stream, which is primarily from groundwater discharge, is better quality than the water already in the river. Pollutants currently found in the stream are expected to continue to occur in the future. The concentrations of these pollutants in the stream are not expected to increase with operation of the ILWSP even though water withdrawals will occur. Withdrawals will normally occur during periods of higher flow, when these pollutant concentrations are normally lower. With implementation of the ASR portion of the ILWSP, groundwater discharges to the Little Arkansas River are expected to increase as the aquifer is recharged. With this inflow, water quality in the Little Arkansas River is expected to improve with time.
20. You are correct that organic pollutants do occur periodically in both the Little Arkansas and Arkansas rivers and that a great deal of water quality sampling and analysis was conducted

by the City for the Equus Beds Groundwater Recharge Demonstration Project. A great deal of effort was spent by the City in cooperation with the USGS and EPA assessing the possible impact of organic pollutants in the Little Arkansas River and the water used for aquifer recharge. As you know, there are many factors that influence water quality parameters including stream flow rate, season of the year, rainfall intensity and antecedent moisture conditions. The interaction between these climatic factors and organic compounds is complex and dynamic; accurate predictions of future water quality characteristics are sometimes difficult and always challenging. The water quality sampling and analysis efforts associated with the Demonstration Project extended from 1995 through 1999 and were designed to assure the preservation of water quality in the aquifer system. The primary organic pollutant periodically found in higher flows mainly during the spring months was an herbicide, atrazine. It was determined that chemical treatment would be needed and, where direct surface water diversions were made, turbidity would need to be reduced using a polymer and powdered activated carbon would be used to remove atrazine and other herbicides. Chlorine was added to control biological growth. A brief discussion of this program and findings has been included in Section 4.4.1.4.1 of the EIS.

21. As described in Section 4.4.1.1, ILWSP Operations Model, the historic hydrologic period of record used in the development of the ILWSP is 74 years in length, from 1923 to 1996. This period of record includes both the 1930's and 1950's droughts referenced in your comment. The ILWSP is designed to provide the required amount of water to satisfy the City's projected demands even when the drought of record occurs. The reserves of water stored in Cheney Reservoir and in the Equus Beds aquifer will be decreased during these drought periods. As described in Response No. 2 and 3 above, the estimated water demands projected to occur in 2050 have been reduced by 16 percent due to water conservation. Sufficient quantities of water will be available with the ILWSP in place during drought periods to satisfy the estimated demands projected to occur in 2050 for the City.
22. A Biological Assessment (BA) was prepared in December 2001 that included the list of threatened and endangered species provided by the FWS. This BA was included in the DEIS as Appendix B and describes the impacts the ILWSP is anticipated to have on the species listed in the project area by FWS. The information included in the BA for each species is sufficient to make an assessment of the ILWSP impacts in the project area due to construction and operation activities. Conclusions reached in the BA stated that none of the eight species evaluated would be impacted by the ILWSP; four of the species could be temporarily impacted during construction.

In addition, the HBMP will be developed in cooperation with KDWP and FWS. The HBMP will help evaluate the pre- and post-project impacts to aquatic and other resources resulting from the modification of the normal rate and range of fluctuation of flows in the Little Arkansas and Arkansas rivers. It could also help identify opportunities to avoid or minimize impacts to federally listed species resulting from ILWSP implementation and operation.

23. The City concurs that sincere efforts to evaluate and minimize impacts may not be successful. However, this is the reason the City has agreed to develop and implement the HBMP in cooperation with the KDWP and FWS. The HBMP will help determine (pre-project/design phase) if water withdrawals cause the flows in the Arkansas and Little

Arkansas rivers to deviate from the normal rate and range of fluctuation. If these fluctuations occur they could cause impacts to a variety of natural resources and species including the speckled chub populations or their habitat.

24. The City concurs that the water rights issued for the Equus Beds aquifer are over-allocated. However, the City does not require that additional quantities of water be allocated or additional water rights issued to the City to implement the ILWSP. Currently, the City is planning to obtain a general ASR water right permit to recover recharged water or water conserved from the ILWSP.
25. Your comments concerning implementation of the ILWSP by the City are appreciated. The City is aware that some questions remain to be answered, and that the objective of the HBMP is to assist in providing some of these answers.

**ORIGINAL**

PUBLIC HEARING  
FOR THE  
ENVIRONMENTAL IMPACT STATEMENT  
FOR INTEGRATED LOCAL WATER SUPPLY PLAN  
APRIL 23, 2002  
HALSTEAD, KANSAS

*CRS* Court Reporting Service  
MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

1 MR. BLAIN: Thank you you all for  
2 coming this evening. My Name is Jerry  
3 Blain. I work for the Wichita Water and  
4 Sewer Department. I'm the Water Supply  
5 Projects Administrator. This evening  
6 we're going to talk -- kind of break the  
7 meeting into three different pieces, if  
8 you will. First we'll talk a little bit  
9 about the Draft Environmental Impact  
10 Statement that has been created and that  
11 process of creating the Draft  
12 Environmental Impact Statement, it's not  
13 a final statement at this point in time,  
14 kind of the things we've been looking at  
15 in that -- in the process of that  
16 document, and then we will have a comment  
17 section period of time for you to give  
18 either oral or written or comments -- any  
19 oral comments tonight we have a recorder  
20 here that will note those down so they  
21 become part of the record. You will also  
22 have the opportunity to provide written  
23 comments on the plan. If you don't do it  
24 tonight, you can still send those in. I  
25 think we'll leave it open for comments



*Court Reporting Service*

MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

1 until May 23rd, so if you don't want to  
2 say to something this evening, this isn't  
3 your last chance to do that. And then  
4 when we're done with that, we will  
5 essentially -- we'll close the section of  
6 talking about the Environmental Impact  
7 Statement, the formal part of the meeting  
8 and then we'll open it up for questions  
9 and answers to give you essentially  
10 updates of where we're at on the projects  
11 that we're doing as part of the Water  
12 Supply Plan and hopefully get you some  
13 more information there.

14 The first part of the meeting  
15 is not designed to give a lot of  
16 information unfortunately. That's just  
17 part of the process we have to go  
18 through. It's kind of a real set forum.  
19 Dr. Fred Pinkney who is with our  
20 engineering firm, Burns & McDonnell, will  
21 explain kind of how this is all done. At  
22 this point, I'll turn it over to Fred and  
23 he can explain more of what we're going  
24 to do this evening on the formal part of  
25 the meeting.

1 MR. PINKNEY: Thanks, Jerry. Like  
2 Jerry indicated, this is sort of -- the  
3 public hearing on Environmental Impact  
4 Statement is sort of a formal thing to  
5 begin with. What we would like to do is  
6 give you a little bit of information  
7 about why we're doing what we're doing,  
8 describe a little bit about the project  
9 in terms of what's in the Environmental  
10 Impact Statement, where we are, and then  
11 ask for your comments should you have any  
12 on the AIS itself.

13 As Jerry indicated, once  
14 everybody has made whatever comments they  
15 would like to, make we'll close the  
16 session officially and then we'll  
17 certainly be available after that to  
18 answer comments and questions one-on-one  
19 at your -- at your beck and call.

20 To start, I just want to I  
21 guess indicate that there is an  
22 overriding environmental documentation in  
23 our federal law called the National  
24 Environmental Policy Act, and that's the  
25 process that we are following at this

1 time. And basically the goal of the  
2 Policy Act, or NEPA as it's called, is to  
3 review the findings of the Draft  
4 Environmental Impact Statement, present  
5 those to the public as a full disclosure  
6 document and ask for comments from the  
7 public. So our goal is to -- obviously  
8 with the public hearing is to listen to  
9 what you have to say. It is a federal  
10 requirement. It's not a state or a city  
11 requirement but a federal requirement.

12 The City prepared the Draft EIS  
13 in a very proactive manner or to be  
14 proactive. We do not have a lead federal  
15 agency and that is what is generally  
16 required for an EIS, but as a result, the  
17 EIS will not be filed with EPA at this  
18 point, but it does -- the EIS does  
19 provide documentation support information  
20 that will be used in the state and  
21 federal permitting processes that are  
22 going -- that will be coming with the  
23 project in the near term.

24 It's also possible that federal  
25 funding could be forthcoming and should

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

that happen then the goal as far  
whichever agency that may be for them to  
adopt, in quotes, the EIS as their  
document, thereby saving some time for  
the City in terms of the overall  
planning, design and construction of the  
Water Supply Project.

As Jerry indicated, we have a  
court reporter present and she is  
transcribing the public hearing verbatim.

What I want to do is give you a  
very brief overview of the Environmental  
Impact Statement and then we'll ask for  
comments from you on the Draft EIS. We  
ask that you state your name, come up to  
the microphone, state your name and  
perhaps spell your name if that's needed  
for the court reporter. We would like  
for you to provide your comments verbally  
if you wish. We would like to limit them  
to five minutes per individual at this  
time. We will come back -- if it goes  
longer than that, we will come back to  
you after everyone's had a chance to  
speak.

*CRS* Court Reporting Service  
MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

1                   After we have heard all the  
2                   comments that you have then we will close  
3                   the meeting or adjourn the public hearing  
4                   officially. The public record will close  
5                   and then we will talk individually with  
6                   you about any aspect of the project that  
7                   we can discuss with the people we have  
8                   here at the present time, both the City  
9                   and from Burns & McDonnell.

10                   Now the Draft EIS one of the  
11                   main sections is what they call -- is  
12                   what we call the Purpose and Need and the  
13                   goals of the Integrated Local Water  
14                   Supply Project for the City of Wichita is  
15                   to provide a reliable water supply  
16                   through the year 2050 and basically  
17                   protect the Equus bed's water quality.

18                   The objective of the plan, as  
19                   we said, was to meet the 2050 net water  
20                   needs and this means basically provide  
21                   approximately an additional 22 million  
22                   gallons per day of water to meet average  
23                   day demands, and approximately 28 million  
24                   gallons per day to meet maximum day  
25                   demands.

1                    Now when we start looking at  
2 alternatives to an EIS, we look at as  
3 wide an array as we possibly can, and in  
4 this case we looked at 27 different  
5 alternatives water sources that could be  
6 used either individually or in  
7 combination to form a plan. Fourteen of  
8 them were what we call conventional types  
9 of supplies or sources, and these include  
10 things such as water from existing or  
11 proposed reservoirs, groundwater  
12 aquifers, using river flood flows, or  
13 perhaps changing operations in existing  
14 water supply systems.

15                    Then we also looked at about 13  
16 what we would term non-conventional water  
17 sources, and these would include such  
18 things as flood waters in reservoirs and  
19 what we would call above average stream  
20 flows, treated waste water reuse,  
21 remediated groundwater, what is called  
22 bank storage water, rain harvesting and  
23 water conservation.

24                    Now the alternatives -- these  
25 alternatives were screened and eliminated

1 for one reason or another through an  
2 evaluation process until the alternatives  
3 that were left were these. What is  
4 called no federal action and that's a  
5 mandate of the NEPA process. In other  
6 words, that means that it's an  
7 alternative that if nothing happened,  
8 what would -- where would the City --  
9 what would the City do if we could not  
10 build or supply any additional water.  
11 Then water conservation is another  
12 alternative that was looked at in great  
13 detail. We looked at Cheney Reservoir,  
14 the Bentley Reserve Well Field, the local  
15 well field in the City of Wichita, and  
16 the Equus beds -- and develop the Equus  
17 beds aquifer storage and recharge -- or  
18 recharge and recovery system.

19 Now, the final plan that was  
20 selected for detailed consideration  
21 involved these components: Water  
22 conservation and water conservation  
23 became a component of all plans. The  
24 water conservation represented  
25 approximately 16 percent of the demand

1 and therefore each demand -- or the  
2 demands were reduced by that amount of  
3 water on an annual basis.

4 We looked at reoperation of  
5 Cheney Reservoir to the point of using  
6 waters as available, specifically waters  
7 that would be in the flood storage pool.

8 The Bentley Reserve Well Field  
9 is one that has been inactive for quite  
10 awhile but was going to be blended --  
11 reactivated and blended with existing  
12 supplies.

13 Expanding the local well field  
14 to increase the amount of water that was  
15 available from it.

16 And then what is called the  
17 Equus beds ASR system, aquifer Storage  
18 and Recovery System, which you are  
19 probably most familiar with.

20 As an example, each one of  
21 these sources has various components to  
22 it and, for example, the Equus beds ASR  
23 system has surface water intake  
24 structures, a diversion and recovery --  
25 or recharge and recovery wells, a

1 presedimentation plant, transmission  
2 pipelines. So each one of the sources  
3 may have several components to it.

4 Now this is an EIS, or  
5 Environmental Impact Statement, and so  
6 there are rather -- there always are  
7 environmental concerns or issues that you  
8 deal with in EIS, and in this particular  
9 project these were the general list of  
10 the most important items that were  
11 considered or had to be evaluated:  
12 Wetlands, threatened and endangered  
13 species, land use, and specifically prime  
14 farm land, the fisheries in both the  
15 Little Arkansas River and in the Big Ark  
16 River, the repairing vegetation that  
17 occurred along the Little Ark, and  
18 recreation specifically at Cheney. For  
19 an example, once again there were many  
20 components to each one of these  
21 particular disciplines or our  
22 environmental issues or concerns and if  
23 you look at threatened or endangered  
24 species, this is just the list of species  
25 that occurred or were evaluated under

1 that particular heading.

2 The project of the plan --  
3 Integrated Local Water Supply Plan will  
4 be developed in phases, and after  
5 conferring with the resource agencies  
6 including Fish and Wildlife Service and  
7 Kansas Department of Wildlife and Parks,  
8 Geologic Survey, Environmental Protection  
9 Agency and so forth, they really had no  
10 real specific mitigation recommendations.  
11 Now they may come up and they may have  
12 some as a result of this Environmental  
13 Impact Statement, but the EIS is designed  
14 to do two things: One, satisfy the need  
15 to process, and secondly be used to  
16 provide supporting information for state  
17 and federal permits.

18 The one thing that was brought  
19 up by KDWP was that a hydrobiological  
20 monitoring plan should be developed in  
21 association with Fish and Wildlife  
22 Service and with Kansas Department of  
23 Wildlife and Parks to see and to  
24 determine what impacts could occur in the  
25 future should they occur.

1                   With that, I want to end this  
2 presentation and ask that the cards that  
3 we filled -- or we asked you to fill out,  
4 if you have any comments at this time, we  
5 would like for you to make them. If you  
6 would prefer to provide written comments,  
7 we certainly invite you to do that. You  
8 can hand those in to us tonight or you  
9 can mail those in to the address that's  
10 at the bottom of the page and that's to  
11 Jerry Blain at the City. At this time, I  
12 would like to open it up for comments for  
13 those that may have them. If you do,  
14 please raise your hand or come forward.

15                   MS. ARROWSMITH: My name is Kelli  
16 Arrowsmith and I live out northwest of  
17 Bentley, Kansas. I'm originally from  
18 Wichita and my husband and I own a farm  
19 out by Bentley and I have several  
20 concerns about this project.

21                   Number one is the fact that I  
22 just found out about it in the Wichita  
23 Eagle and Beacon today reading about it  
24 at work. This seems to be a well quiet  
25 project that people don't seem to be

Response to comments presented during the April 23, 2002 Public hearing on the Draft EIS.

Ms. Kelli Arrowsmith

1. Since the initial planning stages of the ILWSP began in 1993, the City has pursued an active public involvement program designed to inform the public and governmental agencies about the aquifer recharge, storage and recovery project as it progressed. Public information meetings have been held periodically in the cities of Wichita, Halstead and Sedgwick since that time. In October 1997 using published public notices, press releases, and direct mail, the City announced the initiation of the public involvement process and invited the public to participate. Notices for the public scoping meetings were published in the Ark Valley News, the Harvey County Independent, the Times-Sentinel, and the Wichita Eagle. In addition, tours of the City's ASR Demonstration Project facilities have been conducted and informational brochures have been prepared and distributed to visitors. Annual public information meetings have been held in Halstead since 1993 providing project status updates and answering questions from those attending. In April 2002, the City published public notices, press releases, and direct mail mailings announcing and inviting the public to attend and provide comments at the public hearing for the DEIS. In addition, the USGS has a website on the Equus Beds Recharge Demonstration Project (<http://ks.water.usgs.gov/Kansas/equus/>).

1 wanting to talk about very much.

2 However, be that as it may, I have a lot  
3 of concerns about this project as I was  
4 listening to the speech tonight.

5 My first concern is the fact  
6 that this is not being filed with the  
7 EPA. If we're going to be dumping  
8 something in the Equus beds and we're not  
9 filing it with the EPA, how do we know  
10 that we aren't dumping something in the  
11 Equus beds that's not poisoning our own  
12 wells. I drink the water out of the  
13 Equus beds and I think some of the other  
14 people in this room do, too. Even though  
15 I was born and raised in Wichita, I do  
16 have enough common sense to know that I  
17 don't want to poison myself. I also  
18 don't want to poison the people in  
19 Wichita.

20 If you are going to do this, do  
21 it correctly. File all your permits,  
22 file all your stuff with the EPA. If you  
23 cannot file it the EPA then stop what  
24 you're doing and do it right. Being as I  
25 am from Wichita and I do work in Wichita,

2. A copy of the DEIS was provided to EPA for their review and comment. It is federal policy that only EIS's that have another federal agency as the lead agency can be officially filed with EPA and announced in the Federal Register. Although multiple federal agencies were asked by the City to take the lead role, no federal agency has stepped forward and agreed to be the lead federal agency for the ILWSP. However, all of the federal and state agencies that would have been involved with the review and comment process for the DEIS have reviewed the document and provided comments. Please see the discussion in Chapter 5, Consultation and Coordination (Table 5-1), of the EIS for a list of cooperating and coordinating federal and state agencies involved in the preparation and review of the EIS for the ILWSP. Responses to the comments submitted in response to the DEIS review may be found in the EIS at the end of Chapter 5.
3. Your concerns about the importance of efficient and effective watering techniques are recognized. Continuing to question and recommend changes to reduce water usage and loss are important components of the public relations program maintained by the City. Water conservation is an integral component of the ILWSP. Water demands projected to occur through the year 2050 for the City have been reduced by an average of 16 percent due to water conservation.

1 every morning I drive into Wichita about  
2 5:30 in the morning. Every morning that  
3 I drive into Wichita I see exactly the  
4 same thing. I see Dillons. I see  
5 QuikTrip. I see Wal-Mart. I see all  
6 these stores overwatering their grass. I  
7 have several types of grass in my yard.  
8 I have three-quarter of an acre of  
9 buffalo. Buffalo doesn't take any water.  
10 It's a nice soft green grass. Once it's  
11 established, you do not water it. If  
12 Wichita people want water, they need to  
13 plant a different grass. I have stopped  
14 and complained to McDonald's about  
15 watering their parking lot. I have  
16 stopped and complained to the City of  
17 Wichita about watering their streets. I  
18 have gotten my head snapped off. I am  
19 tired of watching Wichita water their  
20 streets. I am tired of watching QuikTrip  
21 water their parking lot, and I am tired  
22 of watching the citizens of Wichita water  
23 their sidewalks. They're not going to  
24 grow. I'm from Wichita and I know this.  
25 I'm not real smart but you can't water

This page intentionally blank

1 pavement. The City of Wichita is one of  
2 the biggest people that actually do this.  
3 You can have water conservation to where  
4 they tell you not to water. Drive  
5 through the Wichita Sedgwick Park and  
6 they're watering the park. Last year I  
7 took my daughters through the Wichita  
8 Sedgwick Park, they're watering the park  
9 and they told everyone not to water the  
10 grass. I came home, I called the City of  
11 Wichita, I said why are you watering the  
12 park, we're under water conservation.  
13 They said, oh, well, we do it anyway.  
14 Why can't Wichita plant buffalo grass.  
15 You don't water it. I'll be more than  
16 happy, come out to my house, I'll show  
17 you three-quarter acre of buffalo. It's  
18 a very nice grass. It stands up to wear  
19 and tear. Until Wichita themselves are  
20 concerned about conservation, I am not  
21 interested in handing them any more  
22 water.

23 You want to talk about  
24 wetlands? Go down to Maize and 21st  
25 Street and see the house on the hill.

4. Your concerns are noted.

1 Are any of you aware that Maize and 21st  
2 Street used to be Cadillac Lake? I  
3 wasn't from this area. I was from Viola.  
4 My husband when we were dating used to  
5 take me and show me Cadillac Lake. I  
6 used to watch people fish there. I used  
7 to watch the cranes, I used to watch the  
8 storks, I used to watch the wildlife.  
9 They filled it in and made it into a  
10 shopping center. It was a federal  
11 wetlands until Wichita decided they  
12 wanted to have a shopping center and  
13 people decided they wanted to have a  
14 house and they filled it in. Now they  
15 tell you that they want to be concerned  
16 about a wetland, they want to be  
17 concerned about an endangered species.  
18 Why weren't they concerned when they  
19 filled it in?

20 I don't understand this. But,  
21 you know, I do understand something. I  
22 was dead broke -- actually I'll tell you  
23 something. I do have a couple of  
24 degrees. I have a B.A. from Kansas  
25 Newman. I paid for my own education by



*Court Reporting Service*

MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

5. Your thoughts about the need for the City to internally enforce water conservation procedures during dry periods or droughts are noted. A combination of enforcement and public education is the approach that has been adopted and instituted by the City to encourage water conservation with its customers.

1 working 40 to 60 hours a week and going  
2 to college full-time. I did it by  
3 pennies and nickels. If you save a  
4 nickel, you got a nickel. If you save a  
5 penny, you got a penny, and if you save a  
6 cup of water, you got a cup of water, but  
7 you cannot save that cup of water if  
8 you're watering the pavement.

9 We have got to wake up, I  
10 understand that. I don't water my grass,  
11 I plant Buffalo. I understand Wichita  
12 needs more water. I was born and raised  
13 there, but I also understand that you  
14 cannot keep drawing out of the Equus beds  
15 to water Wichita. I also understand that  
16 you dump more chemicals on a fescue lawn  
17 than most farmers dump on their fields to  
18 grow wheat. I also understand that's  
19 what causes the algae blooms in the  
20 Arkansas River when they want to have the  
21 River Fest. We have got to wake up,  
22 Wichita. We're already awake. I don't  
23 know how to do it. All I can do is stop  
24 at McDonald's and say turn your water  
25 off. All I can do is call the City of

*CRS* Court Reporting Service  
MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

6. Water conservation now and in the future is an important component of the ILWSP. The City is not taking more water out of the Equus Beds aquifer nor increasing their water right to do so with the ILWSP. By recharging the aquifer through the proposed ASR facilities, the City is trying to maintain the water quality in the aquifer so that future use by both the City and the irrigators is maintained. Encouraging the reasonable use of more environmentally friendly fertilizers, insecticides and pesticides, and agricultural practices will help maintain water quality and quantity being used today. Water conservation is discussed in Section 2.3.1 of the EIS.

1 Wichita to turn your water off. All I  
2 can do is go into QuikTrip and say turn  
3 your water off. Can we tell them to turn  
4 their water off in any other way? I have  
5 no idea. I hope somebody else can come  
6 up with an answer.

7 MR. PINKNEY: Thank you. Do we have  
8 any other comments?

9 MR. DANIELS: My name is Bob  
10 Daniels, Valley Center. I just have --  
11 well, I have a lot of questions about  
12 this whole project, but let's stick to  
13 the urgent one.

14 Let's say we have a problem  
15 with a recharge and we do have  
16 contamination. What exactly are we going  
17 to do to clean it up? Once we  
18 contaminate the Equus beds, what then?  
19 Do we have any other options?

20 About 1982 or '83 we started --  
21 we -- Wichita moved a couple of  
22 bulldozers into the little river to clear  
23 it out presumably to keep it from  
24 flooding or something, but I have to tell  
25 you that when I was young, that water was

Mr. Bob Daniels

1. The EPA and Kansas Department of Health and Environment (KDHE) will be closely monitoring the construction and operation of the ILWSP. The City, in cooperation with these agencies, will set up the operational criteria that will be followed, including those to provide adequate water quality standards to protect the Equus Beds aquifer. Water quality standards of the recharge water including the monitoring of the source water and its treatment prior to recharge, have been tested and established over the past 5 years. The City, EPA, and KDHE have established plans to be used to prevent contamination to the aquifer; contamination for any length of time would have an adverse impact on the current use of the aquifer by irrigators, local municipalities, and the City. Included in these plans are procedures to be used in the event contaminated water were inadvertently used in recharge, including a specific process for correcting the contamination. A system of “checks and balances” has been specifically established cooperatively by these agencies to prevent such an event from happening. The City considers water quality and the maintenance of the Equus Beds aquifer as a water source for all users. Almost one-third of the cost of the Equus Beds Demonstration Project or about \$2 million was spent for water quality sampling, analysis, and the development of the ILWSP operational criteria.
2. The City certainly understands that the Little Arkansas River has changed in the last two decades. Many changes have also occurred in the river’s watershed, which no doubt has also affected the river’s streambed and banks. Given your observations, your opinion and concerns are understandable. Please be assured that it is not the intent of the City to adversely impact the Little Arkansas River or its ecosystem.

1 deep. That river bank was healthy.  
2 There were a lot of animals there. In  
3 fact, I've still got a picture I got a  
4 32-pound catfish there. The water's not  
5 that deep now. The river bed, the river  
6 bank, it's destroyed. I know that was  
7 twenty years ago but you can understand  
8 my apprehension in not saying something  
9 when Wichita starts to fiddle with that  
10 river and the Equus beds. If I live to  
11 be a hundred years old, my eyes will  
12 never see as robust and healthy river  
13 bank as I saw when I was a kid.

14 I was browsing through your web  
15 site -- you have a web site there, do you  
16 know?

17 MR. BLAIN: Yes.

18 MR. DANIELS: It's very interesting,  
19 I like to keep track of it, I have for  
20 quite sometime, although it's frequently  
21 temporarily out of service or there for  
22 awhile it was restricted, I know not why  
23 but I'm sure there was a good reason for  
24 it. But I noticed in '99 it said that we  
25 at Sedgwick experienced what they call

3. Streamflow in the Little Arkansas River has generally been consistently higher in the last 3 to 5 years due to the relatively “wet” years that have occurred. As a result, the average base flows in the river have likely been consistently higher. However, the base flow in the river over the last two or more decades has likely been lower, primarily due to the decreasing groundwater levels observed in the Equus Beds aquifer due to increasing groundwater pumpage. With the ILWSP in place and operating, the base flow in the Little Arkansas River is predicted to increase as groundwater is recharged and groundwater levels rise. Please see Appendix C, Section C-7 and Figure C-4 for further discussion and graphic illustration. The City appreciates your concerns.

1 overflow -- minimum stream flow  
2 requirements exceeded 42 feet per second  
3 365 days out of the year. Well, I tell  
4 you in August of that year, I was down at  
5 the river with my girl, she's six years  
6 old, and I jumped across it. It's eight  
7 feet, maybe six, eight inches deep. She  
8 crossed it and the water was not even  
9 over her socks. So I'm a little  
10 apprehensive that we were experiencing  
11 42 feet per second flow every day during  
12 1999.

13 Now I know there's engineers,  
14 of course, and I'm sure their gauges are  
15 as correct as they can be, but that river  
16 today is not nearly as high as it was  
17 when I was a lot younger.

18 So I'd like to leave you with  
19 this thought. You really -- when you  
20 moved in and cleared the river and those  
21 bulldozers came through, that destroyed  
22 that river bank and it will take another  
23 50 or 70 years before the amount of  
24 sediment and erosion that's polluting  
25 that river is healed by natural forces.

4. The City has many of the same concerns you have expressed in your comments. Please be assured that plans have been developed with input from many of the local stakeholders to address potential issues like contamination and water quality should future conditions warrant. The City intends to continue to provide ILWSP project status information via the existing website and contact with local entities such as Groundwater Management District #2 (GMD2).

1 If we inadvertently or accidentally pump  
2 contaminants into that Equus beds, Lord  
3 only knows how long that's going to take  
4 to fix. So I hope that somewhere,  
5 somehow we have a plan in place as to  
6 what's -- what we're going to do when the  
7 Equus bed if the Equus bed gets  
8 contaminated. Thank you.

9 MR. PINKNEY: Thank you. Do we have  
10 any other comments? In that case what I  
11 would like to do is close the meeting,  
12 close the record at this point. We will  
13 be here. We invite you to come up on  
14 stage to talk about the project, ask  
15 questions, whatever we can do to try to  
16 help explain what your concerns are, what  
17 concerns you may have. We'll be here as  
18 long as you want to talk and as long as  
19 we can help to try to alleviate or  
20 explain or offer some sort of other  
21 rationale for what you've seen or  
22 whatever you believe is going on or what  
23 the project may do.  
24  
25



**ORIGINAL**

PUBLIC HEARING  
FOR THE  
ENVIRONMENTAL IMPACT STATEMENT  
FOR INTEGRATED LOCAL WATER SUPPLY PLAN  
APRIL 24, 2002  
WICHITA, KANSAS

*CRS* Court Reporting Service  
MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

1 MR. BLAIN: My name is Jerry Blain.  
2 I work for the Wichita Water and Sewer  
3 Department. I'm the Water Supply  
4 Projects Administrator. This evening  
5 we're going to talk about the  
6 Environmental Impact Statement being  
7 created as part of our water supply  
8 projects. This is a document -- a draft  
9 document at this point in time and we'll  
10 be asking for comment from you.

11 What we'll kind of do is break  
12 this evening into three different pieces.  
13 First piece, Dr. Fred Pinkney with our  
14 consultant, Burns & McDonnell, will  
15 explain the purpose for the Environmental  
16 Impact Statement and what kinds of things  
17 we're looking at. We will then have an  
18 opportunity for you all to make comments  
19 about the Environmental Impact Statement  
20 if you wish to do that at this time. You  
21 can do oral comments and we have a  
22 reporter here that will record all that  
23 information, or you can put it in written  
24 form and give it to us, or you can wait  
25 until later to send it in to us. We will

1 be receiving comments on the  
2 Environmental Impact Statement until  
3 May 23rd, so there's an opportunity if  
4 you don't want to make comments tonight,  
5 you want to make them later you can go  
6 that route, too. And then when that is  
7 done, we'll close the hearing and the  
8 meeting -- I guess the formal part of the  
9 meeting, then we'll be able to do  
10 question and answer period on the water  
11 supply projects, what we're doing, status  
12 on the projects and anything you'd like  
13 to know about that either as a group or  
14 we've got lots of poster boards and stuff  
15 and resources here that we can answer  
16 questions one-on-one without the group  
17 setting if you prefer. So with that, I'm  
18 going to turn it over to Dr. Fred Pinkney  
19 and he'll explain what we're doing with  
20 the Environmental Impact Statement.

21 MR. PINKNEY: Thank you, Jerry. One  
22 of the things I guess I wanted to take a  
23 few moments to do is just very, very  
24 briefly tell you a little bit about and  
25 maybe reiterate a little bit about what

1 Jerry said about the purpose of the  
2 public hearing.

3 In 1969, Congress passed a  
4 piece of legislation called the National  
5 Environmental Policy Act and that  
6 particular act established a general  
7 policy that -- whereby environmental  
8 impact statements that were in the  
9 federal interests would be reviewed and  
10 open to the public in terms of the  
11 information they presented, the analysis  
12 they presented, basically be a public  
13 disclosure document.

14 Now, part of the public review  
15 period that Jerry mentioned that is  
16 ongoing at this point until the 23rd is a  
17 time for you, the public, to review the  
18 document and if you have any questions or  
19 comments, make those known. Our goal  
20 tonight is to listen to what you have to  
21 say about the draft EIS and that's what  
22 we're asking you to comment on either now  
23 or by May 23rd.

24 Normally it is a federal  
25 requirement that the public hearing be

1 held. In this particular instance and in  
2 this -- I guess I should say in this  
3 situation with the City of Wichita and  
4 the Integrated Local Water Supply Plan,  
5 there is no lead federal agency. Now the  
6 reason there isn't a lead federal agency  
7 is not because they haven't been asked  
8 but because they haven't expressed a  
9 strong interest in doing so. We have and  
10 we are continuing to involve all the  
11 federal agencies in this review process.  
12 They each have copies of the EIS. They  
13 have been involved in the processes all  
14 the way up through this point so they  
15 know what's going on. They know what the  
16 analysis are, what the issues are, what  
17 the components of the plan are, but they  
18 have not stepped forward, so to speak,  
19 and said, okay, we -- for example, the  
20 U.S. Army Corps of Engineers will be the  
21 lead federal agency for this project.  
22 What this does is that it doesn't allow  
23 us to file the EIS with the Environmental  
24 Protection Agency.

25 Now two things really

*CRS* Court Reporting Service  
MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

1 contribute to whether or not an EIS  
2 represents a federal action or not. One  
3 is whether or not there's any federal  
4 money involved, and in this particular  
5 instance there is no federal money  
6 involved in this project. The second  
7 item is that if there is a special permit  
8 or a federal permit that will have to be  
9 issued for the project to be built or  
10 constructed or operated. In this  
11 particular case, there will be specific  
12 projects -- or specific permits issued by  
13 various federal agencies or approvals,  
14 but they do not consider them to be of  
15 significant magnitude enough for them to  
16 be that lead federal agency. It doesn't  
17 mean we haven't asked, it doesn't mean we  
18 don't continue to ask. They haven't  
19 stepped forward.

20 Now should there be a time when  
21 a federal agency says, okay, we'll  
22 contribute some money to this project for  
23 its construction, then at that point they  
24 become the lead federal agency. And if  
25 that happens, then what our goal is is to

1 go through the entire NEPA process which  
2 is what we're doing with the EIS and  
3 preparing it and let them have the  
4 opportunity to adopt the existing  
5 Environmental Impact Statement rather  
6 than go through the entire all the  
7 different steps again. So what we're  
8 trying to do is save some time and be  
9 able to move forward with this project on  
10 a more timely basis.

11 By doing this, the City has  
12 assumed quite a proactive stance because,  
13 once again, it's not a required thing.  
14 It is not required for the City to have  
15 done -- prepared an EIS for this project  
16 because of those reasons I explained  
17 earlier.

18 As Jerry also mentioned, we do  
19 have a court reporter present tonight who  
20 is transcribing everything that's being  
21 said. It will be entered into a record  
22 which will be included in the final  
23 Environmental Impact Statement verbatim.  
24 What we will present -- or what I will  
25 present will give you a very brief

1 overview of what the project is about  
2 tonight and then we will ask for any  
3 comments that you may have. You do not  
4 have to give them tonight, but if you do  
5 want to you can give them verbally.  
6 They'll be transcribed into the record.  
7 You can also provide them in writing.  
8 They will appear in the final EIS as you  
9 give them to us, or you can send them in  
10 later by the 23rd of May is what we would  
11 certainly prefer. And again, those  
12 letters, comments that you provide at  
13 that time will also be included in the  
14 final EIS verbatim and we will respond to  
15 each comment that you have.

16 When we do complete the  
17 presentation here and ask for the  
18 comments, what we ask you to do is state  
19 what your name is and perhaps spell it so  
20 it can be accurately recorded into the  
21 record and then present your comment. We  
22 ask you that if you do make a comment, if  
23 you can keep it to within -- or less than  
24 five minutes at this time, we want to  
25 make sure everybody has an opportunity to

*CRS* Court Reporting Service  
MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

1 talk or to have -- present their comments  
2 and if we need more time later, we'll  
3 come back. Then at that point once  
4 everybody's had a chance to make their  
5 comments, we will close the record  
6 officially and once the record is  
7 officially closed then we will be more  
8 than willing and more than happy to talk  
9 with you one-on-one as a group and try to  
10 answer whatever questions you might have  
11 specifically at that time about the  
12 project.

13 Now let's talk just briefly  
14 about the purpose and need for the  
15 project. The Integrated Local Water  
16 Supply Plan, the ILWSP acronym up there,  
17 is the City's water supply plan. The  
18 goals of it were to develop a reliable  
19 water supply through the year 2050,  
20 approximately a 40 to 45-year planning  
21 horizon. And then the second goal is to  
22 protect the Equus beds water quality,  
23 existing water supply the City uses quite  
24 a bit. The objectives of the plan were  
25 to meet the 2050 net water needs and

1 these were essentially to provide an  
2 extra 22 million gallons per day, MGD,  
3 for the average day demand and an  
4 additional 28 million gallons per day to  
5 satisfy the maximum day demands.

6 When you look at and try to  
7 resolve and satisfy these types of  
8 quantities of water needs, you look at a  
9 large variety of alternatives initially.  
10 You look at all the alternatives that you  
11 can come up with that the agencies think  
12 that might be viable, that the public  
13 thinks that are viable, and you make what  
14 we call hopefully a rather complete list  
15 of realistic feasible alternatives.

16 Now they don't all have to fit  
17 into those categories initially. You  
18 pass these through a rather rigorous  
19 screen eliminating those who cannot meet  
20 the need and keeping those that can. In  
21 this particular instance, we looked at 27  
22 different water supply sources. Fourteen  
23 of those were considered to be  
24 conventional type sources and these  
25 included such things as water from

1 existing reservoirs or proposed  
2 reservoirs, from various groundwater  
3 aquifers, looking at river flood flows or  
4 perhaps changing operations of existing  
5 supplies to more efficiently use that  
6 water. Thirteen of them were what we  
7 considered to be non-conventional and  
8 these were things like using flood waters  
9 in reservoirs, using the flood water  
10 portion, using the above -- what is  
11 called above average stream flow, treated  
12 wastewater reuse, remediated groundwater,  
13 bank storage, and that's an alluvial --  
14 what water is in the alluvium along  
15 rivers and streams, rain harvesting,  
16 water conservation, so forth.

17 Now after you screen -- after  
18 we screened these alternatives, the ones  
19 that were considered to detail were water  
20 conservations. Water conservation became  
21 a component of all the alternative -- of  
22 all plans. It was not excluded under any  
23 condition because water conservation from  
24 a federal standpoint is considered to be  
25 a mandated requirement.

1 Another -- or other  
2 alternatives that were considered in  
3 detail the use of them were of course  
4 some existing resources, Cheney  
5 Reservoir, but perhaps changing the  
6 operations a little bit, reactivating the  
7 Bentley Reserve Well Field, expanding the  
8 local well field here in the City of  
9 Wichita. Developing an -- what is called  
10 an Aquifer Storage and Recovery project  
11 in the Equus beds and basically what this  
12 means is you put water into the Equus  
13 beds during wet years and you take it out  
14 during dry years when you need it. But  
15 there is a balance as we'll perhaps  
16 describe a little bit later.

17 There is another alternative  
18 that is required from the federal  
19 standpoint and an EIS and that's what's  
20 called the no-federal action. The  
21 no-federal action basically describes if  
22 there was nothing done, what would be the  
23 future conditions. So it gives you the  
24 baseline from which you compare how the  
25 other alternatives meet or don't meet the

1 identified need.

2 The components of the  
3 Integrated Local Water Supply Plan  
4 ultimately became the water conservation,  
5 Cheney Reservoir, the reactivation of the  
6 Bentley Reserve Well Field, expansion of  
7 the local and the Equus beds ASR, or  
8 Aquifer Storage and Recovery plan -- or  
9 system. Those all became part of the  
10 plan that the City has developed -- is  
11 proposing as their preferred alternative.

12 The Equus beds -- each one of  
13 these sources is made up of different  
14 components of the more than perhaps one  
15 particular facility. For example, the  
16 Equus beds aquifer Storage and Recovery  
17 system includes a surface water intake,  
18 diversion and recovery or recharge wells,  
19 presedimentation plant and various  
20 transmission pipelines. So they are all  
21 made up of usually more than one  
22 component to make up -- or to utilize a  
23 water source and to make a plan.

24 Now the EIS looks at the  
25 various environmental issues and concerns

1 that were identified both by the public  
2 and the regulatory agencies, state and  
3 federal. These included such things as  
4 the impacts to wetlands, threatened or  
5 endangered species, land use and  
6 specifically prime farm land, the  
7 fisheries both of the existing Cheney  
8 Reservoir and the Little Ark and Big Ark  
9 Rivers, the riparian vegetation that  
10 occurs along each of these streams, and  
11 recreation values.

12 If you once again looked at  
13 what would be considered within each  
14 group of those issues as environmental  
15 issues and concerns, if you just look at  
16 threatened or endangered species, for  
17 example, this is the list of the species  
18 that were considered and looked at in the  
19 Environmental Impact Statement as  
20 recommendation of Fish and Wildlife  
21 Service and the Kansas Department of  
22 Wildlife and Parks.

23 Now I'll just briefly talk  
24 about the mitigation that's been  
25 proposed. I guess one of the things to

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

really recognize and perhaps remember is that the Integrated Local Water Supply Plan would be developed in phases, and by doing so, if the City needs the next phase then it would consider both the next phase. They will develop one phase at a time, determine how well that functions, does it satisfy the needs, does it meet the needs, do we need the next phase. If you don't need the next phase, you don't build the next phase. The agencies -- the regulatory agencies like the Corps of Engineers, Fish and Wildlife Service, again Kansas Department of Wildlife and Parks had no real specific mitigation requirements. We have been coordinating with them since day one of this effort. There are certain state and federal permits that will be required for the construction of the project. This includes such things as permits from the U.S. Army Corps of Engineers, approvals from Fish and Wildlife Service for threatened and endangered species impacts, and

1 coordination with the State Historic  
2 Preservation Office, for example.

3 What Kansas Department of  
4 Wildlife and Parks and Fish and Wildlife  
5 have recommended is that we develop what  
6 is called a -- or what we would call a  
7 hydrobiological monitoring plan in  
8 association with those two regulatory  
9 agencies to determine what the project  
10 impacts possibly could be, and this will  
11 be done before -- the plan is in the  
12 development stages at this time and would  
13 be implemented before the project would  
14 begin operation.

15 This gives you, I hope, a  
16 little bit of an overview of what is in  
17 the EIS. What we would like to do at  
18 this point in time is ask for your  
19 comments if you have any. We'd be --  
20 very much like to hear them, like to have  
21 them transcribed into the record, and if  
22 you do not feel like you are prepared at  
23 this time, please don't feel like they  
24 won't be considered if you send them in  
25 because they certainly will be. Once

1 again, they will appear and will appear  
2 in the final Environmental Impact  
3 Statement and we would like to know what  
4 you're thinking, know what your concerns  
5 are.

6 As soon as we close the record  
7 and as soon as you've made all your  
8 comments and we close the record then we  
9 will be very, very happy and willing to  
10 talk with you again one-on-one try to  
11 answer whatever questions we can. And I  
12 won't say we can resolve all the issues  
13 but we can certainly try.

14 With that in mind, if you have  
15 a comment or would like to make a comment  
16 if you don't mind signifying, we would  
17 like to hear you.

18 MRS. BECKEL: Well, I'm not for it.

19 MR. PINKNEY: Would you say your  
20 name?

21 MRS. BECKEL: My name is Dorothy  
22 Beckel and I am against it, however, I  
23 don't drink the water -- city water  
24 because it's bad enough. I pump water  
25 and I'm just not -- having it pumped out

Response to comments presented during the April 24, 2002 Public Hearing on the Draft EIS.

Ms. Dorothy Beckel

1. The City understands your feelings about the ILWSP and your concerns about the water quality of the Little Arkansas River. Thank you for participating and providing your comments at the public hearing.

1 of the river? You know, that river I  
2 have seen it real almost dry and I can't  
3 see the purpose of doing it because we've  
4 lived over there by the river for many  
5 years and when the water gets down too  
6 low, it does begin to stink. I'm just  
7 not for it.

8 MR. PINKNEY: Thank you. Any other  
9 comments?

10 MR. GRAVES: My name is John Graves.  
11 I guess I have more questions probably  
12 than comments, and I guess I'll go  
13 through them and if you want to address  
14 them, fine, or if you want to wait until  
15 after the hearing, that's fine.

16 I've read the executive summary  
17 of the EIS and a question I have is can  
18 Cheney Reservoir be maintained at or  
19 above the conservation pool level given  
20 the 60 percent of the city water supply  
21 that it represents and the maximum  
22 gallons per day that are projected in the  
23 plan? I don't know if that's addressed  
24 in the detailed portion of the EIS or  
25 not. Can you comment on that?

Mr. John Graves

1. As described in Section 4.4.1.3.4, Cheney Reservoir, of the EIS, the No-Action Alternative would increase the stress on Cheney Reservoir with time as the City's water demands continue to increase. Under these conditions, water levels in the reservoir may be 2 to 3 feet lower than experienced today. With either of the proposed ILWSP alternatives, reservoir water levels would be maintained about 0.4 to 0.6 feet higher than found today. Pool levels in Cheney Reservoir will continue to fluctuate as they do now due to changing hydrologic conditions and withdrawal rates. Large fluctuation in water surface elevation can continue to be expected during drought situations. However, implementation of the ILWSP will reduce the magnitude of the water surface elevation fluctuations and the frequency with which they would be expected to occur with normal operations. With the ILWSP in place, median monthly pool level elevations are expected to increase by two to three feet.

1 MR. PINKNEY: Yes, it is and we can  
2 talk more about that after while if  
3 that's okay with you.

4 MR. GRAVES: The second thing is,  
5 again I didn't see it in the executive  
6 summary, but I would like to know if  
7 there's any thought or consideration  
8 given to increasing the cost of water  
9 usage particularly to, you know,  
10 excessive water usage to encourage  
11 conservation during the plan. And I know  
12 you mentioned in the summary that there  
13 are conservation aspects to each  
14 component -- or to the components of each  
15 plan and certainly something that should  
16 be considered.

17 The third one is I guess I have  
18 a question of what the impact is on the  
19 vendors and users of Cheney Reservoir.  
20 Obviously socioeconomic considerations  
21 need to be included. There's quality of  
22 life issues as well as economic issues  
23 that are represented by the reservoir and  
24 the Big Arkansas and Little Arkansas  
25 River that should be considered.

2. As discussed in Sections 1.3.4 and 2.3.1, the City has an inverted water rate structure to promote water conservation in place today. As you know, this type of rate structure is designed to encourage water conservation by providing lower water costs to those customers that use a lower quantity of water. The continued use of this type of rate structure as well as the implementation of other conservation methods will be needed by the City in the future to maintain water use levels in Cheney Reservoir at their desired levels.
3. As discussed in Responses No. 1 and 2 above, increased water demands will impact water levels at Cheney Reservoir without the ILWSP in place. Lake water surface levels would increase with the No-Action alternative, impacting the recreational vendors and users at the reservoir.

As you know, Reclamation presented a list of needs when they requested authorization and funding for the Wichita Project and Cheney Reservoir from the United States Congress. Recreation was not specifically considered at the time to be a primary project purpose. However, recreation was considered as a secondary purpose and \$380,000 were initially awarded for the development of recreation facilities at Cheney Reservoir. Subsequent agreements were implemented between Reclamation, the State of Kansas and KDWP, and the City whereby public recreation facilities were developed.

With development of the ILWSP, the median water surface elevations at Cheney Reservoir would be 0.4 to 0.6 feet higher than found today. The socioeconomic and quality of life impacts associated with a slightly higher water surface elevation at Cheney Reservoir will be a positive effect for the current vendors and users.

1                   And finally probably a long  
2 shot is is it viable or is it a  
3 consideration to increase the capacity of  
4 Cheney Reservoir somehow either by  
5 cleaning up the water that runs into it  
6 and/or dredging it to increase the  
7 capacity as a part of the water supply  
8 plan. There are more questions than  
9 comments, I guess.

10                   MR. PINKNEY: And we can try to  
11 answer those. Thank you. Any other  
12 comments at this time?

13                   At this point I guess I would  
14 like to go ahead and officially close the  
15 record then.  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



*Court Reporting Service*

MIDCITY PLACE  
115 EAST DOUGLAS  
WICHITA, KANSAS 67202  
TELEPHONE (316) 267-1201

4. The ILWSP does not propose to increase the capacity of Cheney Reservoir using methods such as dredging. In addition, recent sedimentation studies conducted by Reclamation indicate that Cheney Reservoir is not filling with sediment at the rate originally predicted. Removal of sediment by dredging the reservoir would be very expensive relative to the amount of water storage capacity gained and is not part the City's master water plan. Lastly, the City is currently working closely with landowners in the North Fork of the Ninnescah watershed, Reclamation, and other stakeholders to implement a watershed management plan. The purpose of the watershed management plan is to improve the water quality in the reservoir by altering tillage and fertilizer application techniques to reduce the quantity of incoming total suspended solids and phosphorus loading, the frequency of pesticide and insecticide applications and runoff, and sediment production disturbance without the use of erosion control techniques.

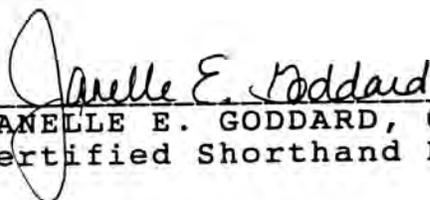
C E R T I F I C A T E

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

STATE OF KANSAS )  
                          ) ss:  
SEDGWICK COUNTY )

I, Janelle E. Goddard, a Certified Shorthand Reporter within and for the State of Kansas, do hereby certify that the foregoing is a true and correct transcript of the hearing held at the time and place hereinbefore set forth.

WITNESS my hand and official seal at Wichita, Sedgwick County, Kansas, this 29th day of April, 2002.

  
\_\_\_\_\_  
JANELLE E. GODDARD, C.S.R.  
Certified Shorthand Reporter