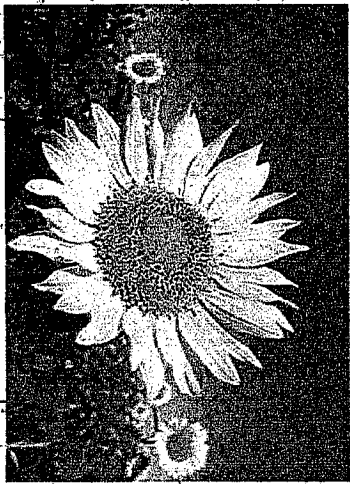


Missouri River to Western Kansas Transfer, Hydro Power Element

*Conserving the Ogallala Aquifer
And Kansas Surface Water*



*Kansas Grows Where Water Flows!
The Kansas Aqueduct Project*

*Mark Rude
Southwest Kansas Groundwater Management
District No. 3*

 Hydroelectric Facility
 1982 Route

Policy Challenge

What is the Kansas Vision?

- *What is the Kansas Water Supply outlook?*
- *Governor's call for a 50 Year vision for Kansas water is developing now.*
- *How can Kansas water management best position Kansas to meet the future global need for food and water?*

A Big Kansas Water Gap – Western

Kansas

- SW Kansas - Very low natural aquifer recharge rates in Southwest Kansas of .41 inches per year.
- Modeling in SW Kansas indicates only nine percent of the two million acre feet used annually in southwest Kansas is sustainable.
- Irrigation linked agribusiness is the big economic engine and opportunity for Kansas.

Economic Activity Per Irrigated Acre

- One less irrigated acre will lead to an estimated loss of value to Kansas of
 - \$2,200 land resell value
 - 122.5 bu of corn * \$6.78 = \$831
 - 2 cattle on feed, approximately equal to 1,060 usable pounds of meat or a 2012 wholesale value of \$3,080
 - This is a yearly loss of **\$3,911**
 - There are **1,500,000 acres irrigated annually in GMD3**

* assumes an average price of \$2.90/lb. of beef (from KSDA presentation to Governor's economic advisory council, Dodge City, 2013).

Water Challenges

10-5

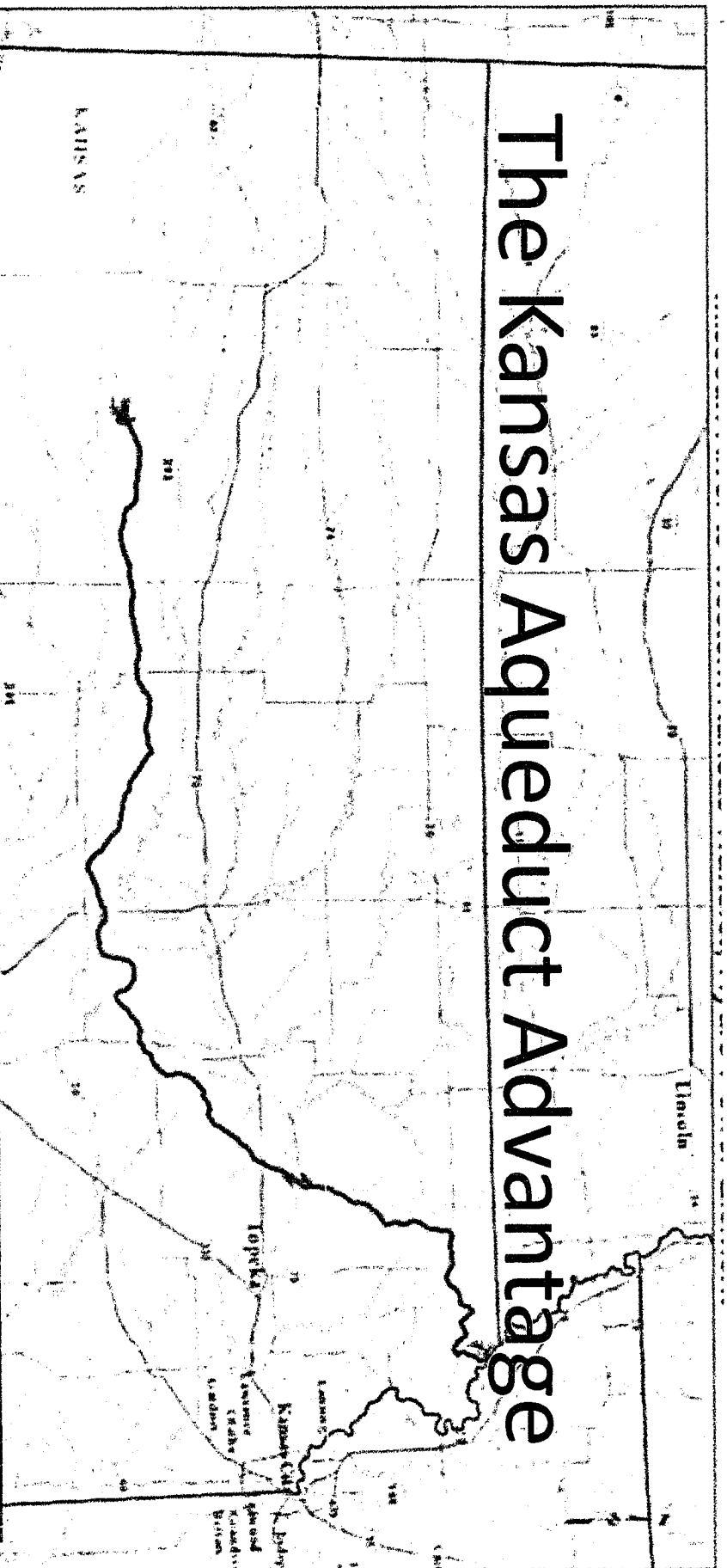
If we take no action in the next 50 years:

- The Ogallala will be 70 percent depleted
- Another roughly 40% of the area irrigated with Ogallala water won't support a 400 gallon per minute irrigation well
- Our water supply in federal reservoirs will be 40% filled with sediment
- Five of the seven basins in which reservoirs support our municipal and industrial water use won't be able to meet demands during a drought

A matter of Kansas Public Interest

- delaying action by Kansans on a major water transfer project;
 - Until either the unyielding laws of hydrology naturally close the supply to demand gap
 - or the legal principles of priority and administrative regulation artificially reduce water use, to achieve a balance in supply
 - assures an inevitable devastation of Kansas communities and an exodus of families and investment capital from western Kansas.

The Kansas Aqueduct Advantage

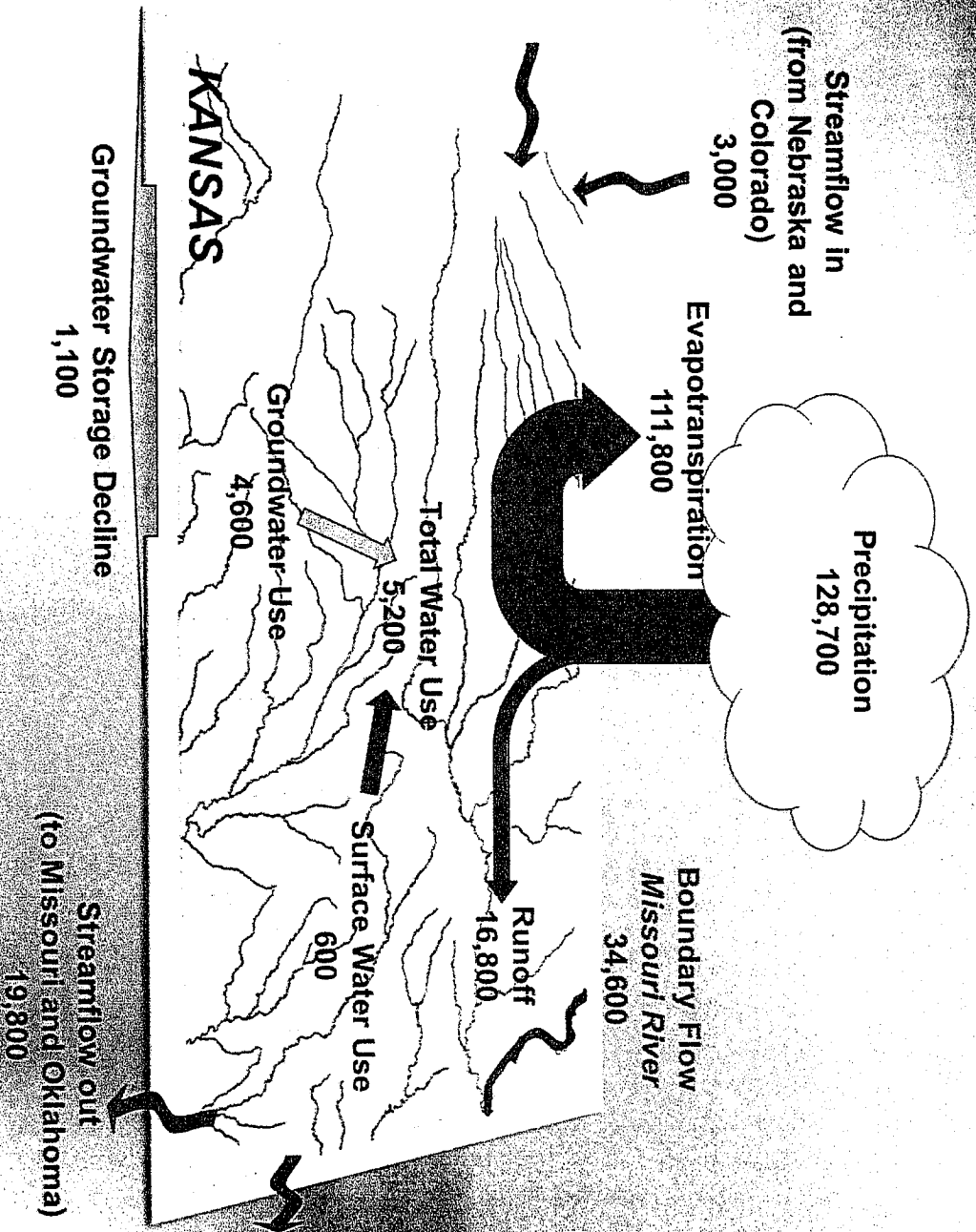


- **Developing an infinitely renewable water supply system is as important for Kansas as it is a factor in sustaining our nation's ability to feed and fuel its people, especially during times of widespread national drought.**

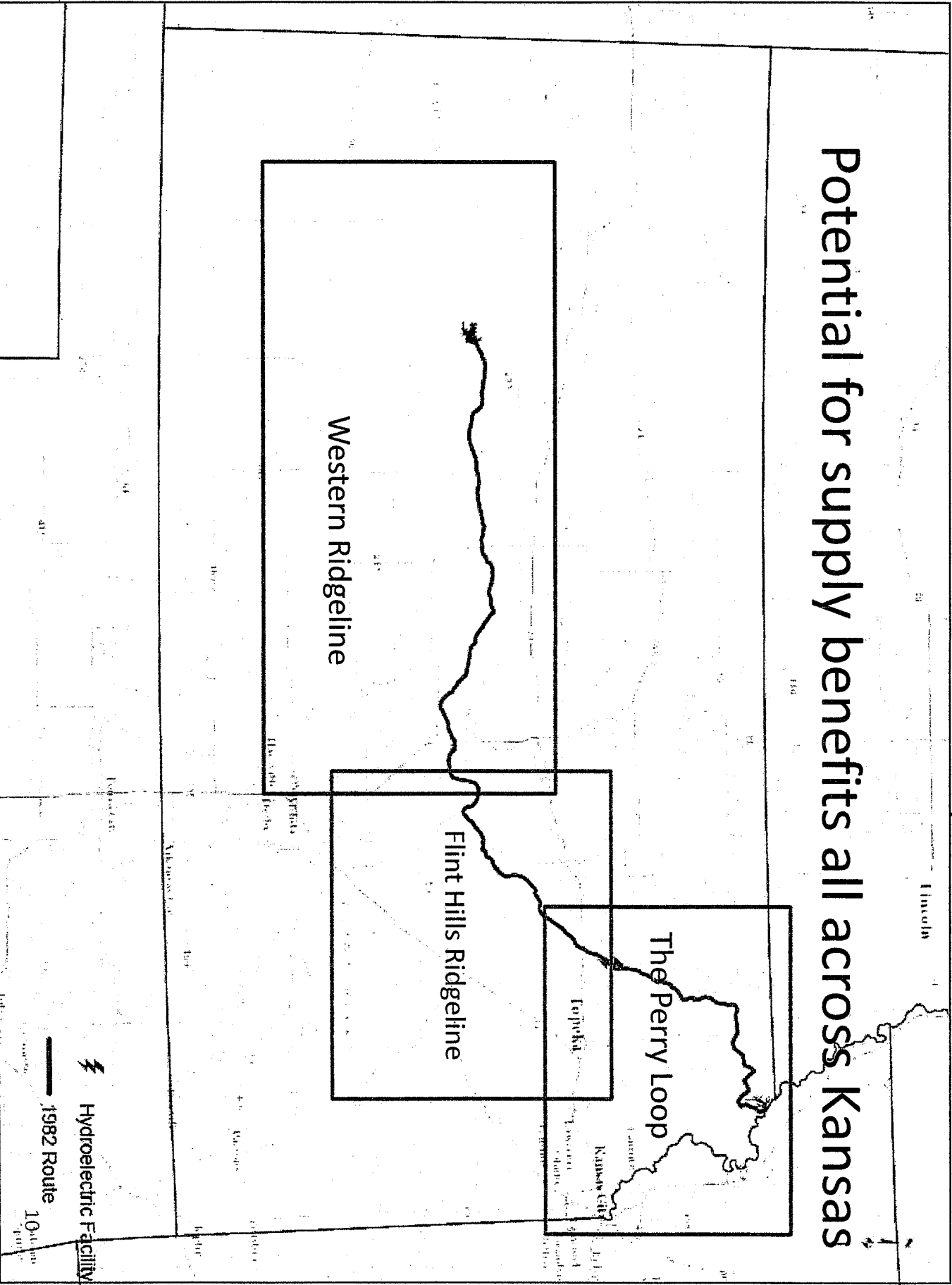
Kansas Water to Manage

From draft State Water Plan, October, 2013

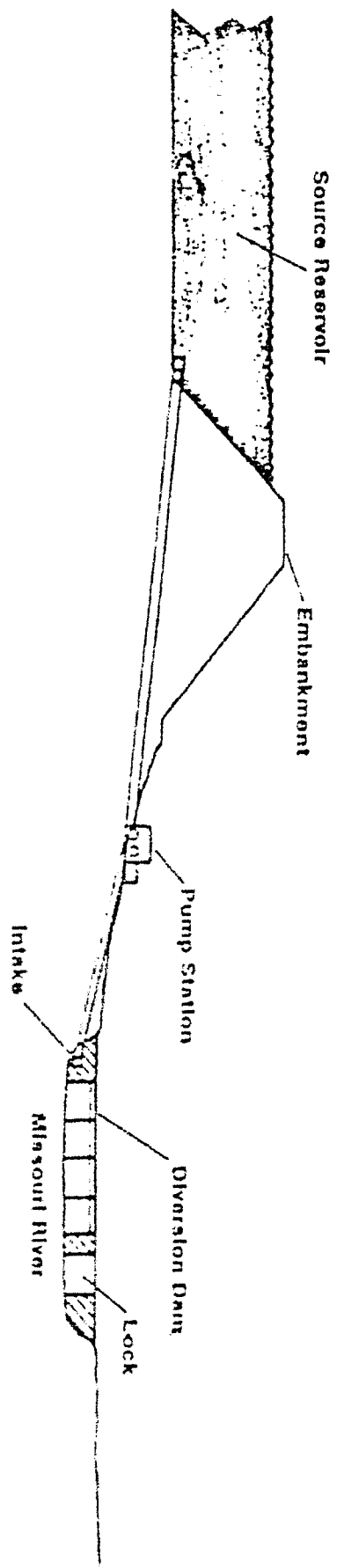
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Potential for supply benefits all across Kansas



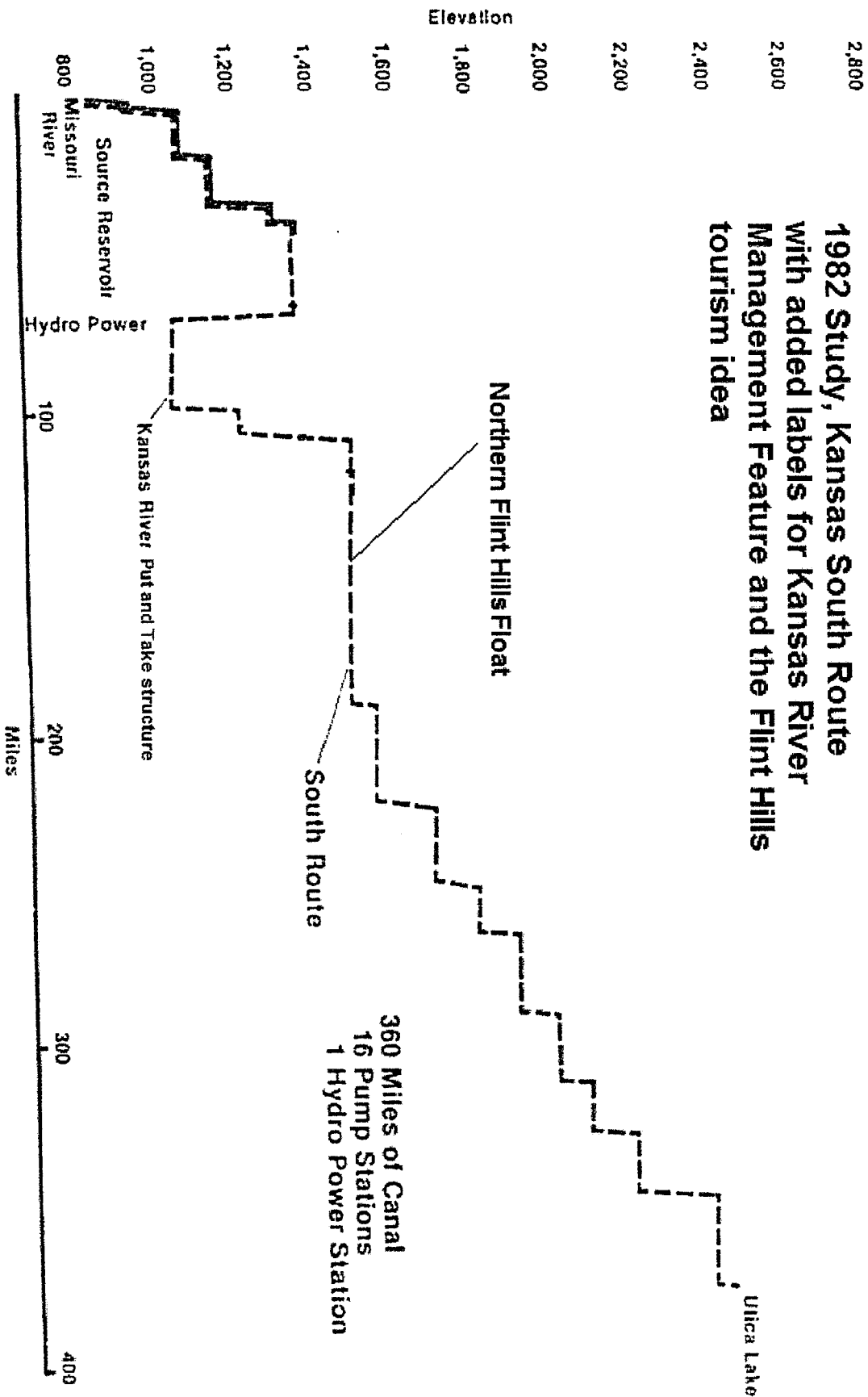
1982 study: Envisioned a river dam
w/navigation lock, pump intakes and
source reservoir.



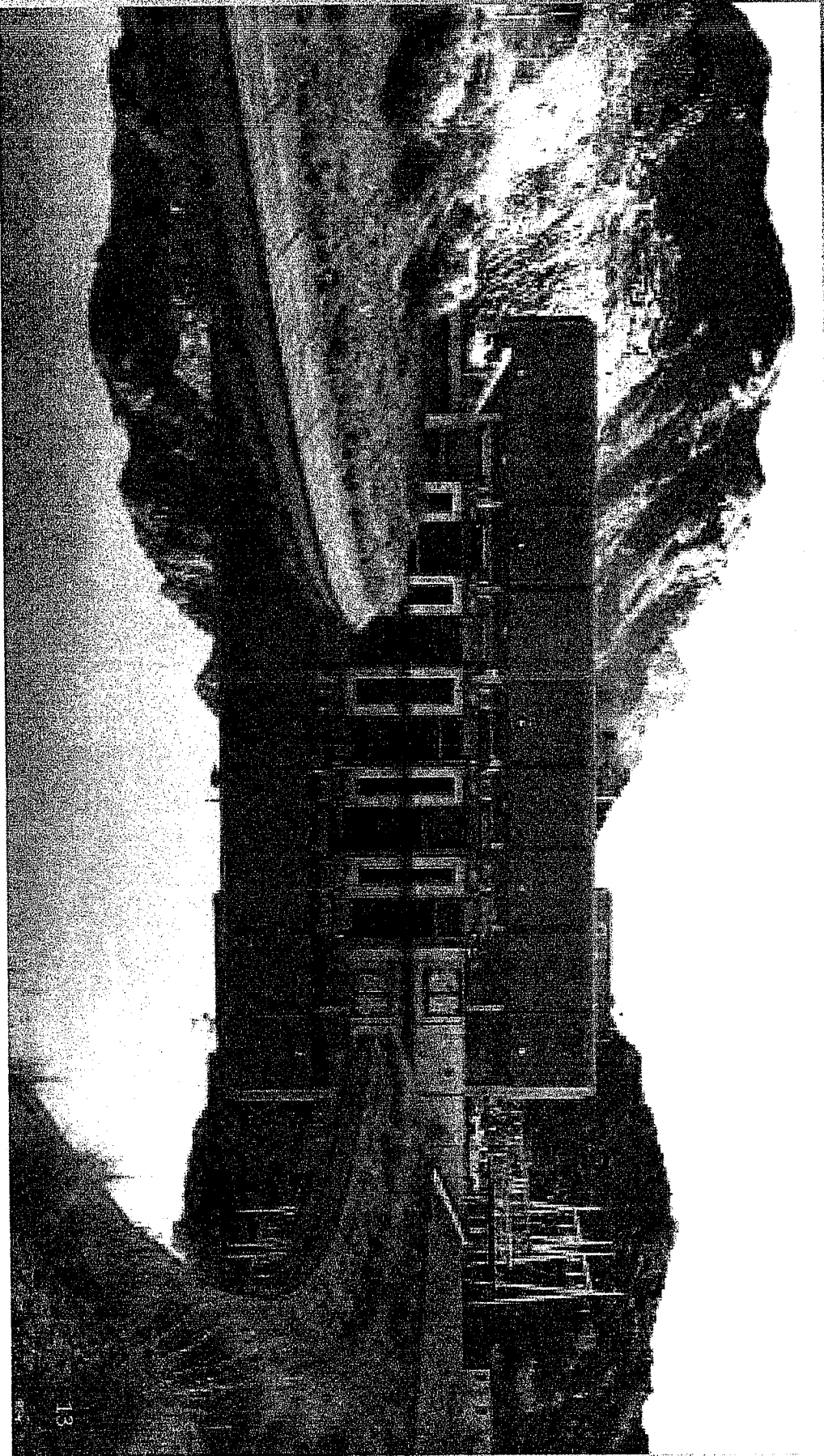
Source Features

Kansas South Route preferred

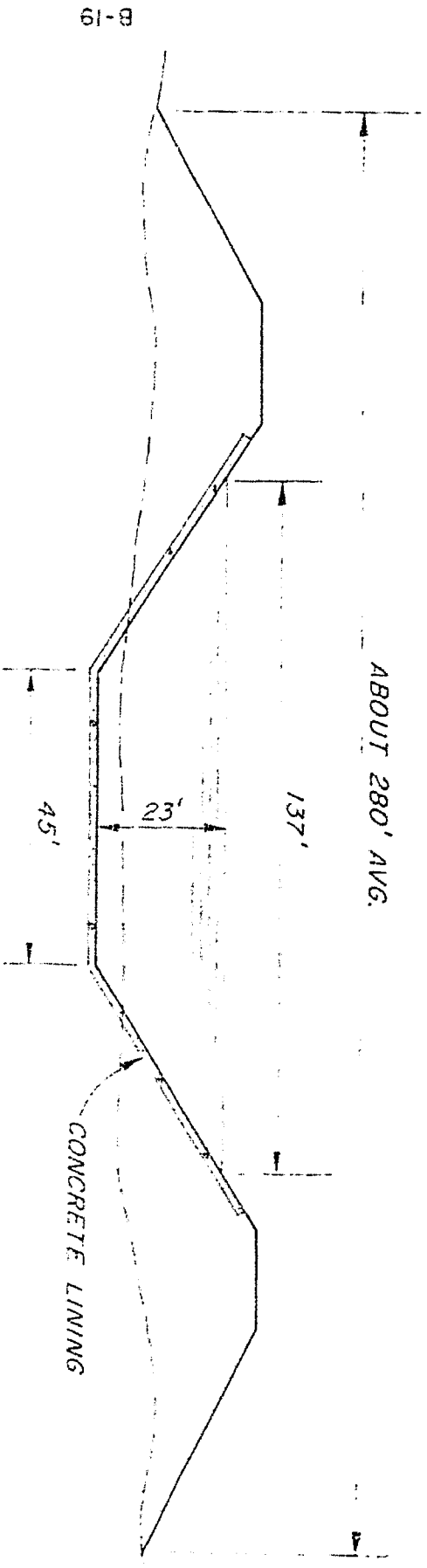
1982 Study, Kansas South Route
with added labels for Kansas River
Management Feature and the Flint Hills
tourism idea



1982 Study: water lifted west with 16 pump stations, and gravity flow between stations



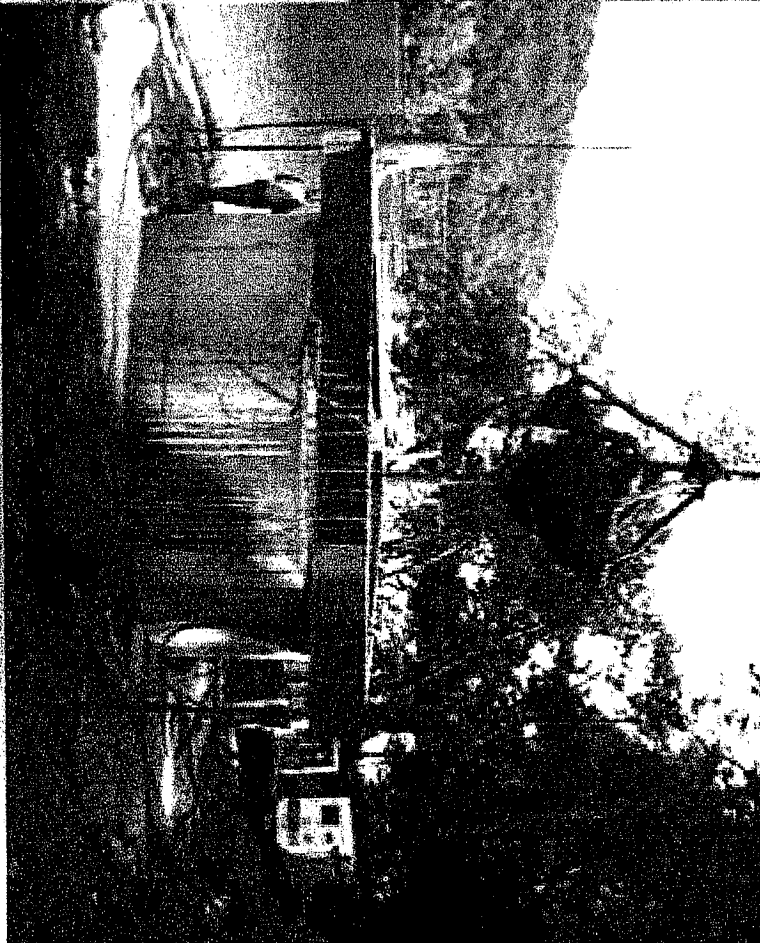
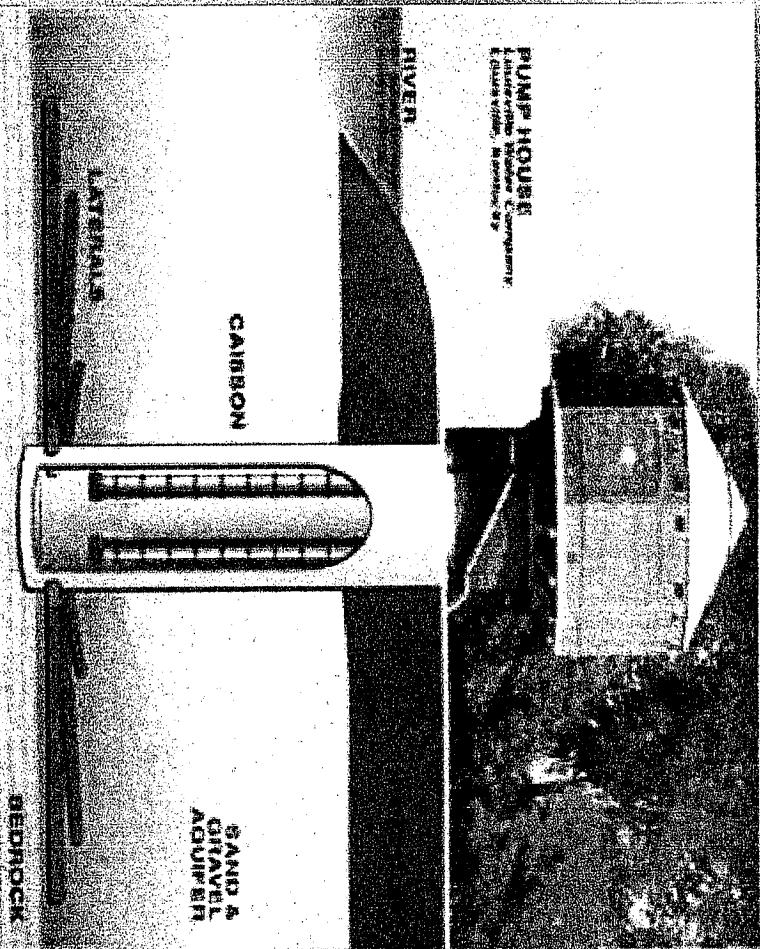
Canal size or capacity may depend on the final project elements



6,830 C.F.S. CANAL

FIGURE 5 - TYPICAL CANAL DESIGN

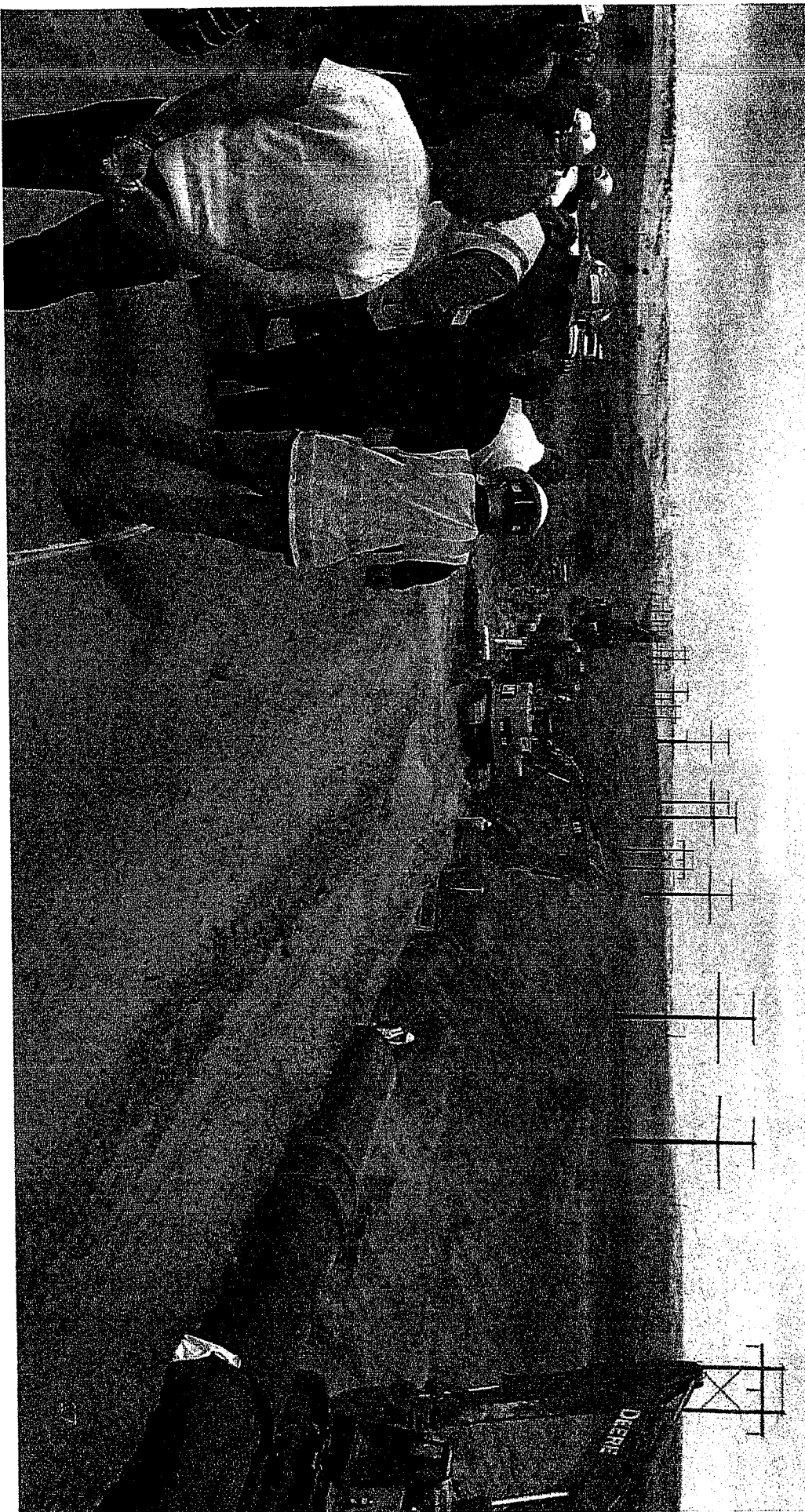
Less river intrusive diversions: bank storage (collector) wells



Proposed Bank Storage Well Locations



Expensive pipeline alternatives solve
some issues and create other



10-17

Kansans Financial Future

- The KAP must be vigorously pursued while production income, property values and the strong agriculture economic system are in place to support the project.

- The significant cost of Kansas water will have its effect on Kansans:
 - as an ebbing economy and lost opportunity cost,
 - **Or, as an investment cost for a sustainable, growing Kansas economy.**

Elements of the Kansas Aqueduct Project

- The work of the KAP is doing what must be done to grow and sustain future generations of Kansans.
- Missouri River high flows harvested to meet existing and foreseeable water demands.
- Put-and-Take structure in the Kansas River to improve water supply and management options.
- Benefits each area across Kansas, including social, food security, energy and environmental benefits.
- Use together with Kansas Aquifers and Reservoirs provides investment confidence and economic sustainability.
 - Replace dependence on depleting Ogallala/High Plains Aquifer
 - No expansion of irrigated acres.
 - Integrates into concerns for Kansas reservoir sustainability

Kansas Water Appropriation Policy

- Kansas water law dedicates Kansas water to Kansans, and dictates that first in time is first in right.
- An act by Kansans to formally seek available Kansas water to meet existing Kansas needs should be viewed as an appropriate and necessary action under Kansas law.
- Key initial application elements for a Kansas allotment proposal:
 - Access to Point of Diversion from the supply
 - Filing Fee based on amount requested

Aqueduct Issues Continuum

One step at a time

- Initial Kansas water appropriation filing.
 - Who's in?
 - Studies; "Will this dog hunt?"
 - Financing the benefits; who pays?
 - Is there synergy in moving energy and water together?
 - Support from indirect beneficiaries: tourism, recreation, habitats, etc.
 - Concerns over eminent domain affects on private Kansans
 - Concerns by neighbors outside the dedications of Kansas law
 - Federal Thinking; The Nature of the "triple bottom line."
 - The TBL is the new accounting framework adopted at the federal level to incorporate three dimensions of federal investment performance: social, environmental and financial.
 - Differs from traditional reporting frameworks as it includes ecological (or environmental) and social measures that can be difficult to assign appropriate means of measurement.
 - The TBL dimensions are also commonly called the three Ps: people, planet and profits
 - Backlog of federal projects that are authorized but not funded may hold up federal involvement beyond study
- States express concern in court over the effects of the project on their water supply and navigation.
Changing USACE administrative policies developed with other Federal agencies broadly applied with little local input or flexibility.

Need for Institutional Help

- Southwest Kansas GMD3 recognizes the problem of no sustainable water supply and is working the problem using the institutional tools available.
- Absent other options to existing legislative policy, GMD3 and partners will seek to secure an appropriation of water from the Missouri River early in the Kansas Aqueduct Project conversation.
 - A reasonable change to the nearly \$900,000 statutory filing fee is appropriate.

Providing for a Kansas Aqueduct Authority

- would improve the acceptance of the effort by all Kansans as a project for all of Kansas
- would avoid specific up front water claims to specific areas of the state
- would assist in moving the Kansas interest and benefits forward as a necessary Kansas project.

Need for Institutional Help

- Current Policy: dedicating Kansas Water to Use involves a “person” filing an application to appropriate available Kansas water.
 - 1) Consider a special legislative dedication of Kansas Missouri River Water to an Aqueduct Project in place of an appropriation priority filing by a person or coalition.
 - 2) Kansas should consider the existing provision in Kansas Law of special water districts and the Kansas Turnpike Authority and craft enabling legislation for a Kansas Aqueduct Authority.

YES on 4A is about accessing dependable sources of water. It's about protecting our local farms and ranches. It's about preserving our rural environments, open space and quality of life.



Secure Water



Prevent Farm Dry-Ups



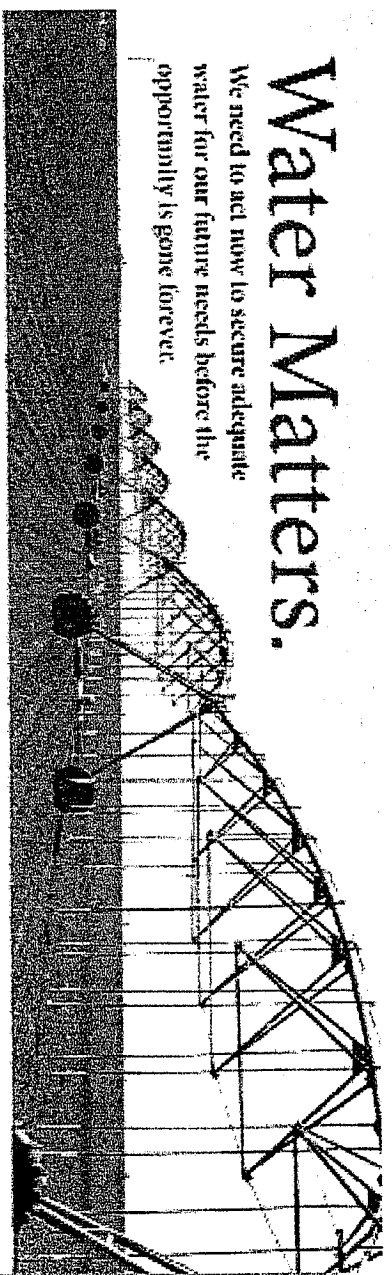
Keep Ranches Working



Protect Our Local Economy

Water Matters.

We need to act now to secure adequate water for our future needs before the opportunity is gone forever.



Find out if you're for water. Visit www.YesForWater.org

www.YesForWater.org

A Recent successful \$60 million Bond Election campaign by the local Central Colorado Water Conservancy District to purchase senior water rights to assure water to local farms and communities.

10-25

Water is the lifeblood of farming and ranching. And both industries play a major role in our local economy and quality of life. Vote YES on Measure 4A to attack



13 thousands of jobs, raising the average and performance of our agricultural sector. We will continue to support the local economy and quality of life. Vote YES on Measure 4A to attack the local economy and quality of life.



YES on 4A is about protecting the sustainable sources of water. It's about protecting our local farms and ranches. It's about protecting our quality of life.



Secure Water • Preserve Farms • Keep Ranches Working • Protect Our Local Economy

Water Matters.

Your YES vote on Measure 4A will secure water for the long term and protect our local economy.

The Problem...

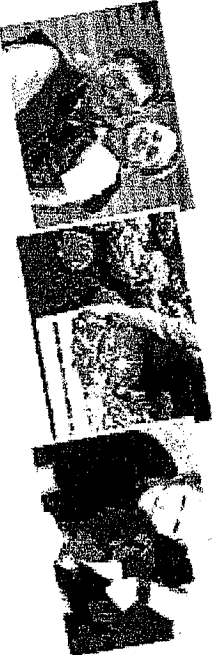
Higher property taxes will reduce the amount of water available for agriculture and ranching.

- Higher property taxes will reduce the amount of water available for agriculture and ranching.
- Measure 4A will protect the local economy and quality of life.
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The Solution...

By voting YES on Measure 4A, you will help to ensure that water is available for agriculture and ranching for the long term.

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Measure 4A is a small investment with a big return for our local economy.

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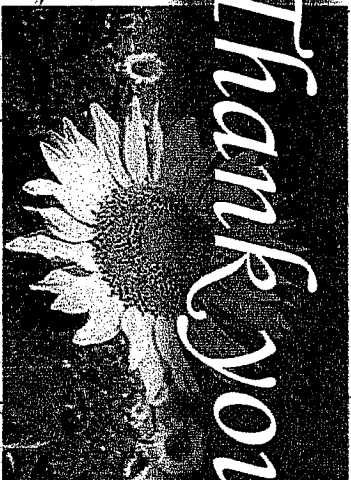


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Thank you!



*Kansas Grows Where Water Flows!
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Southwest Kansas Groundwater Management

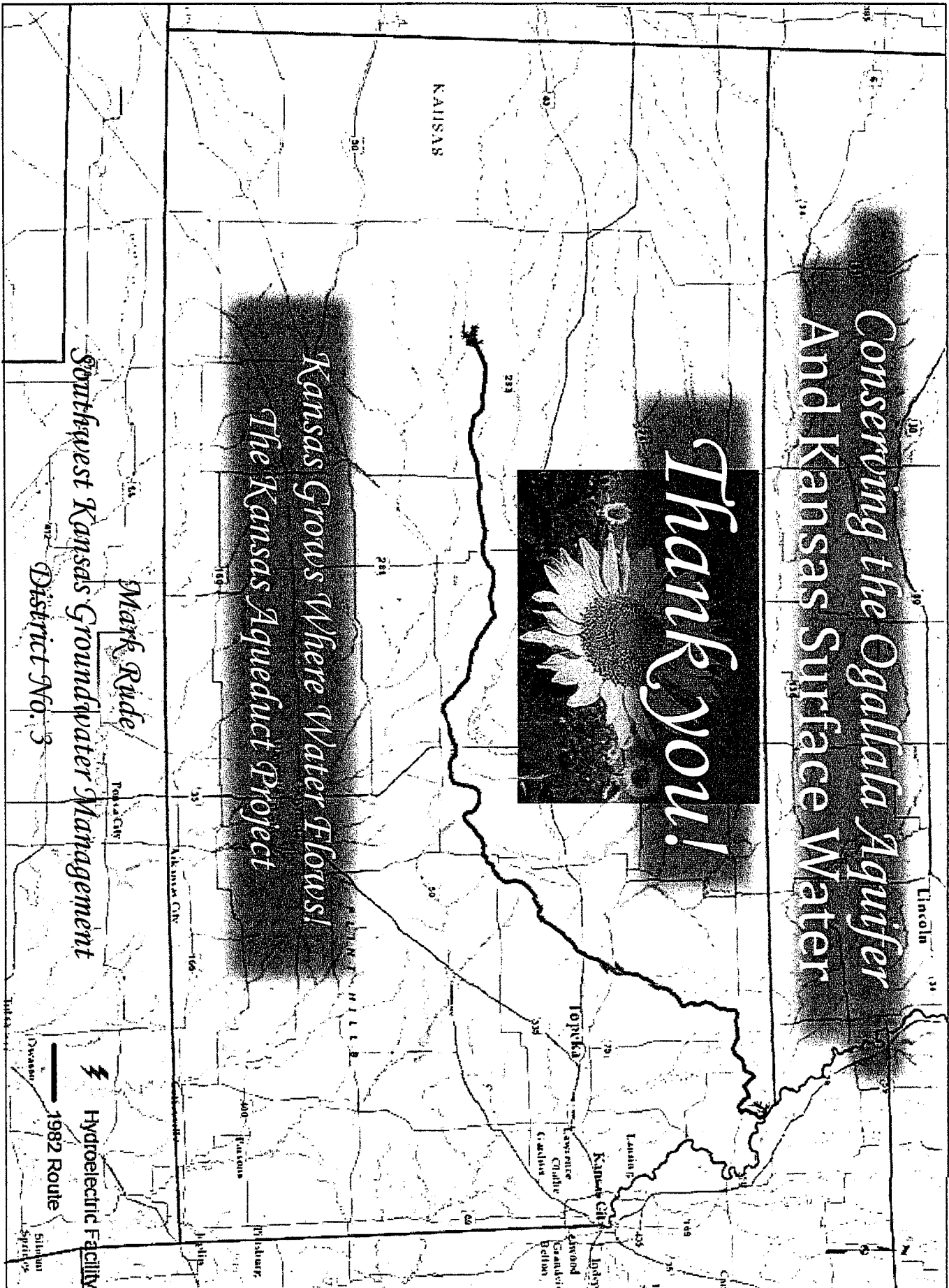
District No. 3

Mark Ride

Regional Office

Hydroelectric Facility

1982 Route



Feeding a Growing Population

in a Resource-stressed World



K-STATE

Research and Extension

Jim Stack

GWC - Manhattan - October 2013

*Knowledge
for Life*

10-28