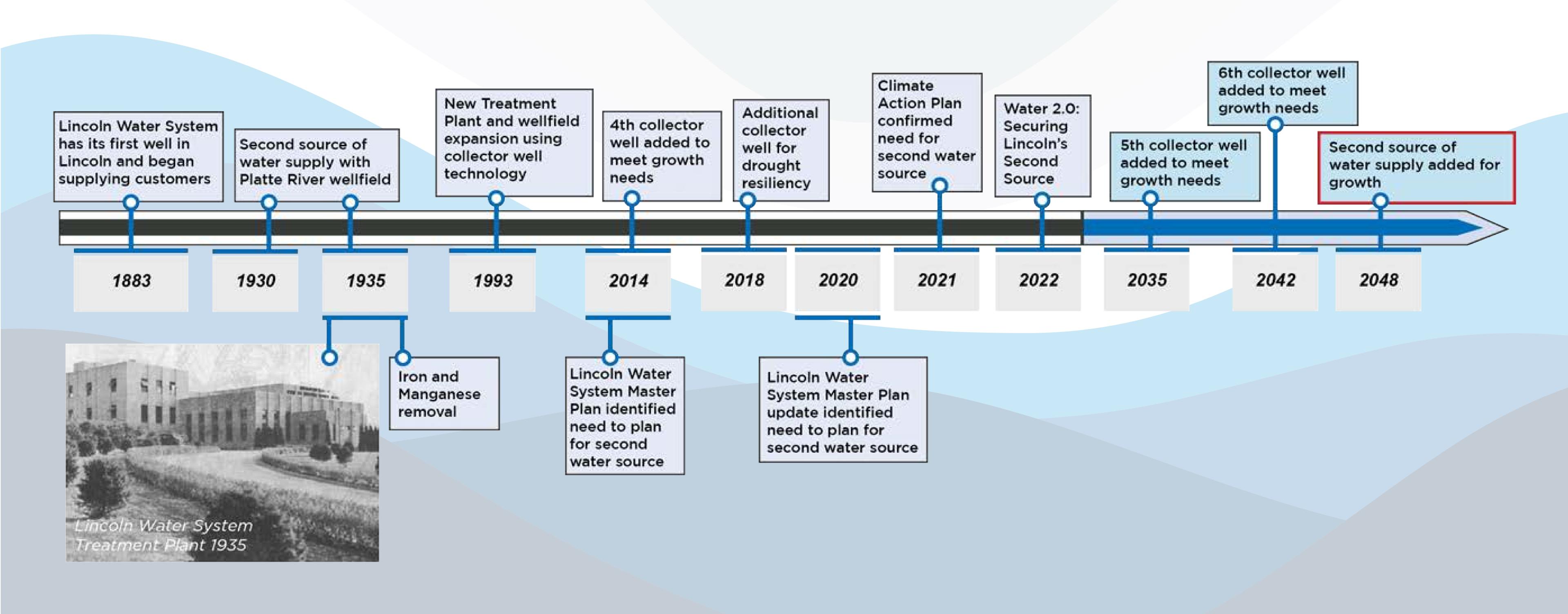
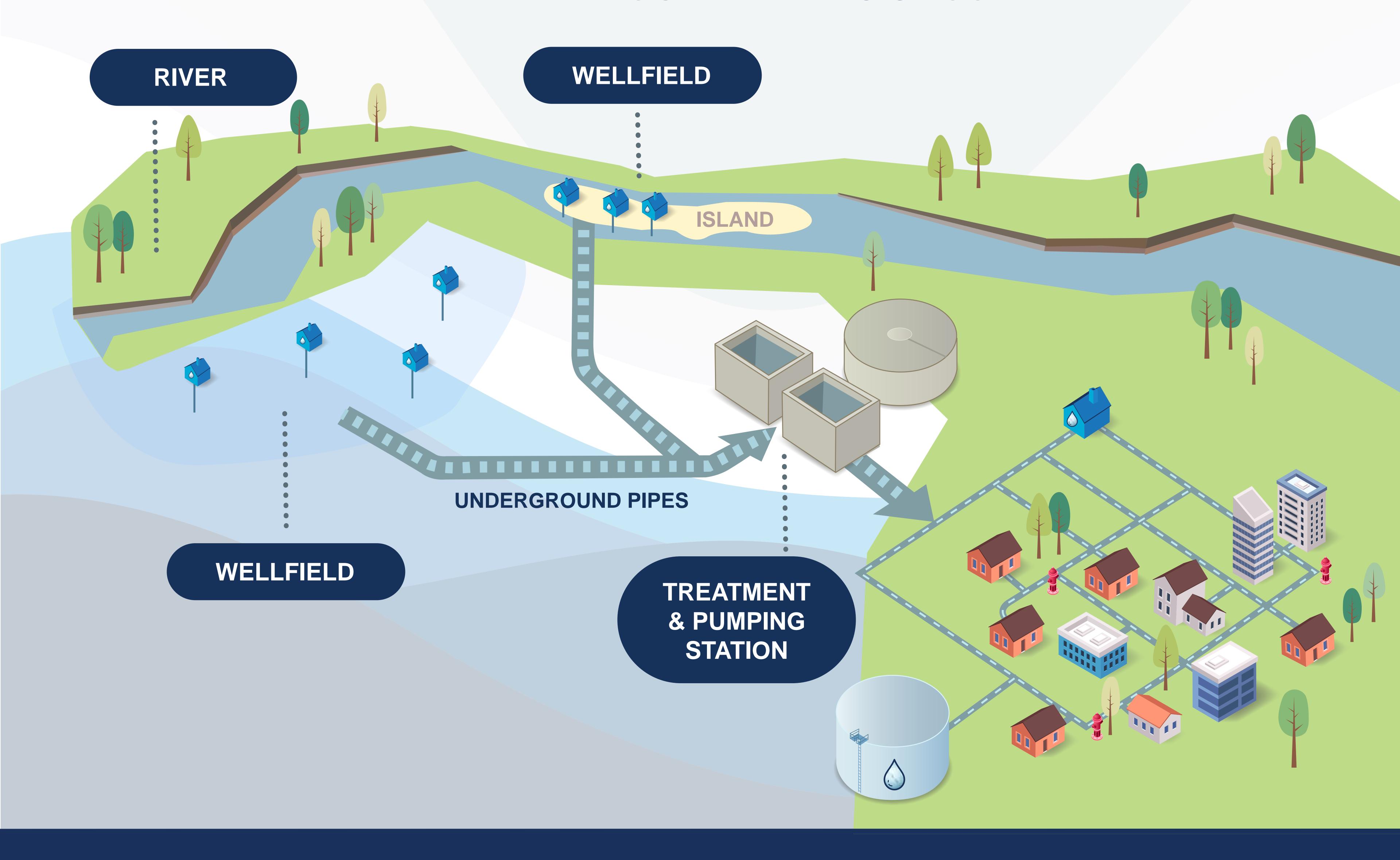
## LINCOLN WATER SUPPLY PLANNING TIMELINE







### WATER SUPPLY PROCESS

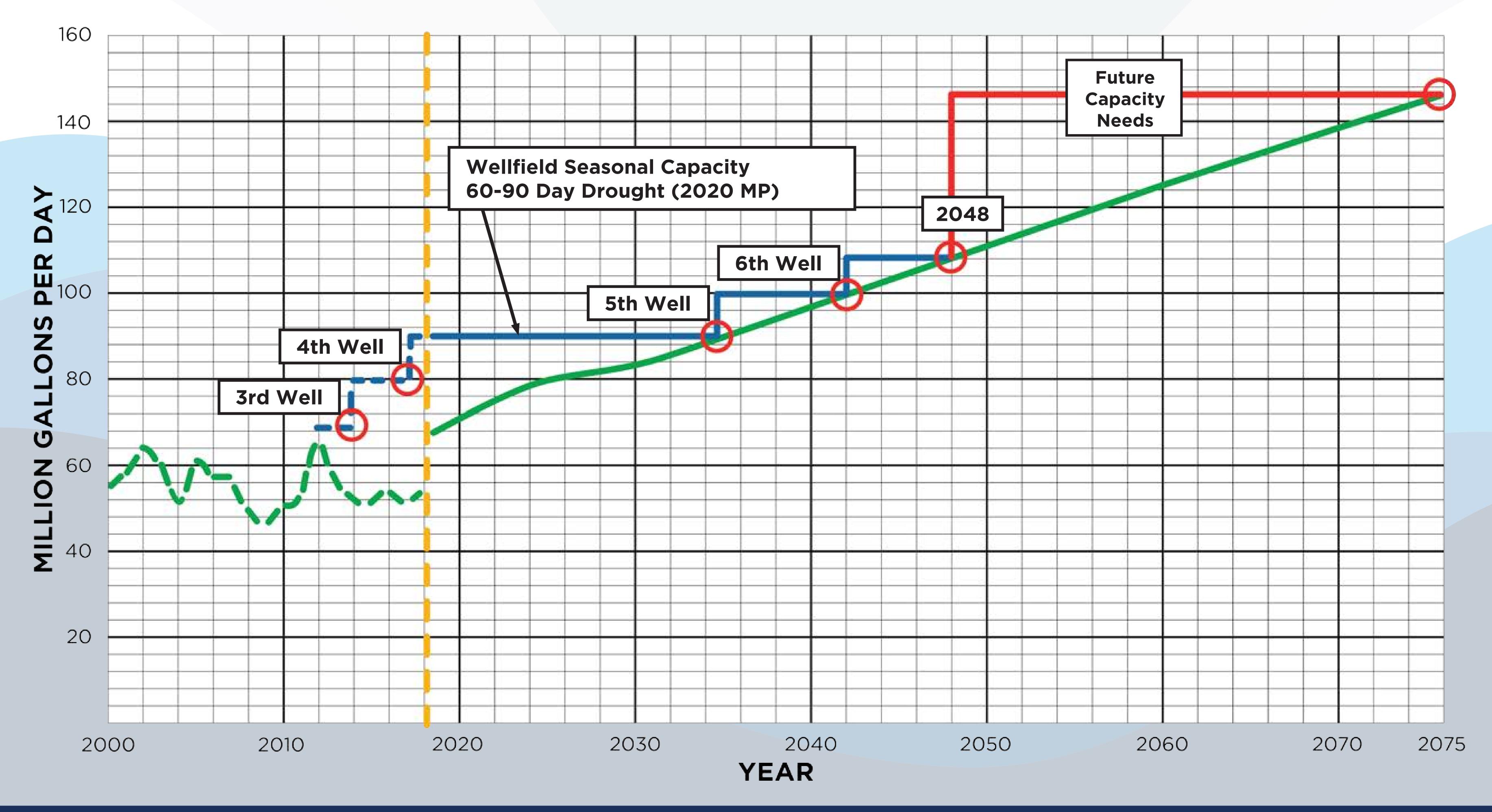






### LINCOLN WATER SYSTEM SEASONAL WATER DEMAND AND SUPPLY PROJECTIONS

Supply is based both on meeting growth needs and redundancy. Lincoln currently does not have a redundant water source.







### EXAMPLES OF RECENT EXTREME WEATHER EVENTS



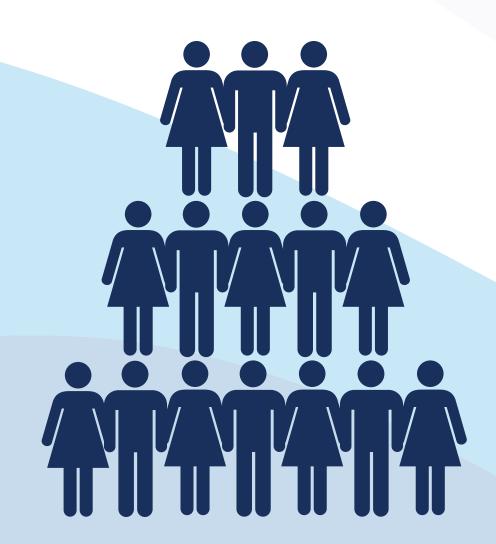






### WATER SUPPLY TIMELINE

Today-2048

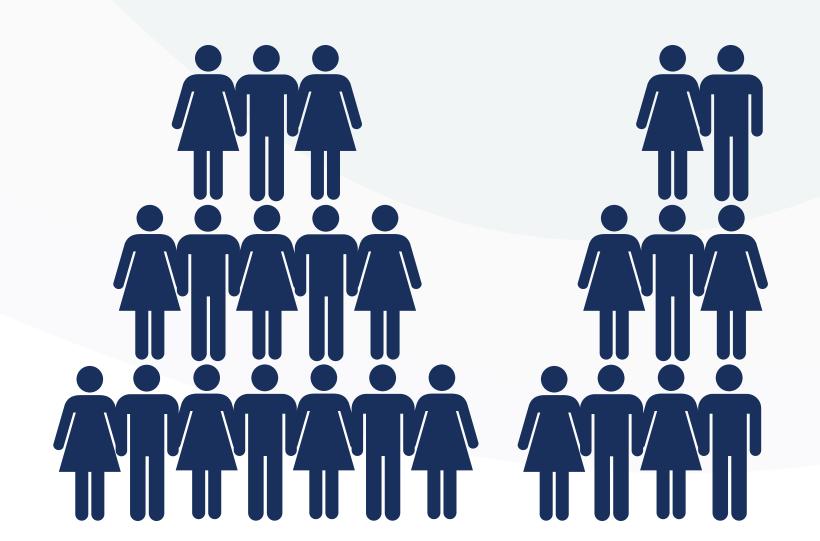


Available Water Supply: 105 MGD

Available Water Source:

1 Existing Platte River Wellfield

2048-2075

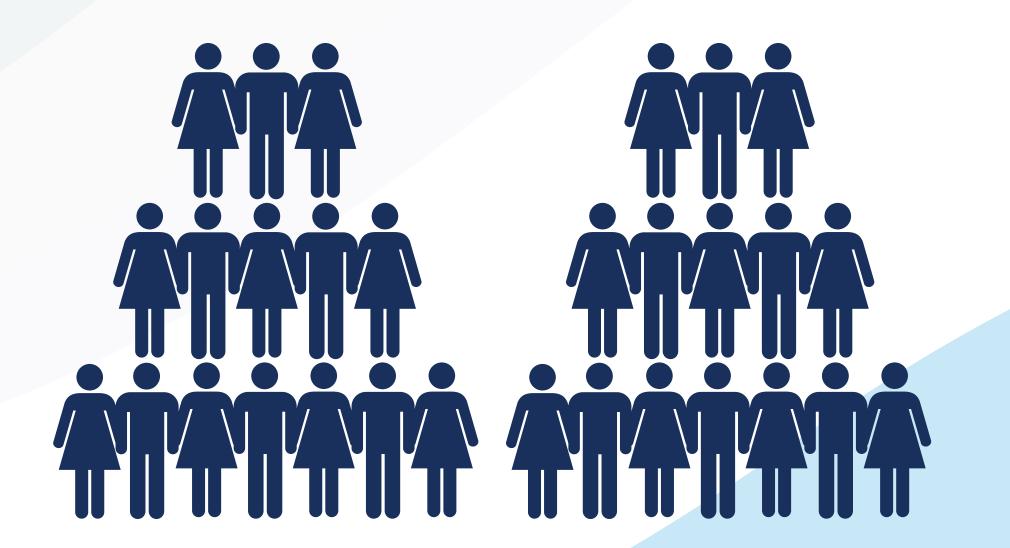


Available Water Supply: 145 MGD

Available Water Source:

- 1 Existing Platte River Wellfield +
- 2 Missouri River Wellfield

Beyond 2075



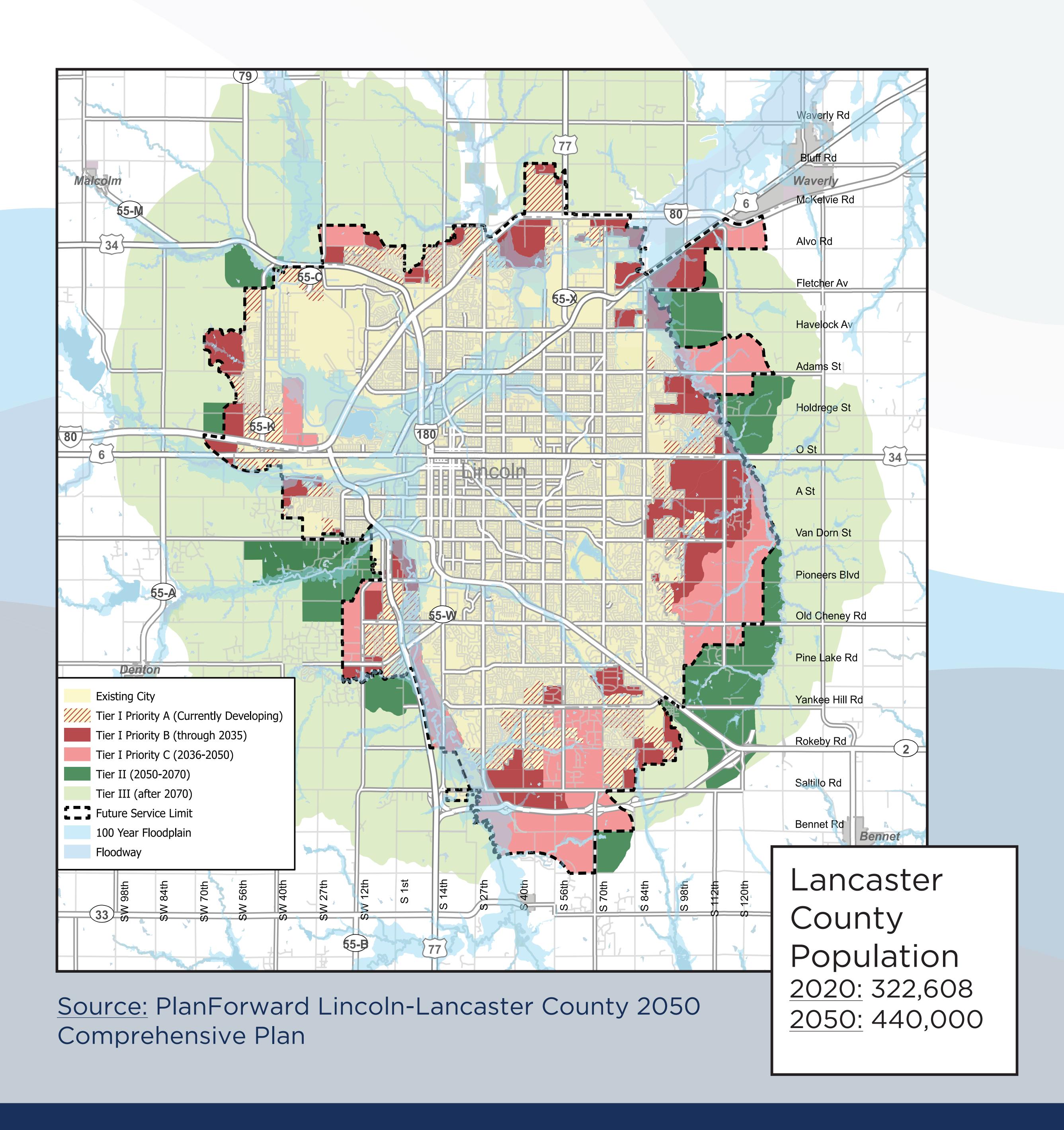
- Available Water Supply:

  More than 145 MGD
  - Available Water Source:
- 1 Existing Platte River Wellfield +
- 2 Missouri River Wellfield +
- 3 Missouri River Wellfield Expansion





# CURRENT SERVICE AREA / FUTURE PROJECTED GROWTH OF CITY

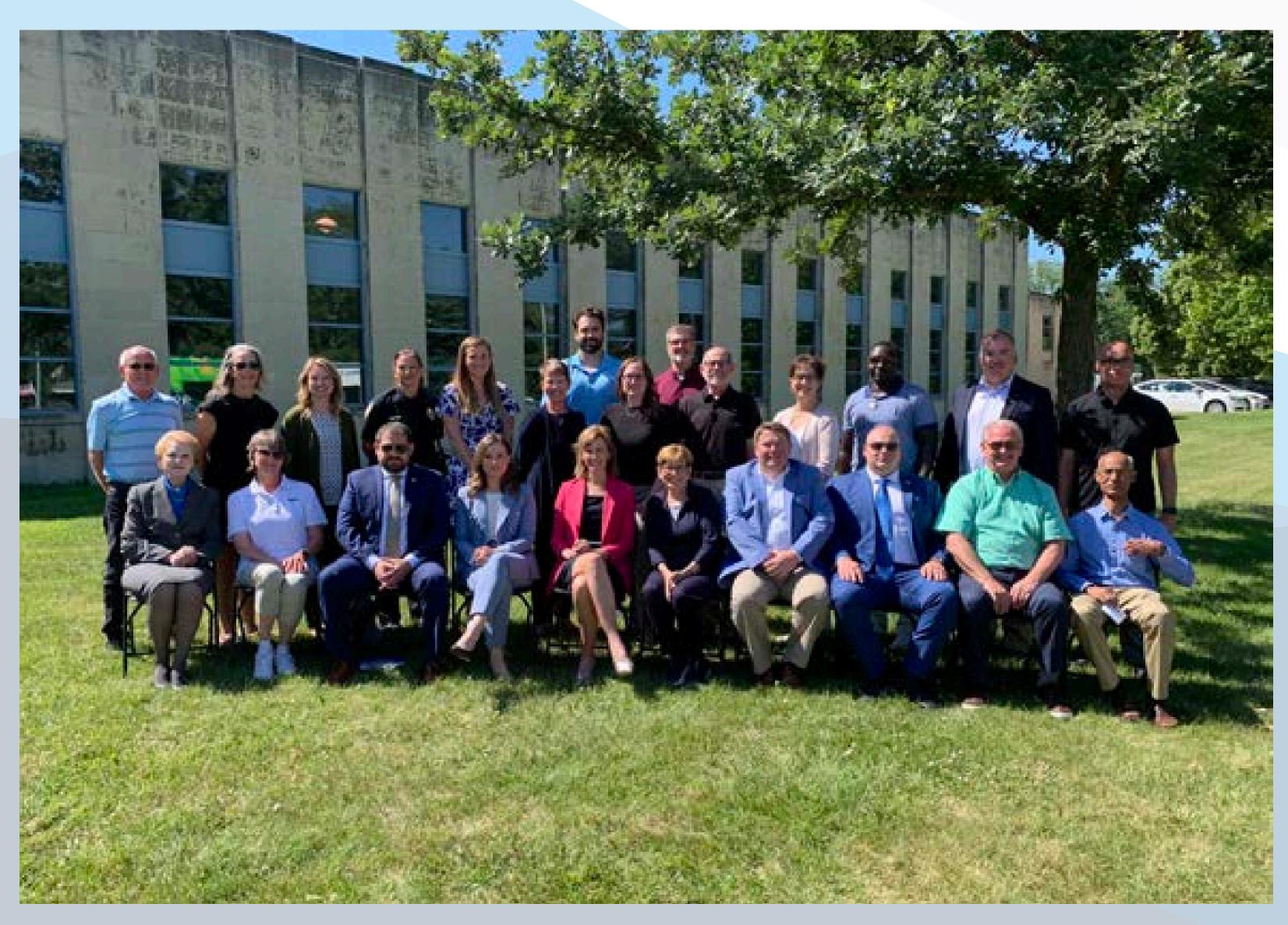






## MAYOR'S WATER SOURCE ADVISORY COUNCIL

**Mission -** To provide feedback and input to the City on criteria, alternatives and priorities for a second water supply that will enable Lincoln to continue to grow and provide resiliency against drought, natural disasters and other events that can impact source water supply capacity and quality.



Mayor's Water Source Advisory Council 2022.

### MEMBERS

The Mayor's Water Source Advisory Council is made up of a variety of public stakeholders, water, agriculture, and science-related experts, and City and State leaders. The 27-member group meets once a month for six months to review the Lincoln Water System (LWS) Alternatives Analysis that will help the City navigate complex design, construction, financial, legal, and governance options. The analysis is scheduled to be completed early January 2023.

### **CHAIR - SUSAN SEACREST**

Founder, and former President of the Nebraska Groundwater Foundation

### **VICE CHAIR - ELIOT BOSTAR**

State Senator, District 29

### **CITY LEAD - ELIZABETH ELLIOTT**

Director, Lincoln Transportation and Utilities

### **ANDREW DUNKLEY**

Director of State Governmental Relations, Nebraska Farm Bureau

### **ANNA WISHART**

State Senator, District 27

### **BRITTNEY ALBIN**

Sustainability Coordinator, Lincoln Public Schools

### CHITTARANJAN RAY

UNL Professor and Director, Nebraska Water Center

### DAVID CARY, DIRECTOR

Lincoln Lancaster County Planning Department

### **DONNA GARDEN**

Assistant Director, Lincoln Transportation and Utilities

### **GLENN JOHNSON**

Former Lower Platte South Natural Resources District General Manager

### **HOLLEY SALMI**

Vice President Public Affairs & Policy, State of Nebraska Chamber of Commerce

### **JEANNA MCCLURE**

Executive Director, Nebraska American Council of Engineering Companies

### JERRY OBRIST

Former Lincoln Water System Division Manager

### **KATIE WILSON**

Executive Director, Nebraska Associated General Contractors

### KENNON MEYER

Attorney, Blankenau Wilmoth Jarecke LLP

### **LORI SEIBEL**

President & Chief Executive Officer, Community Health Endowment

### LYNN REX

Executive Director, Nebraska League of Municipalities

### MARC LEBARON

Chief Executive Officer, Lincoln Industries

### MARTHA DURR

Nebraska State Climatologist

### **MICHON MORROW**

Lincoln Police Department

### **RICHARD MEGINNIS**

Lincoln City Council

### SEAN FLOWERDAY

Lancaster County Commissioner

### TJ MCDOWELL

Senior Advisor to Mayor Gaylor Baird, One Lincoln Initiative

### TODD WILTGEN

Public Policy Specialist, Lincoln Chamber of Commerce

### TOM BECKIUS

Lincoln City Council

### TRISH OWEN

Vice President, Corporate Operations, Lincoln Electric System

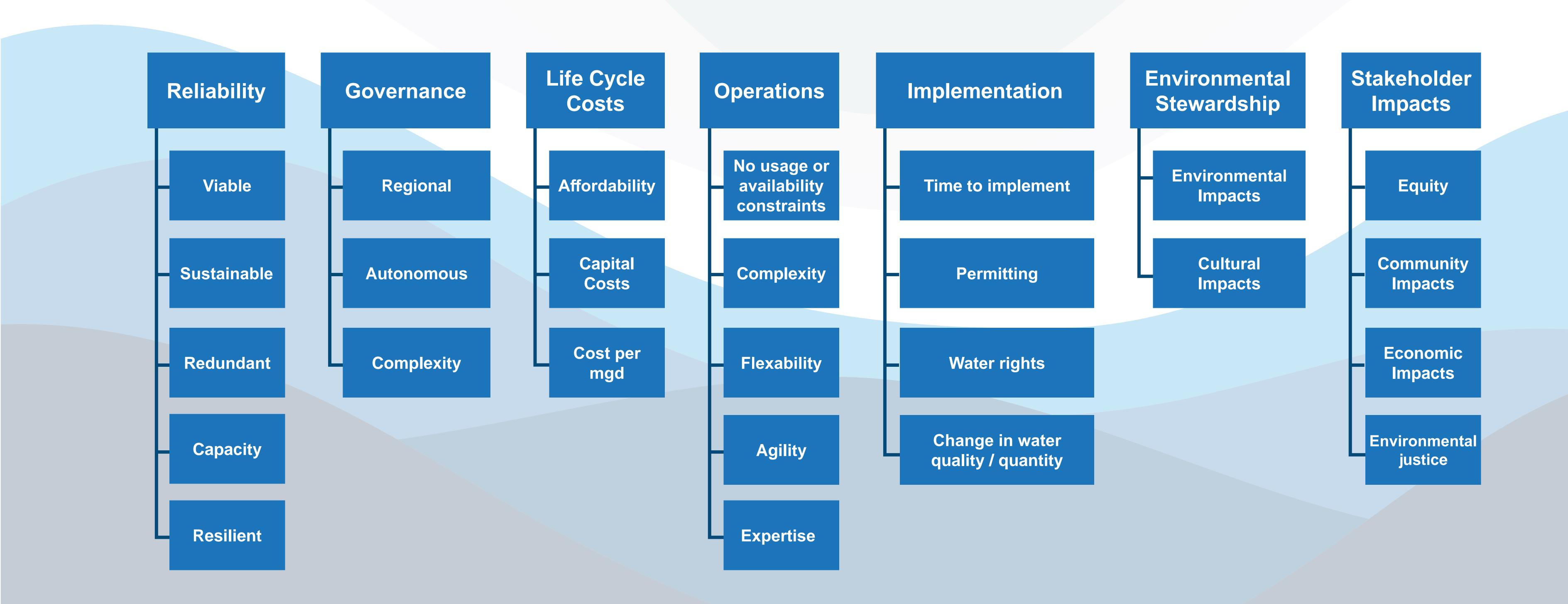
### **TUT KAILECH**

Neighborworks Lincoln





## FACTORS USED TO EVALUATE ALTERNATIVES







### ALTERNATIVE SCREENING PROCESS



### UNIVERSE OF ALTERNATIVES

- Bell Creek Reservoir
- High Plains Aquifer
- Schuyler Wellfield
- Dakota Formation
- Paleo Valley Aquifer
- Loup River Wellfield
- Elkhorn River Wellfield
- Surface Water Reservoirs Along Loup & Elkhorn Rivers
- Fully Develop Existing Wellfield
- Expand Existing Wellfield South of I-80
- Off Channel Surface Reservoir
- Omaha MUD Interconnect
- Missouri River Surface Water Intake to Ashland
- Missouri River Wellfield to Ashland
- Missouri River Surface Water Intake to Lincoln
- Missouri River Wellfield to Lincoln
- Combination of Alternatives



- Expand Existing Wellfield
- Off Channel Surface Reservoir
- Omaha MUD Interconnect
- Missouri River Surface Water Intake to Ashland
- Missouri River Wellfield to Ashland
- Missouri River Surface Intake, Treatment Plant, Potable Water Supply to Lincoln
- Missouri River Wellfield Treatment Plant, Potable Water Supply to Lincoln



Missouri River Wellfield Treatment Plant, Potable Water Supply to Lincoln

RECOMMENDED

ALTERNATIVE

### On-going Water Supply Enhancements

- Conservation
- Drought Contingency Plan
- Water re-use
- Aquifer Storage and Recovery
- Potential Future Reservoirs





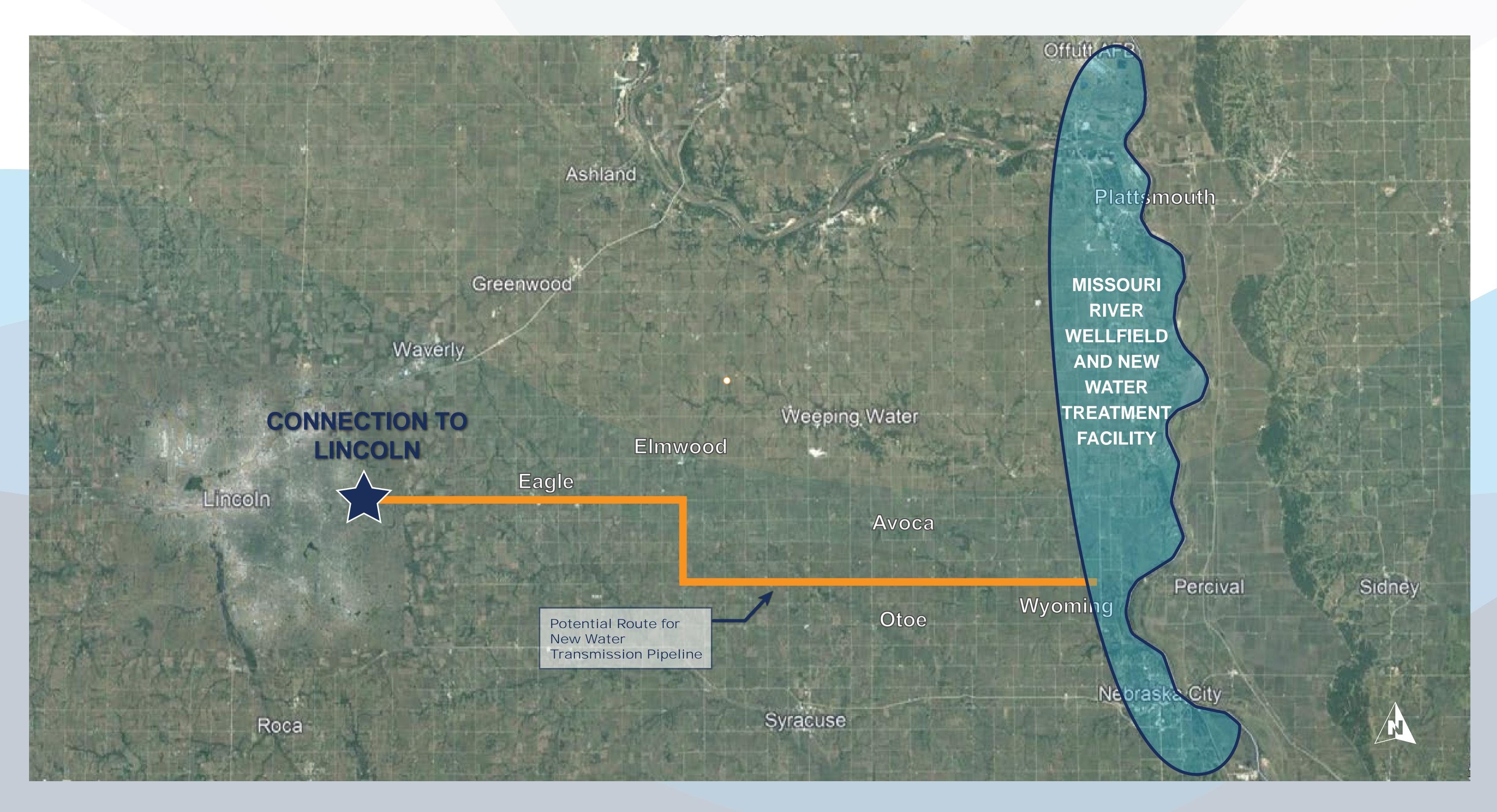
# RECOMMENDATION FROM ADVISORY COUNCIL

We, the Water Source Advisory Council, recommend that the City pursue a wellfield and treatment facility along the Missouri River with direct transport of treated water to Lincoln. The Advisory Council also recommends that the City explore the potential impacts and benefits of a reservoir lake, as proposed by the state legislature.





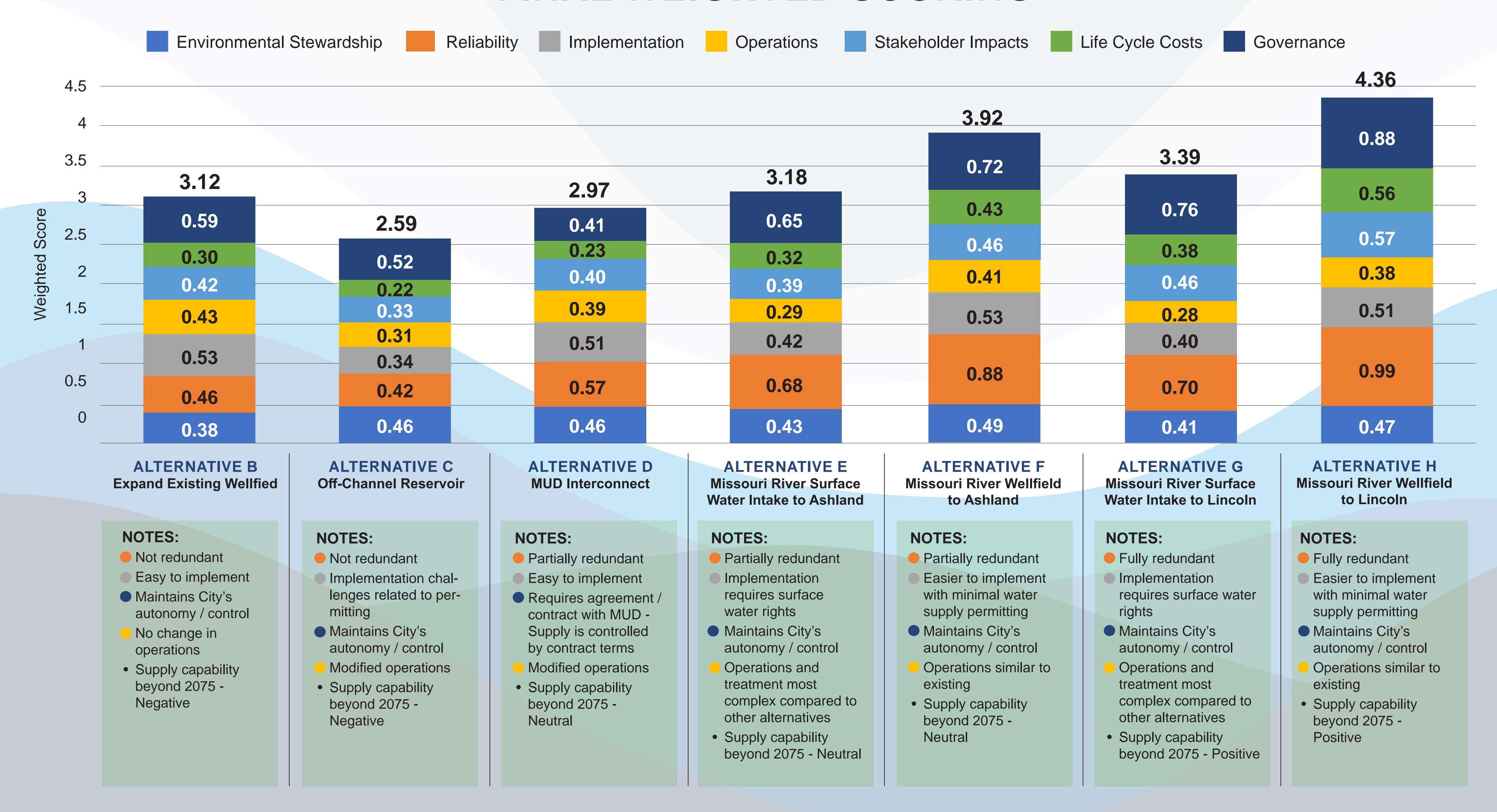
### RECOMMENDED ALTERNATIVE BY MAYOR'S WATER SOURCE ADVISORY COUNCIL







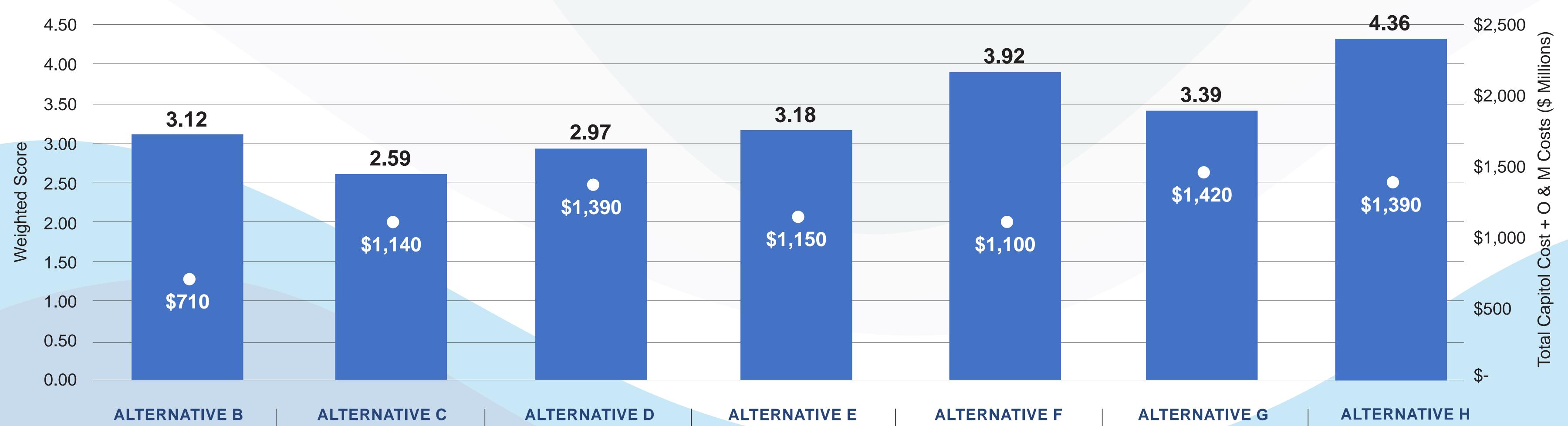
### WATER SUPPLY ALTERNATIVES FINAL WEIGHTED SCORING







### VALUE OF WATER SUPPLY ALTERNATIVES WEIGHTED TOTAL SCORES & COSTS



### **Expand Existing Wellfied**

### NOTES:

- Not redundant
- Easy to implement
- Maintains City's autonomy / control
- No change in operations
- Supply capability beyond 2075 -Negative

### Off-Channel Reservoir

### **NOTES:**

- Not redundant
- Implementation challenges related to permitting
- Maintains City's autonomy / control
- Modified operations
- Supply capability beyond 2075 -Negative

### **MUD** Interconnect

### NOTES:

- Partially redundant
- Easy to implement
- Requires agreement / contract with MUD -Supply is controlled by contract terms
- Modified operations
- Supply capability beyond 2075 -Neutral

### Missouri River Surface Water Intake to Ashland

### **NOTES:**

- Partially redundant
- Implementation requires surface water rights
- Maintains City's autonomy / control
- Operations and treatment most complex compared to other alternatives
- Supply capability beyond 2075 - Neutral

### Missouri River Wellfield to Ashland

### **NOTES:**

- Partially redundant
- Easier to implement with minimal water supply permitting
- Maintains City's autonomy / control
- Operations similar to existing
- Supply capability beyond 2075 -Neutral

### Missouri River Surface Water Intake to Lincoln

### NOTES:

- Fully redundant
- Implementation requires surface water rights
- Maintains City's autonomy / control
- Operations and treatment most complex compared to other alternatives
- Supply capability beyond 2075 - Positive

Missouri River Wellfield to Lincoln

### NOTES:

- Fully redundant
- Easier to implement with minimal water supply permitting
- Maintains City's autonomy / control
- Operations similar to existing
- Supply capability beyond 2075 -Positive





### WATER 2.0 SECURING LINCOLN'S SECOND SOURCE TIMELINE

PHASE1

Alternative Selection

2022 - 2023

PHASE 2

Alternative Validation

2023-2025

PHASE 3

Design and Construction

Future



