



RED RIVER VALLEY WATER SUPPLY PROJECT

Serving the Water Supply Needs of Central North Dakota and the Red River Valley

HB 1020 STATE WATER COMMISSION BUDGET

SENATE APPROPRIATIONS COMMITTEE
BY: MERRI MOORIDIAN, GARRISON DIVERSION

MARCH 22, 2021



Lake Agassiz
Water Authority



DISCUSSION OVERVIEW



PROJECT NEED

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OVERVIEW OF PROJECT

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PROJECT PROGRESS

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LEGISLATIVE ASKS

RED RIVER VALLEY WATER SUPPLY PROJECT



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**GARRISON DIVERSION
CONSERVANCY DISTRICT**

Represents the State of ND

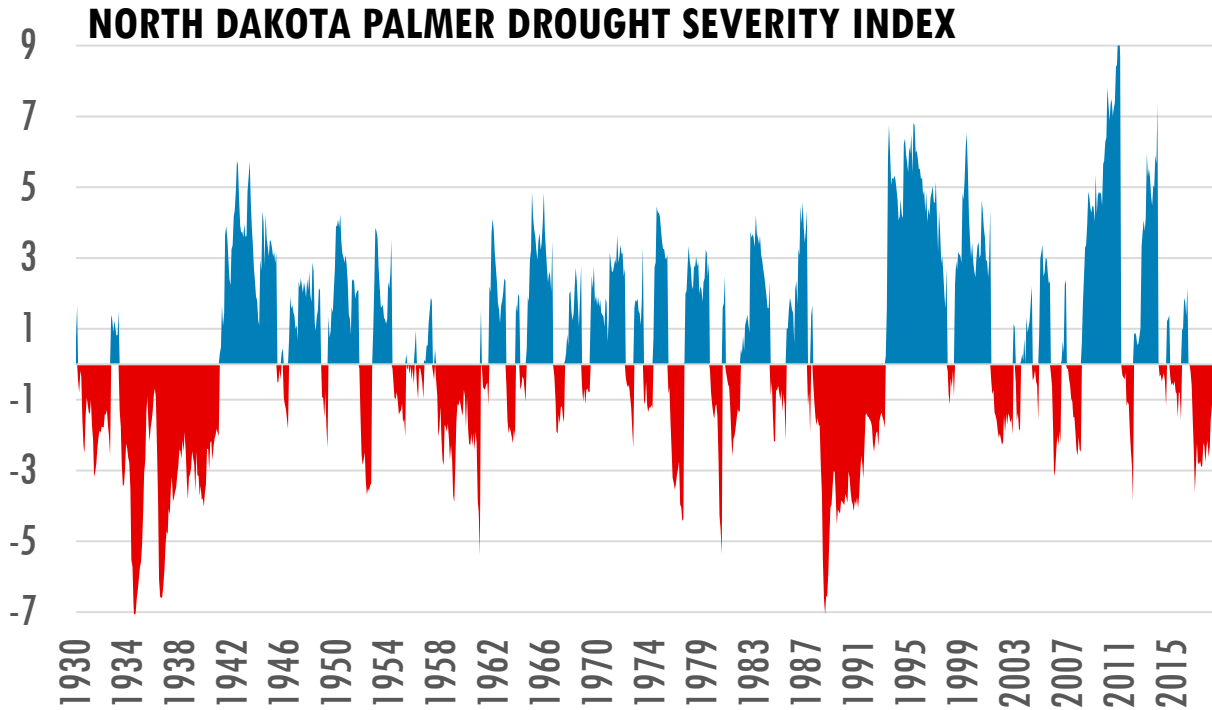


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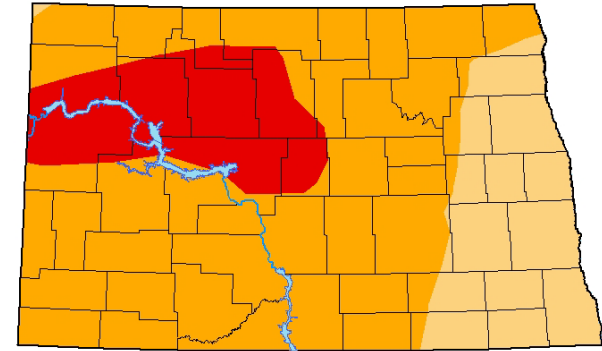
**LAKE AGASSIZ
WATER AUTHORITY**

Represents Local Users

MITIGATING DROUGHT



SOURCE: NOAA National Centers for Environmental information, Climate at a Glance: Statewide Time Series



March 16, 2021

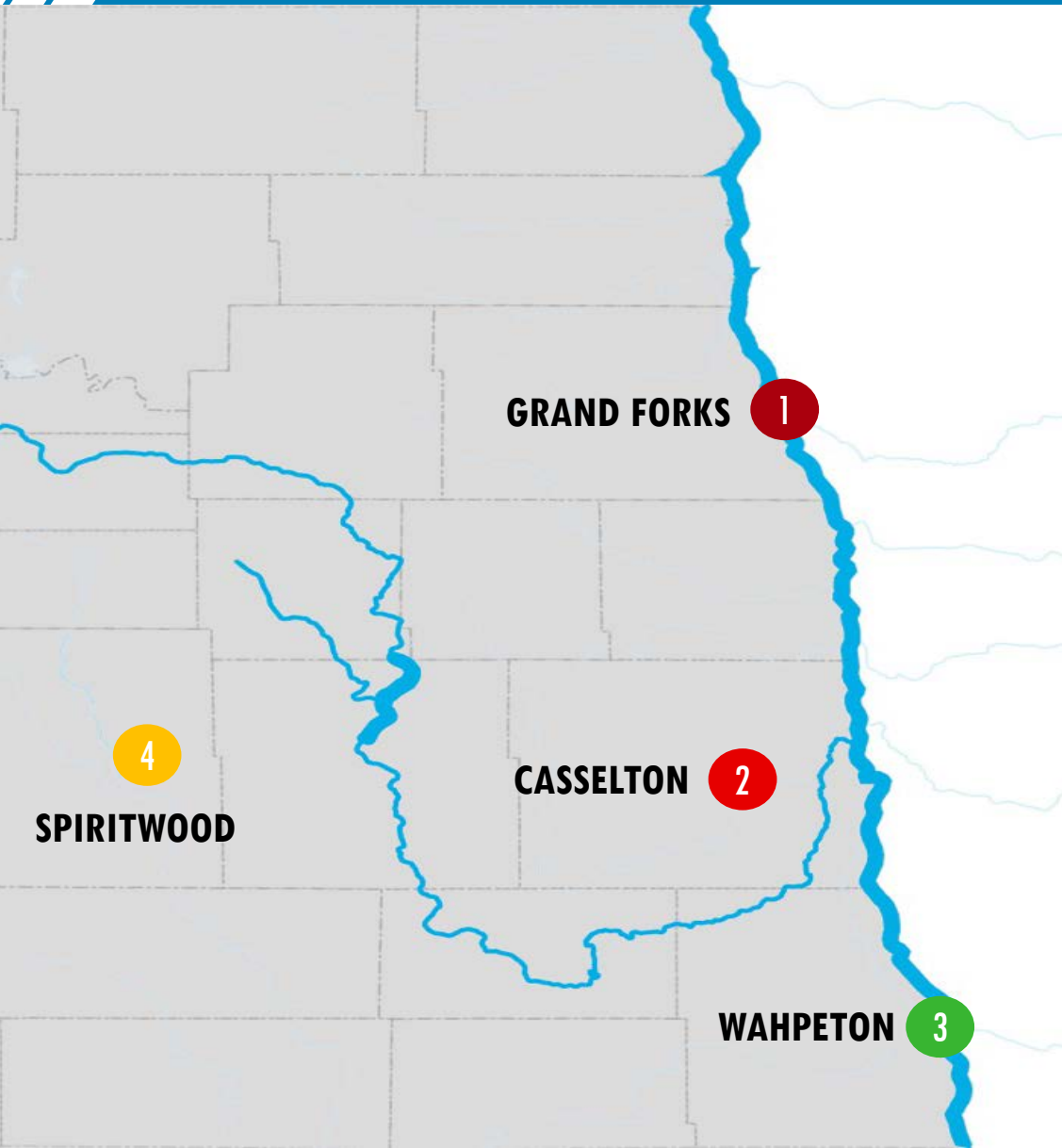
- Abnormally Dry
- Moderate Drought
- Severe Drought
- Extreme Drought
- Exceptional Drought

EXISTING WATER SUPPLIES
WILL BE INADEQUATE
DURING DROUGHT

CLIMATOLOGISTS PREDICT A
1930S-TYPE DROUGHT WILL
LIKELY REPEAT BY 2050

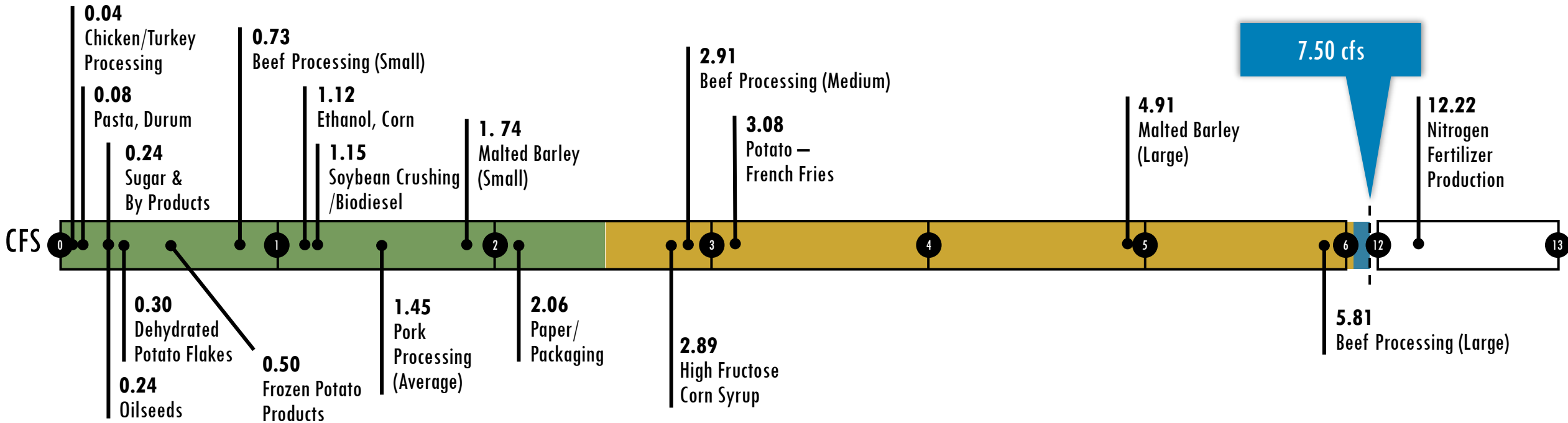
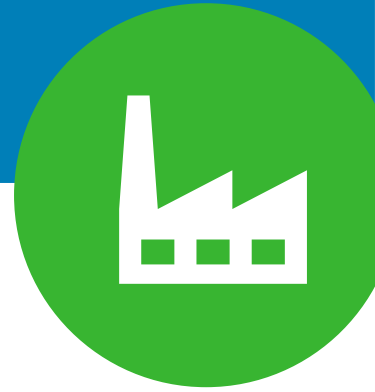
EXPECTED ECONOMIC IMPACT
~ \$32 BILLION OVER
10 YEARS (2021\$)

INDUSTRIAL WATER DEMAND EXCEEDS CURRENT SUPPLY

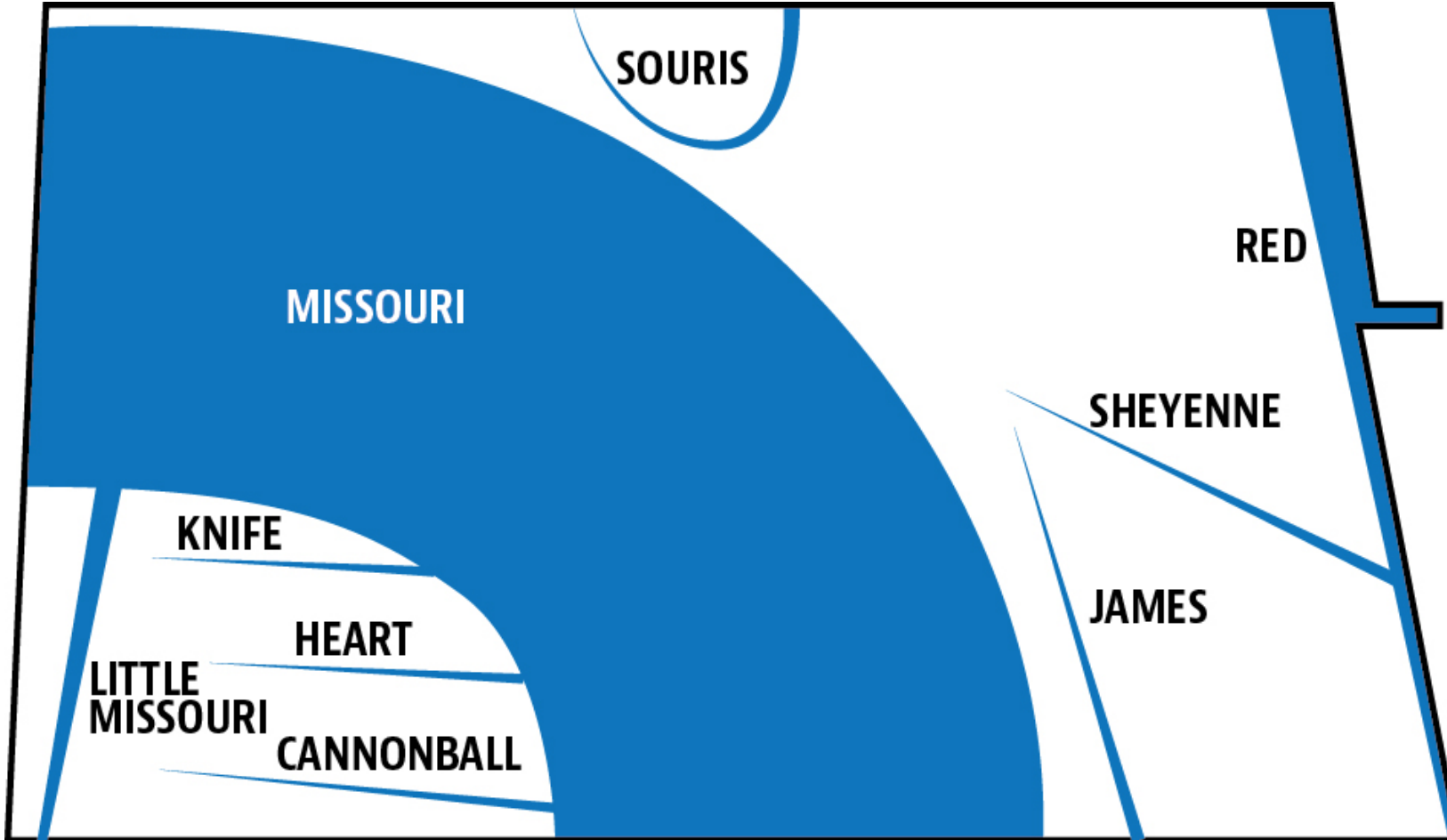


- 1 NORTHERN PLAINS NITROGEN**
Considering City's Wastewater Effluent Discharge
- 2 THARALDSON ETHANOL**
Re-Used Fargo's Grey Water at Higher Cost
- 3 AGP SOYBEAN CRUSHING/CRACKING**
Relocated Facility, Missed Opportunity
- 3 CARGILL (PRO GOLD)**
Reliability & Expansion Precluded
by Permit Restrictions
- 4 SPIRITWOOD ENERGY PARK**
Water Options Limited
- DAIRY/POTATO WASHING/HOG & BEEF,
MISC. WATER DISTRICTS**
Water Options Limited

INDUSTRIAL NOMINATION CAPABILITIES



NORTH DAKOTA'S SURFACE WATER



Accounts for 95% of North Dakota's surface water

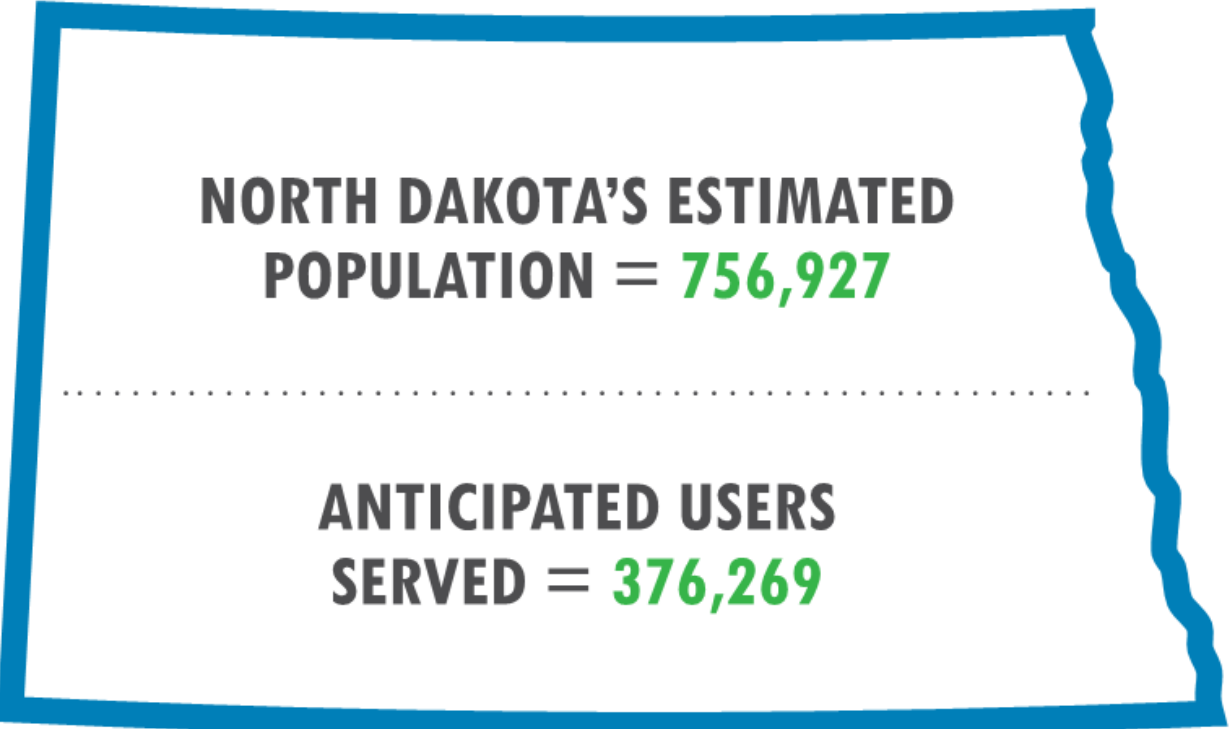
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We use less than 1% of the water flowing through our state.

We need to make North Dakota's claim to the river before other entities
i.e. Olgallala Aquifer Recharge, domestic water to central southwest and southwestern US

CURRENT & FUTURE POTENTIAL POPULATION SERVED

THE PROJECT IS AN EMERGENCY WATER SUPPLY FOR APPROXIMATELY 50% OF NORTH DAKOTA'S POPULATION

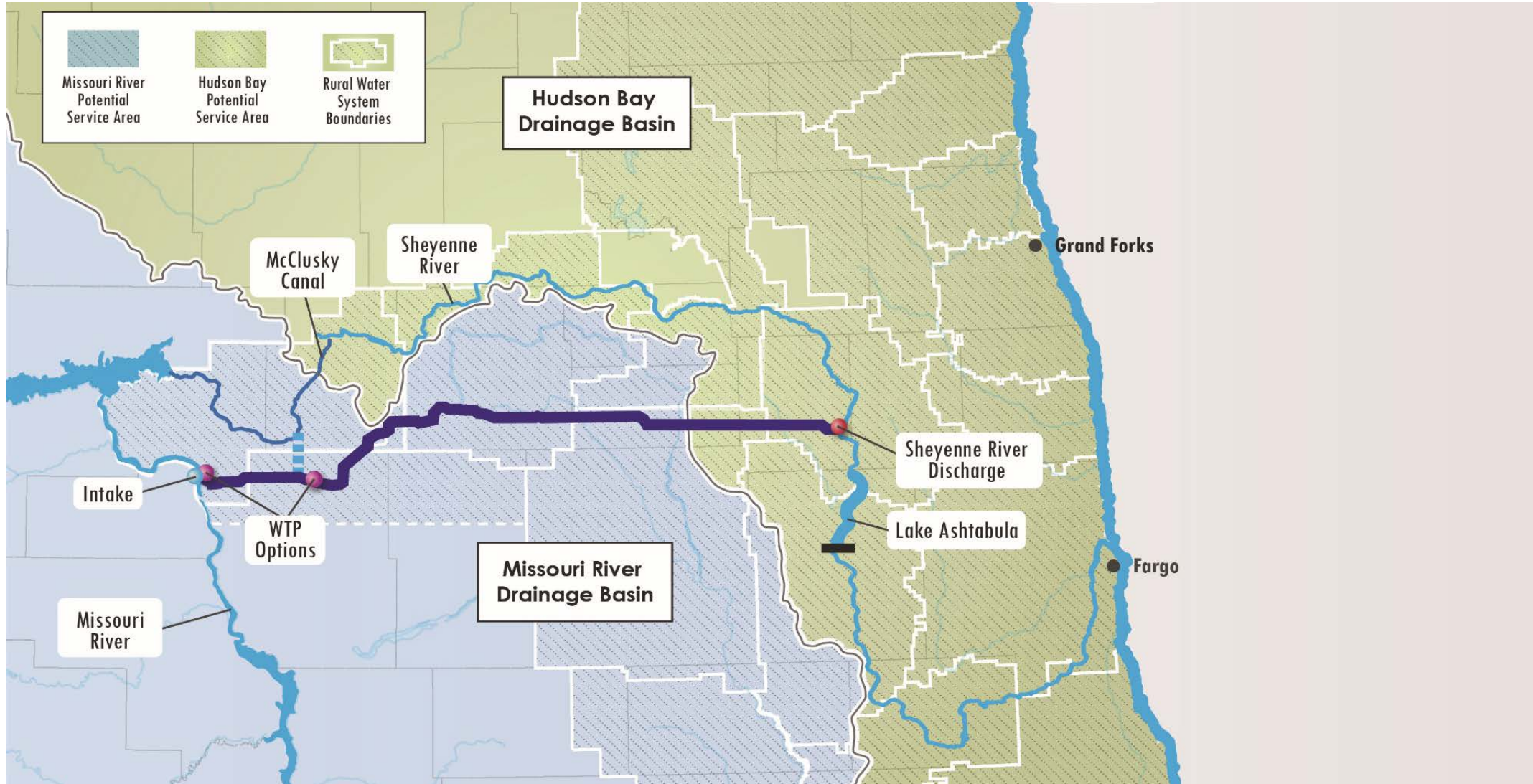


NORTH DAKOTA'S ESTIMATED POPULATION = 756,927

ANTICIPATED USERS SERVED = 376,269

2075 Anticipated Users Served = 500,000+ (300,000+ in Fargo & West Fargo)

STATE & LOCAL PLAN SYSTEM OVERVIEW

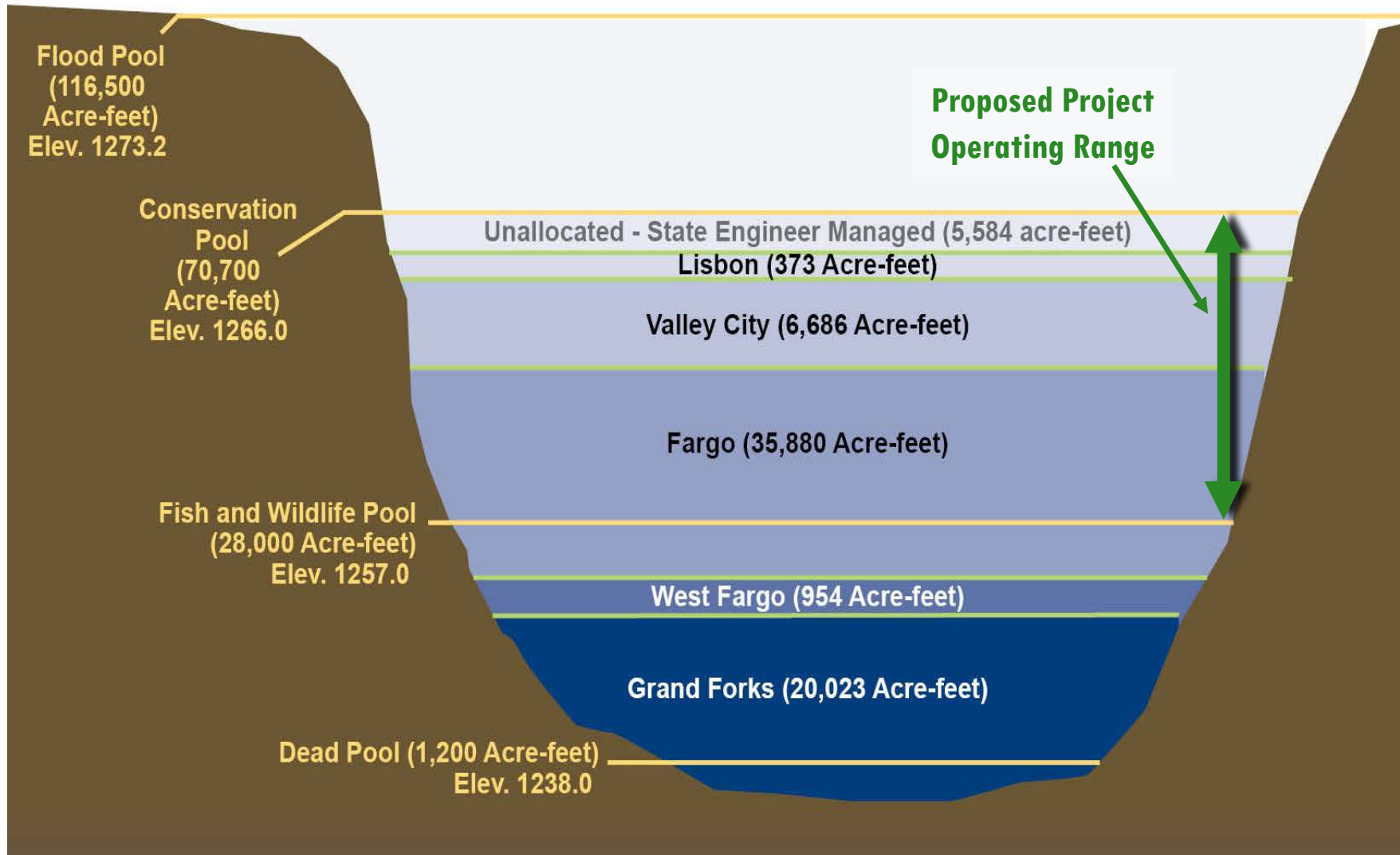


RRWSP DEVELOPMENT PHASE

35 CITIES & WATER SYSTEMS



LAKE ASHTABULA THOMAS-ACKER PROFILE

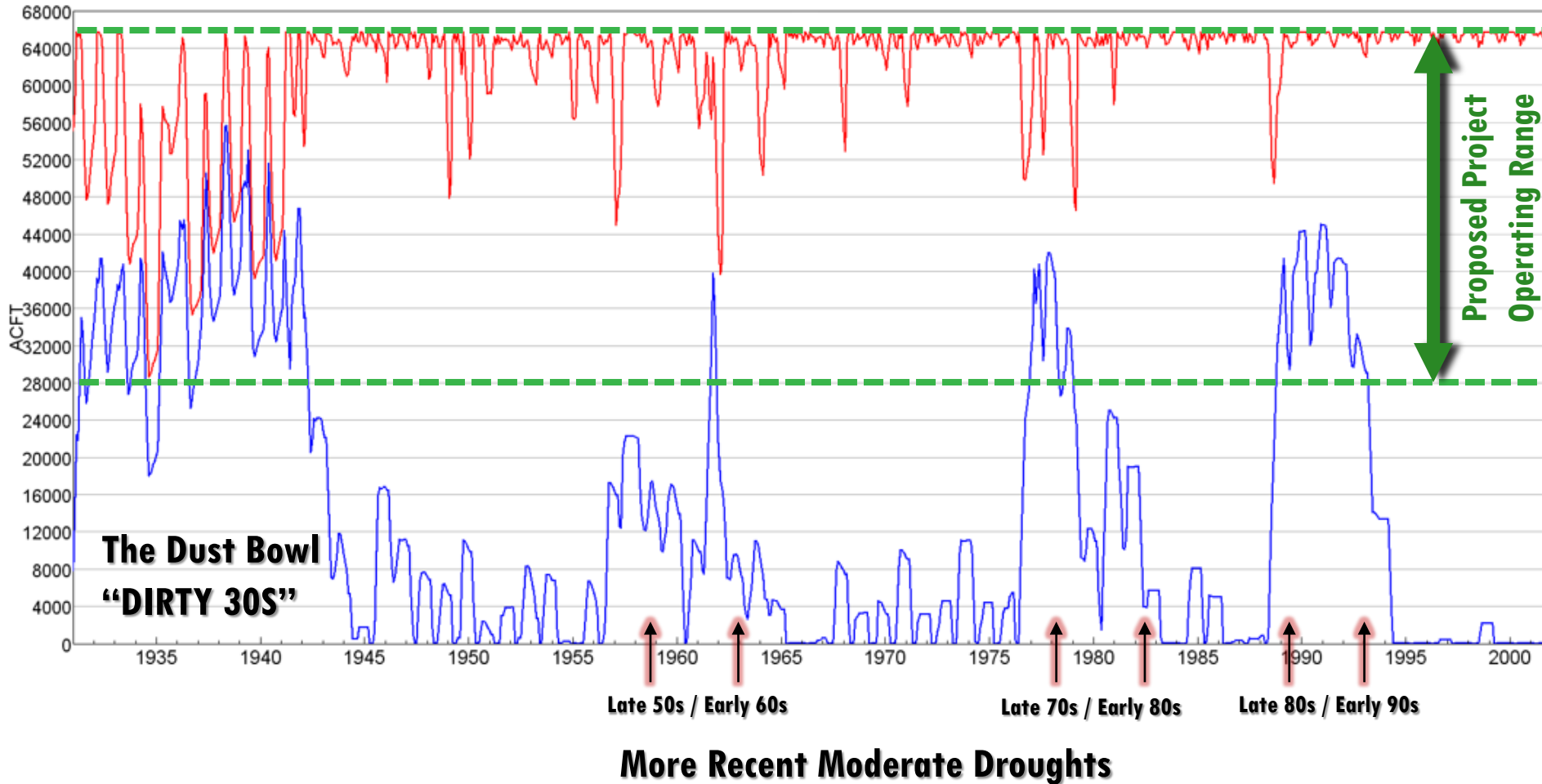


LAKE ASHTABULA WATER ALLOCATION

**Using Lake Ashtabula
Saves \$500 Million + Using
Project Pipe Diameter and
Length**

PROJECTED PROJECT OPERATIONS FROM 1930 TO 2001

2075 USER DEMANDS



- Total Storage in Lake Ashtabula (acre-ft)**
- RRVWSP Water Volumes (acre-ft)**



RED RIVER VALLEY WATER SUPPLY PROJECT

PROJECT DESIGN - PIPE



PIPE SIZE

72"



PIPE LENGTH

165 Miles



PIPE MATERIAL

Steel



PIPE FLOW

165 cfs



BURY DEPTH

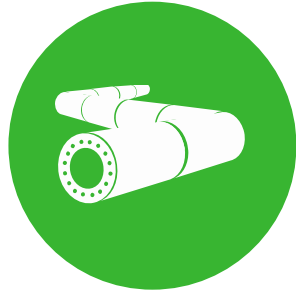
7' to top of pipe and 15' to bottom of excavation

ESTIMATED TOTAL PROJECT COST (2021\$)



\$70.3 M

Conventional Intake, Intake Pumps & Supply Cost



\$1.01 B

Transmission Pipeline Costs (including ROW)



\$71.4 M

Pump Stations, Break Tank & Hydraulic Structures



\$66.3 M

Practical Treatment – WTP Costs



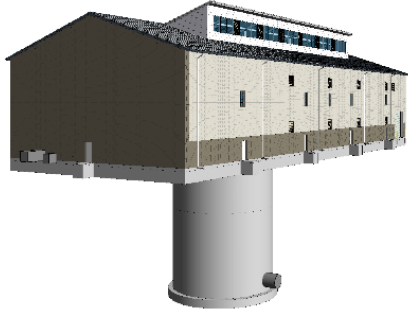
\$10.0 M

Discharge Structure Costs

TOTAL PROJECT COSTS = \$1.22 B

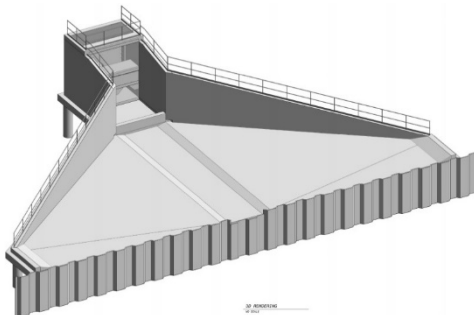
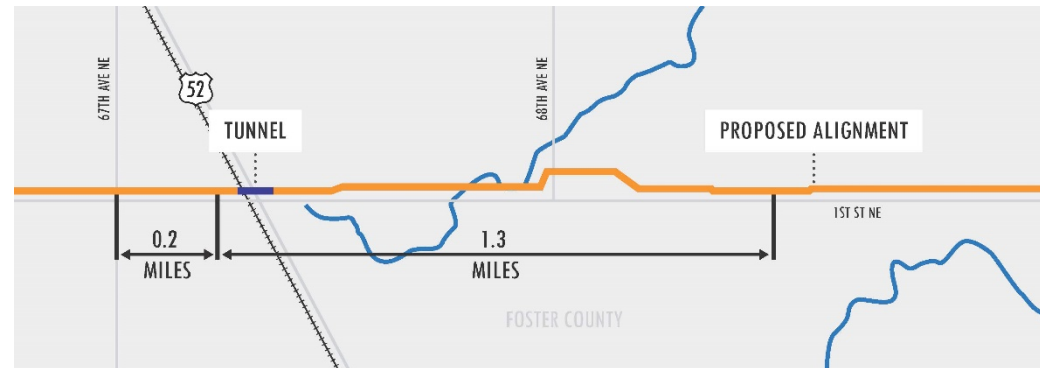
*Excludes Pipeline Extensions/Includes Admin, Engineering, Legal, and Real Estate | All Project Costs shown in 2021 Dollars

CURRENT “EARLY OUT” CONSTRUCTION



MISSOURI RIVER INTAKE PUMPING STATION WETWELL

PIPELINE SEGMENT



DISCHARGE STRUCTURE ON THE SHEYENNE RIVER

2021 TO 2023 LEGISLATIVE ASKS

- **LONG-TERM / LOW-INTEREST STATE LOAN PROGRAM**
Such as 40 years @ 2%
- **AFFORDABLE COST-SHARE**
75% State / 25% Local for large users (received in 2019)
80% State / 20% Local for small users
- **DEFINED CONSTRUCTION SCHEDULE**
10 years
- **FUNDING REQUEST**
\$50 million (State Water Management Plan)





2021-2023 FUNDING REQUEST

\$66.7 M (\$50 M STATE & \$16.7 M LOCAL)

| FUNDING PRIORITIES | |
|--|-----------------|
| MISSOURI RIVER INTAKE CONSTRUCTION RIVER SCREEN & TUNNEL | \$30.0 M |
| MAIN PIPELINE DESIGN & CONSTRUCTION SEGMENT 1 | \$31.3 M |
| LAND ACQUISITION OBTAIN EASEMENT OPTIONS & EASEMENTS | \$3.0 M |
| LEGAL, FINANCIAL, ADMINISTRATIVE & COMMUNICATIONS | \$2.4 M |
| TOTAL | \$66.7 M |



THE PROJECT HAS \$200 M SHOVEL READY CONSTRUCTION

However, the project can only go as far as users can afford. Therefore, we are also requesting the following to help users maintain affordability:

LONG-TERM, LOW-INTEREST LOAN

**40 YEARS /
2% INTEREST**



LARGE USER COST-SHARE

**75% STATE/
25% LOCAL**



SMALL USER COST-SHARE

**80% STATE/
20% LOCAL**



RED RIVER VALLEY WATER SUPPLY PROJECT



AFFORDABILITY

- Large and Small Users



BENEFIT

- Up to 50% of North Dakotans
- \$32B Economic Impact w/o Project



COMMITMENT to GOOD STEWARDSHIP

- Land
- State & Local Dollars
- Environment

RED RIVER VALLEY WATER SUPPLY PROJECT

RRVWSP is an **economic development initiative** and a **long-term emergency water supply!**



THANK YOU!



**RED RIVER VALLEY
WATER SUPPLY PROJECT**

Serving the Water Supply Needs of Central North Dakota and the Red River Valley



www.rrvwsp.com



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