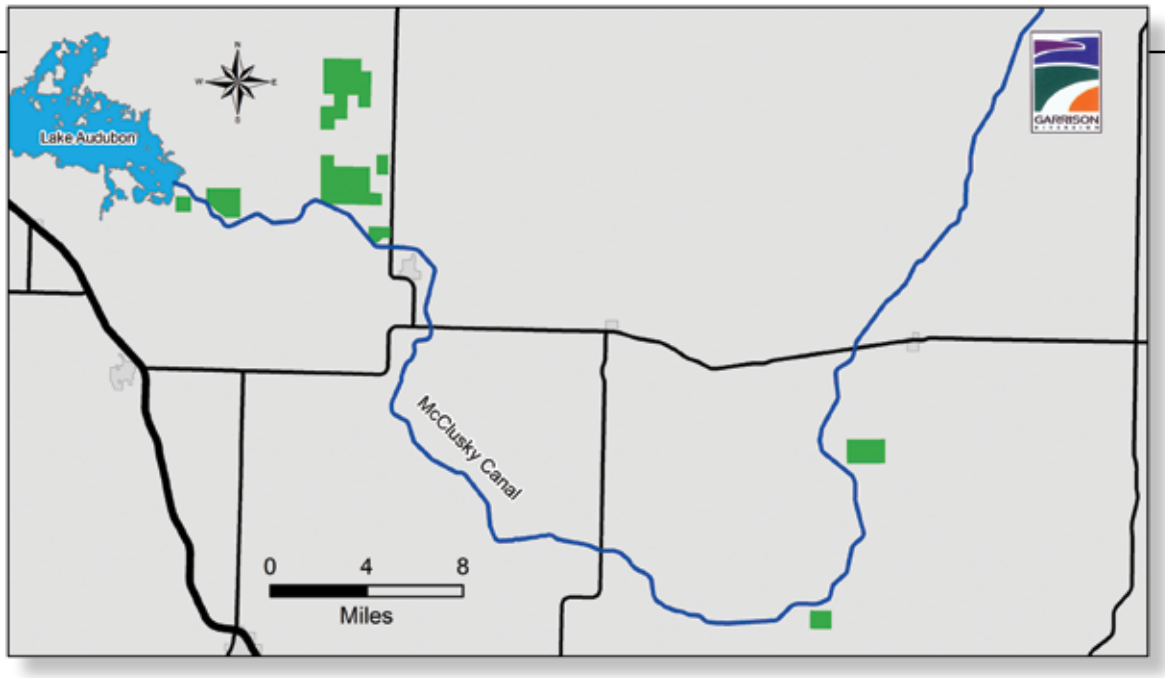
# Garrison Diversion Developing Several Irrigation Projects Along McClusky Canal

The mission of the Garrison Diversion Conservancy District (Garrison Diversion) is to provide a reliable, affordable and high-quality water supply for the benefit of North Dakota. In pursuing that mission, Garrison Diversion is developing irrigation projects along the McClusky Canal.

Development began in 2010 with the Mile Marker 7.5 irrigation project. The following year, Garrison Diversion signed

*In 2012, Garrison Diversion participated in a long-term water contract signing ceremony. Pictured at that ceremony are, in the front row, from left to right: the late John Leininger, then-chairman of Garrison Diversion and John Soucy, then-deputy regional director of the Great Plains Region of the Bureau of Reclamation. Pictured in the back row: Dave Koland, then-general manager of Garrison Diversion, Gov. Jack Dalrymple, and Dick Long, then-area manager for the Bureau of Reclamation's Dakotas Area Office.*




*The route for the expanded irrigation development projects along the McClusky Canal is highlighted in blue.*

two long-term contracts; a water service contract with the U.S. Bureau of Reclamation (Reclamation) and a power contract with the Western Area Power Administration. The Reclamation contract is a 40-year contract with the United States government through Reclamation to provide irrigation water using the McClusky Canal. The contract ensures access to canal water until at least 2051. It is the first long-term irrigation water service contract signed by Garrison Diversion and Reclamation since the project was first authorized. The signing of the contract was attended by Gov. Jack Dalrymple.

# Current Projects

Since 2010, Garrison Diversion has been working with producers to expand irrigation development. There are currently seven irrigation projects along the McClusky Canal. They are:

### ■ Mile Marker 0.4

The Mile Marker 0.4 project was previously irrigated with water from Lake Audubon, but the producer is pursuing a change to instead draw water from the McClusky Canal. He is currently pursuing a long-term (30-year) water service contract from Garrison Diversion with plans to increase his irrigable acres and pump station next year.

### ■ Mile Marker 1.7

Earlier this year, Garrison Diversion signed a long-term (30-year) water service contract with the producer to provide irrigation water for 587 acres. The contract replaced a short-term (five-year) contract with Reclamation.

### ■ Mile Marker 3.2

The producer is currently pursuing a 30-year water service contract from Garrison Diversion to provide irrigation water for 70 acres. This contract would also replace a short-term (five-year) contract with Reclamation.

### ■ Mile Marker 7.5

The Mile Marker 7.5 project has been operating since 2011, and this year the number of irrigated acres increased by 188 acres. This is the single-largest irrigation project along the McClusky Canal at 3,675 total irrigated acres.

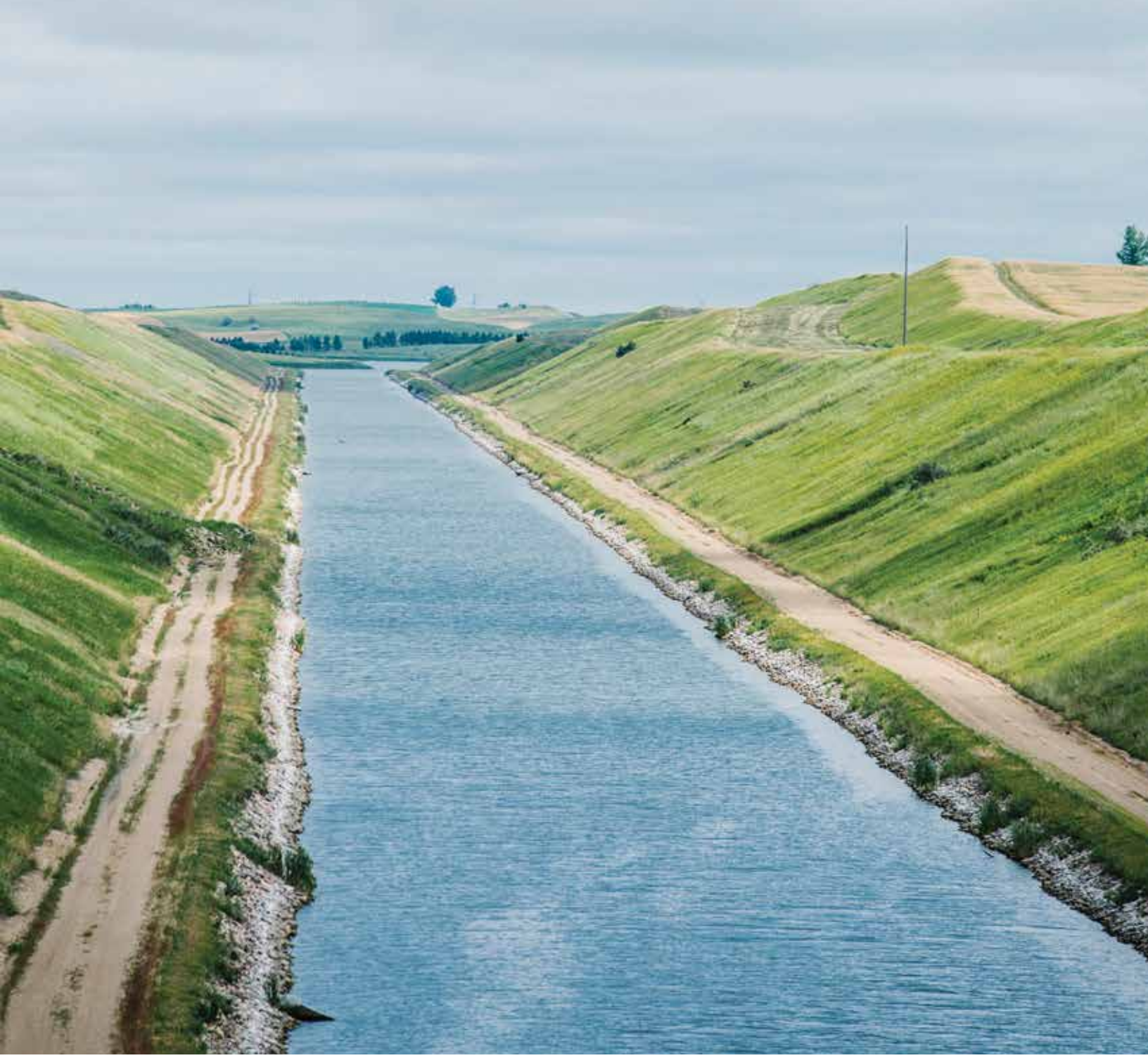
### ■ Mile Marker 10

The Mile Marker 10 project is a new irrigation project that began using water from the McClusky Canal last year. It currently irrigates 158 acres.

### ■ Mile Marker 42

This new project has the potential to come online this year. Currently in the design phase, the Mile Marker 42 irrigation project will provide 30 irrigated acres for growing high-value crops.

**(Right)** *Garrison Diversion is developing several irrigation projects along the McClusky Canal (pictured at top). The floating pump and assembly at the Mile Marker 10 irrigation project (lower left). The 1,250-horsepower main pump station at the Mile Marker 7.5 irrigation project (lower right).*



### ■ Mile Marker 49

The Mile Marker 49 project has been successfully irrigating 269 acres since last year.

Thanks to these seven projects, Garrison Diversion will provide irrigation for 5,036 acres this year, with potential for more next year. That's a record number of irrigated acres from the McClusky Canal, and there is still plenty of room for growth.

The Dakota Water Resources Act (DWRA) of 2000 authorizes Garrison Diversion to irrigate up to 23,700 acres from the McClusky Canal, which means the irrigation network on the McClusky Canal can be further increased by 18,000 acres.

## Future Development

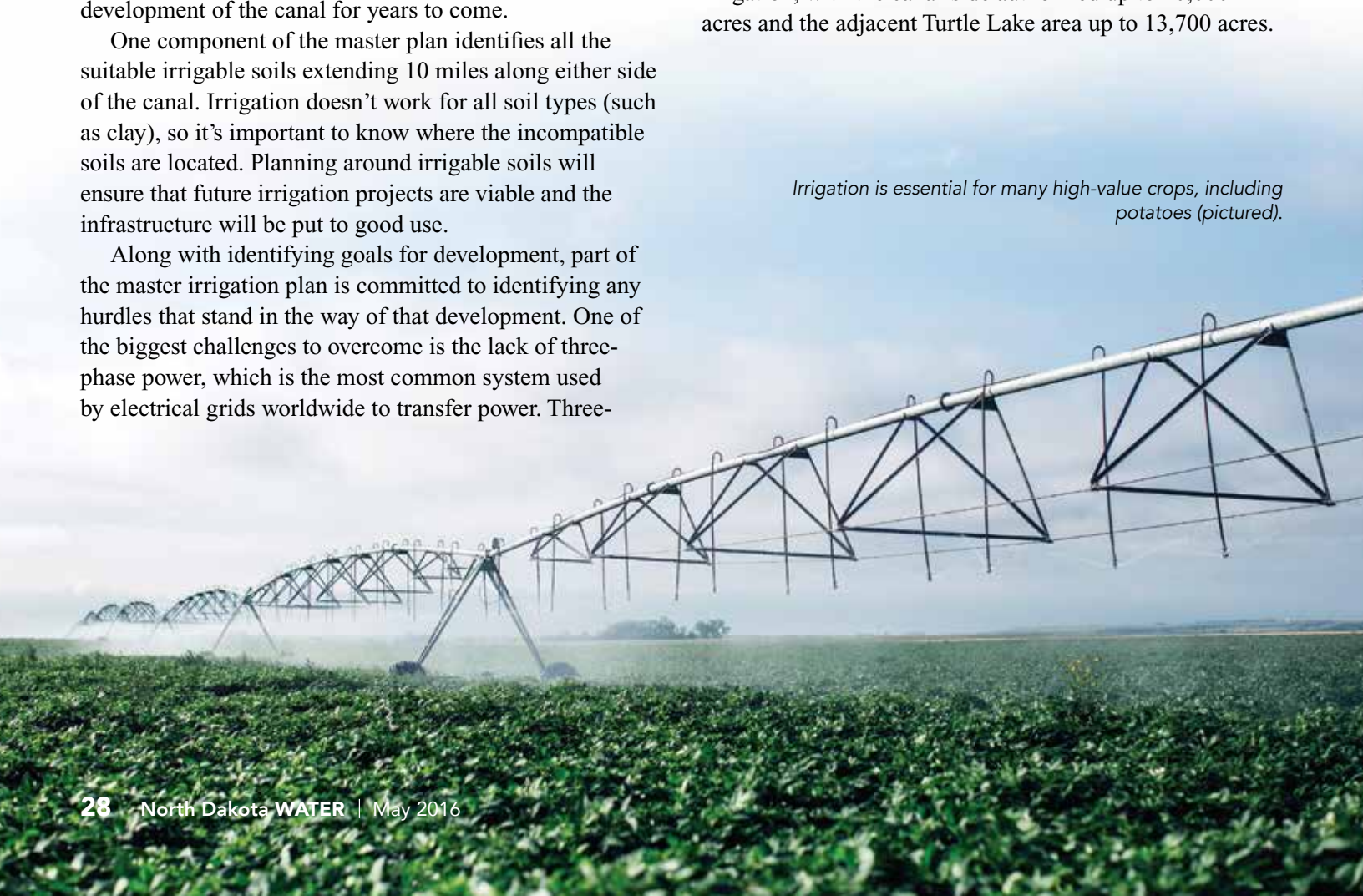
Garrison Diversion recently developed a master irrigation plan identifying the long-term vision for future development of the McClusky Canal. Because the canal is authorized to irrigate 18,000 more acres than are currently being irrigated, the master irrigation plan is an important step toward using the canal to its full potential. It is a comprehensive document that guides the future development of the canal for years to come.

One component of the master plan identifies all the suitable irrigable soils extending 10 miles along either side of the canal. Irrigation doesn't work for all soil types (such as clay), so it's important to know where the incompatible soils are located. Planning around irrigable soils will ensure that future irrigation projects are viable and the infrastructure will be put to good use.

Along with identifying goals for development, part of the master irrigation plan is committed to identifying any hurdles that stand in the way of that development. One of the biggest challenges to overcome is the lack of three-phase power, which is the most common system used by electrical grids worldwide to transfer power. Three-phase systems are usually more economical because they use less conductor material to transmit electrical power. Unfortunately, three-phase systems are very expensive to install, which creates an important obstacle for Garrison Diversion to overcome.

Garrison Diversion will use the master irrigation plan to guide the future development of the McClusky Canal and ensure family farmers continue to have access to reliable, high-quality, and affordable water to allow their farms to grow and prosper. The master irrigation plan will help regionalize the central supply works, which include pump stations, power, and transmission lines to serve as many irrigators as possible at the lowest possible cost. Having the ability to leverage the smaller-scaled projects with the larger projects will help reduce the dollars per acre to develop systems.

The McClusky Canal is approximately 74 miles long and carries water from Lake Audubon as far as the city of McClusky. Based on the Garrison Diversion Unit legislation in 1965, the canal was designed to carry 1,950 cubic feet per second of water for the irrigation of 250,000 acres. Due to various federal legislative deauthorizations, it is currently authorized for a total of 23,700 acres of irrigation, with the canal-side authorized up to 10,000 acres and the adjacent Turtle Lake area up to 13,700 acres.



*Irrigation is essential for many high-value crops, including potatoes (pictured).*