Columbus, GA

A CASE STUDY OF THE ADOPTION OF A ZINC COATED DIP SPECIFICATION

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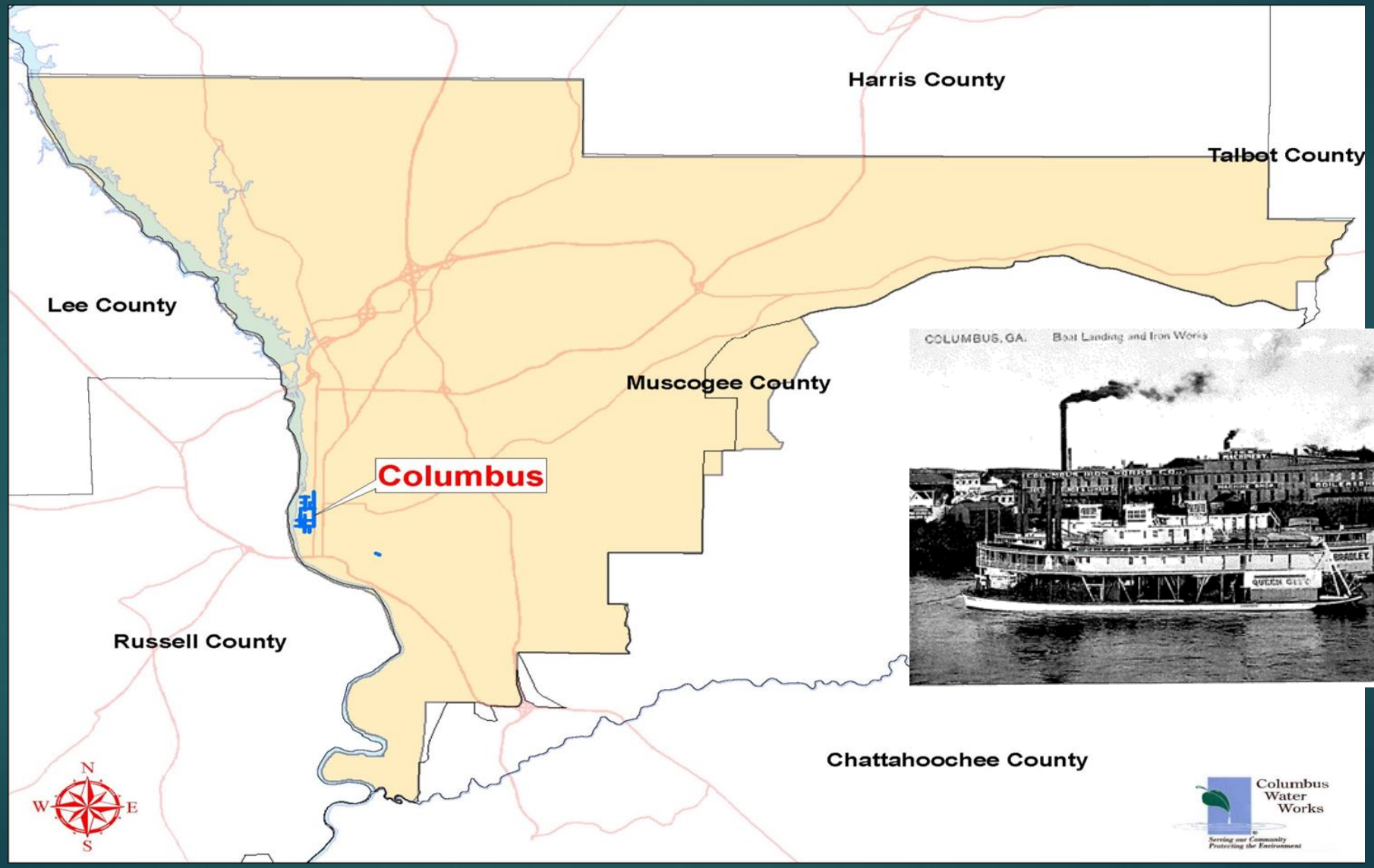
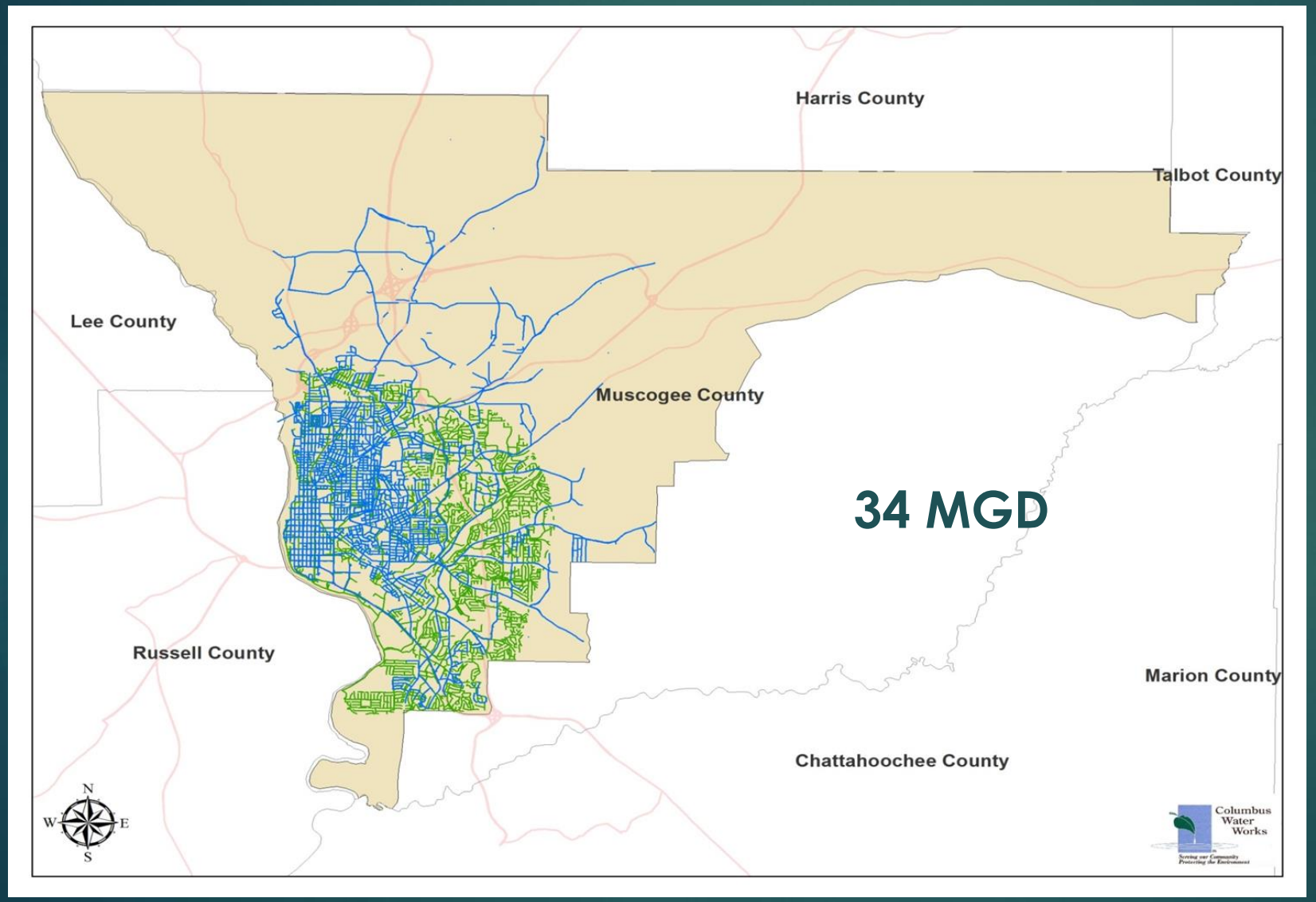
BINK GREEN- TERRITORY MANAGER, AMERICAN CAST IRON PIPE COMPANY

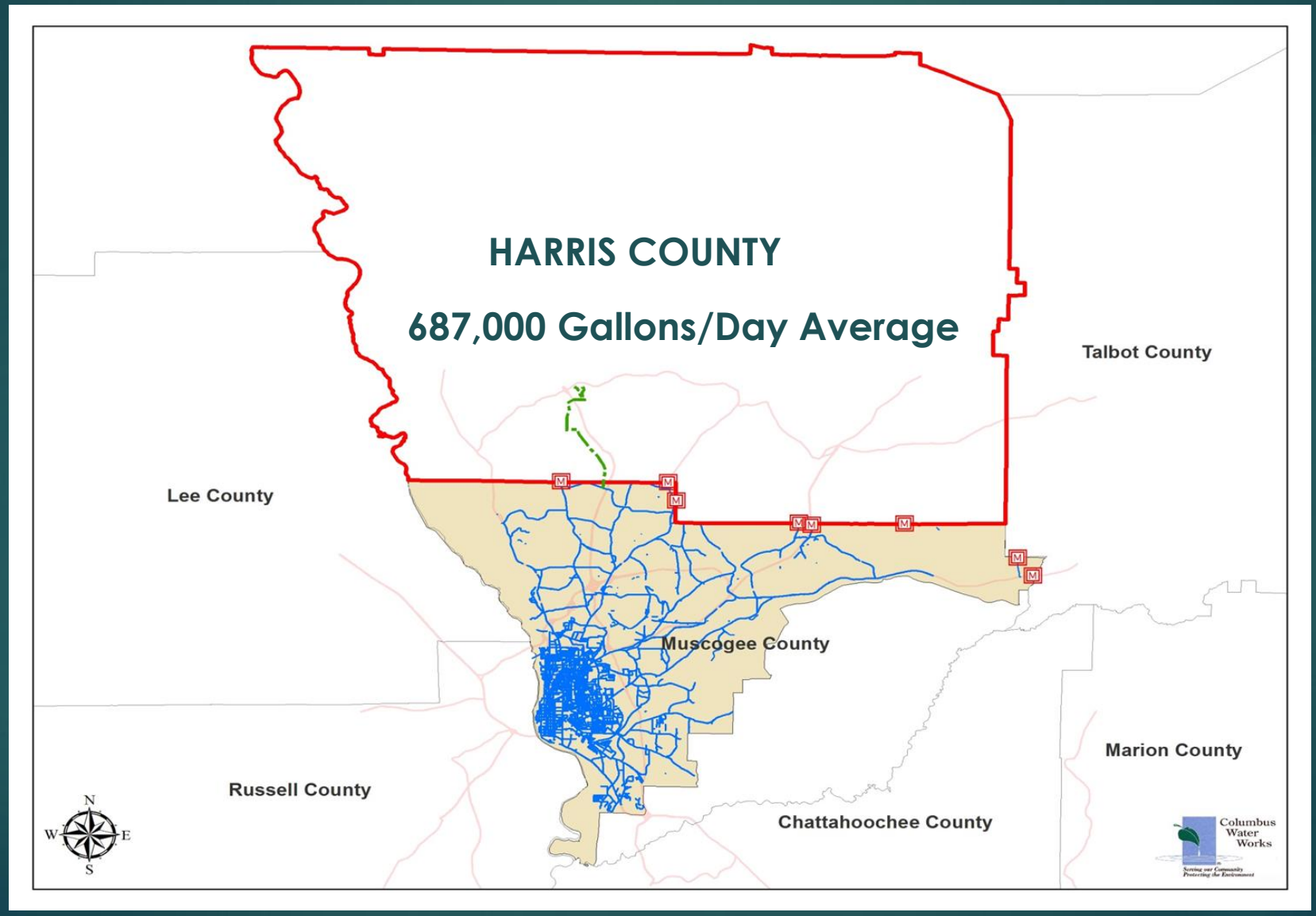
Began serving the City of Columbus in 1902



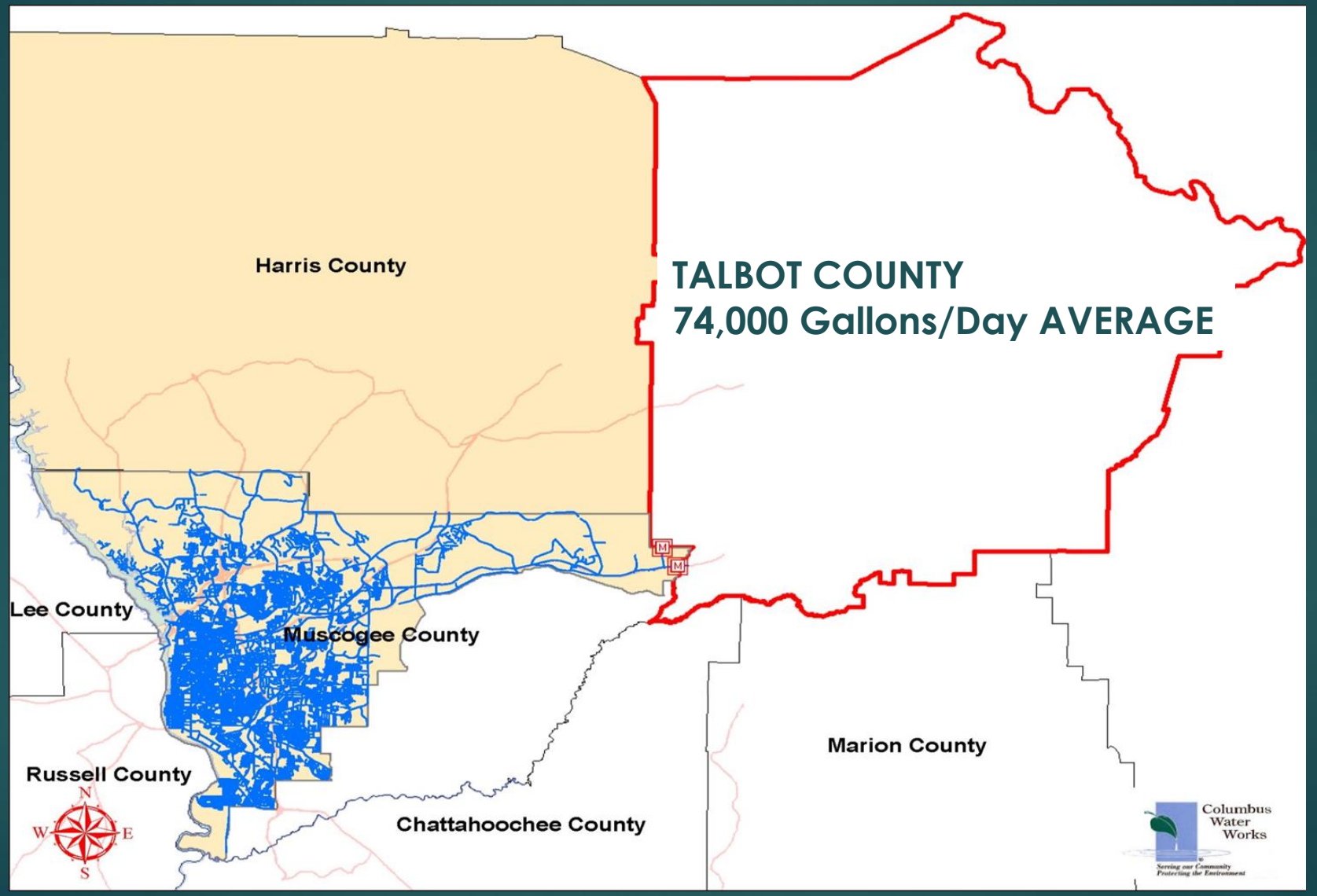
Expanded to Consolidated City/County in 1970s



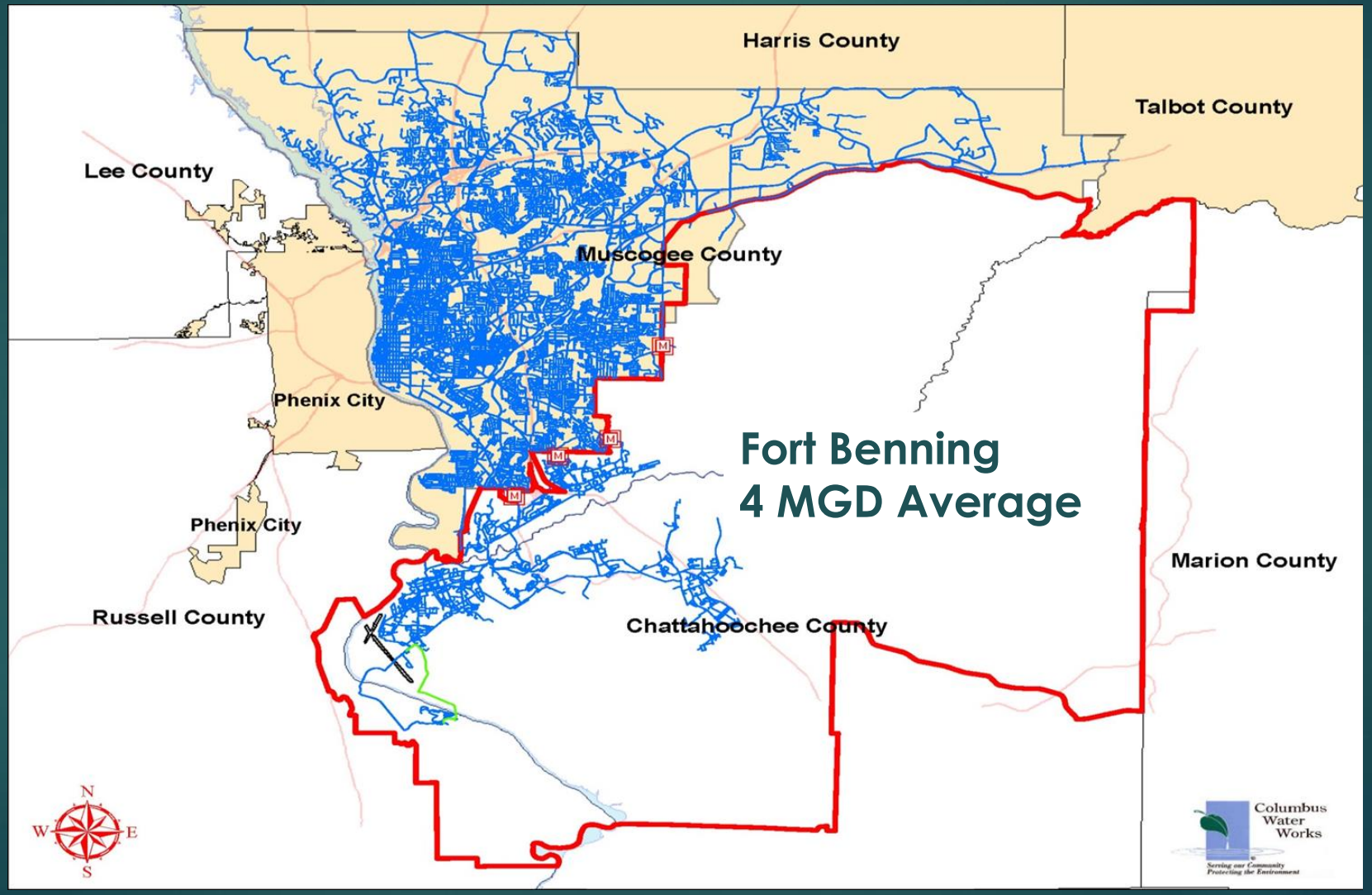
Began Wholesale Service to Harris County 1988



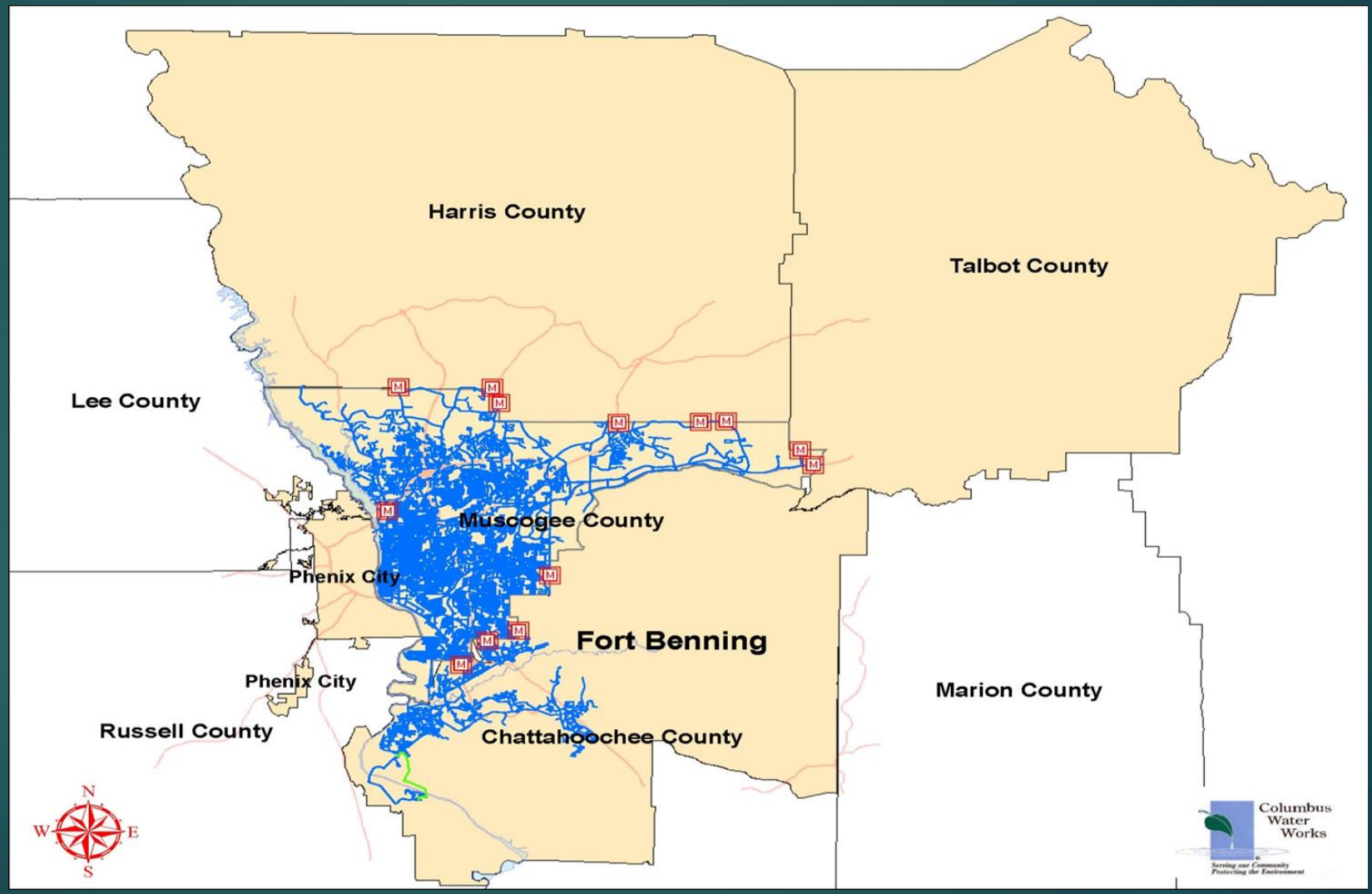
Began Wholesale Service to Talbot County 1999



2004- Initiated a 50 Year Contract to Own and Operate Ft Benning System



Currently Serving Approximately 275,000 People in Four Counties



DIP in Columbus System

DIP is the specified pipe material for:

- Water Distribution lines
- Water Transmission lines

DIP serves a prominent roll in SS applications including:

- Force Mains
- Aerial Crossings
- Heavy cover & rugged performance applications

Reasons for the Prominence of DIP in the Columbus System

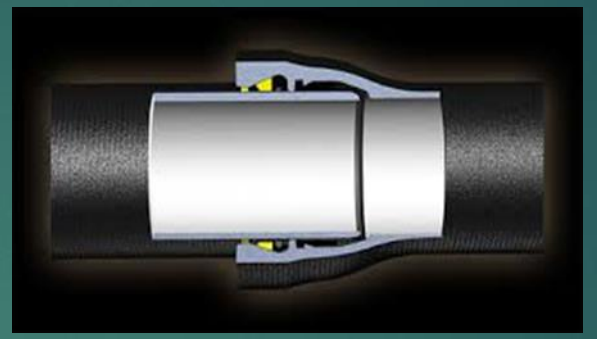
Columbus' benign soils- In most instances, pipe is installed bare, without need of Polyethylene Encasement. This pipe, recently removed from service during routine replacements, had been in service, without failure, since 1882

Sustainability

- DIP is the only pipe material recognized by the Institute for Market Transition to Sustainability as SMaRT Certified.
- It is made from over 95% RECYCLED MATERIALS.
- Based on the AWWA report, Buried No Longer, the service life expectancy of DIP is approximately twice that of PVC pipe.
- DIP provides substantial pumping cost savings when compared to other water transmission & distribution pipe materials.

Other DIP Attributes:

- **High production rates for installation.**
- **Native backfill may be used due to pipe's inherent strength**



Variety of Restrained Joint systems, including Field adaptable systems.

Field Serviceability by City crews.

The Decision to Adopt Zinc Coating

August 2014: ZINC coating introduced at the ASCE Pipelines Conference

Columbus evaluated the history of Zinc Coated DIP revealed:

- Zinc coated DIP has been commercially produced in Europe since the late 1950s.
- By the 1980s, ISO 8179 Standard for Zinc coating of DIP was adopted.
- The Zinc Coating Specification Columbus was considering had over 50% more zinc than ISO 8179.
- Passive protection without field application of PE Encasement.
- No special installation procedures required.
- Ability to “self-heal” in many environments.
- Life Extension: In the benign soils present in the Columbus system, it is reasonable to expect service life to increase several decades.

ZINC Coating Process

ZINC Coating Process

Resolution:

In March 2015 Columbus adopted a specification requiring all DIP up to 16” diameter Zinc coated in accordance with the specification guidelines available as a handout with this presentation.

Since that time Columbus has installed 105,000’ of Zinc Coated DIP in sizes 6”-16”

QUESTIONS?