Filed with the Iowa Utilities Board on August 8, 2022, HLP-2021-0003

Heartland Greenway

A Navigator CO_2 Project

www.heartlandgreenway.com

HEARTLAND
GREENWAY

Agenda

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About Navigator

HEARTLAND GREENWAY

We are pioneering a path to sustainable carbon solutions, while maximizing value for all stakeholders in the new carbon economy

Matt Vining
CEO

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COO

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SVP and CDO

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EVP & CCO

Stephen Lee
EVP, Engineering

Vidal Rosa
EVP, Operations

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EVP & CFO

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EVP & General Counsel

Elizabeth Burns-Thompson
VP, Government & Public Affairs

Chris Brown
VP, Capital Projects

Monica Howard
Senior Director, Environmental & Regulatory

Ann Welshans
Director, Right-of-Way

Navigator's Track Record

$1.3B Capital Deployed

>1,300 Miles of Pipeline Built Since 2012

>200 Years of Combined Experience

Strong, Proven Partnership with BlackRock

Third Midstream Infrastructure Venture

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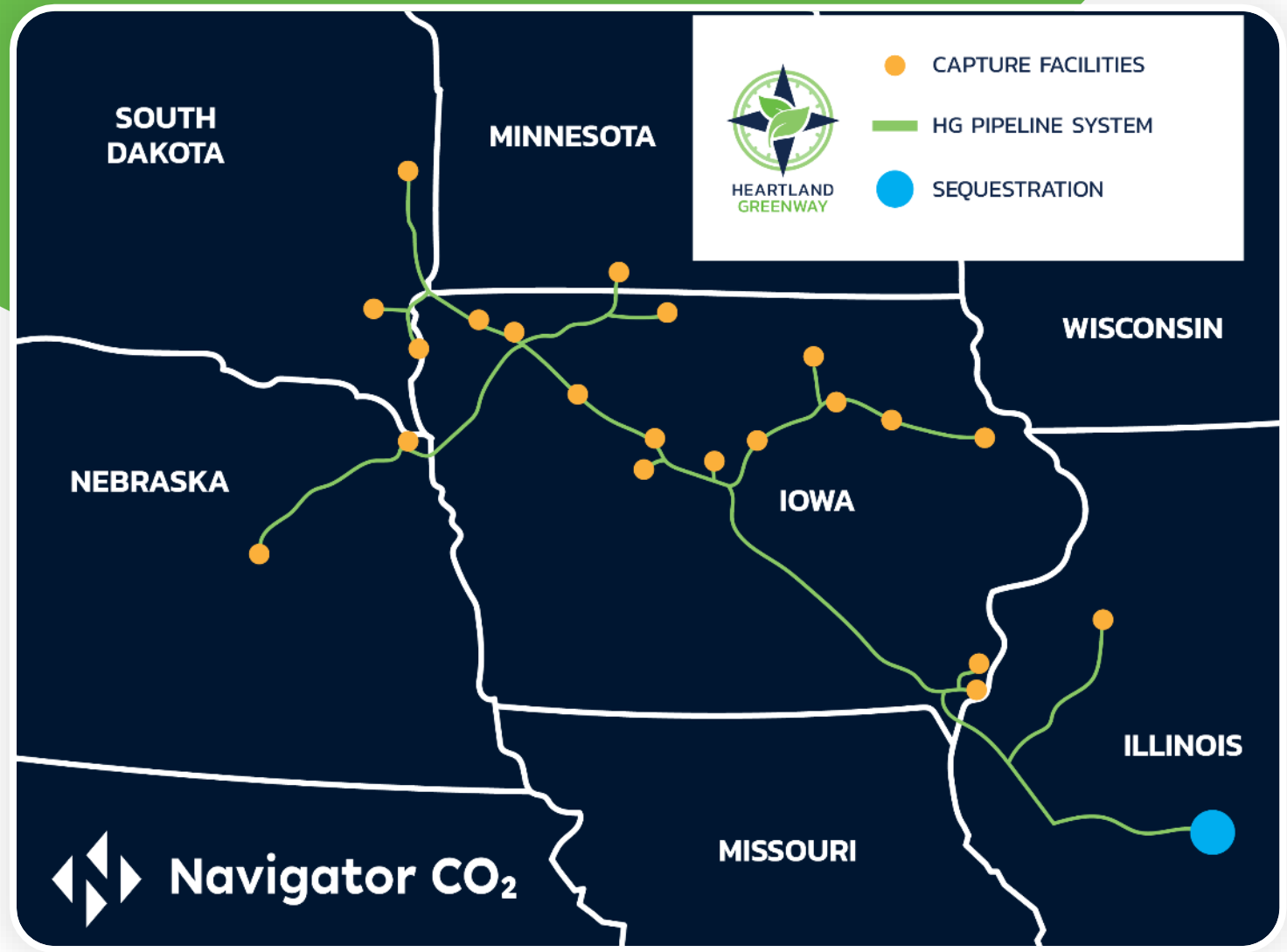

Project Overview

- ~1,300 miles of new liquid CO_2 pipeline
  - ~810 miles in Iowa
  - 33 Iowa counties
- Permanent storage in Illinois
- Up to 15 million metric tons/year
- 21 ethanol and fertilizer processors:
  - Valero
  - POET
  - Big River Resources
  - OCI, Iowa Fertilizer Company
  - Siouxland Ethanol
- Financially backed by BlackRock

The most economical and actionable solution to industrial carbon management

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What is Carbon Capture?

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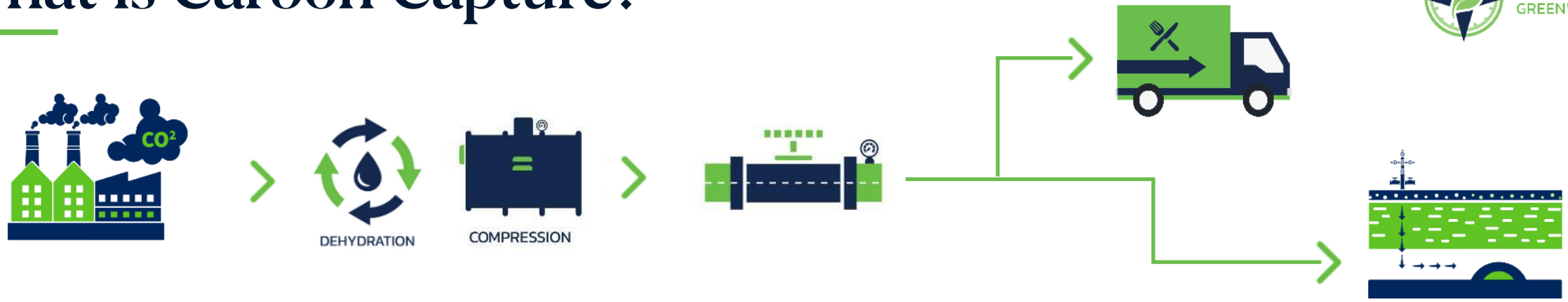

PRODUCTION

CO_2 is a byproduct of manufacturing

Industrial processes are responsible for ~25% of energy-related CO_2 emissions

CAPTURE

CO_2 is captured, dehydrated, and compressed into a liquid using equipment added onto the facility without interrupting normal operations

TRANSPORTATION

Liquid CO_2 is aggregated from connected facilities and transported in a network of new steel pipeline

UTILIZATION

Liquid CO_2 is made available via truck terminals and pipeline offtake connections for value-added commercial and industrial uses

STORAGE

Liquid CO_2 is injected more than a mile below ground, far below critical water resources, where over time the carbon mineralizes

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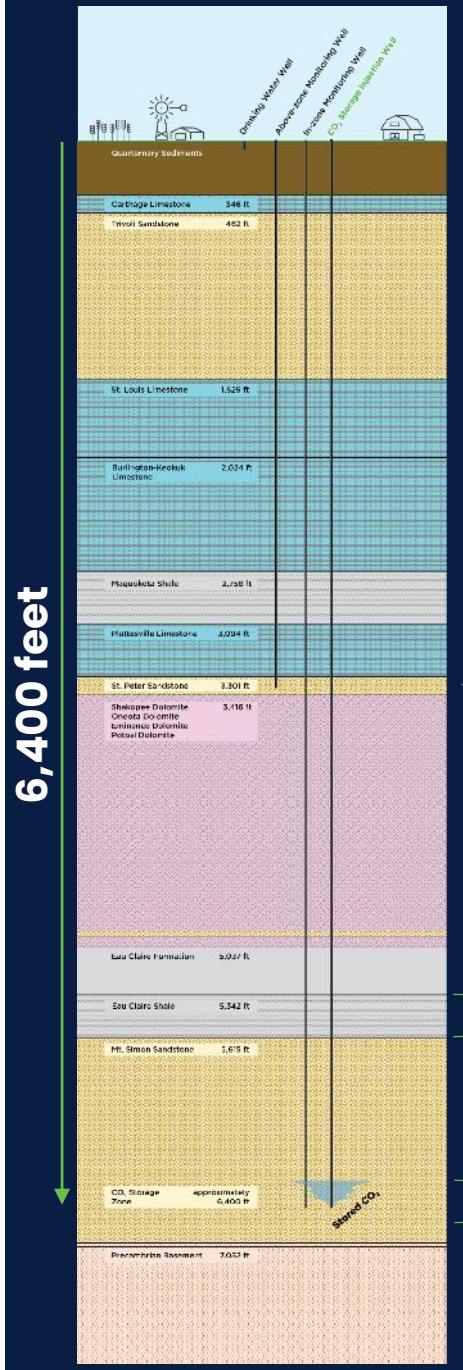
Storage Footprint

- **Industry leaders helping develop the storage field in Central Illinois, where similar projects are safely operating and planned because of region's favorable geological properties**
- **Extensive geologic tests confirm the Mt. Simon sandstone formation will allow for safe, secure, and permanent CO_2 storage**
- **Pore space will cover approximately 30,000 acres and include construction of multiple injection wells with additional monitoring at each site**
- **Once operational, non-stop monitoring will ensure the long-term safety and integrity of the storage field**



Why Capture Carbon?

CO_2 Emissions

- Our customers produce some of the purest quality CO_2, making them great partners for CCUS
- Dynamic infrastructure, allows for sequestration and provides necessary supply chain backbone for future innovation of CO_2 uses

Commercial Model

- A simple fee-based common carrier model
- Those responsible for decarbonization receive economic incentives:
  - 45Q Tax Credit
  - Low carbon fuel programs
  - Emission offsets

Unique Geology

- Only certain areas have the geology necessary for this type of geological storage
- Pipeline infrastructure is best suited for connecting our partner facilities to these areas with storage capacity

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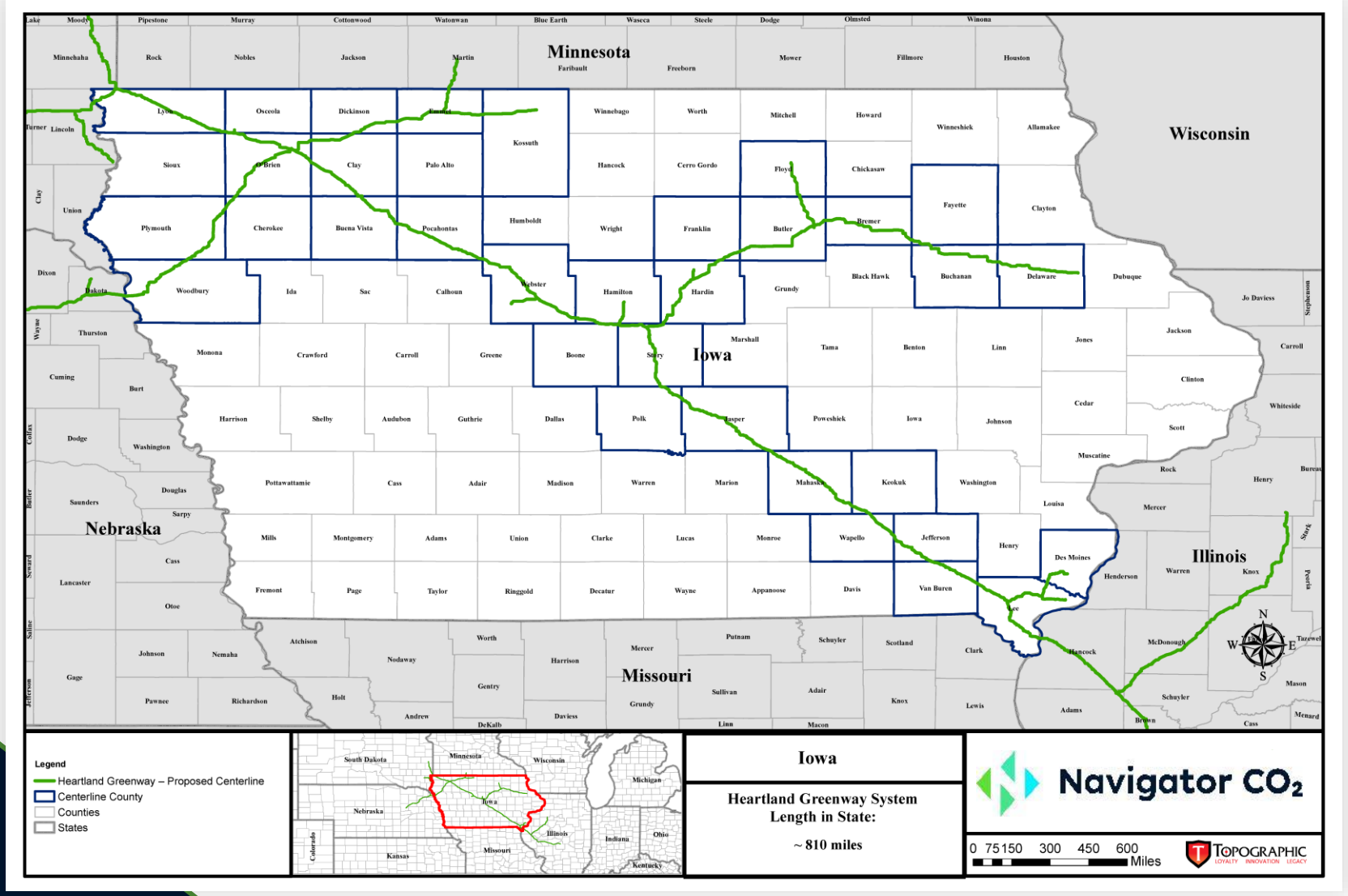
Iowa Proposed Project Map



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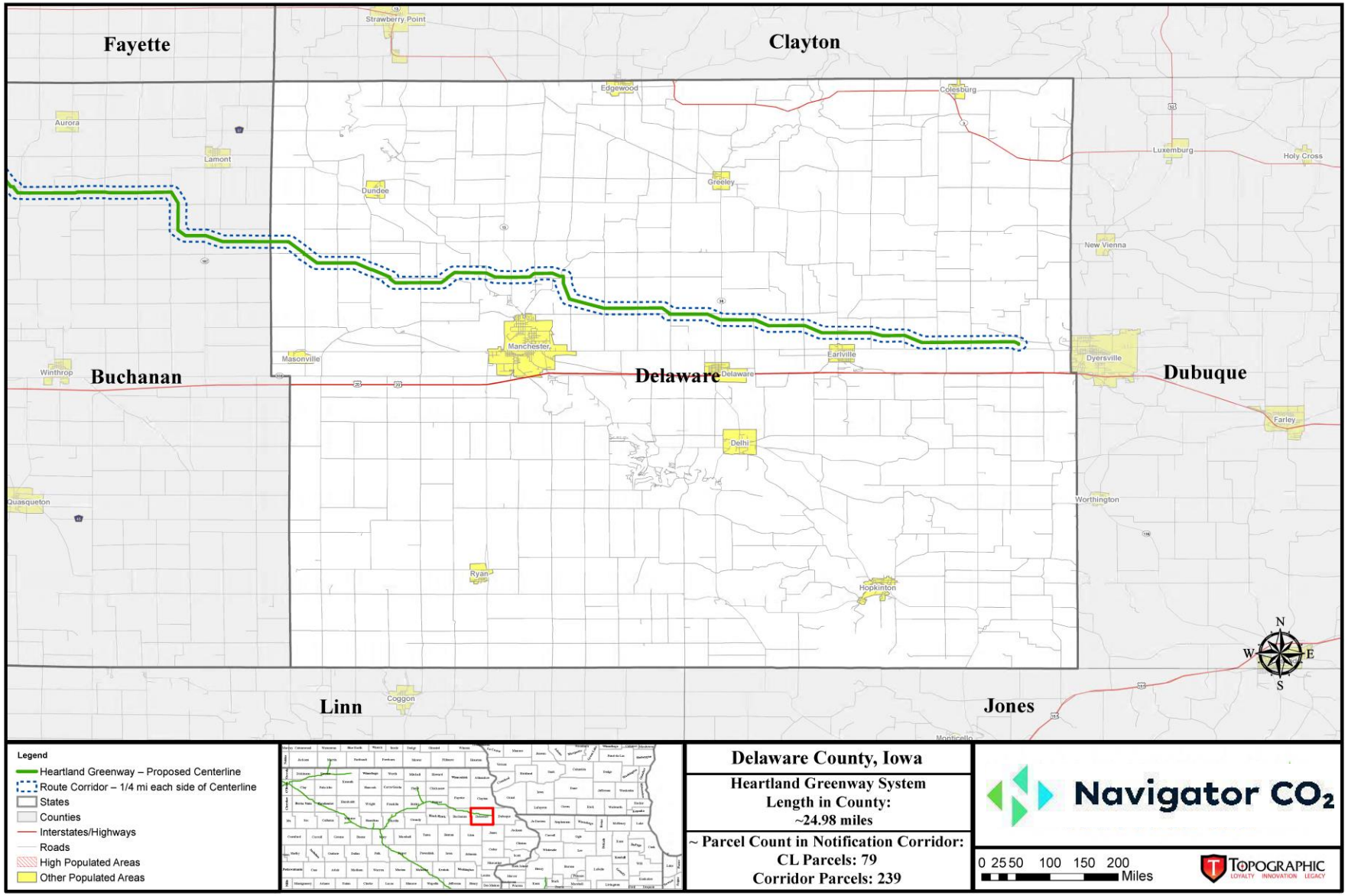

Delaware County Proposed Route

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Economic Benefits of Heartland Greenway

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$1.79 Billion
investment in the state of Iowa

	Property Tax Revenue	Permanent Jobs	Construction Jobs
Iowa Totals	**~$25M**	**50**	**5,000**
Project Totals	**~$30M**	**80**	**8,000**

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Environmental Benefits

Heartland Greenway's fully realized carbon offset is equivalent to:

GHG emissions from
3.2 Million Vehicles
driven annually

CO_2 emissions from
34.7 Million
barrels of oil consumed

15 Million
metric tons of CO_2
captured annually

Annual CO_2 emissions from
1.8 Million
homes' energy use

Annual carbon stored by
18.3 Million Acres
of U.S. forests

Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

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Anticipated Projected Timeline

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October 2020 – October 2021
Route development and optimization

October 2021 – February 2022
Landowner outreach for survey authorization

November 2021 – January 2022
First round of IUB Informational Meetings

Q1 2022 – Q4 2022
Constructability and environmental surveys

August 2022 – September 2022
Second round of IUB Informational Meetings

Q2 2022 – Q3 2023
Route adjustments from landowners and stakeholder feedback, ROW easement acquisition

October 2022
Projected IUB petition file date

Q3 2022 – Q4 2022
Federal permit applications and inter-agency consultations (USACE/USFWS/SHPO)

Second Half 2023
Anticipated receipt of State and Federal Permits

First Half 2024
Construction commences

Q4 2024 – Q2 2025
Phased start up and commissioning

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Project Development and Execution Process

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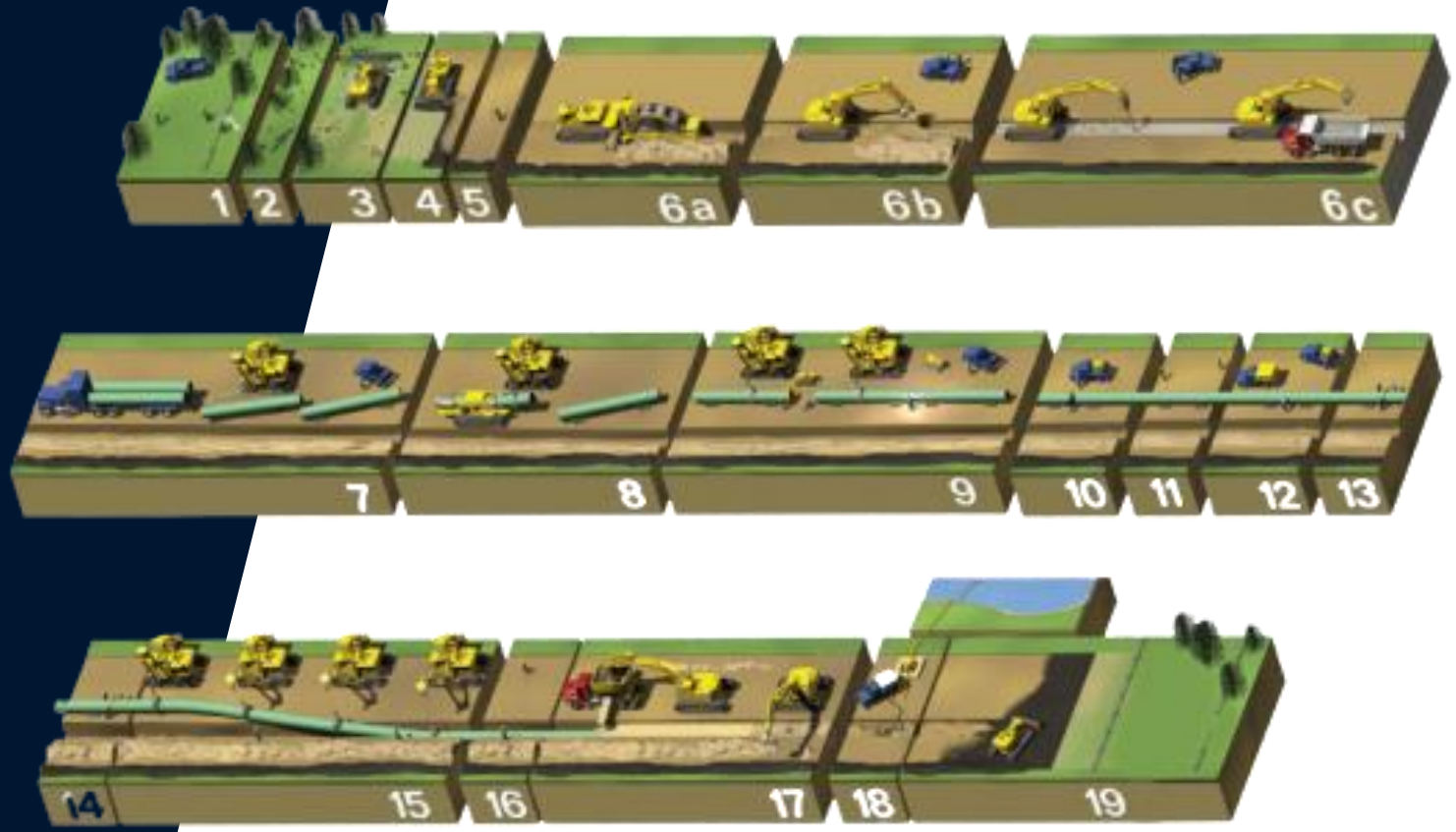
Planning begins years before any construction commences by determining commercial need and preliminary system options

Preparation and Permitting
Landowners and regulator engagement, robust analyses, design, permitting, and ROW acquisition

Construction
Survey, clearing, welding, x-ray, trenching, drain tile and irrigation measures, backfilling, erosion control installation

Inspection and Restoration
Third party and stakeholder inspection, topsoil replacement, final restoration



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Landowner Summary

We are committed to working in good faith with all landowners throughout the ROW process to achieve mutually acceptable terms and conditions

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Right-of-Way (ROW) Process Explained:

- **Mailed landowner information packet**
- **Phone call from ROW agents/company representatives, who are responsible for:**
  - **Answering all landowner questions to the best of our ability**
  - **Gathering and accounting for information specific to each landowner, tenant, tract**
  - **Seeking voluntary survey permissions**
- **Mailed notification of surveys**
  - **Conduct surveys in a manner to avoid/minimize impacts; repair, replace, or compensate for damages**
- **Utilize detailed market study to make easement offers based on regional, county, and township market values**
- **Account for unique landowner and tenant circumstances**

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Easement Options

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Easement Configurations

- Expressly for CO_2 transportation
- Non-exclusive permanent easement
- 50′ Permanent
- 50′–75′ Temporary construction corridor

Easement Payments

- Negotiate terms of easement with an option
- 20% Paid after signing
- 80% Paid prior to construction as choice of: lump sum OR 20-year annual payment with escalation

*Cancelation Terms (IA Code 479B.24)

- 7 business days to cancel after signed
- Form provided to all landowners
- Written, certified letter from date of signature

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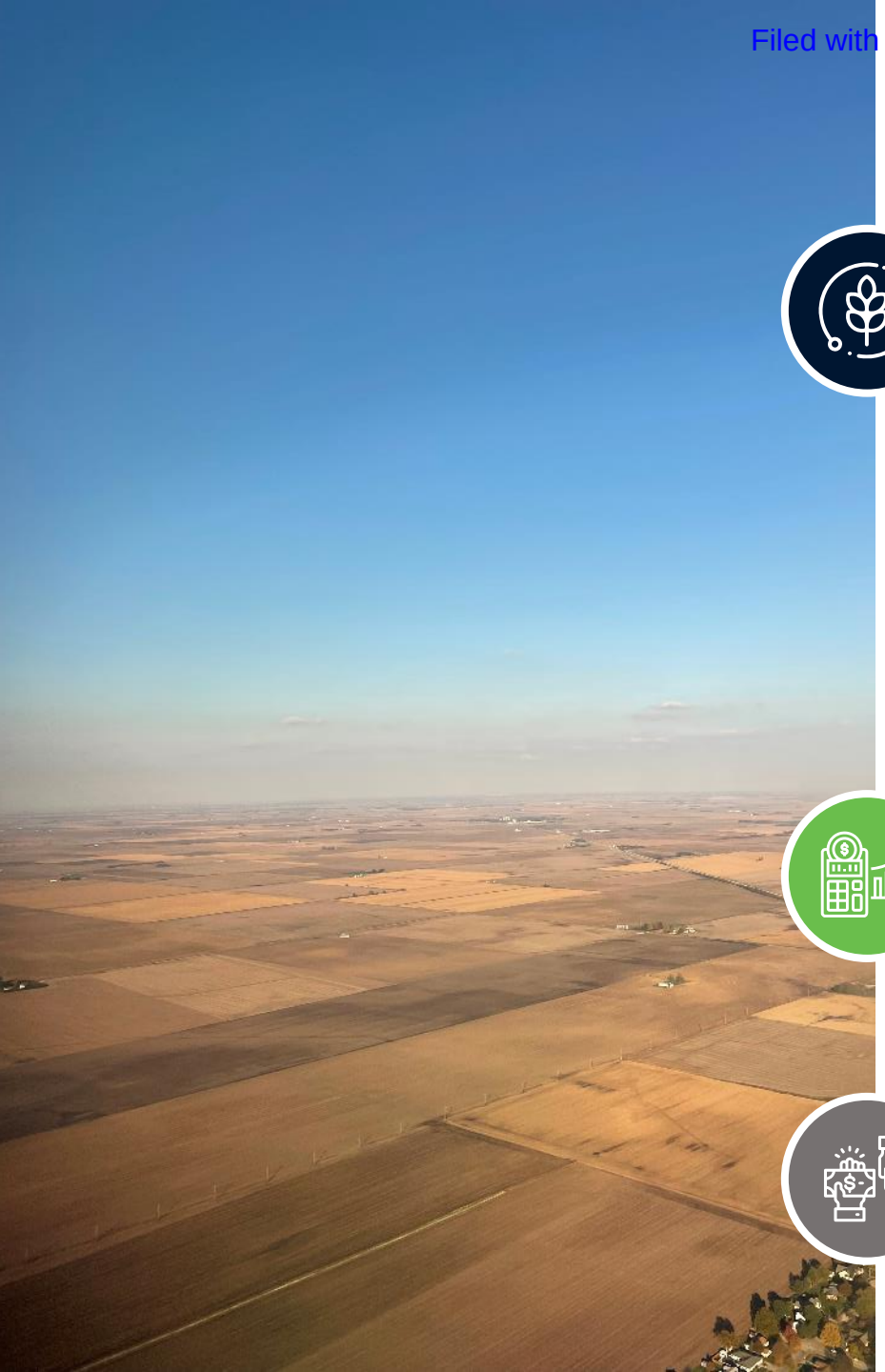

Land Use Compensation

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Local/Regional Ag Market & Land Study

- Utilize USDA National Agricultural Statistics Services data
- Identify crop types and percentage of land used for crops
- Account for CSR2 values for tillable acres and soil quality/productivity
- Current/historical crop yields
- Work with each landowner and tenant to address unique farming/ranching operations

5-Year Yield Loss Compensation Calculation

- Year 1 – 100% Yield
- Year 2 – 70% Yield
- Year 3 – 40% Yield
- Year 4 – 25% Yield
- Year 5 – 15% Yield

Paid Prior to Construction

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Drain Tile Management

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We understand and appreciate the importance of maintaining the integrity of drain tile systems and are committed to mitigating the impacts to agricultural fields across the project

01 Locate and Identify

- Landowner discussions
- Locate drain tile and identify type of system
- Consult local/regional subject matter experts
- Design 1'–2' of separation from CO_2 pipeline

02 Proactive Solutions

- Minimize damage to tile during construction
- Install header systems, if warranted
- Third party agricultural and county monitors to ensure compliance

03 Restore to Previous Condition

- Use local contractor or compensate landowners to restore if they prefer
- Scope tile line for damage outside trench, install in-trench supports, reconnect to original system outside of trench, restore gradient and alignment, tie-in connections

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Construction Mitigation & Restoration

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- Minimize impacts from surveys and construction
- Repair, replace, or compensate for all damages
- Protect and restore all affected lands
- Account for the unique conditions of regional landscapes and land use practices
- Retain specialized restoration companies to develop and execute construction mitigation and restoration plan
- Topsoil stripping, segregation, protection, and decompaction
- Restore land use and production as quickly as practical
- Implement NRCS recommendations and landowner preferences
- Address each landowner's specific requirements from easement documents
- Robust monitoring and inspection program, 3rd party and county inspection

We are committed to ensuring impacts are temporary and returning the land to its pre-construction conditions or better

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Pipeline Specifications

- **Design**: steel pipe expressly for liquid CO_2
- **Federal Regulation**: design, construct, operate to meet or exceed 49 CFR Part 195
- **Normal Operating Pressure**: 1,300 -2,100 psig (MOP by design: 2,200 psig or ANSI 900)
- **Pipe Depth**: nominal 5', 12"-24" separation from existing lines/utilities
- **Pipe Diameter**: 6" – 20" outside diameter
- **Normal Operating Temperature**: pipeline: 40-80°F
- **Mainline Valves**: nominal 30' x 70', strategically located
- **Booster Stations**: anticipate 3, 10-acre mainline booster stations, 2 in Iowa

Design and Safety Philosophy

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Minimize Collective Impact	▪ Avoid and minimize High Consequence Areas (populations, environmental) ▪ Multiple plume dispersion models under various scenarios (ALOHA/PHAST) ▪ Strategically located mainline valves, remotely monitored 24/7/365, and valves that require no actuation (immediate closure – check valves)
Risk Mitigation	▪ Increased depth of cover to ≥5′ to reduce risk of 3rd party damage and stay beneath existing drain tile and utilities ▪ Follow other existing utilities when practical (increased public awareness and damage prevention plans) ▪ Warning tape installed 2′ above pipeline as a proactive warning measure ▪ Increased factor of safety/enhanced line pipe specs to protect from external forces and fracture propagation ▪ 24/7 monitoring of CO_2 composition before entering pipeline
Exceed Regulatory Standards	▪ Utilize guidance from 49 CFR Part 192 (natural gas) and international recommended practices (DNV-RP-F104) in design & construction to meet and exceed Part 195 (hazardous liquid pipelines)
Pre-Commissioning	▪ Hydrostatic testing above max operating pressure ▪ Coordination with local first responders ▪ System-wide pre-startup and safety review

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Operational Philosophy

Operations

- **24/7, State-of-the-Art Leak Detection**
  - Fiber optics (temperature, vibration, acoustic, pressure)
  - Compensated Mass Balance
  - Redundant communications to avoid outages
  - Cathodic protection equipment and monitoring
  - CO_2 monitoring at above ground facilities
- **Operations Control Room**
  - Manned 24/7/365
  - Continuously monitors all SCADA information
  - Can remotely operate the system (ex. valves/pumps)
- **Integrity Management Plan (maintenance and response)**
  - Continual risk assessment
  - Preventative, mitigative, and remedial measures

Maintenance & Response

- Routine pipeline testing, calibration, and inspection
- Annual desktop & semiannual field response simulations
- Contract with private responders located along route

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Emergency Response and Public Awareness

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CO_2 Characteristics

- Non-flammable, colorless, odorless, heavier than air
- Mildly toxic (concentration & exposure time sensitive) and asphyxiant
- Working proactively to develop unique odorant

EMS Engagement

- CO_2 training by county/HAZOP District
- Develop Preliminary Emergency Response Plan w/ EMS input
- Identify and provide resources to execute the Response Plan
- Development of "Nav 911" automated outcall system
- Navigator personnel/3rd party team to supplement EMS teams
- Perform drills to measure the Plan effectiveness, adjust accordingly prior to in-service
- Semiannual response drills throughout operations

Damage Prevention & Public Awareness

- Pipeline identification markers denoting location
- Weekly aerial surveillance, weather permitting
- #811 public awareness and damage prevention
- Meetings, trainings, and communication with local liaisons

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Thank You

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