



National Fuel[®]

FM100 Modernization Project

National Fuel Gas Supply Corporation

Nov. 13, 2017

Who is National Fuel Gas Company?

- A diversified energy company with more than 100 years experience in New York and Pennsylvania.
- Business segments include:
 - **Exploration and production**- develops and produces natural gas
 - **Gathering**- owns and operates natural gas processing and pipeline facilities
 - **Pipeline and storage**- owns and operates 2,800+ miles of interstate natural gas pipelines
 - **Utility**- transports natural gas to more than 740,000 customers
 - **Energy Marketing**- non-utility energy supplier



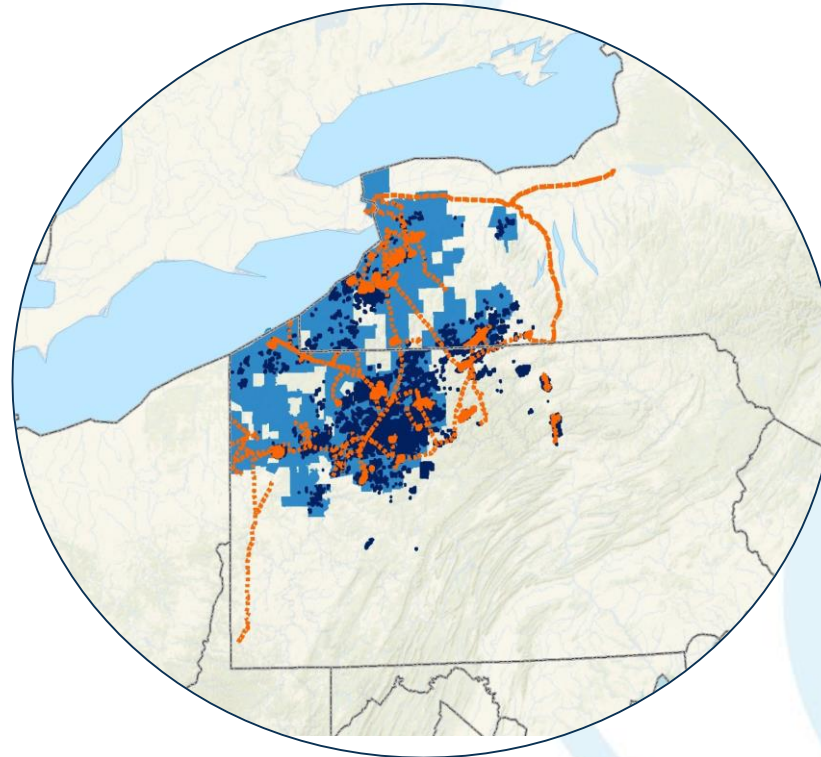
Company Stats

**NFG is a large, diversified public energy company
headquartered in Western New York**

2,080
Full-Time
Employees

1,017
Union
Employees

2,274
Retirees



\$5.5 Billion
Investments in N.Y. &
Pa. since 2008

742,000
Utility accounts served
1.2 million people N.Y.
.5 million people Pa.

18 N.Y. Counties
23 Pa. Counties
Utility & Midstream footprint

**Our employees and retirees work, live and raise
families in our operational footprint**

Pennsylvania Territory

- Dates back to the 1880s and the origins of the industry in Pennsylvania
- Originally part of John D. Rockefeller's Standard Oil Natural Gas Trust
- 724 employees
- All segments of the company's unique, integrated business model present in Pennsylvania
- Exploration and Production activity primarily in McKean, Elk, Cameron, Lycoming and Tioga counties



Why are we here?

- Extensive community involvement at an early point in the FM100 Modernization Project
- Continue dialogue with the public:
 - Answer questions
 - Listen to comments
 - Gather input
- Question and answer period to follow presentation



What is a Modernization Project?

- National Fuel pipeline modernization projects ensure:
 - Safe, secure pipelines
 - Reinforces our system by updating aging infrastructure
 - Enhances system reliability
 - Upgraded facilities
 - New technology
 - Fewer emissions



Potential for Expansion

- Expansion means:
 - Increasing the capacity of the system beyond current contracts to serve new customers or markets
- If an expansion component is added it would:
 - Minimal impact to workspaces
 - Permanent ROW would still remain at 50' width
 - Temporary ROW would increase in some areas
 - Require changes to our FERC application
- When will this be determined?
 - An open season will be initiated to test the markets

Regulatory Agencies

- **Federal Agencies**
 - Federal Energy Regulatory Commission (FERC)
 - U.S. Army Corps of Engineers (USACE)
 - U.S. Fish and Wildlife Service (USFWS), Pennsylvania Field Offices
 - U.S. Department of Transportation (DOT) (PHMSA)
 - Various Native American Tribal Group Contacts
- **Commonwealth of Pennsylvania Agencies**
 - Pennsylvania Department of Conservation and Natural Resources
 - Pennsylvania Fish and Boat Commission
 - Pennsylvania Game Commission
 - Pennsylvania Department of Environmental Protection (PADEP)
 - Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation, State Historic Preservation Office
 - PADEP and Local County Conservation Districts

- **Local Municipal Agencies**
 - Town Building Permits
 - Road Use/Opening Permits



FERC

- Federal Energy Regulatory Commission:
 - Independent agency that regulates interstate transmission of natural gas
 - Authority for siting, construction and operation of facilities for transporting natural gas in interstate commerce
 - Project is a 7b/7c filing
 - Currently participating in the FERC National Environmental Policy Act (NEPA) pre-filing review process at Docket No. PF17-10-000

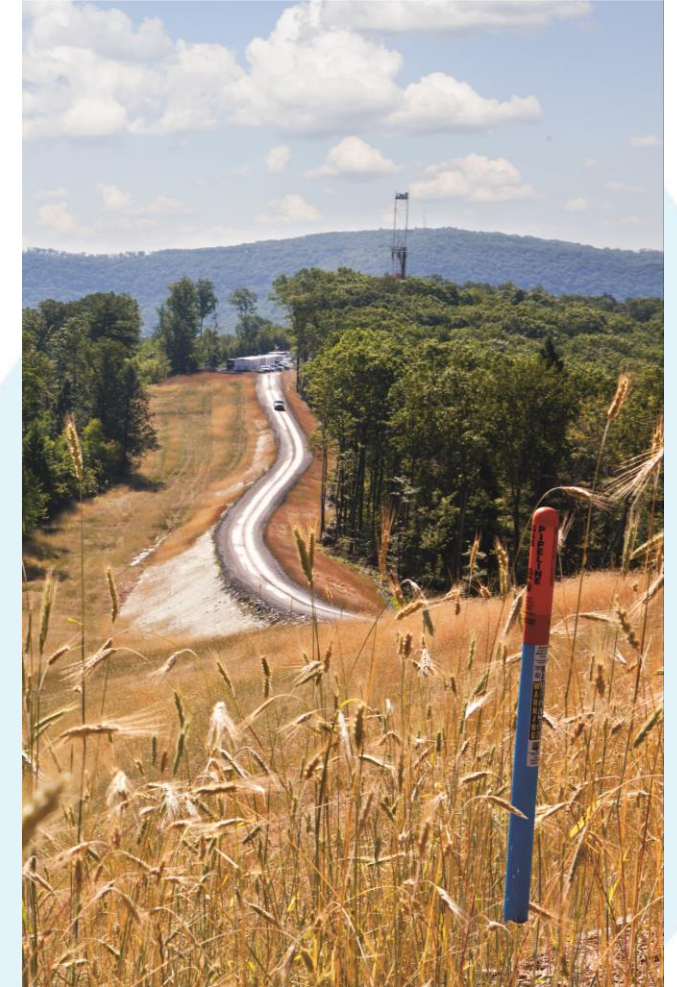


Project Overview

National Fuel Gas Supply Corporation (National Fuel) is proposing a project to modernize a segment of its system in McKean, Potter, Elk, Clearfield and Cameron counties in Pennsylvania.

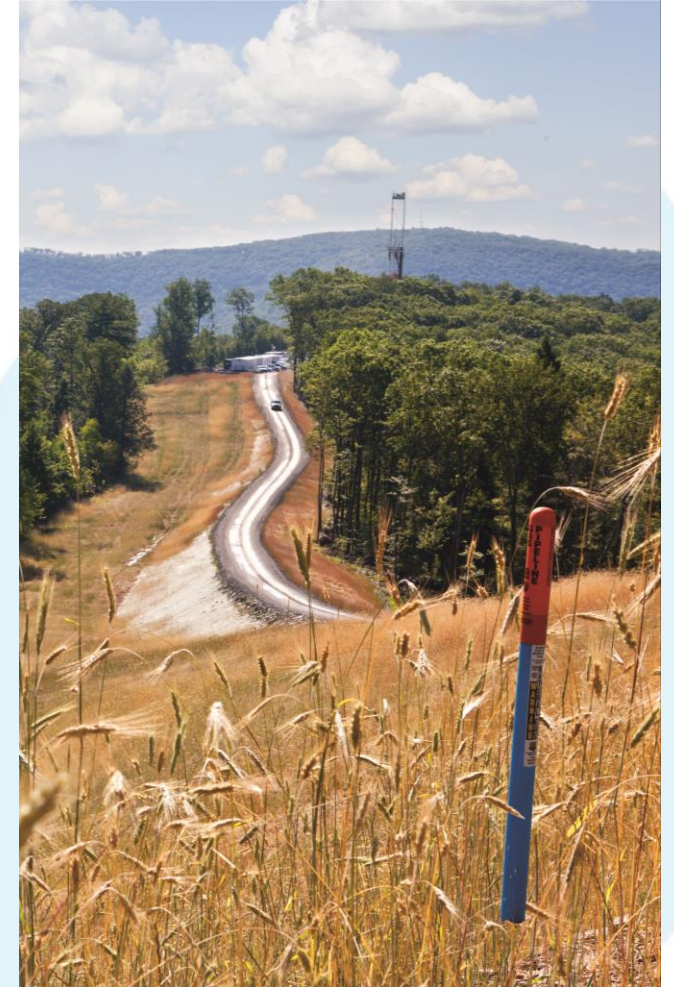
Specific project components include:

- Installation of approximately 28.9-miles of new 12 or 16-inch coated steel natural gas pipeline in Sergeant, Norwich, and Liberty Townships in McKean County, and Roulette, Pleasant Valley, Clara, Hebron Townships in Potter County
- Installation of the new Marvindale natural gas compressor station in Sergeant Township in McKean County
- Installation of a new interconnection in Hebron Township in Potter County



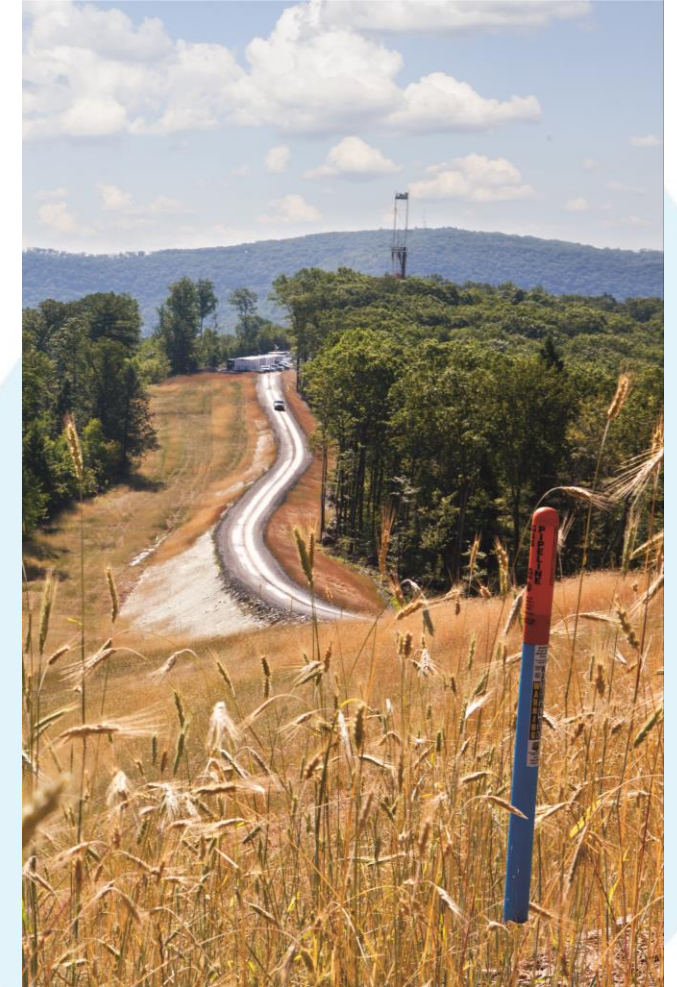
Project Overview (cont.)

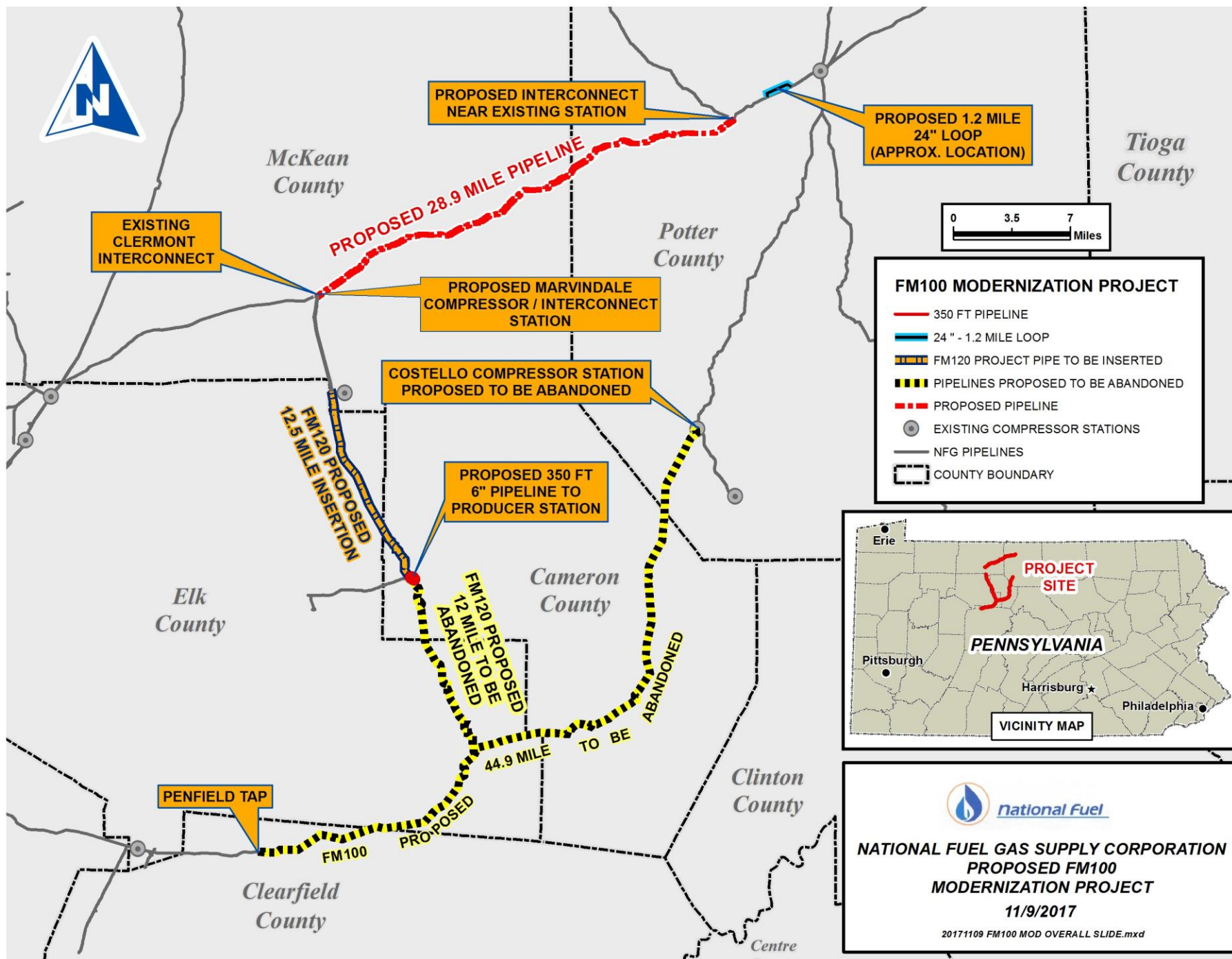
- Installation of approximately 1.2 miles of 24-inch steel natural gas pipeline in Allegany and Hebron Townships in Potter County
- Insertion of approximately 12.5-miles of 6-inch FlexSteel® natural gas pipeline into National Fuel's existing 12-inch steel natural gas pipeline (Line FM120) in Sergeant Township in McKean County, Jones Township and the City of St. Mary's in Elk County, and Shippen Township in Cameron County
- Installation of approximately 355 feet of 6-inch-diameter steel pipeline and associated above ground piping/valves to replace existing 12-inch-diameter Line FM120 and above ground piping/valves in order to keep an existing producer delivery point tied to the FM120 system in Elk County



Project Overview (cont.)

- Abandonment in place approximately 12 miles of 12-inch steel natural gas pipeline (Line FM120) in Shippen Township in Cameron County, and Benezette Township in Elk County
- Abandonment in place approximately 44.9-miles of 12-inch steel natural gas pipeline (Line FM100) in Huston and Lawrence Townships in Clearfield County, Benezette Township in Elk County, the Borough of Driftwood, and Gibson and Lumber Townships in Cameron County, and Wharton and Portage Townships in Potter County
- Abandonment and removal of a natural gas compression facility (Costello Compression Station) in Portage Township in Potter County



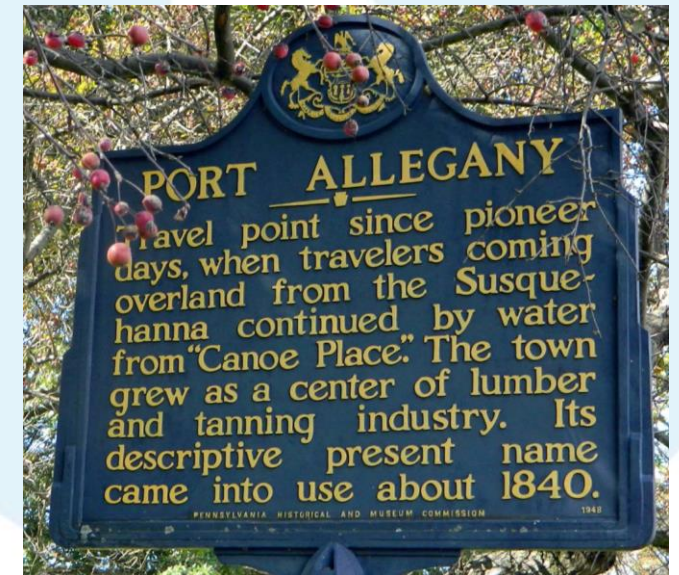


Proposed Timeline

August 2017	Begin landowner notification and survey permission
Fall 2017/Winter 2018	Survey, environmental and engineering studies of preferred route
April 2018	Submit 7(b) and (c) application to FERC
January through May 2019	Right-of-way acquisition; continue environmental studies as necessary
April 2019	Anticipate FERC approval
Summer 2019	Construction begins
Immediately Following Construction	Restoration begins
Spring 2020	Target in-service date
Summer 2020	Remaining restoration

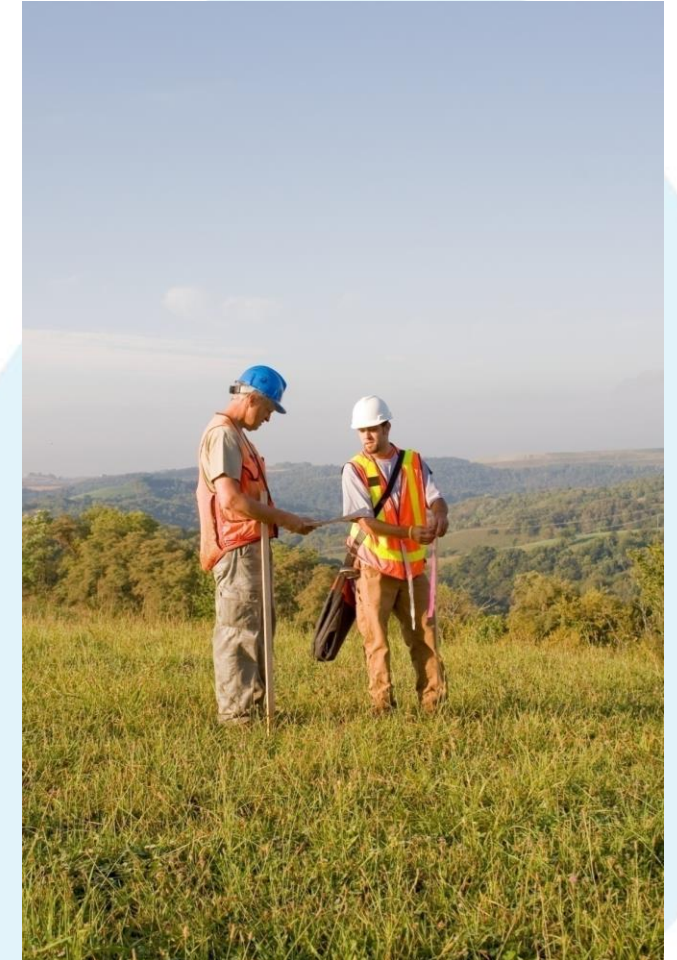
Economic Impact of the Project

- Investing more than \$100 million in Pennsylvania
- Creating 250-300 jobs during construction.
- Supporting local businesses during construction and operation
- Ongoing work with area companies



Factors in Selection of Route and Facilities Location

- Maximize use of existing utility corridors
- Minimize impact to landowners
- Engineering and technical considerations
- Constructability considerations
- Minimize disturbance to land
- Natural resource preservation
- Cultural and archeological resource preservation
- New stations near existing facilities

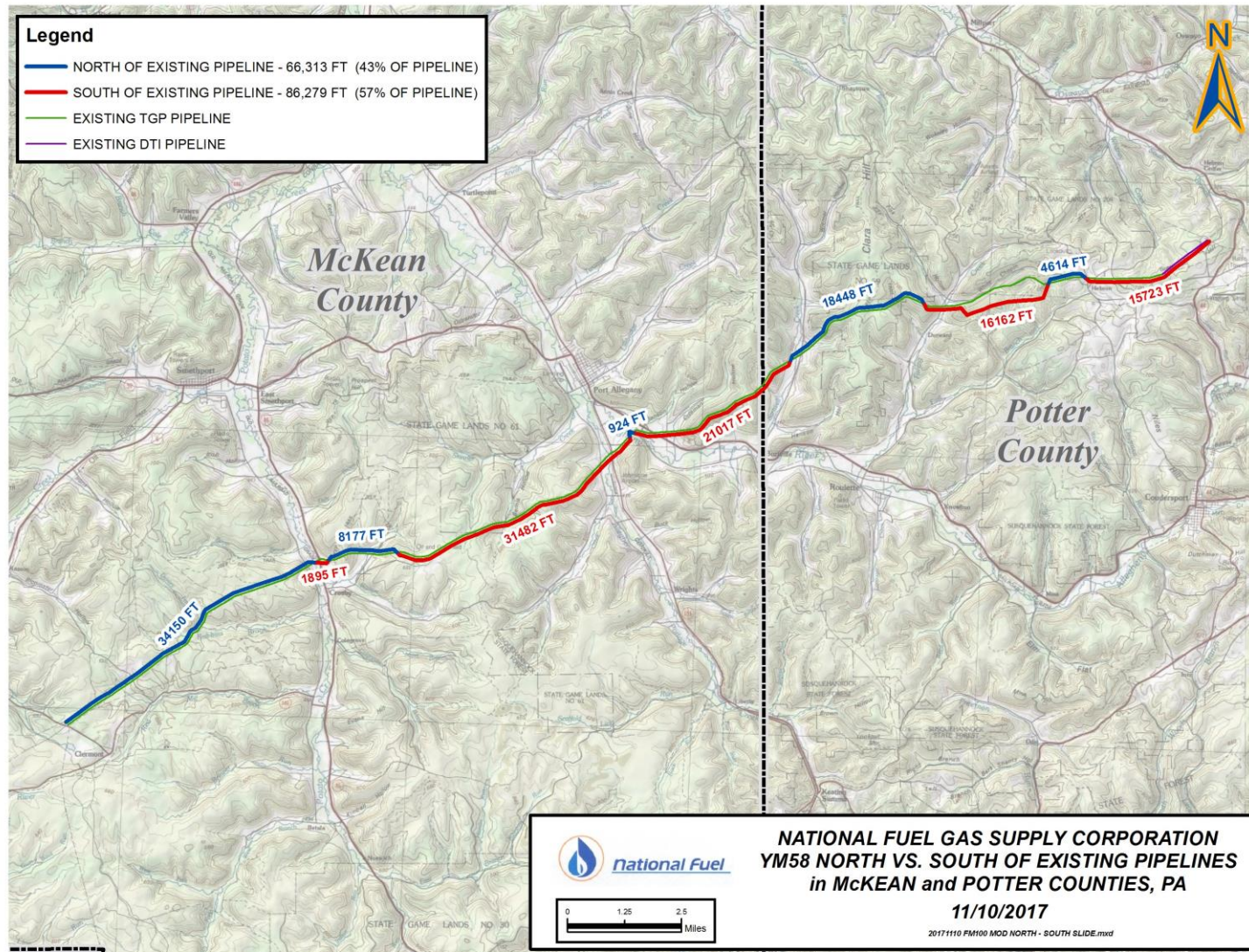


Route Selection and the Importance of Landowner Input

Route variances made due to landowner input:

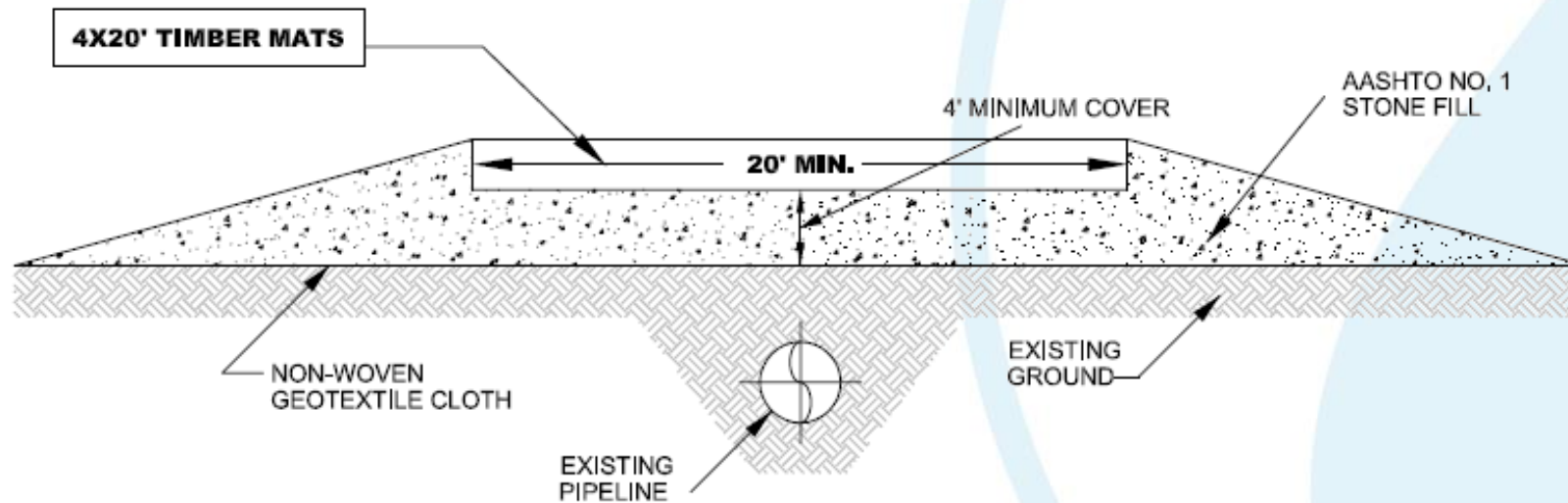
- Landowner preferences on parallel facilities to be on north or south of existing lines while attempting to avoid numerous crossovers
- Avoidance of existing facilities based on landowner discussions
- Preservation of fruit trees that would affect commercial activities
- Consideration of proximity to residences
- Attempted to locate line to minimize impacts to drainage areas, ponds





Coordination with Landowners to ensure access to their land for years to come

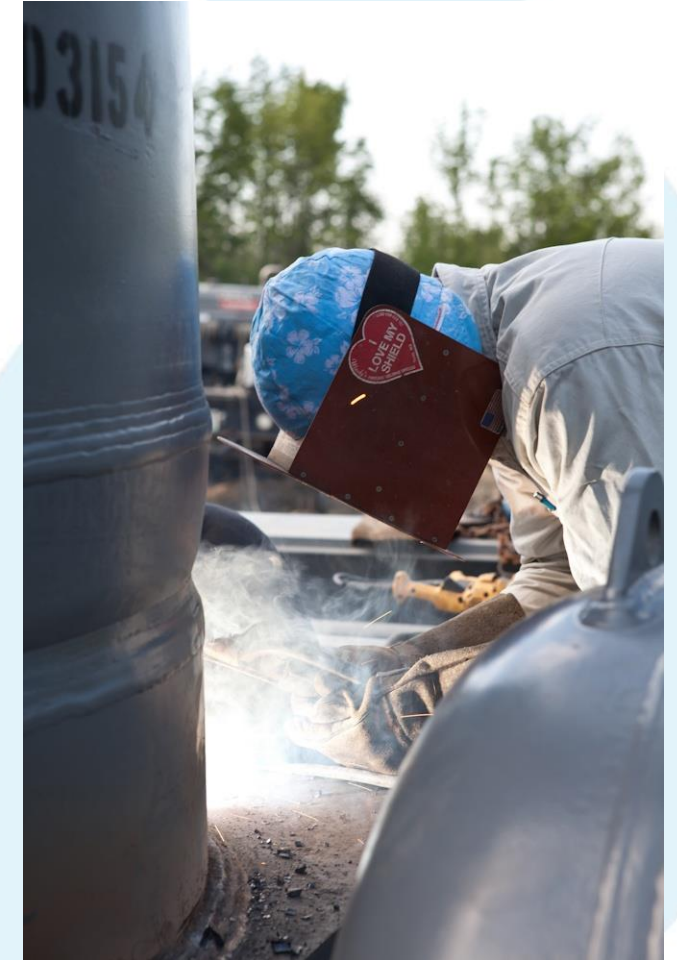
- Timber mat pipeline crossing:



- Can also be built utilizing only stone

Safety

- Safety is our top priority/outstanding safety record
- Pipeline facilities are constructed and maintained to meet or exceed federal safety code:
 - High strength carbon steel with modern fusion bonded epoxy coating
 - Coating protected with Rockshield and/or select screened backfill
 - Minimum 3 foot of cover
 - 100% of welds are X-rayed
 - Hydrostatic test to a pressure well in excess of actual operating pressure
 - Remote control valves
- Local operations across project route
- System monitored 24/7 by NFG Gas Control
- Regulated/inspected by Federal Energy Regulatory Commission and U.S. Department of Transportation

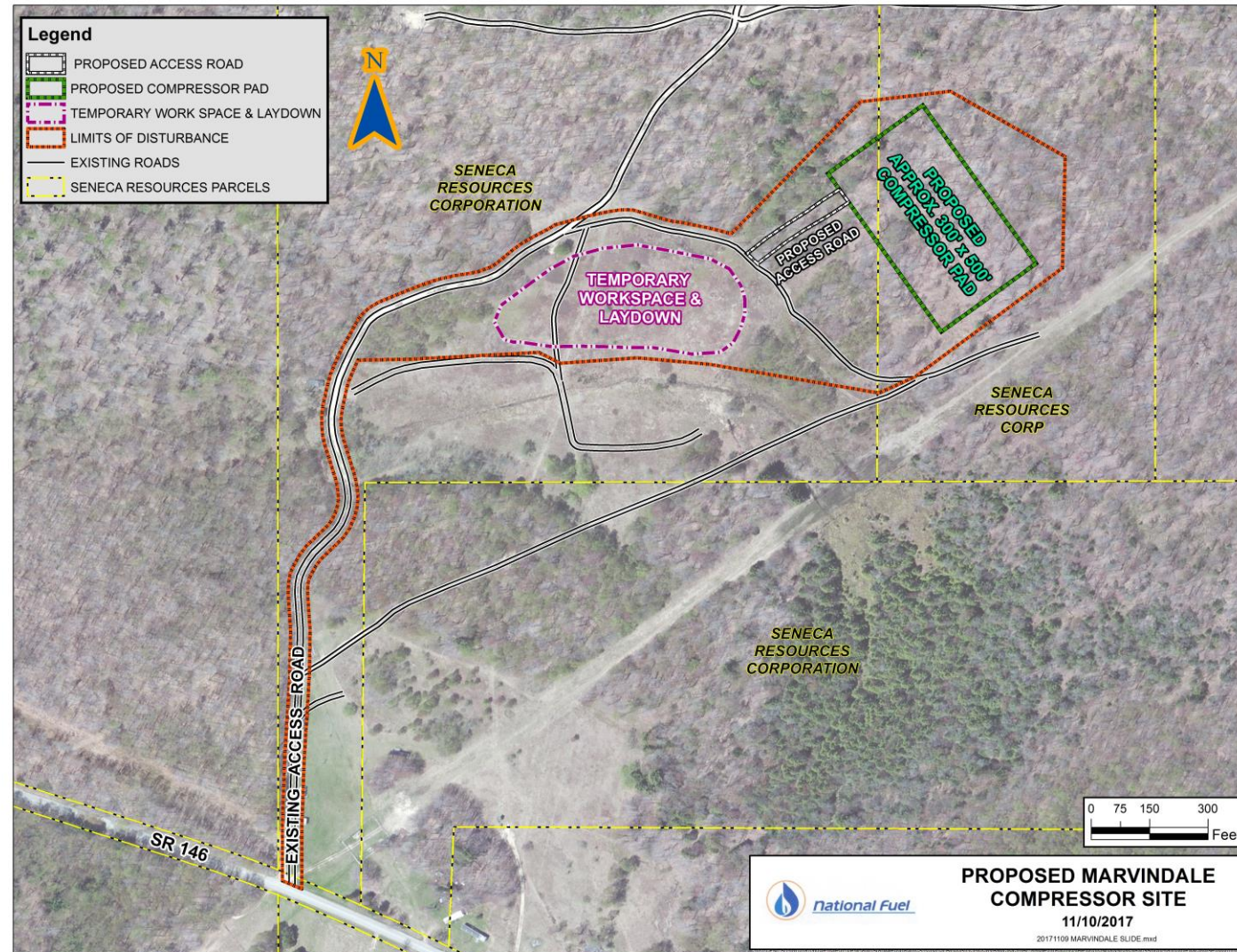


Safety (cont.)

- FlexSteel
 - Steel reinforced flexible plastic pipe, tested to withstand twice the rated pressure
 - Stainless steel swaged fittings
 - 30 years of use in offshore / marine environments
 - Zero in-service failures due to FlexSteel pipe design
 - Special DOT permit allows use of FlexSteel which provides an equivalent or greater level of safety than traditional steel lines



Compressor Station Location - Sergeant Twp., McKean Co.



Compressor Station Details

- Two new gas compressors (2,500 HP and 1,035 HP) in acoustically-treated compressor buildings
- Associated main process gas, valves, filters, gas heaters, measurement and utility gas systems
- Two blowdown silencer vent stacks
- Tanks: Pipeline condensate (1,000 gal), engine oil (2,000 gal) and engine coolant (1,000 gal)
- Buildings: Electrical-communications, office, air compressor and measurement-regulator buildings
- One natural gas fueled emergency backup power generator in a weather and sound-proof enclosure
- Access roads, parking security system and fence

Compression for this project

Preliminary conceptual design details:

- To be located on land already owned by NFG
- Preliminary design – approx. 3,535 HP (one unit at 2,500 HP, one unit at 1,035HP)
- Electrical control, auxiliary equipment & office buildings.
- Ancillary equipment: metering, filter/separator, coolers, storage tanks
- State-of-the-art noise control
- Meet or exceed stringent DEP and EPA air permit requirements
- Vibration for all mechanical equipment is controlled to non-detectable levels
- Minimized station lighting



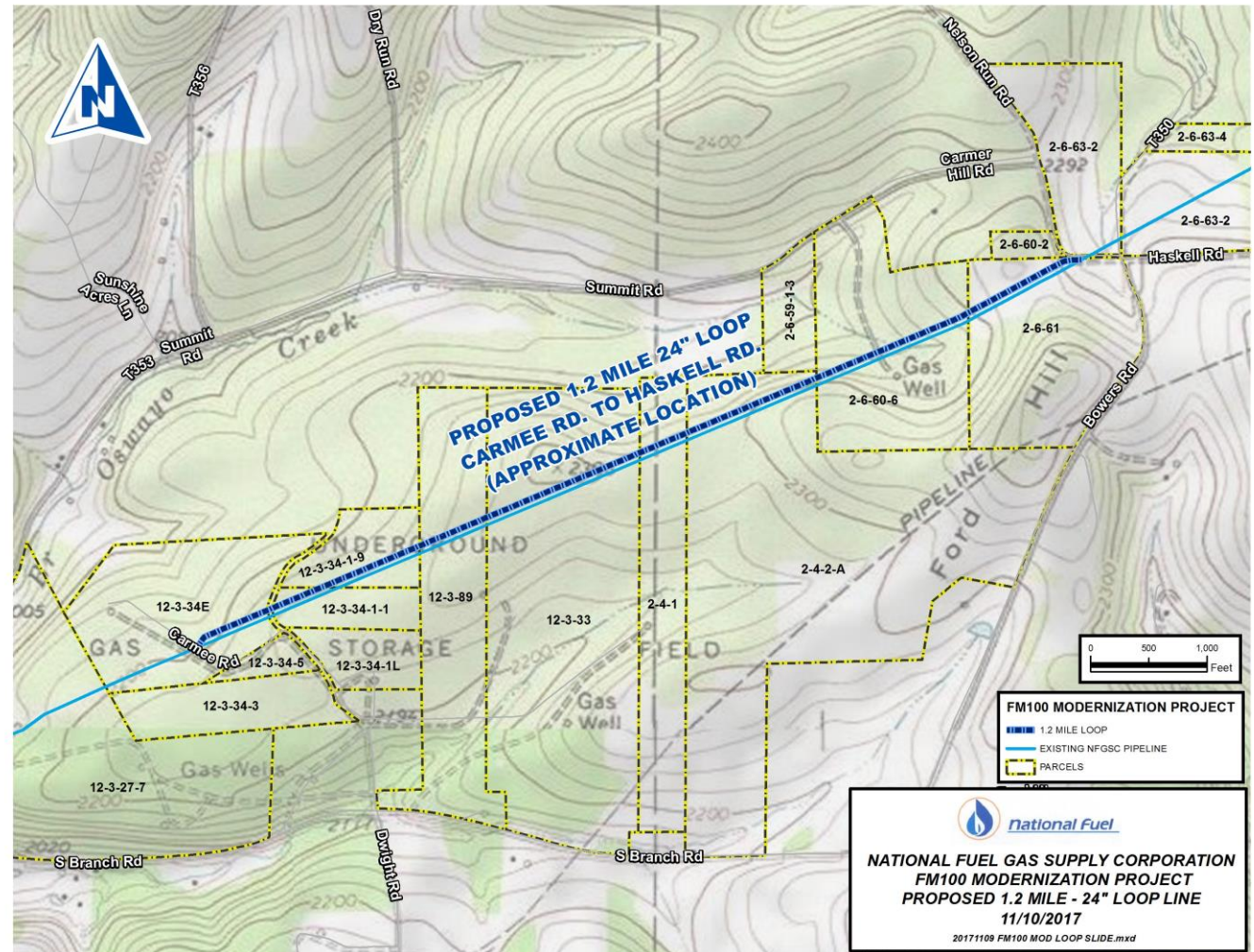
Compression for this project (cont.)

- Meet or exceed all federal safety codes for design and operation
- State-of-the-art control system:
 - Fire detection
 - Gas detection
 - Onsite automated fail-safe safety control systems
 - No off-site intervention required for shutdown
 - Automatic emergency shutdown
- Monitored 24/7 by local National Fuel Gas Dispatch Center
- Highly trained and DOT operator qualified personnel operate stations
- Onsite M-F maintenance/inspection
- Local on-duty and on-call station technicians

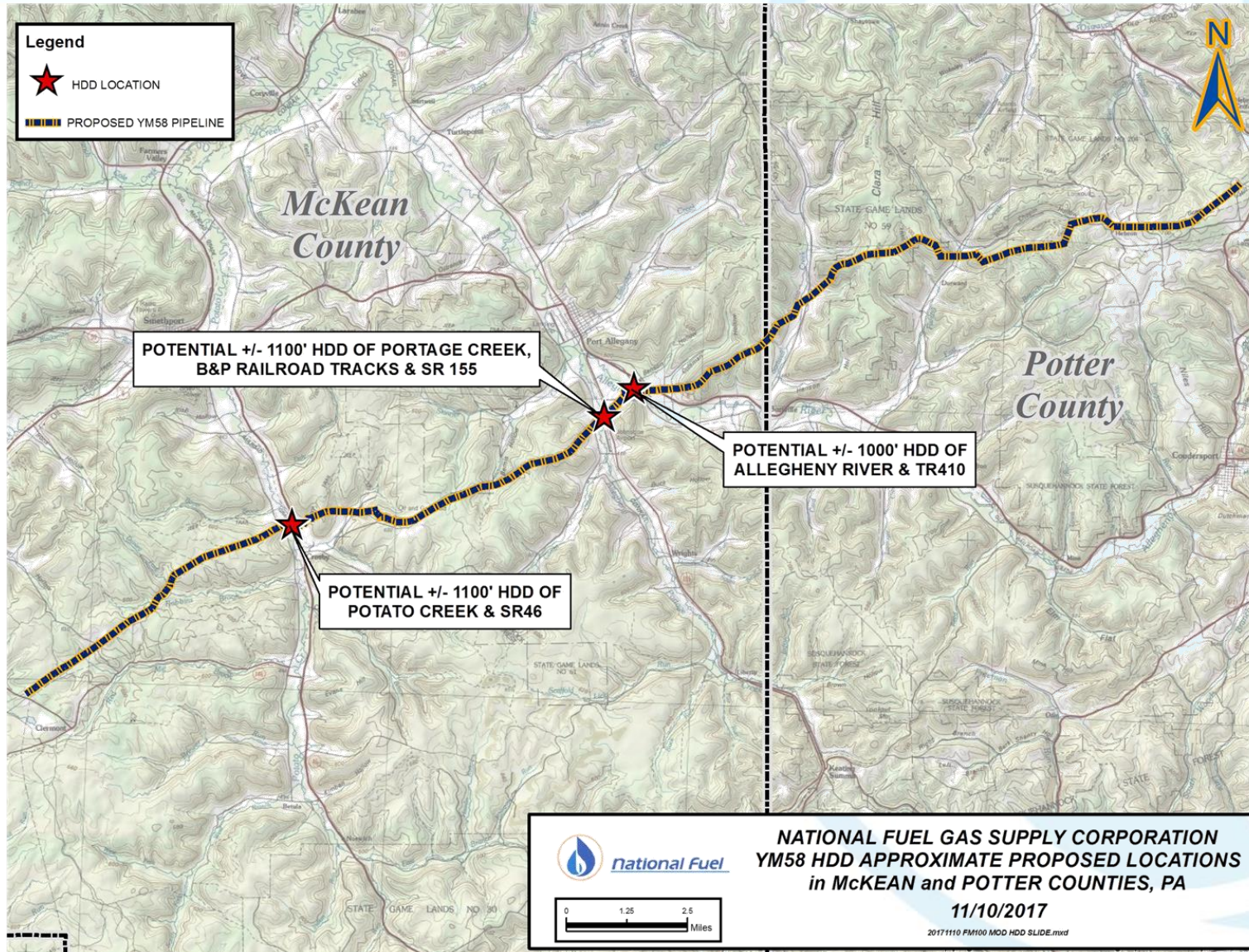


1.2 Mile Loop

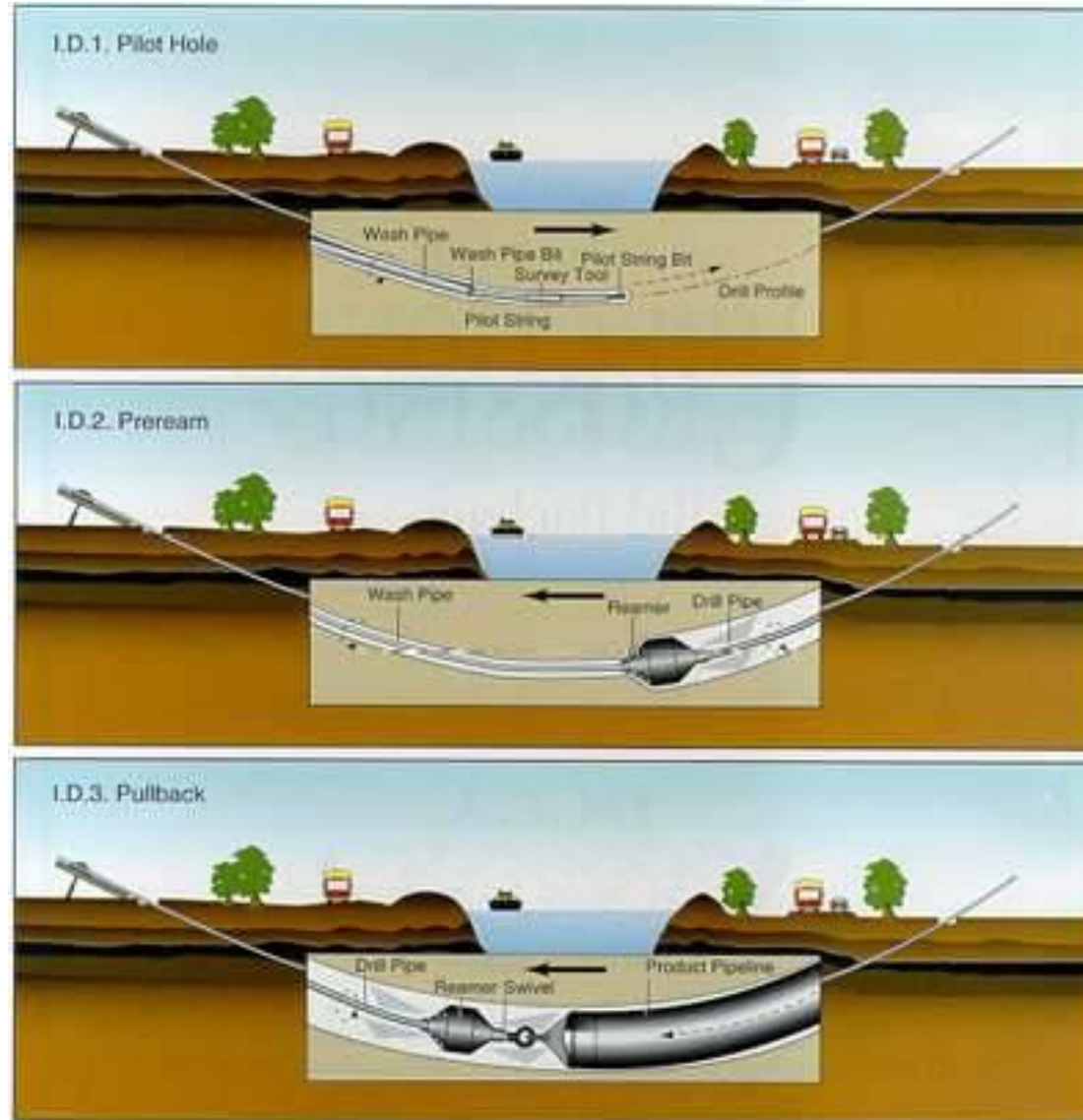
- Located in Allegany and Hebron Townships, Potter Co., Pa.
- Preferred route runs from Carmee Rd. east to Haskell Rd.
- Preferred route traverses 9 properties
- Terrain appears to be conducive for construction
- Good access
- Mainline valve at both ends



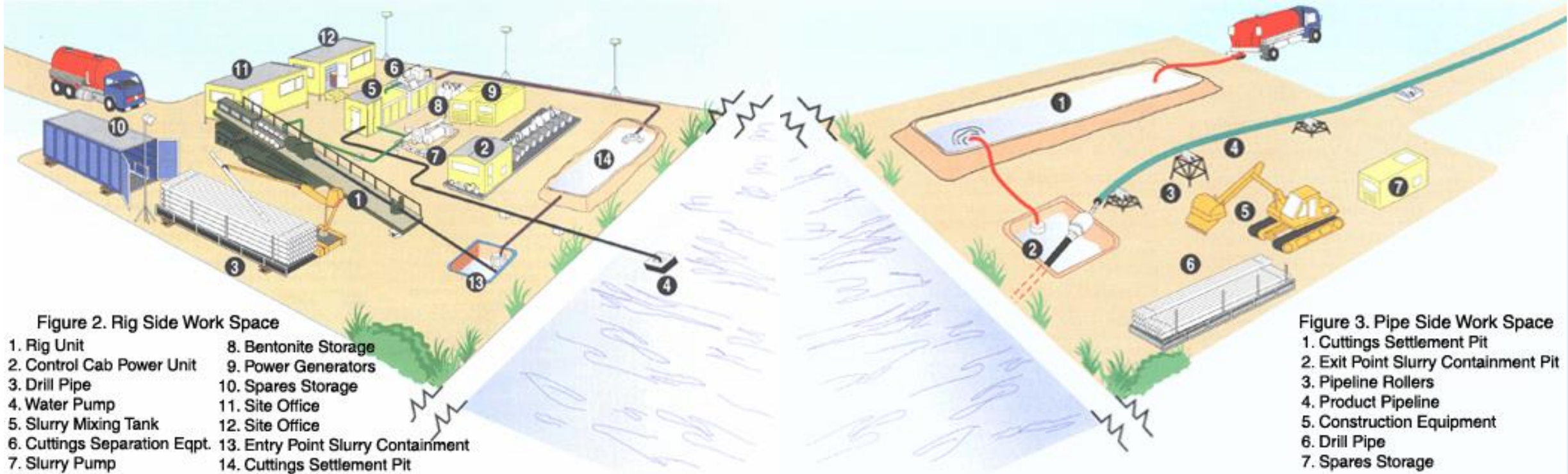
Proposed Horizontal Directional Drills



HDD Operations – Typical Drilling

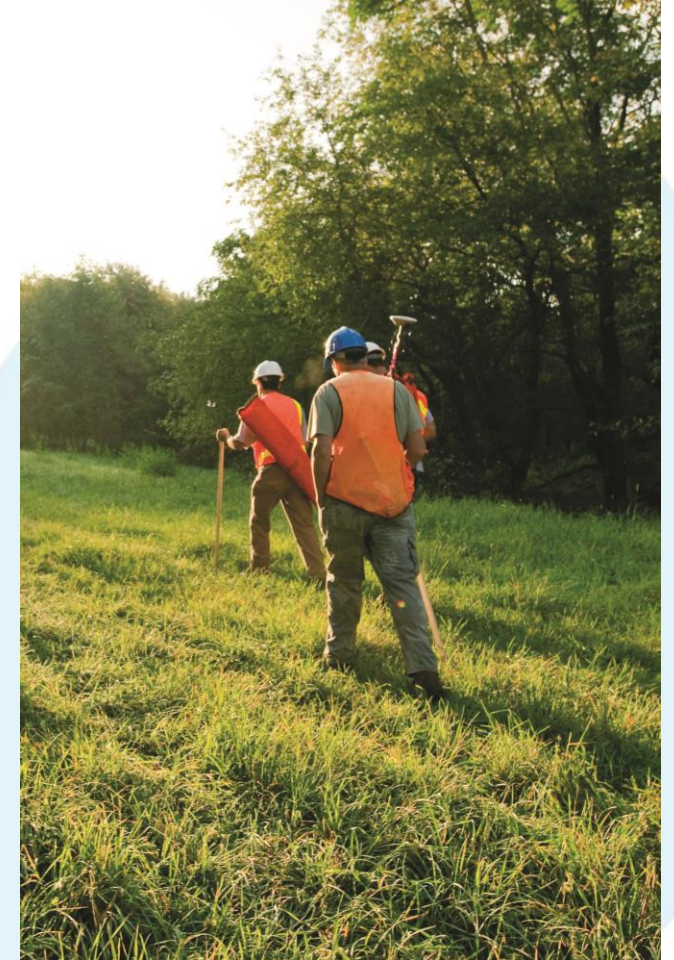


HDD Operations – Typical Workspace

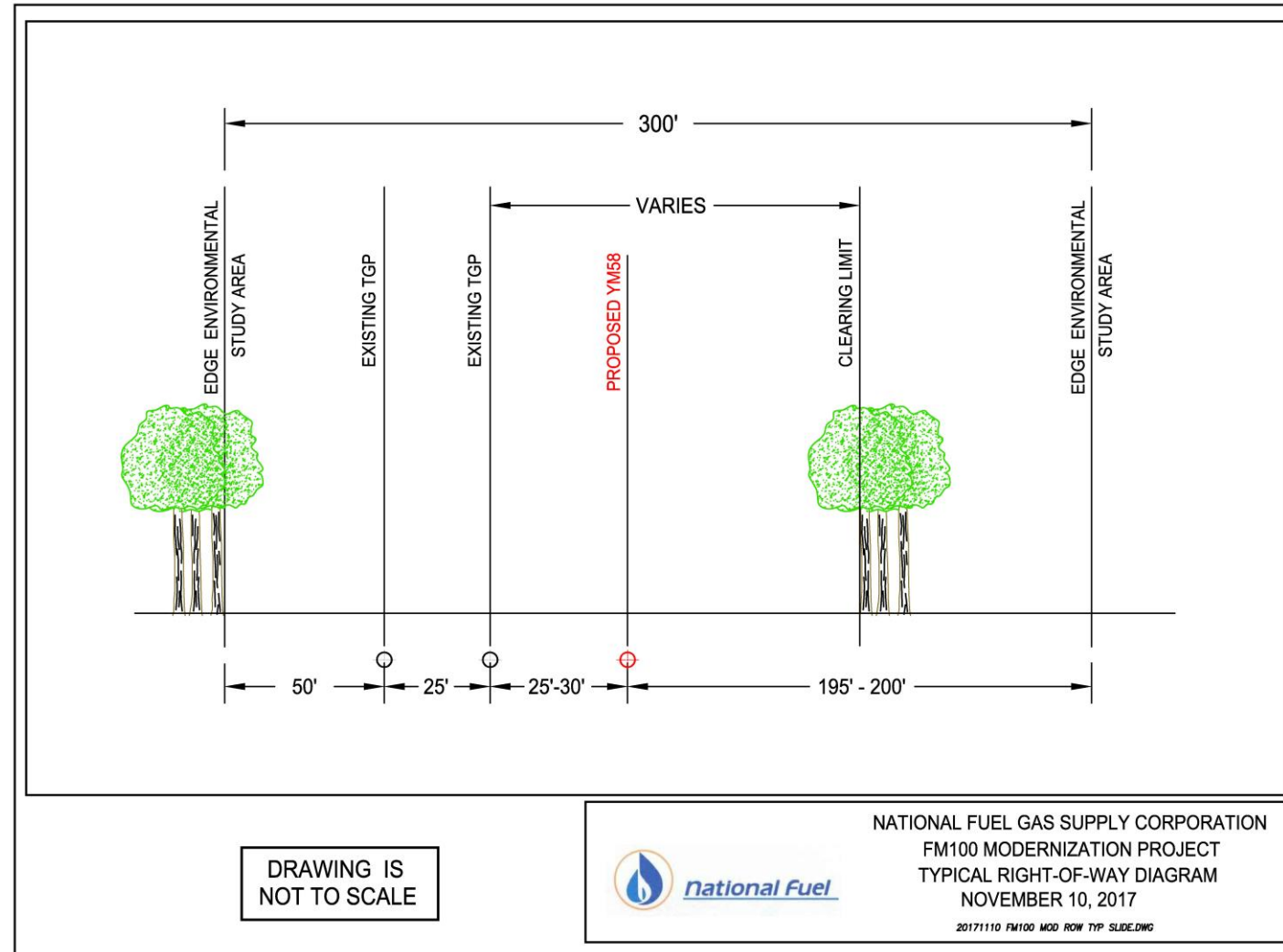


Surveying in Your Area

- Surveying property – completed by walking land and ATVs, colored flagging and stakes installed
- Minimal disturbance by shovel testing, if necessary
- Test holes repaired upon completion of testing
- Surveying does not harm the land
- Company representatives carry photo ID at all times
- Will not ask to enter your home for any reason
- Allows for communication with landowners
- More than 90% of landowners have granted survey permission



Tennessee Gas Pipeline ROW



Agricultural Area Considerations

- Topsoil segregation
- Drain tile remediation
- Decompaction of subsoil
- Excess rock removal from at least top 12"
- Minimum 4' depth of cover
- Successful when crop growth and vigor is similar to adjacent undisturbed portions
- Crop loss compensation until successful



Landowner Compensation

- Landowners will be appropriately compensated for economic loss/use (crop and timber damage) caused by construction
- Proposed pipeline and facility easements will be acquired through negotiation based on comparable property sales and/or current market value
- Land will be restored to original or better condition



Proven Results



Before



During



After

INGAA Landowner Commitments

- The Interstate Natural Gas Association of America (INGAA) is committed to leading an industry that builds and maintains strong positive relationships with Landowners. Each INGAA member company embraces the following commitments:
 1. Respect and Trust
 2. Accurate and Timely Information
 3. Negotiate in Good Faith
 4. Respect the Regulatory Compact
 5. Responding to Issues
 6. Outreach
 7. Industry Ambassadors
 8. Ongoing Commitment to Training
- <http://www.ingaa.org/File.aspx?id=23177>



Contact Information

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