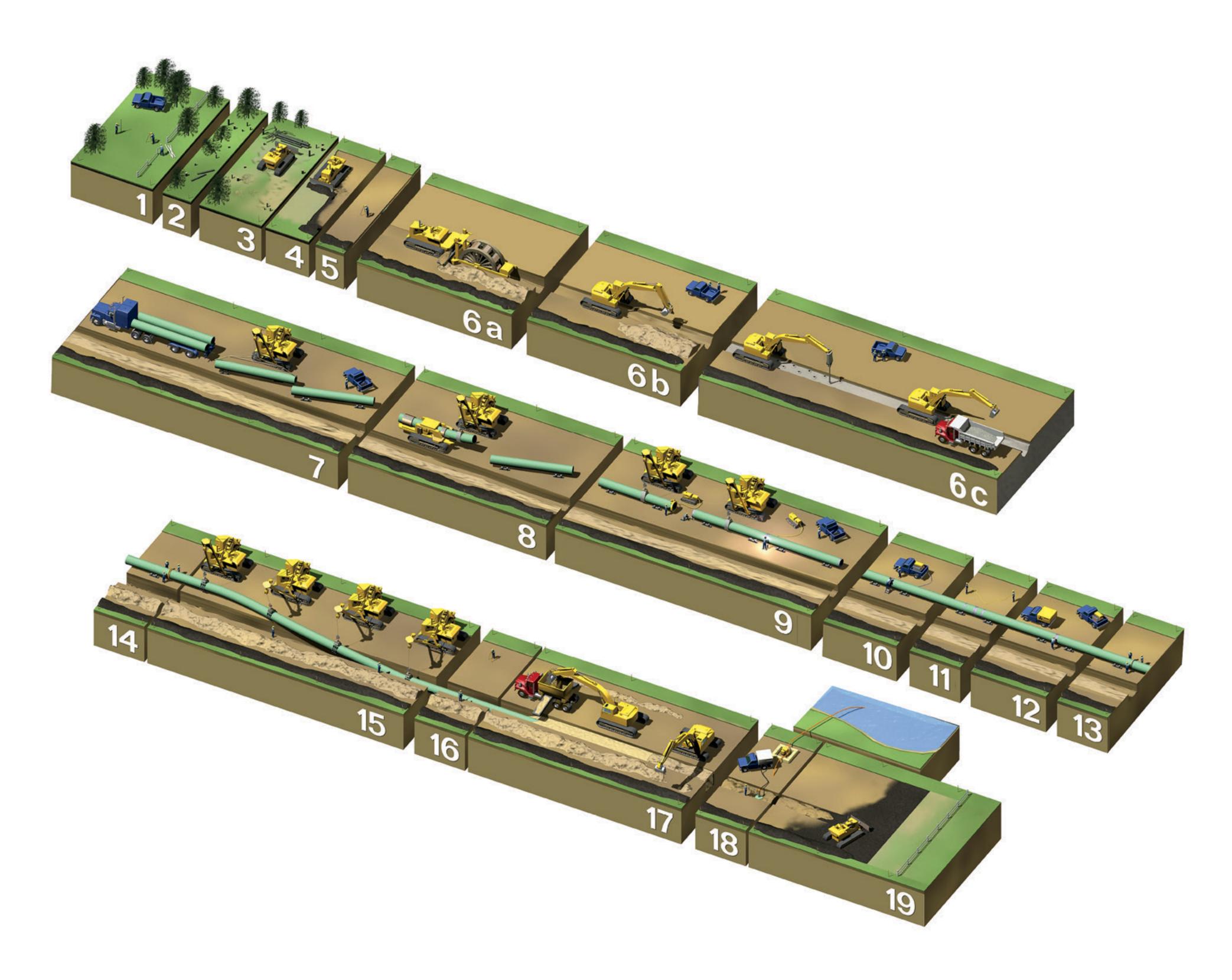
### **Typical Construction Sequence**



- 1–5. Right of Way (ROW) Preparation: Crews clear trees and debris from the ROW, grade the surface to provide a level workspace, segregate top soil where necessary and re-stake the centerline of the route.
- **6a-c. Trenching**: This team digs the trench for the pipeline using a wheel trencher, backhoe or rock trencher depending on the terrain.
- **7-8. Stringing and Bending**: The stringing crew uses specialized equipment to move the pipe from the pipe yard to the ROW. When necessary, pipes are bent to conform to the topography and to follow the curves of the route.
- **9–13. Welding and Coating**: These teams connect sections of pipe together to form one continuous length. Welds are visually inspected multiple times and at least once using x-ray technology. Each weld is also coated to inhibit corrosion.

- **14-16.** Lowering: Highly skilled operators lift the pipe and lower it into the trench.
- 17. Backfilling and Final Grading: Teams return the soil to the trench in reverse order so the top soil remains on top and then grade the ROW to the final contour.
- **18. Hydrostatic Testing**: Before the pipeline is put in service, crews pressure test the entire length using water.
- 19. ROW Restoration: This team is responsible for stabilizing the soil, cleaning up the ROW and returning the land as closely as possible to pre-construction conditions.

Horizontal Directional Drilling (HDD): A specially-trained team drills a tunnel under a river, trail or other site-specific, unique land area. The pipe is pulled through the underground tunnel to minimize surface impacts.

## **Advanced Operation and Maintenance System**

- Gas Control Department uses sophisticated computer and technology equipment to monitor the pipeline 24 hours a day, 365 days a year
- Cathodic protection system used to actively prevent potential corrosion
- Aerial patrols and field inspections used to monitor pipeline right of way
- Internal inspections are performed to ensure the ongoing integrity of the pipeline
- Above-ground pipeline markers are placed along the right of way to alert the public of the presence of a pipeline
- Public awareness programs are conducted for landowners, elected officials, emergency responders and others
- Training programs are hosted for local emergency response providers

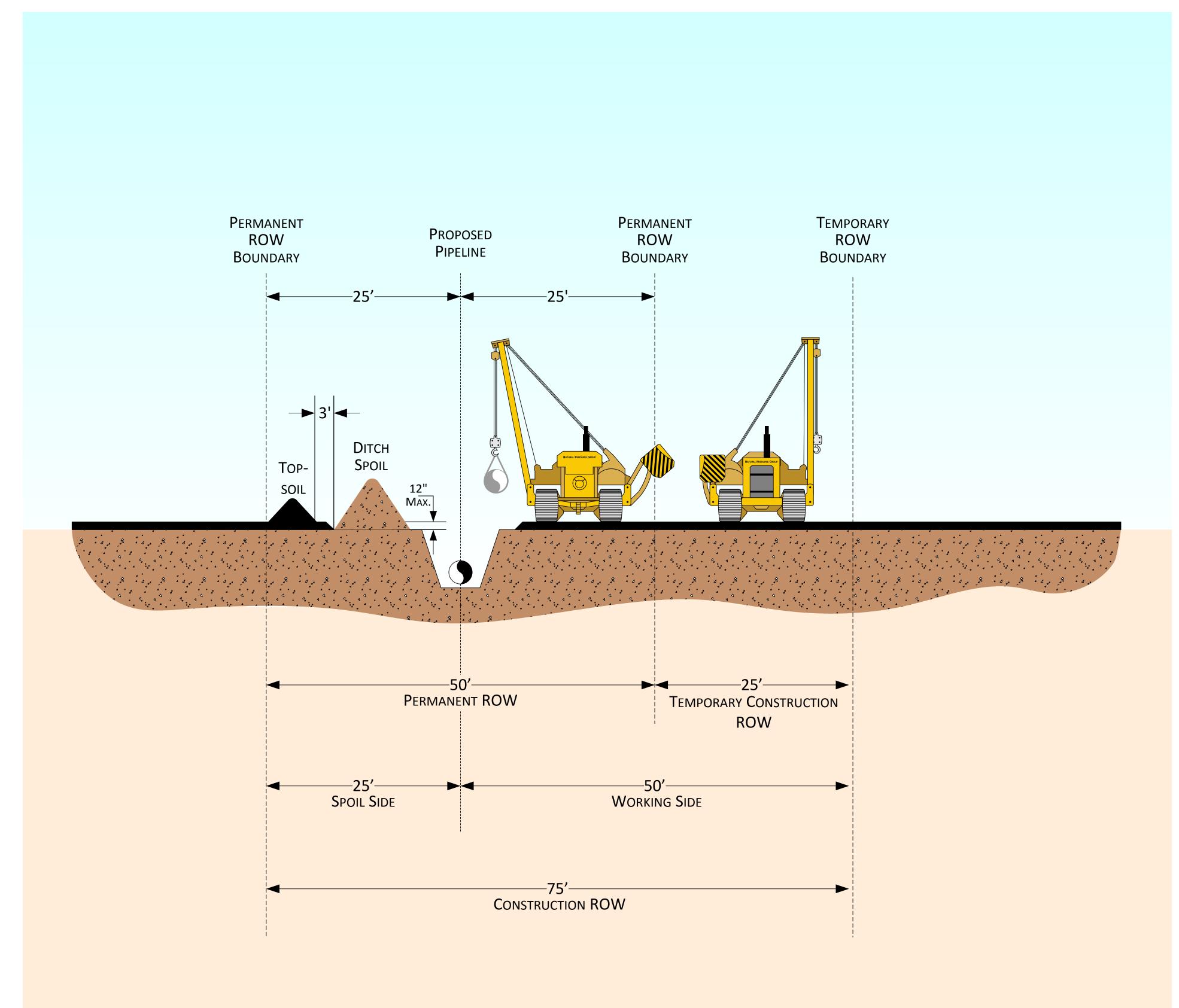
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.

State law requires anyone planning to excavate or dig near a pipeline to contact One-Call to have all underground utilities located and marked, free of charge. Call 8-1-1 or contact your state call center at least two days before you dig.

- West Virginia
   1-800-245-4848
   www.wv811.com
- Virginia
   1-800-552-7001
   www.va811.com
- North Carolina
   1-800-632-4949
   www.nc811.org



## Typical Construction Right of Way 20" Outside Diameter 16" Outside Diameter



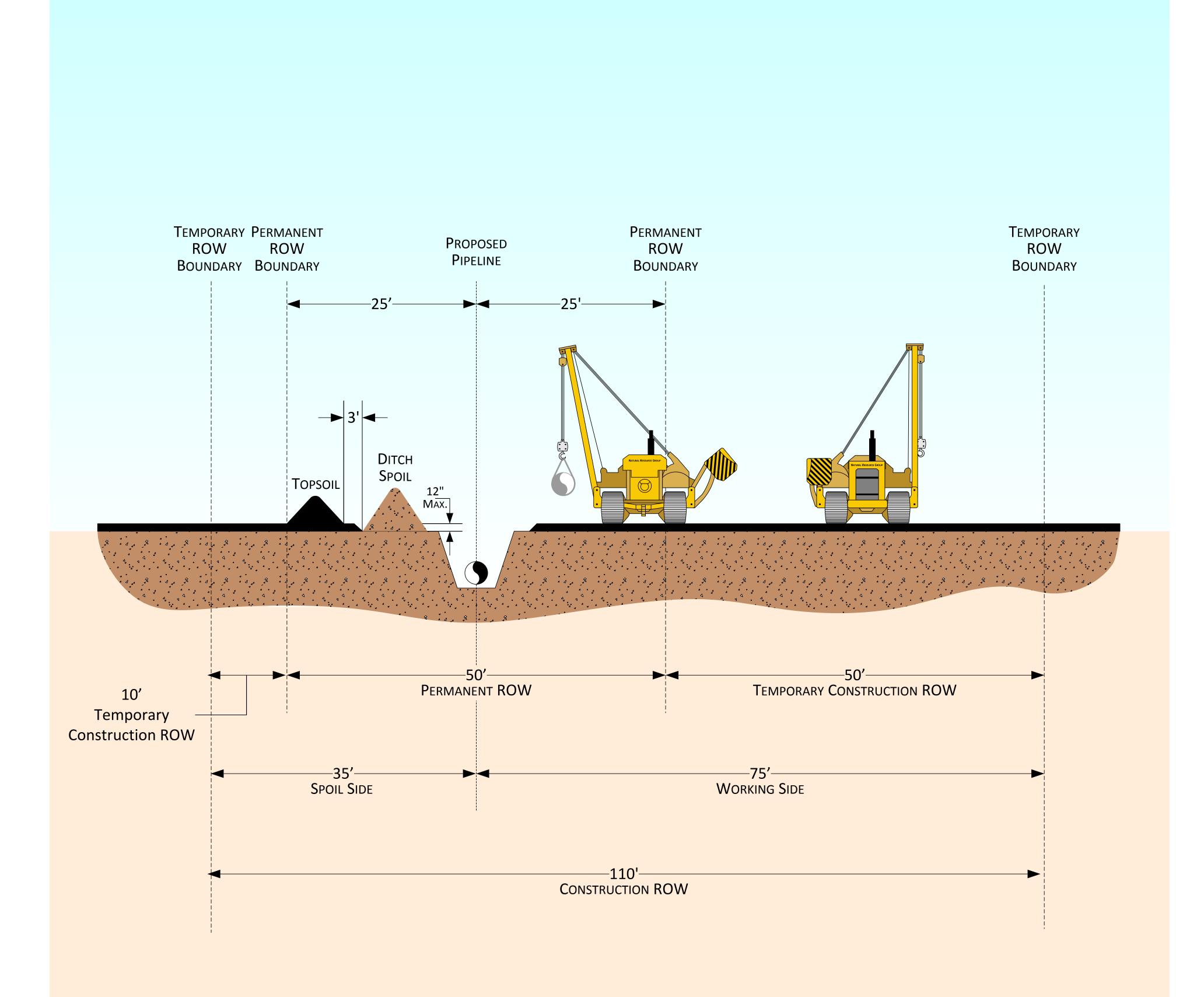
### **PROFILE**

### Notes:

1. Construction right-of-way will typically be 75' wide consisting of 50' of permanent right-of-way and 25' of temporary construction right-of-way. Additional temporary workspace will be necessary at major road, rail, river crossings, sideslopes, where full right-of-way topsoil stripping is conducted, and other special circumstances as required.

For environmental review purposes only.

# Typical Construction Right of Way 36" Outside Diameter



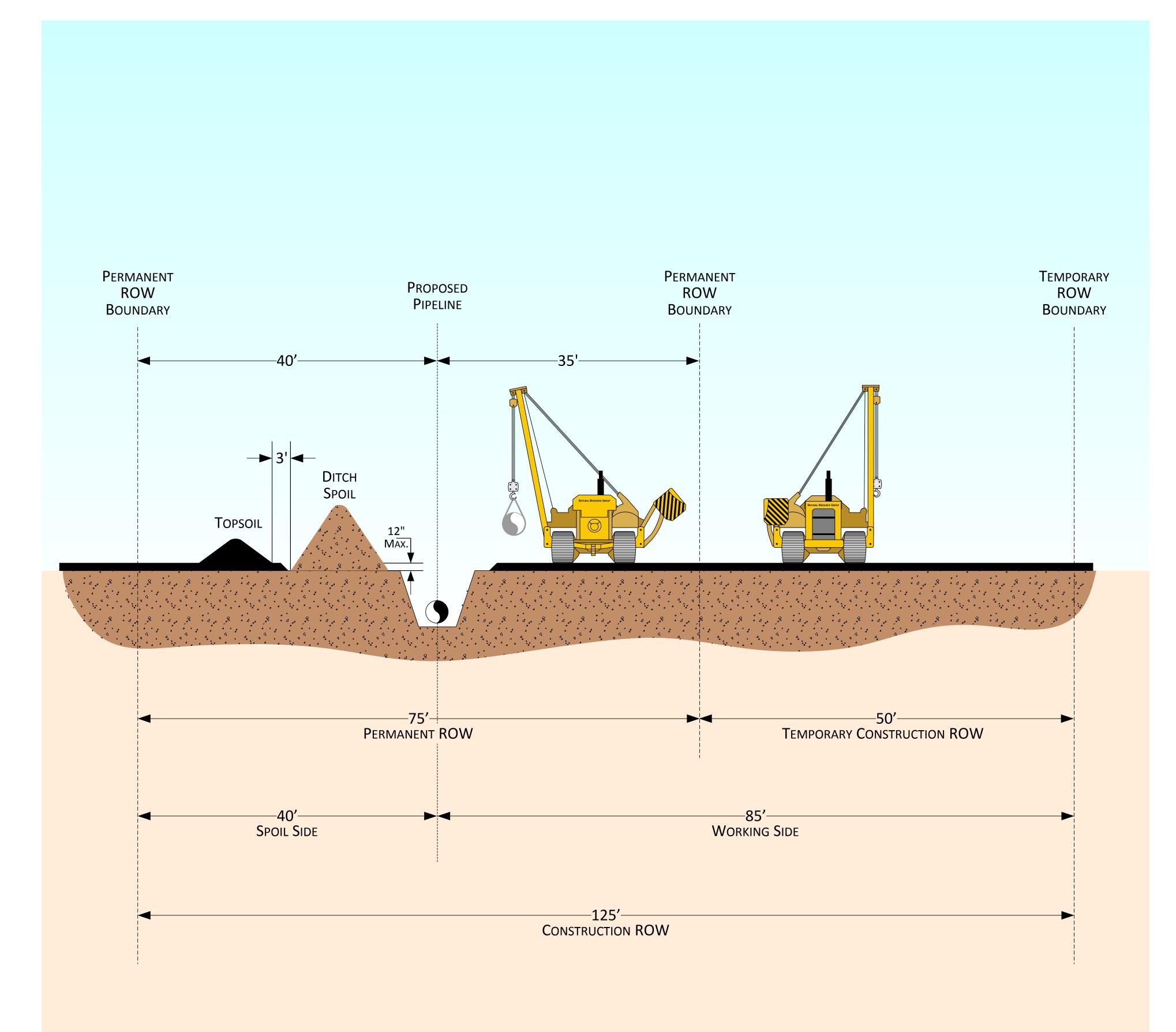
### **PROFILE**

### Notes:

1. Construction right-of-way will typically be 110' wide consisting of 50' of permanent right-of-way and 60' of temporary construction right-of-way. Additional temporary workspace will be necessary at major road, rail, river crossings, sideslopes, where full right-of-way topsoil stripping is conducted, and other special circumstances as required.

For environmental review purposes only.

# Typical Construction Right of Way 42" Outside Diameter



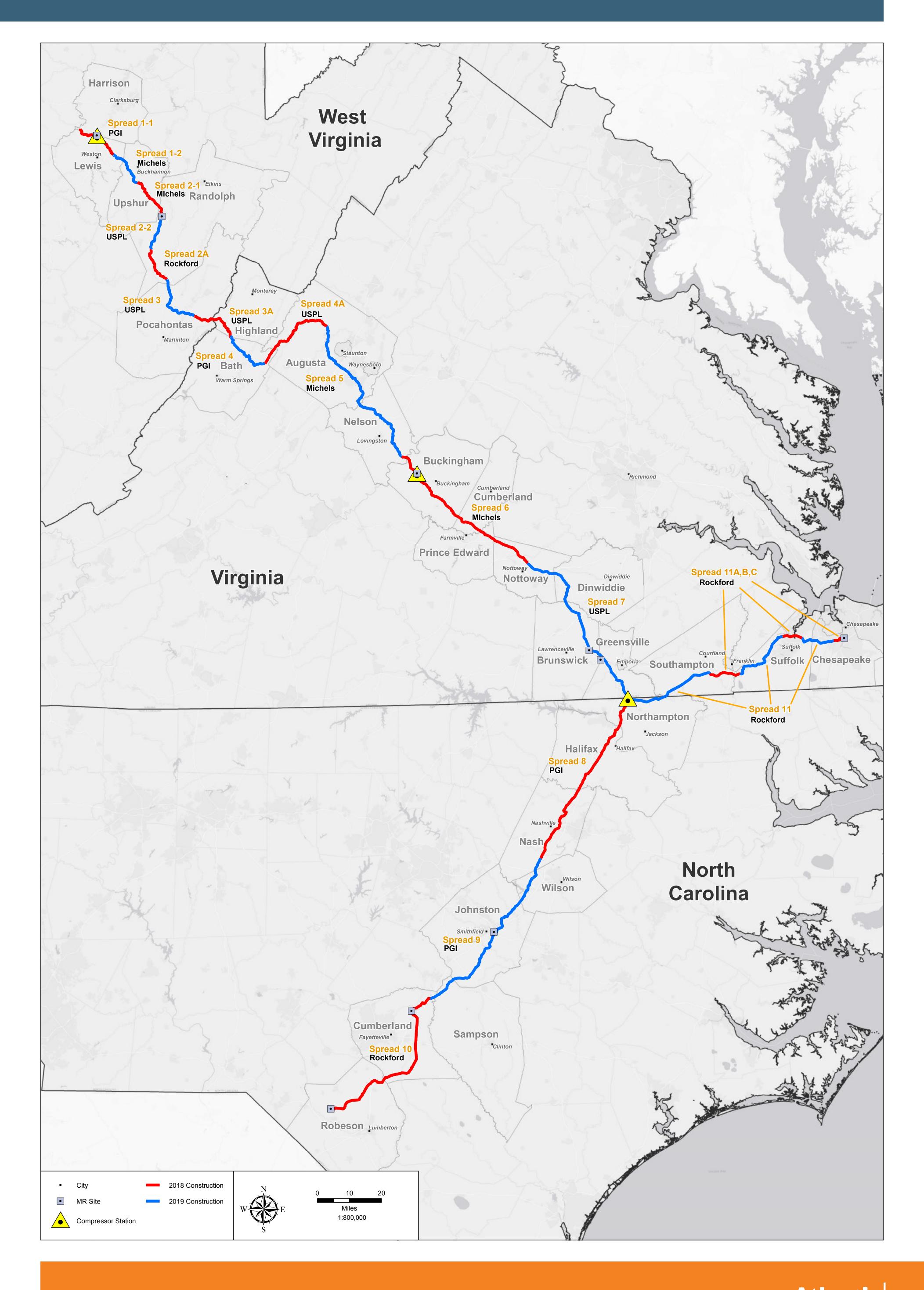
### **PROFILE**

### Notes:

1. Construction right-of-way will typically be 125' wide consisting of 75' of permanent right-of-way and 50' of temporary construction right-of-way. Additional temporary workspace will be necessary at major road, rail, river crossings, sideslopes, where full right-of-way topsoil stripping is conducted, and other special circumstances as required.

For environmental review purposes only.

# CONSTRUCTION OVERVIEW MAP



### **Compressor Station Construction**

Construction of the Atlantic Coast Pipeline will include compressor stations in Lewis County, West Virginia; Buckingham County, Virginia; and Northampton County, North Carolina.

#### **AIR QUALITY**

ACP compressor stations are designed using "best-in-class" technology. Best in class is defined as being the most efficient with the least environmental impact while providing reliable construction and operations beyond regulatory requirements.

For example, the use of low nitrogen oxide combustion technology turbines and addition of Selective Catalytic Reduction technology would reduce nitrogen oxide emission rates from nine parts per million to five parts per million.

Oxidation catalysts reduce emissions of CO by an estimated 80 percent, and VOCs and formaldehyde emissions by an estimated 50 percent.

Best-in-class features also include a fugitive emissions initiative designed to significantly reduce the amount of methane (Green House Gas) released into the atmosphere. Air quality modeling indicates emissions from the ACP compressor stations would not cause or contribute to violations of National Ambient Air Quality Standards and would not interfere with attainment status in their surrounding areas.

Emissions of all pollutants will be minimized through the use of larger, more efficient turbines. The turbines include state-of-the art SoLoNOx technology to minimize NOx emissions. Dry seals will minimize fugitive emissions and comply with the requirements of EPA's proposed New Source Performance Standards. Dry seal technology increases the safety, reliability and efficiency of the compressors.

State Agencies in West Virginia, Virginia, and North Carolina set permit limits based on projected emissions from all compressor units running constantly (8,760 hours per year) with the maximum unit operating load. Actual annual operating hours and load will be less.



Conceptual rendering of the proposed Buckingham Compressor Station in Virginia.

#### **NOISE CONTROL**

The Federal Energy Regulatory Commission (FERC) requires that the sound from the operation of a new compressor station not exceed 55 decibels at any noise sensitive area (NSA), such as a school, hospital or residence, in the vicinity of the station. The 55 decibel limit is required regardless of the equipment inside or outside the facility. FERC guidelines also require that the operation of the compressor station should not result in a perceptible increase in vibration.

Ambient sound studies and acoustical analyses were completed for all ACP facility sites. The result of acoustical analysis indicates that, with the specified noise control measures successfully implemented, the continuous sound attributable to the station operating at full-rated load will be lower than the FERC limit of 55 decibels at all nearby NSAs.

## Noise control measures at ACP compressor stations include

- Mufflers on the exhaust of each turbine unit, the air-handling units, the building walls and the ventilation discharge hoods
- Acoustic insulation on exhaust pipes and intake ducts of each turbine unit as well as all above-ground sections of the unit suction, discharge and bypass lines
- Air cleaners and silencers on intake ducts
- Sound dampening materials on walls and roof panels
- Insulated metal and full weather stripping on the doors