



Construction Techniques

As proposed, the Mountain Valley Pipeline (MVP) project is a natural gas pipeline system that spans approximately 301 miles from northwestern West Virginia to southern Virginia – and as an interstate pipeline will be regulated by the Federal Energy Regulatory Commission (FERC).

As proposed, the pipeline will be up to 42 inches in diameter and will require approximately 50 feet of permanent easement, with 125 feet of temporary easement needed during construction. In addition, at the currently subscribed capacity of 2 Bcf per day, the project will require three compressor stations, with identified locations in Wetzel, Braxton, and Fayette counties of West Virginia. After appropriate approvals and permits have been received, construction of the project is expected to begin in mid-2017, a process that will take place in phases over the next several months, with an anticipated in-service date in late 2018. Any construction noise, dust, and traffic issues will be kept to a minimum; and all construction mitigation measures and safety procedures set by the FERC and other agencies will be followed.

Clearing, Grading, and Trenching

Before construction of the pipeline occurs, surveys must be conducted and the crew must clear the area by removing trees, large rocks, and debris from the right-of-way. After clearing occurs, grading takes place to prepare a level surface for heavy construction activity. Equipment is then mobilized to dig the trench where the pipeline will lay, at a minimum of 36 inches below the surface, which surpasses the required minimum of 30 inches as regulated by the Department of Transportation. As dirt is removed, the topsoil and subsoil are often saved for later use in the restoration process.



Stringing, Welding, and Coating Pipeline

Pipelines typically consist of pipe segments that are 40 to 80 feet long. These segments must be moved to the trench location, assembled, and welded before being placed in the trench. A bending machine will be utilized to make bends in the pipe to allow the pipeline to conform to unique topography of each segment of pipe along the route. Pipe segments are welded together to ensure maximum strength and integrity of the pipeline, and when necessary, an external coating will be applied to prevent moisture from causing any type of possible corrosion. The MVP team will X-ray 100% of the individual welds to ensure the integrity and longevity of the pipeline prior to placing the line in-service.

Depositing, Backfilling, and Testing

Once the pipeline is properly and accurately welded, it is lowered into the trench using equipment with side-booms and slings to prevent the pipe from falling. When the pipe is successfully laid, the construction crew will begin to backfill the trench. Careful measures are taken to ensure the topsoil is returned to its original position, while special precaution is given to preserving the integrity of the pipeline and coating during this process. Before placing the pipeline in-service, the line is water-pressure tested as a final quality assurance test.

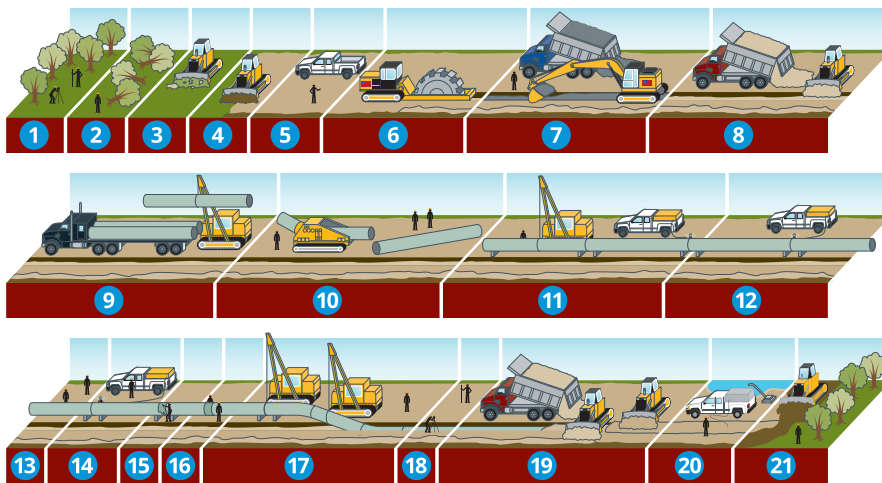


Restoration

The final step of the construction process is to restore the right-of-way and easement property as closely as possible to its original condition. Steps in this process may include; replacing topsoil, removing rocks, spreading fertilizer, or restoring fences. The MVP team will work with landowners and agencies to ensure the proper restoration of both private and public property.



TYPICAL PIPELINE CONSTRUCTION SEQUENCE



- | | | |
|----------------------------------|----------------------------------|--|
| 1 Survey and Staking | 9 Stringing Pipe | 16 Inspection and Repair of Coating |
| 2 Clearing | 10 Field Bending Pipe | 17 Lowering Pipe into Trench |
| 3 Front-End Grading | 11 Line Up, Initial Weld | 18 As-Built Survey |
| 4 ROW Topsoil Stripping | 12 Fill and Cap, Final Weld | 19 Pad, Backfill, Rough Grade |
| 5 Restaking Centerline of Trench | 13 As-Built Footage | 20 Hydrostatic Testing, Final Tie-In |
| 6 Trenching (Wheel Ditcher) | 14 X-Ray Inspection, Weld Repair | 21 Replace Topsoil, Final Clean-Up, Full Restoration |
| 7 Trenching (Rock) | 15 Coating Field Welds | |
| 8 Padding Trench Bottom | | |