



The NYC Department of Design and Construction installs, replaces, and repairs water mains in partnership with the NYC Department of Environmental Protection (DEP). DEP takes extensive measures to protect and improve the city's water supply. DEP scientists test our drinking water hundreds of times each day, 365 days a year. DEP also manages and protects our upstate water supply system.

To learn more about the NYC Department of Environmental Protection and NYC drinking water, visit nyc.gov/dep

To learn more about the work of the NYC Department of Design and Construction, visit nyc.gov/ddc

NYC
DDC Department of
Design and
Construction

OFFICE OF
COMMUNITY OUTREACH
AND NOTIFICATION

Water Mains

In partnership with the NYC Department of Environmental Protection, DDC installs, replaces, and repairs water mains all across the five boroughs.



WATER MAINS are pipes that deliver water. New York City has thousands of miles of underground water mains. These pipes bring water into homes, schools, hospitals, and businesses throughout the five boroughs. Some of these pipes are over 100 years old and they need to be replaced as they age. The New York City Department of Design and Construction (DDC) installs new or replaces old pipes to deliver high-quality water for decades to come.

Pelham Parkway,
the Bronx

DDC installs
water mains in
neighborhoods
all over
New York City.

Installing Water Mains

Step-by-Step

ONE / We review records to find out where city infrastructure and private utilities are located. We are replacing pipes that have been delivering water for many years. An engineer may even look at hand drawings made before 1900. The installation of new pipes will be carefully documented for future generations.



TWO / The size of water mains that we install is based on the specific needs of the area and its distribution system. Larger trunk water mains, which deliver large amounts of water over long distances, are made from steel. Smaller distribution water mains, which deliver water to residential and commercial connections, are ductile iron. Both of these materials are very durable. Tests show that some newly installed pipes will last for 200 years.



Engineers at
work in Queens.

THREE / Our first dig into the road is to continue to locate the existing infrastructure and utilities. This helps us place the new water mains. Private utility companies frequently have to relocate their lines to make room for new water mains.

Work underway,
and old
water mains,
in Manhattan.



FOUR / We dig again to install the new pipes. Old water mains are removed. Water mains are installed at least four feet underground to protect them from freezing and vibrations. The larger steel water mains that deliver water to smaller distribution water mains are placed at least six feet underground. We install wood or metal structures in the trench to keep soil from caving in on workers when excavation is deeper than 5 feet. We have developed careful plans to protect drivers and pedestrians while work is underway.



FIVE / New pipes are rinsed, scrubbed, and protected. Each piece of pipe is machine lifted and carefully placed into the ground. (Water mains are heavy! A piece of pipe couldn't be lifted by 10 people working together.) For larger water mains, the connections between pipes are welded by a worker who goes into the pipe after installation.



SIX / Pipes are covered with sand. The trench is filled with clean soil, compacted as it is filled to properly prepare for the pavement. A temporary pavement will be placed to ensure the soil becomes thoroughly compacted. Workers will return in a few months to remove the temporary pavement and place a permanent road of concrete base and asphalt top.

A worker securing connections, and a road awaiting asphalt, in the Bronx.



SEVEN / The pipes are ready to deliver water to the area. Everything has been carefully checked for safety. The water mains have already been chlorinated and flushed with clean water. Residents and businesses can run all sink and faucets to flush their own plumbing. The new water main will deliver high-quality water for decades.



WATER FOR NEW YORK CITY

There are 7,000 MILES of water mains in New York City
We work on 100+ PROJECTS a year to improve these pipes
Water mains deliver ONE BILLION GALLONS of water each day in the city
New York City water comes from RESERVOIRS AND LAKES in upstate New York
Our water sometimes TRAVELS 125 MILES to reach New York City