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# PIPELINE ASSESSMENT AND UPGRADES

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UNDERNEATH IT ALL, THE MOST IMPORTANT THING  
WE BUILD IS CONFIDENCE.



**BLACK & VEATCH**  
Building a world of difference.®

# BIG GAINS, SIMPLIFIED

We're developing sustainable, comprehensive solutions that balance performance with costs and risks to meet clients' needs and resources.

It's top of mind for public works leaders worldwide: aging infrastructure, urbanization and public health issues focus their urgent attention on the next generation of buried water infrastructure.

During the next two decades, utilities worldwide will need to spend extensively to address aging underground infrastructure. **Black & Veatch can help you optimize the time, money, assets, processes and people it takes to prioritize projects.** And we do it with efficiency and minimal risk.



ARE WATER INFRASTRUCTURE PROBLEMS SURFACING IN YOUR COMMUNITY?

## THE R3 APPROACH

We believe in **replacing the right pipe, at the right time, with the right material (R3)** — to help clients make better decisions. And we ensure that clients maintain the service customers expect while controlling costs and managing risks. Most importantly, we help clients avert catastrophic failures that force management under crisis.

## WATER EXPERTS FOR GLOBAL WATER PROJECTS

Black & Veatch is among the world's leaders in water supply, water and wastewater systems, hydropower, flood control, and water conveyance and storage. We know how to:

- Minimize system water loss and reduce overflow
- Maximize rehabilitation economy
- Design and build sustainable systems for the future
- Consider the complex, holistic nature of your community's water needs

At Black & Veatch, we engage experts from every water-related specialty to address your challenges. Our team includes:

- Project managers
- Planners
- Pipe specialists
- Trenchless specialists
- Risk professionals
- Data management professionals
- Asset management professionals
- Engineers
- Financial analysts
- Construction professionals

Together, our water experts provide a range of comprehensive services, including:

- Condition assessment
- Hydraulic and risk modeling
- Asset management
- Conveyance and sewerage
- Trenchless and tunneling technologies
- Large sewer rehabilitation
- Infrastructure planning
- Design and alternative delivery
- Construction management



### SEASONED SPECIALISTS, REAL RESULTS

With nearly a century of experience, Black & Veatch has completed more than 10,000 projects involving some 12,000 miles of water, wastewater and stormwater buried infrastructure worldwide.

We're located all over the world. That means you get the most qualified team — and one that offers global best practices. If a solution for you is flourishing half a world away, we bring it to your doorstep.

#### Some of our projects include:

- **Orange County Sanitation District (OCSD), Orange County, CA** Black & Veatch managed the inspection team and coordinated all activities related to corrosion spot repairs, pictured above, left, for OCSD's J-112 120-inch sewer outfall rehabilitation project. Using the latest technologies, Black & Veatch identified the specific corrosion areas and recommended repairs to the piping to ensure uninterrupted disposal of treated effluent. OCSD serves more than 2.6 million area residents.
- **Washington Suburban Sanitary Commission (WSSC), Laurel, MD** Black & Veatch performed various services, including assessment, analysis, recommendations and repairs, pictured below, left, to enhance the performance of WSSC's sewer system, in alignment with its consent decree compliance program. WSSC covers more than 1,000 square miles and includes 5,200 miles of sanitary sewer, which serves 1.8 million people.



- **Nacimientto Water Project, San Luis Obispo County, CA** New water will flow 45 miles from Lake Nacimientto to San Luis Obispo County communities via a Black & Veatch-designed water intake system and pipeline. The project, pictured above, right, supplements the county's current groundwater supply with surface water. And it will accommodate future needs and growth up to 15,750 acre-feet per year.
- **Cape Fear Public Utility Authority, Wilmington, NC** Black & Veatch conducted a physical assessment and a hydraulic capacity assessment of a raw water supply system with pipelines that were 62 and 85 years old. Finding that two sections were severely deteriorated and at risk of failure, Black & Veatch reacted swiftly to replace the pipelines within only a few months. A portion of the replacement project is pictured below, right.

## INDUSTRY LEADERSHIP

- #14 Overall Ranking, Top 500 Design Firms
- #2 in Power
- #6 in Wastewater Treatment Plants
- #6 in Transmission Lines and Aqueducts
- #7 in Water Supply
- #8 in Sanitary and Storm Sewers
- #8 in Sewerage/Wastewater

2011-12 rankings from *Engineering News-Record*



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# BUILDING A WORLD OF DIFFERENCE®

Black & Veatch is an employee-owned, global leader in building Critical Human Infrastructure™ in Energy, Water, Telecommunications and Government Services. Since 1915, we have helped our clients improve the lives of people in over 100 countries through consulting, engineering, construction, operations and program management. Our revenues in 2011 were US\$2.6 billion. Follow us on [www.bv.com](http://www.bv.com) and in social media.

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## BLACK & VEATCH

E [weknowwater@bv.com](mailto:weknowwater@bv.com) | W [bv.com](http://bv.com)