HEADLIGHT

PROJECT SUMMARY

LOCATION
New York City, NY

PROJECT OWNERS
New York City Department of Design and Construction (NYCDDC)

CONSTRUCTION MANAGEMENT
HNTB

PROJECT VALUE
$1.45B

PROJECT DURATION
6 years

PROJECT DELIVERY METHOD
Design-Bid-Build

PROJECT OBJECTIVES

- Streamline inspection and documentation workflows to provide real-time data to distributed teams and stakeholders.
- Make critical decisions faster with instant field access via a digital portal.
- Increase interdepartmental collaboration and communication.

FAST FACTS

- Solution: HeadLight Fieldbook & HeadLight Portal
- No. of Inspectors: 32
- No. of Images & Videos: 86,660
- No. of Equipment: 38,743
- No. of Personnel: 54,632

ROI

- 74% improvement in same-day project data, providing stakeholders with real-time, accurate, and detailed project data.
- $150-$160K annual labor savings by streamlining the audit data collection workflows for office teams.
- 65-70% more actionable information in reports, enhancing visual evidence of inspection activities.
- 56% reduction in time spent searching and exporting data, simplifying updates to the city.

Innovative Construction Tech Empowers HNTB and the City of New York

Transforming the Resiliency of Manhattan's Waterfront

New York City: A Neighborhood of Constant Change

As weather events increase in frequency and cost, coastal resiliency projects have become increasingly critical. New York's largest coastal resiliency project stems from Hurricane Sandy, which made landfall in 2012 with devastating storm surges and flooding, destroying homes, businesses, and critical infrastructure. Sandy inflicted $70 Billion in damage, disproportionately impacting low-income communities across the region.

Protecting the Manhattan coastline and Lower East Side neighborhoods from climate change, this multi-year, multi-billion dollar project is mitigating flood risk due to coastal storms and sea-level rise. This project will improve waterfront open spaces, including repairing and rebuilding local parks in communities impacted by Hurricane Sandy. Improved seawalls and flood protection systems will help protect neighborhoods and the local VA hospital in the future. It is also creating 200-300 new jobs per day over the life cycle of the project.

HNTB Corporation, through a joint venture with the LiRo Group, was selected by the NYCDDC to provide project management, construction management, and environmental compliance and permitting.

The scale and impact of this $1.45 billion, flood protection and seawall construction project is benefiting from collaboration and innovation at every level: HNTB is using HeadLight's inspection technology to track the project and report critical information to the owner, NYCDDC, and the general public, in real-time.

This complex, four-year, unit-price-based, project is using innovative technology to track the progress of 1,300+ bid items across about 62.5 acres of land.
The scale of the project alone is enormous: it includes 12 sewer lines, 80,000 cubic yards of soil, and requires oversight and effective communication around complex issues.

> "The HeadLight solution provides all of the indicators I need to know on overall project health. I can quickly verify whether or not we are on target."
>
> \- Jason Brown, Director of Project Controls

HNTB estimates that they are collecting 65-70% more information than they would have using traditional inspection, tracking, and reporting methods. Two years into this six-year project, they have already logged 45k unique observations, which includes 14k observations of line items. The rich data that is accessible, in real-time, has connected HNTB with NYCDDC at a new level of collaboration and sophistication: what has been built and will be billed in the coming weeks with a 5-10% degree of accuracy. Future-facing: did we earn what we needed to earn? How are we doing on materials? Are we on time and budget?

NYCDDC is stepping into the future, thanks to the data being provided by HNTB. Live, direct access to the data has helped them reduce the headcount they have on this project. Regular reports show everything from estimated spend to how many jobs per day this project is creating. Through clearly tracked and tagged project data, they were able to advocate for federal funding for projects including realizing $200+ million in federally-available dollars.

Disputes and Claims

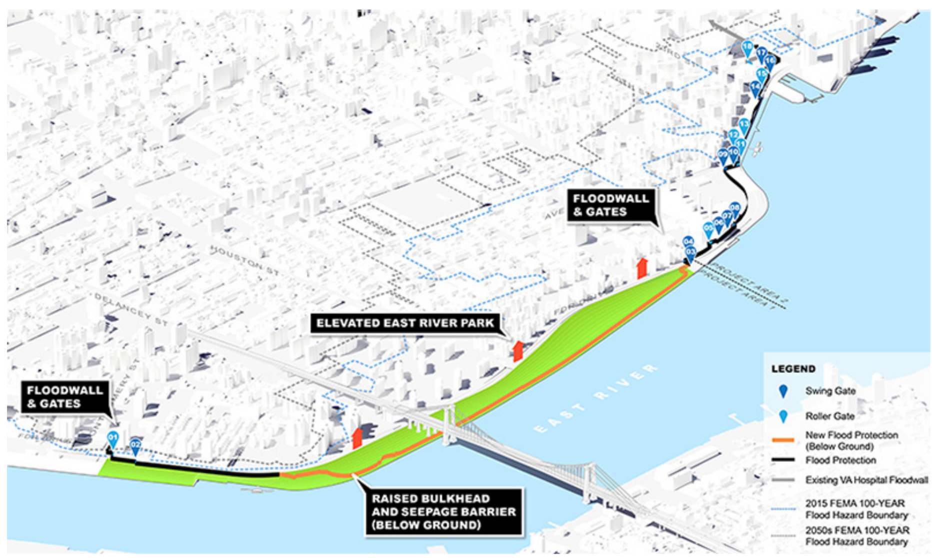
HeadLight's comprehensive data collection and simple search function give the team an accurate data set indicating when work began in an area. Traditional inspection data only includes text, whereas HNTB captures context-rich images, videos, and geolocation data with every observation.

While working along the waterfront near the old ConEd plant, HNTB uncovered old buried power lines. These aging lines required abatement work including cleaning off old fabric and tar, repairing deteriorated sections, and re-wrapping in modern material. These visual-based and context-rich observations flow into a spreadsheet layout, bringing structure to unstructured data and putting crucial data at stakeholder's fingertips. It is also the basis that allowed HNTB to prove ConEd's ownership and appropriately bill for the work done.

> "Each tree helps to make our neighborhoods greener and healthier, and we are proud to expand our urban forest along Manhattan's East Side while we work to improve waterfront parks and provide lifesaving flood protections through the ESCR project."
>
> - Mitchell J. Silver, FAICP, NYC Parks Commissioner

To protect these neighborhoods from sea level rise and coastal storm flooding, the parks spanning 2.5 miles along the coast will be raised 8-9 feet above the existing grade. This provides the waterfront with a 100-year useful life. By its nature, this work required the removal of all existing features, including decades-old trees. This became a point of contention with some protesting this portion of the project. HNTB worked closely with a bevy of local agencies, including NYCDDC, NYC Parks, and the City of New York to track each tree removed and each new tree planted. The wealth of data collected, which is easily and quickly retrieved, enabled the teams to communicate this information to the public at regular intervals.

> "We are honored that the ESCR project has received this recognition and that HNTB alongside HeadLight can be part of the efforts to improve access to open spaces for the communities along the waterfront."
>
> - Michael Mangione, HNTB project executive



Collaborative documentation eases administrative burdens and provides the project team and NYCDDC with unprecedented amounts of information that will benefit them for years to come. Through the use of innovative technology, HNTB has streamlined workflows to do more with less, established strong and clear communication channels, and reduced costs to help deliver this resilience project to over 110,000 New Yorkers.

ENVISION

In August of 2022, two years after breaking ground, the ESCR project earned the prestigious and highly coveted Envision Gold Award for Sustainable Infrastructure from the Institute for Sustainable Infrastructure. The project team's ability to collaborate and communicate complex issues across a diverse and distributed team

Schedule a demo to learn how HeadLight puts critical data at your fingertips to enhance jobsite communication, reduce risk, and improve project outcomes.

Request a Demo | hntb@headlight.com

Learn More | headlight.com