



Department of
Design and
Construction

DDC 2020

DELIVERING INNOVATION IN A CHALLENGING YEAR



INTRODUCTION

2020 was a year of unprecedented challenges for New York City and its residents.

It was also an exceptional period in the 24-year history of the NYC Department of Design and Construction as the COVID-19 pandemic placed expansive new responsibilities on the agency.

Hewing to the objectives of its *Strategic Blueprint for Construction Excellence*, DDC's COVID response efforts set new standards for fast procurement and use of innovative, collaborative delivery tools to design and complete projects in record time. DDC's infrastructure program also lowered delivery times during the year.

When coronavirus struck New York City, Mayor de Blasio quickly provided emergency authorization that allowed DDC to take advantage of vital procurement and construction management methods. DDC quickly and efficiently built hospitals, laboratories, testing sites and community clinics. It helped hundreds of thousands of New Yorkers seeking relief from summer heat and others needing assistance for their children in blended learning at City public schools.

The agency also set about implementing the City's first comprehensive design-build program, another *Blueprint* objective, all while laying the foundation for its largest program ever, the construction of four borough-based jails that will enable the City to finally close Rikers Island.

DDC's Infrastructure Division, which was managing more than 100 active water, sewer and street projects when the pandemic began, actually accelerated much of its work. The Division saw numerous successes, completing several large projects ahead of schedule, and also served the City well when the winds of a late-summer storm paralyzed transportation networks by downing thousands of trees.

Overall, the success of the agency was attributable to the dedication of hundreds of DDC employees across the agency who set about the task of adapting to the COVID crisis and applying innovative approaches to project delivery.



The Queens COVID Center of Excellence under construction

EMERGENCY RESPONSE: DDC BUILDS NEW YORK CITY'S COVID RESPONSE INFRASTRUCTURE

DDC was enlisted to quickly construct much of the critical infrastructure essential for COVID recovery operations. Using extraordinarily compressed time frames, DDC built field hospitals and testing sites; upgraded four NYC Department of Health and Mental Hygiene (DOHMH) laboratories; completed three large COVID Centers of Excellence from NYC Health + Hospitals (H+H); and then quickly pivoted to establishing a citywide vaccination program. It also managed the installation of air conditioning units in private residences and performed site inspections to support students engaged in blended learning.

FIELD HOSPITALS

In mid-March, when a rapidly rising tide of patients requiring critical care overwhelmed area emergency rooms, New York City Emergency Management (NYCEM) turned to DDC to create field hospitals in Queens and Brooklyn. Working with NYCEM, DDC staff began organizing at two sites, the Billie Jean King Tennis Center at Flushing Meadows Corona Park and the Brooklyn Cruise Terminal.

A brief RFP was quickly issued and a contract finalized with a construction management firm within days to supervise a coherent, well-managed program. Site work began at the end of March, with the Queens site prioritized. Working around the clock, DDC built out a field hospital that accounted for core

medical services and the IT needs to accommodate H+H's electronic medical record system. At the very height of the pandemic, as New York City was losing hundreds of its residents to the virus every day, the design was changed to include ICU beds and a medical-grade oxygen system.

Eleven days after work began, the Queens site would accept its first patients. Upon completion it contained 470 patient beds. Work at the Brooklyn Cruise Terminal site continued until it was completed in mid-May with 630 beds. Overall, DDC created 1,100 new hospital beds in less than two months.



Billie Jean
King Tennis
Center
at Flushing
Meadows, Queens

TESTING CAPACITY

Controlling the pandemic required testing New Yorkers for the coronavirus on a massive scale.

Beginning April 23, two-person DDC teams began performing inspections of potential sites. DDC's Front End Planning Unit reviewed the data for feasibility and by the third day, a final determination was made whether to proceed. By May 8, more than 240 sites had been reviewed.

Again, thanks to emergency procurement powers, DDC was then able to rapidly develop and enter into unique construction management, or "CM-Build", contracts that allowed design and construction to begin immediately and simultaneously. Because of arcane state laws, the CM-Build model is not normally permitted.

DDC's goal for beginning construction at each site was one week from when a location was approved. By the end of the year DDC had fully completed 28 testing sites.

Late in 2020, H+H identified a need for weatherproof mobile testing trucks that could be quickly deployed to COVID hotspots. DDC created design requirements, its construction manager issued an RFP, and two vendors were selected to provide a total of eight vehicles, converted ambulances that featured office space, generating capacity and full heating and cooling. The first vehicle was delivered in November.



Opposite:
St. James
Recreation Center
Test Site
in the Bronx
Right: Mobile
Testing Truck





DOHMH LABORATORY UPGRADES

As testing increased citywide, the City needed more capacity to process those tests.

In May, using emergency procurement rules, DDC hired four construction managers through an accelerated RFP process to retrofit Department of Health and Mental Hygiene labs across the City. Each lab required design assistance and then extensive HVAC work to create sealed environments, installation of separate air exhaust systems to contain airborne particles and emergency generators.

The first site was declared substantially complete on June 5. The final site was substantially completed in mid-June. Overall, DDC upgraded and expanded four DOHMH laboratories and built a new specimen collection site at a fifth.



GETCOOL AND LEARNING BRIDGES

Working from OEM headquarters in Brooklyn, a DDC Public Buildings team managed the GetCool program, a one-of-a-kind program that installed more than 73,000 free air conditioning units in the homes of low-income seniors, again in a matter of weeks.

Another DDC team performed more than 400 site inspections for the Learning Bridges program, helping to create free child care options for children from 3-K through 8th grade on days when they are scheduled for remote learning.

Opposite:
The Central
Harlem Test Lab

Above:
Office of
Emergency
Management
Headquarters



COVID CENTERS OF EXCELLENCE

Perhaps DDC's most significant effort was construction of three expansive COVID Centers of Excellence for NYC Health + Hospitals in Brooklyn, Queens and the Bronx.

The Centers were designed to serve as permanent facilities addressing the long-term needs of COVID patients while also providing a full range of patient care, offering sophisticated imaging equipment, special negative air spaces for COVID patients, as well as standard medical care services often lacking in underserved communities.

H+H had already advanced planning to develop the sites into community clinics. However, the designs were significantly altered to include space for COVID care, and multi-year work schedules were condensed to a few months.

Again using a rapid RFP process, DDC hired a construction manager to procure and oversee design and construction for all three sites. The construction manager eventually awarded at least 86 subcontracts, with almost half the value of all contracts to certified Minority- and Women-Owned Business Enterprises (M/WBEs).

Starting as empty, raw space, the Bronx site, at 22,000 square feet, was the first to be delivered in September, just four months after the start of construction. The 21,000 square foot Queens site in Elmhurst was also raw space, and even with construction hours being limited to accommodate residents living in the same building, the project was substantially completed at the end of December.

The Brooklyn site, the largest with 52,000 square feet of space, was constructed within a 1926 five-story standalone building in Bushwick. Despite numerous challenges upgrading a structure of this age, the facility was substantially completed in late January.

The Bronx Center of Excellence reception area



CM-BUILD IN ACTION

Ensuring the rapid construction of community testing facilities was essential to the City's COVID response. Using its emergency procurement authorization, DDC hired a collection of Construction Management-Build teams to immediately mobilize, plan and build-out a series of testing sites throughout the City.

Within 24 hours of the order to start one of the teams, Armand Corporation, a local M/WBE CM-Build firm, assembled inspectors, estimators and schedulers who assessed 83 potential specimen collection sites in just 21 days throughout Manhattan, Staten Island and the Bronx.

Taking advantage of its existing local relationships, Armand then led design plan development, managed procurement and oversaw the build-out of the first four collection sites in four weeks. Responsibilities included pre-purchasing material and equipment, utilizing prequalified contractors familiar with working with New York City agencies, leading daily coordination meetings and streamlining the distribution of critical project information in real-time for prompt decision-making and feedback. Armand completed construction on ten independent collection sites that all met rigorous government standards.

This type of flexibility and speed was achievable thanks to DDC's ability to select highly professional firms using the CM-Build project delivery method.



Above and right:
Bronx Center
of Excellence
reception area
and medical office
Opposite:
Brooklyn Center
of Excellence





2021: EXPANDING VACCINATION CAPACITY

In 2021, DDC continued to build out the City's COVID response network. With the long-awaited delivery of a COVID vaccine, the City needed to be prepared to quickly deliver as many vaccines as it had, and not be constrained by space limitations.

At the beginning of January, 2021, DDC commenced work at three sites in the Bronx and Staten Island. After a collaborative planning and design effort in the first half of the month,

the projects commenced construction. The projects took approximately four days to fully install, with an MWBE participation rate of 50%, and are already open, able to serve thousands of New Yorkers per week.

Above:
Staten Island
vaccination site

Opposite:
Yankee Stadium
vaccination site
in the Bronx



EMERGENCY PROCUREMENT RULES

State and City emergency orders issued in March, declared a disaster emergency in the City and allowed for the temporary suspension of certain Procurement Policy Board (PPB) rules for work related to the COVID pandemic. The orders made critical contracting tools available that DDC, as a City agency, cannot usually use, and set the stage for the condensed timelines and innovative construction management methods employed by DDC for its COVID-related work.

The orders meant the agency no longer had to follow the design-bid-build model that compels DDC to award contracts strictly to the lowest bidder, and instead DDC could employ qualifications-based selection of contractors that were able to deliver quality work with minimal delays, a move that also allowed for increased contract awards to M/WBE firms.

For the first time, DDC was also able to employ the Construction Manager-Build (CM-Build) model of project management, under which a construction management firm selected through an accelerated RFP process manages the overall construction project and holds each underlying contract for materials, labor and related services. CM-Build reduces lengthy procurement processes, allows construction work to begin while the design is still being developed and increases project team collaboration.

Other temporary procurement rule changes that helped DDC perform its vital COVID construction work in record time includes a shorter, better defined registration process, and fewer redundant notification requirements to allow them to begin work, all while upholding high standards of transparency and oversight.

DDC 2020 – BY THE NUMBERS

COVID CENTERS OF EXCELLENCE

| | | | |
|-----------------|---|-------------------------------|--------------|
| 3 | 7 DAYS | 192 DAYS | 34,333 SF |
| NUMBER OF SITES | PROJECT RECEIVED AT DDC TO CONTRACT AWARD | AVERAGE CONSTRUCTION DURATION | AVERAGE SIZE |

| | | |
|-----------------------------|---|-------------------|
| \$118.6 MILLION | \$117 MILLION | 46% |
| INITIAL CONSTRUCTION BUDGET | FINAL CONSTRUCTION BUDGET (ANTICIPATED) | M/WBE UTILIZATION |

FIELD HOSPITALS

| | | | |
|-----------------|------------|-----------------------------|-------------------------------|
| 2 | 1,100 | 1 DAY | 10 DAYS |
| NUMBER OF SITES | TOTAL BEDS | RFP ISSUE TO CONTRACT AWARD | CONSTRUCTION DURATION, QUEENS |

| | |
|---------------------------------|--------------------------------|
| 45 DAYS | 28 DAYS |
| CONSTRUCTION DURATION, BROOKLYN | CONSTRUCTION DURATION, AVERAGE |

Despite setbacks caused by the pandemic, DDC took advantage of emergency procurement rules to race critical COVID response infrastructure into place.

LABORATORY UPGRADES

| | | | |
|-----------------|-----------------------------------|-----------------------|-------------------------------|
| 4 | 3 DAYS | SAME DAY | 35 DAYS |
| NUMBER OF SITES | PROJECT RECEIPT TO CONTRACT AWARD | CONTRACT AWARD TO NTP | AVERAGE CONSTRUCTION DURATION |

| |
|-----------------------------|
| 3 WEEKS |
| STANDARD PAYMENT TURNAROUND |

TESTING SITES

| | | | |
|-----------------|-------------------------------|-------------------|---|
| 28 | 7 DAYS | 55% | 25 DAYS |
| NUMBER OF SITES | AVERAGE CONSTRUCTION DURATION | M/WBE UTILIZATION | AVERAGE DURATION, RFP ISSUE TO CONSTRUCTION START |

| |
|---------------------------|
| 3 WEEKS |
| MEDIAN PAYMENT TURNAROUND |

MOBILE TESTING TRUCKS

| | | | |
|------------------|--------------------------|----------------------------------|-------------------|
| 8 | 20 DAYS | 56 DAYS | 45% |
| NUMBER OF TRUCKS | AVERAGE FIT-OUT DURATION | RFP TO DELIVERY OF FIRST VEHICLE | M/WBE UTILIZATION |

GETCOOL

| | | |
|---------------------------------------|-----------|----------|
| 56,773 | 30,000+ | 20 WEEKS |
| DDC A/C INSTALLATIONS OF 73,085 TOTAL | BUILDINGS | DURATION |

| | |
|-------------------------|------------------------|
| 14,611 | 3,654 |
| INSTALLATIONS PER MONTH | INSTALLATIONS PER WEEK |

LEARNING BRIDGES

| | | | |
|------------------|----------|-----------------------------|-----------------------------------|
| 437 | 108 DAYS | 6 | 31 |
| SITE INSPECTIONS | DURATION | AVERAGE VISITS PER WORK DAY | MOST VISITS IN ONE DAY (9/1/2020) |

DDC'S INFRASTRUCTURE DIVISION GAINS

A decrease in pedestrian and vehicular congestion enabled DDC to work with DOT and DEP to expand street permit parameters and implement new water shutdown procedures to realize significant efficiencies during the summer months. The gains were tremendous compared to the previous year.

| SUBSTANTIAL COMPLETIONS | 2019 | vs. | 2020 |
|--|---------------|-----|-----------------|
| NUMBER OF ANTICIPATED SUBSTANTIALLY COMPLETED PROJECTS | 52 | | 42 |
| NUMBER OF SUBSTANTIALLY COMPLETED PROJECTS | 59 | | 70 |
| PERCENTAGE OF TARGETS ACHIEVED | 113% | | 167% |
| CONSTRUCTION COSTS | \$552,778,167 | | \$1,205,822,800 |
| NUMBER OF PROJECTS AHEAD OF SCHEDULE | 24 | | 35 |
| AVERAGE NUMBER OF DAYS AHEAD OF SCHEDULE | 19 DAYS | | 56 DAYS |

INFRASTRUCTURE DIVISION

DDC's Infrastructure Division was considered essential under the State's emergency declaration, working continuously throughout the COVID crisis.

The pandemic impacted the division nevertheless: by the first week of April, dozens of projects were temporarily paused because of contractor staffing and related issues. By June 1, all infrastructure projects once again resumed construction under strict COVID safety rules instituted by DDC's Division of Site Safety and Support.

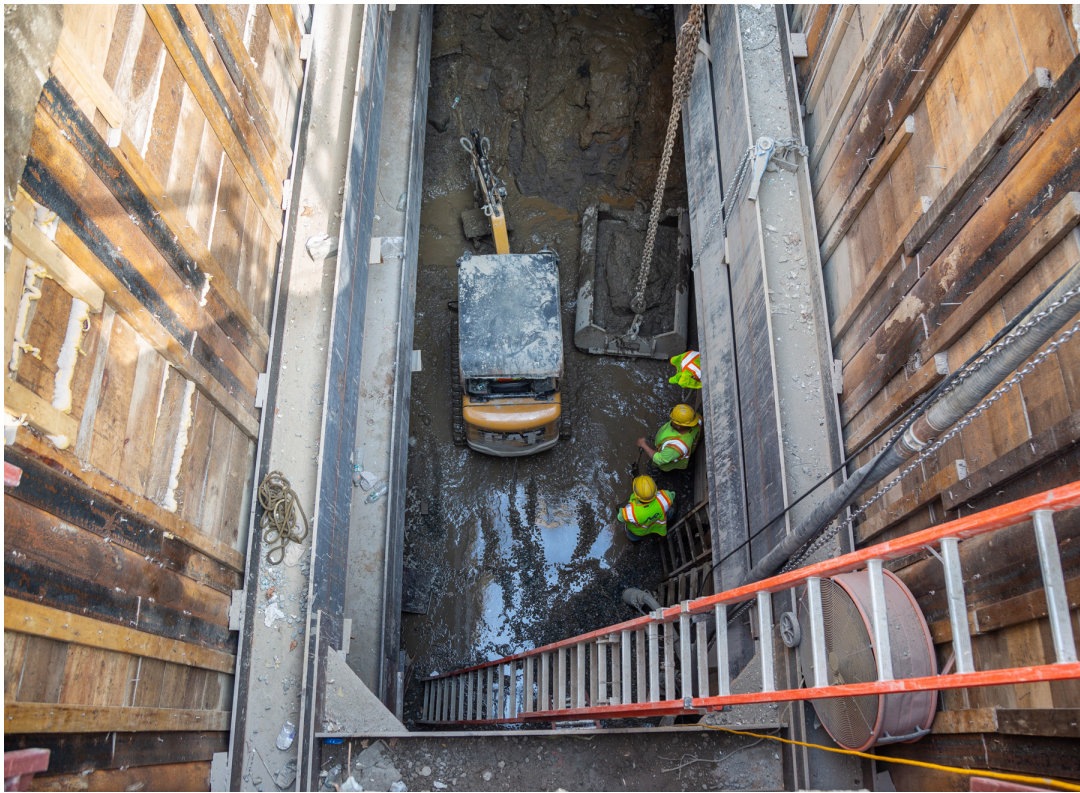
The results were impressive. The Infrastructure Division was able to take advantage of the crisis, working with fewer traffic restrictions to get more work done faster.

Since most infrastructure projects take place within roads and sidewalks, construction must be managed around the demands of pedestrians, vehicular and bicycle traffic. Work hours and the amount of roadway that could be opened at any one time were permitted to increase allowing several street reconstruction projects to be completed ahead of schedule, including a \$48 million project to bring safety enhancements to a 21-block section of Atlantic Avenue in Brooklyn, which ended six months ahead of schedule.

Overall, the Infrastructure Division delivered more projects than forecast, speeding critical water, sewer and road infrastructure to New Yorkers. The Division completed 53 projects in 2020, an increase of roughly 40 percent from the year before. Fourteen miles of sewers and 15 miles of water mains were installed, along with 3,500 pedestrian ramps and more than 700 green infrastructure assets. Forty-three lane miles of roadway were restored.



Infrastructure upgrades along the Grand Concourse in The Bronx



Clockwise from top left: Vestry Street, Worth Street, Atlantic Avenue Upgrades, Bogardus Plaza



TROPICAL STORM ISAIAS

The Infrastructure Division tackled its own emergency when in August Tropical Storm Isaias blew through New York, toppling thousands of trees in just a few hours with its powerful winds. A team of 19 DDC staff quickly stepped into action following activation of critical DDC emergency on-call contracts throughout the five boroughs.

Cutting and stacking crews were followed by separate loading crews that hauled away debris. At its peak, the DDC team scheduled up to 29 crews per day to respond to work orders received daily from the Parks Department. Up to 15

crews were assigned to Queens where much of the storm damage occurred. In just two weeks, crews removed more than 3,200 downed trees at 1,055 sites and took away 26,673 cubic yards of debris, enough to completely fill multiple Parks storage yards. In Queens alone crews removed 1,535 trees and 14,436 cubic yards of debris.

EAST SIDE COASTAL RESILIENCY

Infrastructure achieved another milestone in 2020: commencing work on the largest single project the division has undertaken, the \$1.45 billion East Side Coastal Resiliency program, which will create a 2.4 mile flood protection barrier on Manhattan's Lower East Side while improving open space and access points to the waterfront while protecting thousands of New Yorkers from the impacts of climate

change, severe weather and sea level rise. Once-in-a-generation upgrades will also be made to East River Park and other open spaces. The project began in late-November with a target completion date of 2025.

DESIGN-BUILD

At the beginning of 2020, DDC received permission from Albany to use design-build project delivery, which allows DDC to select a team of designers and builders who work on a project from inception to completion — a radically different approach from the single method DDC had been limited to using on all of its projects. What's more, teams are selected based on their qualifications to build its projects, ensuring coordination between all of the parties working on a project, controlling final costs and limiting painful delays. For decades, DDC was forced to rely almost exclusively on a single, antiquated method of selecting designers and contractors — known as design-bid-build — that required that a contractor's bid price be the only consideration for contractor selection, frequently leading to delays and cost overruns.

DDC immediately began setting up its design-build program. A new unit was created within Public Buildings. In June, an RFP was issued seeking an Owner's Representative to assist DDC's efforts. Program structures, and sophisticated new procurement and contract documents were developed. And in December the first Request for Qualifications (RFQ) was issued seeking qualified design-build teams for two imminent public buildings projects.

