FEATURE PROJECT:
BROOKLYN MUSEUM, BROOKLYN INSTITUTE OF ARTS AND SCIENCES

Gilbane provided construction management services for a service extension/addition to the Museum. Services included: interior basement renovation of support areas; multiple gallery renovations; the complete renovation of a glass block floor system in the Museum’s central interior courtyard space; and the upgrading of mechanical systems including the Museum’s air conditioning systems, electrical systems, fire alarm systems, commercial kitchen and support functions.

The gallery renovation included an upgrade of the existing floor of the Beaux-Arts Court on the third floor and involved installation of new stainless steel framed glass planking and cementitious pre-cast terrazzo flooring. Due to the Museum’s status as a historical landmark, the challenge was to maintain the historical nature of the floor while keeping it structurally sound. Through value engineering efforts, Gilbane, along with the structural engineer, was able to develop a new method for renovation and delivered the project $1.6 million under the original budget.

PROJECT INFORMATION

ARCHITECT:
EwingCole
Ennead Architects
(formerly Polshek)

PROJECT SIZE:
560,000 SF

CONSTRUCTION COST:
$50,000,000

COMPLETION DATE:
May 2011

DELIVERY METHOD:
Construction Management Agency

EARLY COORDINATION ADDS VALUE
IDC Review Avoids Changes

Brooklyn Museum, Brooklyn Institute of Arts and Sciences - Brooklyn, NY

An interdisciplinary document coordination review was conducted for this expansion and renovation project over four weeks and over 350 issues were identified.

MAJOR ITEMS DISCOVERED:
› Duct and pipe sizes missing in multiple locations
› Inconsistencies between mechanical and food service plans regarding quantity of supply and exhaust duct connections at the kitchen exhaust hood
› Fire rating inconsistencies between door schedule and partition types
› Physical conflicts between doors and fire alarm panel DGP; and between doors and steam condensate pump

With hundreds of trade contractor RFIs avoided, Gilbane saved $900,000 via early identification of issues.
The Chemical and Biomolecular Engineering and Chemistry Building (CBEC) is located in the Academic Core North area of the OSU campus, central to the science and engineering neighborhood.

The building adopted the sustainable design practices by Labs 21 in addition to being certified LEED Silver. The complex is conceived as a community of scientists, engineers, postdoctoral fellows, graduate students, and technical staff working collaboratively in chemistry and chemical biomolecular engineering. The new facility included a transparent curtainwall system with a 140-foot insulated “wave wall”, which required hundreds of irregularly-shaped glass units to be prefabricated. Gilbane worked closely with the design team to implement a detailed BIM execution plan and lean construction techniques to foster collaboration and carry this unique vision of the design team through to construction.

During construction, Gilbane initiated and incorporated more than $2 million in savings to the project.

**PROJECT INFORMATION**

<table>
<thead>
<tr>
<th>ARCHITECT:</th>
<th>COMPLETION DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelli Clarke Pelli Stantec</td>
<td>November 2015</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT SIZE:</th>
<th>DELIVERY METHOD:</th>
</tr>
</thead>
<tbody>
<tr>
<td>235,000 SF</td>
<td>Construction Management at-Risk</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSTRUCTION COST:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$101,361,838</td>
<td></td>
</tr>
</tbody>
</table>

The IDC review identified 430 issues saving the project 1,720 hours and avoiding $726,000 in potential change orders.
Gilbane provided construction management services for the development of KeyBank’s newest data center. The Solon data center is a single-story structure consisting of 40,000 SF of raised floor, 10,000 SF of office space, and 40,000 SF of infrastructure/support space.

The building is constructed of insulated pre-cast wall panels with a structural steel substructure. The N+1 data center and infrastructure is built to withstand the many elements of nature, including an F2 tornado. At initial occupancy, the data center has three, 1,500kva generators with the capacity to grow to eight; three, 750kva UPS with the capacity to grow to 12; and two, 650-ton cooling towers and two, 650-ton chillers with the capacity to grow to four each. The designed phased growth flexibility makes this the prototypical KeyBank Data Center.

**INTERDISCIPLINARY DOCUMENT COORDINATION ADDS VALUE**

Identifying conflicts during design reduces impacts

Throughout the entire coordination process, over 1,400 conflicts were identified, evaluated and resolved using Gilbane’s in-house Interdisciplinary Document Coordination (IDC). Equipment needed to be shifted anywhere from a few inches to a few feet and some systems' operational rooms needed to be redesigned to fit the necessary equipment and meet the square footage required by code. Approximately, five percent of the conflicts were major issues, requiring design changes or a complete redesign to be resolved.

**KEY CONFLICTS IDENTIFIED AND MITIGATED:**
- Ductwork blocking the staircase access
- Structure for cooling towers was too low to accommodate the mechanical piping required below
- Storm drainage pitch piping down the main corridor ran through all other disciplines’ main runs
- Mechanical, electrical, and fire protection had to run under the data center floor to the necessary equipment to avoid all of the stanchions supporting the access flooring and keep valves accessible

**FEATURE PROJECT:**
**KEY BANK OPERATIONS CENTER**

**PROJECT INFORMATION**

ARCHITECT:
Bruns-Pak

PROJECT SIZE:
96,800 SF

CONSTRUCTION COST:
$53,000,000

COMPLETION DATE:
April 2009

DELIVERY METHOD:
Construction Management Cost Plus a Fee

Got a 43% reduction in RFIs and cost savings of over $1 million!