



2016 Annual Report

Duke

FACILITIES MANAGEMENT



Message from the VP:

Dear FMD Colleagues,

We all worked hard in 2016 so that Duke University could continue to be one of the most prestigious Universities in the country. Facilities Management is an incredible team with a wide variety of skills and the dedication necessary to keep the campus operating smoothly.

Three words come to mind when I think of 2016: Construction, Collaboration, and Commitment.

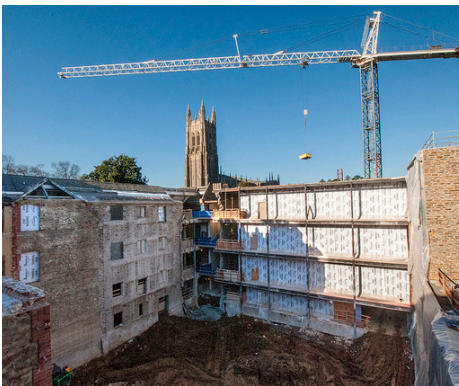
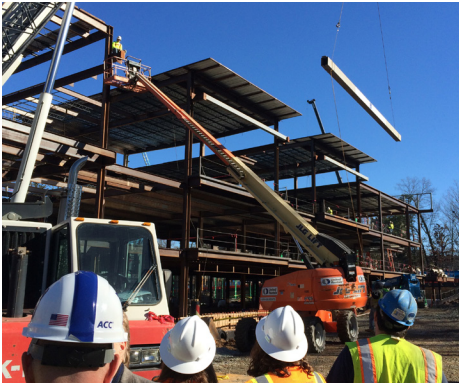
FY 2016 was the year of the crane on Duke's campus; there have never been more construction cranes on campus at one time than over the past year. More than 1.6 million square feet was renovated or constructed on campus this year. As a result, our department had to adapt in order to manage the growth.

To manage Duke's growing campus, our department has to work together. This year four collaborative teams were created to help us do our job more effectively:

1. A Project Steering Team was created to ensure projects receive proper review in a timely fashion.
2. A Critical Systems Team, made up of engineers and operations staff, was created to manage high performance buildings, such as French Science and CIEMAS.
3. A Quality Assurance Team consisting of staff from Project Management, Utilities & Engineering, and Facility Operations was created to improve the transition from construction to occupied buildings. The team is charged with making certain all systems work as designed and can be properly maintained.
4. Lastly, University Environmental Services is working to identify best practices as it relates to a standardized level of service for highly visible areas, starting with the new West Union.

I have a plaque in my office with a quote that reads, "Nobody notices what I do until I don't do it." I notice what you do, and so do our customers. What you do is critical, and it takes commitment. All that happens at Duke - Nobel Prize winning research, National Championship athletic competition, all-night study sessions in Perkins, worship in Duke Chapel, art exhibitions in the Nasher, student group meetings in West Union, teaching, learning, studying and dining that make Duke a nationally ranked university - cannot happen without you. All of you make up the foundation of a well-run campus. I am fortunate to work with such a committed staff.

John J. Noonan
Vice President for Facilities



Our Mission: to be stewards of Duke University by providing excellence in planning, design, construction, cleanliness, operations, and maintenance for the University community in a safe, customer-focused, efficient and sustainable manner.

Capital Projects & Campus Planning

The Office of Project Management (OPM) is responsible for overseeing all new construction, renovations, infrastructure & energy upgrades, and major building maintenance initiatives.

The office is also tasked with making sure Duke honors its historic legacy by creating documents to guide Duke's future. These include the 2024 Master Plan, Architectural Design Guidelines, and Landscape Character and Design Guidelines.

The work of OPM helps support the decision-making process of our customers for their facilities.

Operations

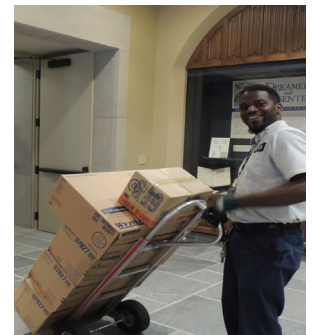
Facilities Management Operations consists of Duke Utilities and Engineering (DUES), Facility Operations, University Environmental Services (UEVS), and Landscape Services. These four offices work to ensure that the campus runs smoothly, is well maintained, and provides a clean and safe environment for students, faculty, staff, and visitors.

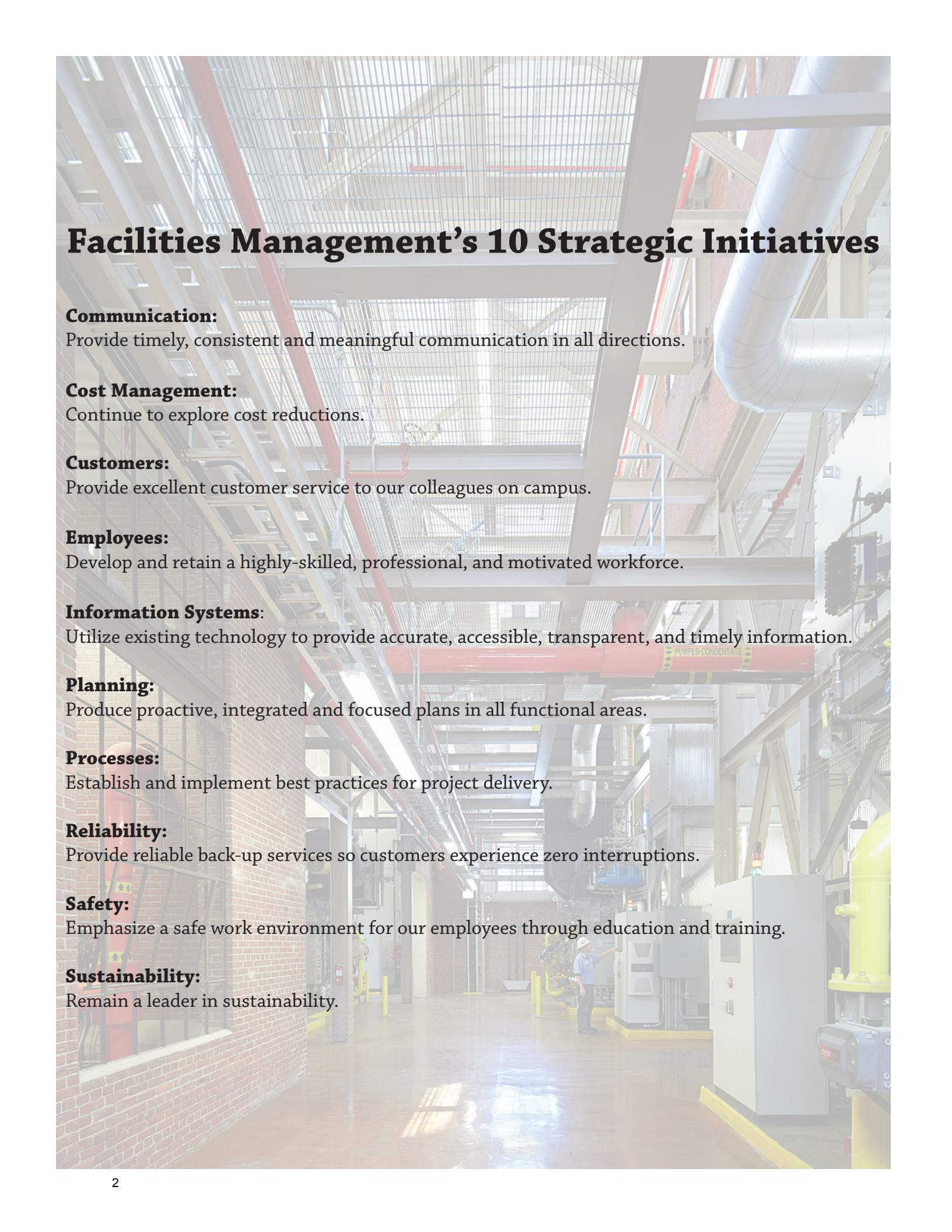
In addition, eight of our employees are responsible for the care of Duke's Marine Lab in Beaufort, N.C.

Department Support Services

Since FMD's roster is over 530 people, we provide support to our employees across the department. Department-wide support services include:

- Human Resources
- Business Services
- Information Technology
- Safety
- Maps & Records/CAD/GIS
- Customer Service Center
- Fleet Maintenance





Facilities Management's 10 Strategic Initiatives

Communication:

Provide timely, consistent and meaningful communication in all directions.

Cost Management:

Continue to explore cost reductions.

Customers:

Provide excellent customer service to our colleagues on campus.

Employees:

Develop and retain a highly-skilled, professional, and motivated workforce.

Information Systems:

Utilize existing technology to provide accurate, accessible, transparent, and timely information.

Planning:

Produce proactive, integrated and focused plans in all functional areas.

Processes:

Establish and implement best practices for project delivery.

Reliability:

Provide reliable back-up services so customers experience zero interruptions.

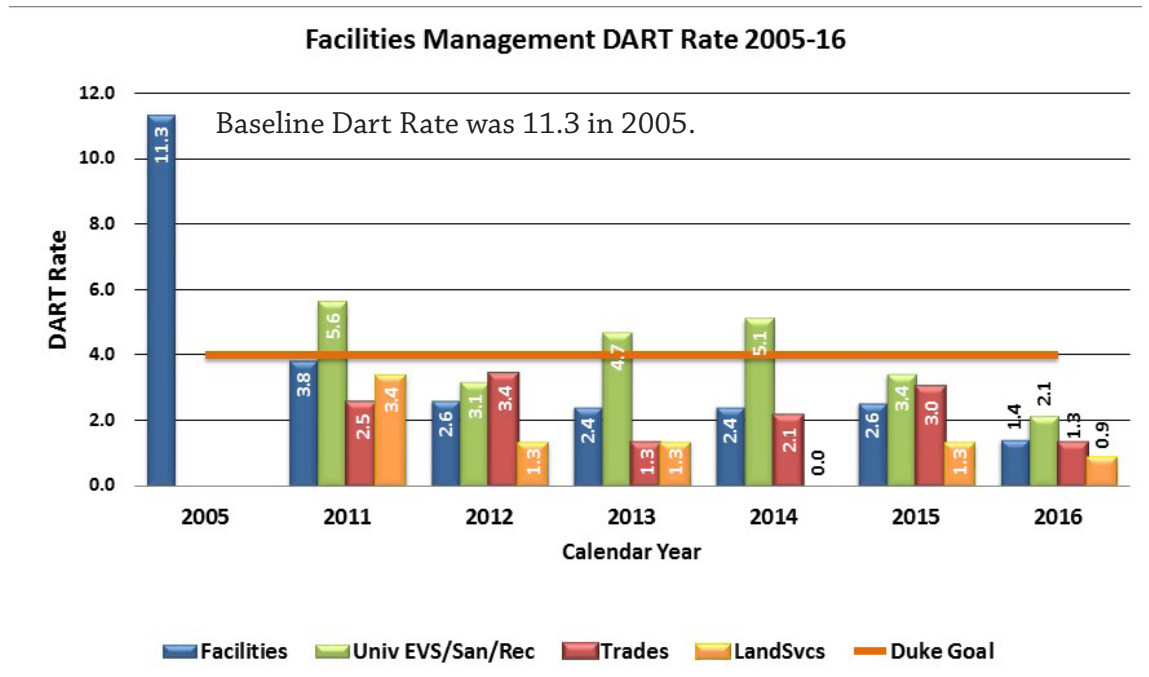
Safety:

Emphasize a safe work environment for our employees through education and training.

Sustainability:

Remain a leader in sustainability.

SAFETY FIRST



2016 Highlights:

- Exceeded University's goal for Days Away/Restricted Time (DART).
- Met our department goal of 95% for employee safety training requirements.
- Added Eyewash/Eye Shower Safety Awareness & Ergonomics Awareness to our safety portfolio.
- Worked to create a program to ensure all contractors provide proof that their firms have completed all required safety training before they can work on campus.



FMD is recognized for excellence for keeping it clean and green.



- 2015 Professional Grounds Management Society University and College Grounds Green Star Honor Award for East Campus.



- FMD staff and volunteers diverted 11,100 pounds of trash on November 14, 2015 making Duke the first ACC school to achieve a 'zero waste' game designation.



- 2015 Arbor Day Foundation Tree Campus USA. Duke has received this award for eight years in a row. To celebrate the designation, Landscape Services helped students plant trees behind Baldwin Auditorium.



- Boyd Pickard and David Grizzle were awarded the Outstanding Leadership in Sustainability Award for their work to reduce energy consumption in campus buildings.



- 2015 ACC Conference winner in Game Day recycling challenge.



- Rubenstein Library received LEED Gold Certification from the US Green Building Council following a two-year renovation project.

FMD recognized for excellence in renovation and innovative design



Environment Hall

- 2015 Triangle Business Journal Top Sustainable Project Award
- 2015 SCUP/AIA Excellence in Architecture for a new building
- 2015 ASLA North Carolina Chapter Excellence Award
- LEED Platinum Certification



DIBS in LSRC

- 2016 Triangle Business Journal Space Award
- 2015 ENS Southeast Merit Award



Pilkey Research Laboratory

- 2016 Society of American Registered Architects/New York Council Design Award of Merit
- LEED Gold Certification



West Campus Steam Plant

- 2015 ASHRAE Regional Technology Honorable Mention Award
- 2015 Triangle Business Journal Sustainability Award
- 2016 AIA South Atlantic region Design Award in Adaptive Reuse and Preservation
- LEED Silver Certification



before



after

Duke Hospital Garage (PG2)

- 1st Place Carolinas Parking Structure Renovation/Rehabilitation

Heart of Historic Campus Renamed

In February the Duke Board of Trustees named the main campus quad Abele Quad, after Julian Abele, the chief architect of Duke University's

original campus. Julian Abele was an African-American architect who worked for the Office of Horace Trumbauer, the firm hired to design Duke.



The Board made the decision to rename the quad after receiving a report from a committee whose purpose was to determine how best to honor Abele. Oscar Dantzler, a utility worker for UEVS served on the committee.



Abele Quad is the principal gathering space for celebrations, protests, concerts and ceremonies, in addition to being the busiest part of West Campus. More than 30 buildings and spaces designed by Abele are now part of Abele Quad, including West Union and the Perkins and Rubenstein Libraries, which have been recently renovated.

“Julian Abele brought the idea of Duke University to life,” said President Brodhead. “It is an astonishing fact that, in the deepest days of racial segregation, a black architect designed the

beauty of this campus. Now, everyone who lives, works, studies and visits the heart of Duke’s campus will be reminded of Abele’s role in its creation.”

Abele Quad is in the process of being renovated. The sidewalk has been rebuilt and the grassy area surrounded by the academic buildings was crowned to improve drainage, the irrigation storm drainages systems were replaced and the landscaping renewed.

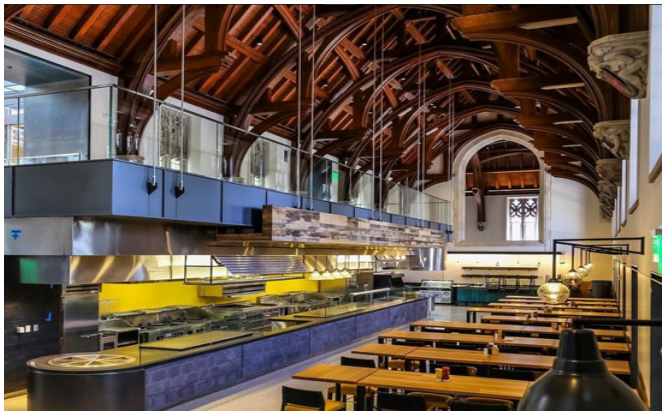


West Union Reopens

After 4 years of planning and construction, the renovated West Union reopened and serves as the center of activity on campus. It is comprised of approximately 125,000 square feet of space. The project was realized due to a donation by The Duke Endowment.

The building is open 24/7/365 and has restaurant operating hours that span up to 19 hours a day. To date, the building has welcomed over 8,000 visitors per day. The facility blends Duke's rich history with modern innovations.

FMD staff worked together with Student Affairs and OIT to create a spectacular dining, activity, collaboration and collision space that pays homage to Duke's past while embracing the future. The space will be enjoyed by the Duke community for generations to come.



- West Union's original opening was held on September 25, 1930. The building was designed by Julian Abele.
- Grimshaw Architects from New York served as the architect for the renovation project. Skanska served as the contractor.
- At its peak, the project had 240 construction professionals working at one time.
- The design team consisted of nearly 50 people, including architects, landscape architects, engineers, kitchen designers, acoustic and IT designers and lighting engineers.
- The foundations extend approximately 45 feet below the Plaza.
- Construction workers labored over a million hours on the project.
- The glass enclosure, bridges and associated structural and architectural steel were manufactured in Germany.
- Chef's Kitchen is equipped like a kitchen on the Food Network and can stream cooking classes live on Duke's TV channel. Michelin Star Chef Mario Batali hosted a class in the Chef's Kitchen in November.
- In several spaces, including the Devil's Krafthouse and several student lounges, the backside of the Duke stone was cleaned and left exposed as the interior wall finish.
- In the West Union courtyard there is a cistern that holds 37,000 gallons of rainwater for reuse on the landscape.
- Duke's first hot water distribution plant is located in the basement of West Union. The plant provides heating and hot water to the West Union and Page Auditorium.

2009 Brooks Football Building, game-day facilities for the visiting team completed.



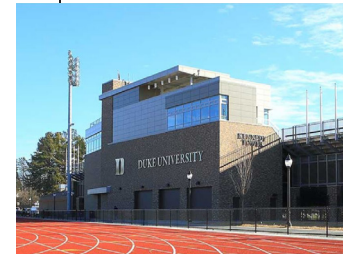
2011 Pascal Fieldhouse, a full size football field opens.



2013 Basset Fields completed.



2014 Bulldozers on hand November 29th to begin field lowering.



2015 Williams Track & Field and Kennedy Tower completed.

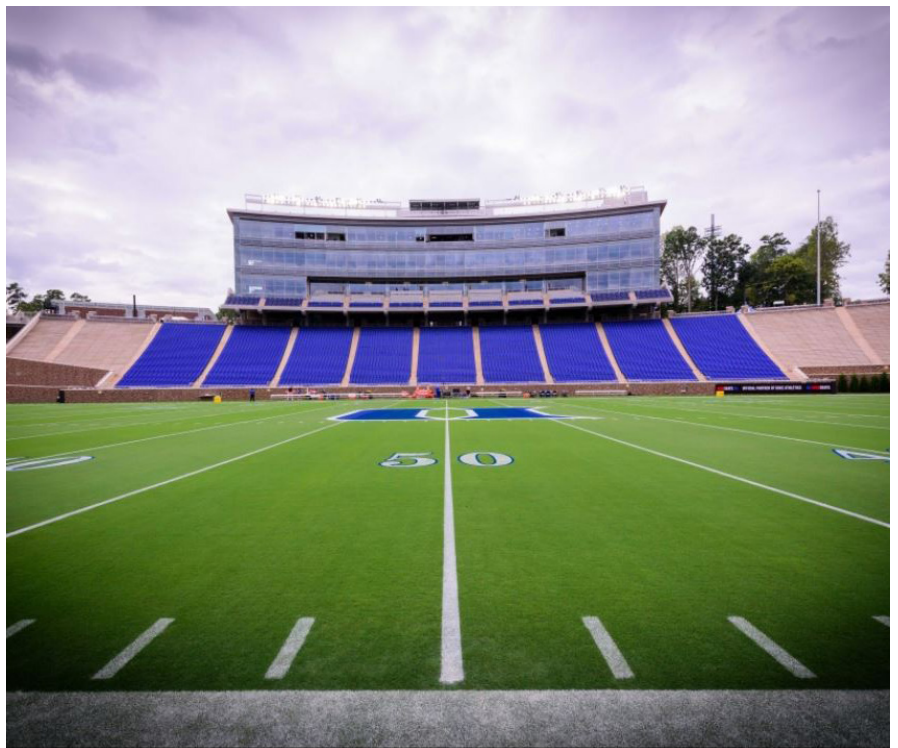
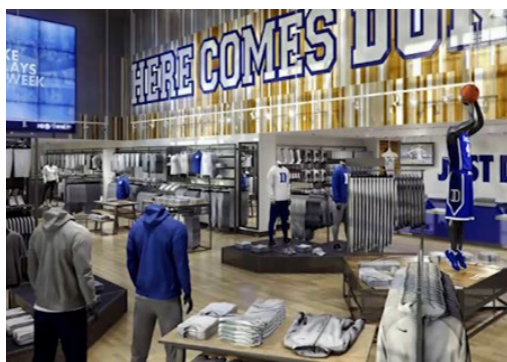
A Whole New Ballgame

Duke's athletic precinct is nearing completion of a multi-year transformation. Over 450 construction workers contributed to complete Scott Family Pavilion, Blue Devil Tower, and the addition to Cameron Indoor Stadium in time for the 2016 football season opener.

The \$25 million **Cameron Indoor Stadium addition** includes a new entry lobby and hospitality suite, as well as Tribull Plaza, a new outdoor plaza that will improve the pedestrian traffic flow to both basketball and football games.

Scott Family Pavilion is a 50,000 sf addition to the Murray Building. It provides space for the offices previously located inside Cameron, the Johnson Family Team Store, ticket operations, and weight room for Olympic sports such as soccer and lacrosse.

Blue Devil Tower is a new 195,000 sf building that houses the President's suite, Iron Duke suites, concessions, a broadcast command center, coach's boxes, and rest rooms.



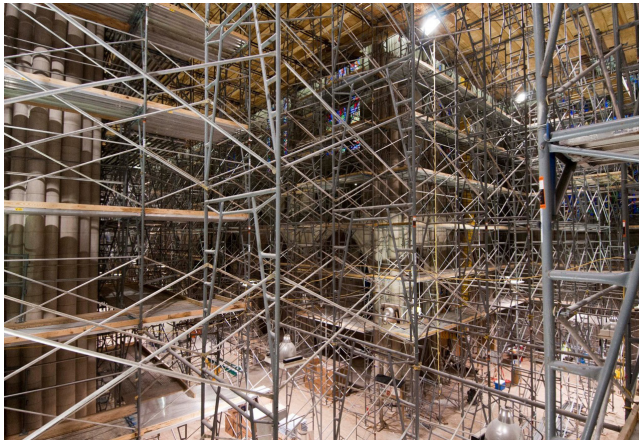
Duke Chapel Reopens After Year-Long Restoration



The Chapel closed so that the ceiling mortar joints could be repaired.



Scaffolding had to be built to create a work platform at the ceiling. The Chapel has no loading dock; everything came and went through the front doors.



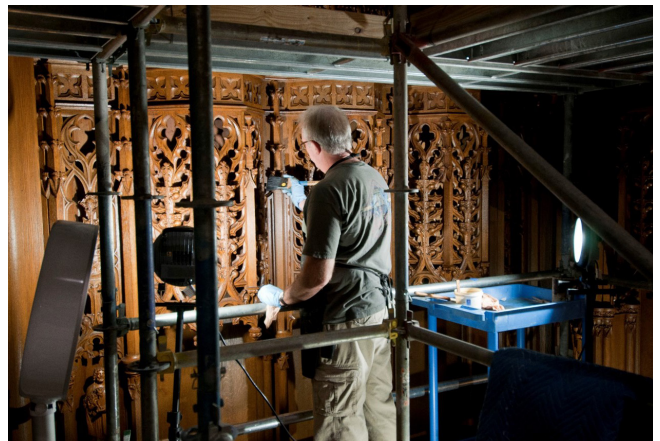
Scaffold Jungle: work platform completed.



Above the Jungle: workers repairing ceiling from the platform.



While the Chapel was closed, 7 windows were removed and restored and the mortar joints in the tracery were also repaired.



After the dust settled, the woodcarvings were cleaned and refinished.

2016



Rodney Andrews, Von Bailey, Dorothy Dunkins, Donald Elliott, John Lundeen, and Irene Watkins were named 2015 Employees of the Year.



Ray Walker, Staff Architect/Project Manager received the Presidential Meritorious Award. Ray has worked at Duke for over 42 years and has overseen dozens of projects, including the Duke Chapel Renovation



Oscar Dantzler received the University Medal, Duke's highest honor for distinguished service, at the Founder's Day ceremony in Duke Chapel. Oscar has worked in the Chapel for almost 20 years and is the first UEVS employee to receive this honor.



Bobby Browning, Sara Garner, Leslye Kornegay, Paul Manning, and Bill McCraw were part of the team that won the Blue Ribbon Teamwork Award for their role in the West Union renovation project. Other team members included employees from OIT and Student Affairs. The Teamwork Award recognized a group of staff who foster cooperation, collaboration, and open communication on a project that advances the University mission.

HIGHLIGHTS

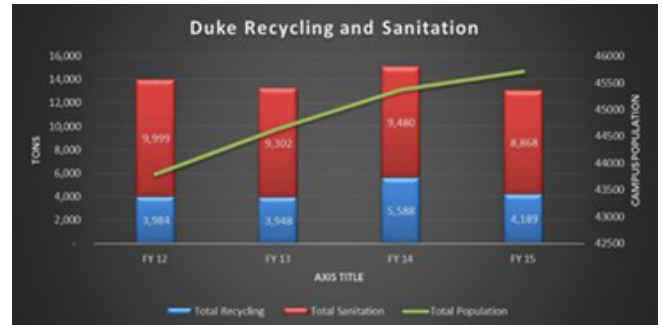


The pond has saved approximately 90 million gallons of water in its first year of operation.



The first **Hot Water Distribution Plant** opened in the basement of the West Union.

Landscape Services employees worked 1,660 man-hours clearing roads and sidewalks during two winter storms.



The amount of trash and recyclables has decreased even though the population of campus has increased.



The **Key & Lock Shop** completed 1,378 work orders for the medical center, including the planning, installation of locks and cutting keys for the new Hudson Building at Duke Eye Center.



The Smart Home and Giles Residence Hall were furnished with harvest tables made by Carpenter Andy O'Shea from campus trees that were sent to a local mill and returned to campus as lumber.

FACILITIES FACTS

539 acres of land are managed by Landscape Services

15 high performance buildings are included in the Facilities Operations portfolio.

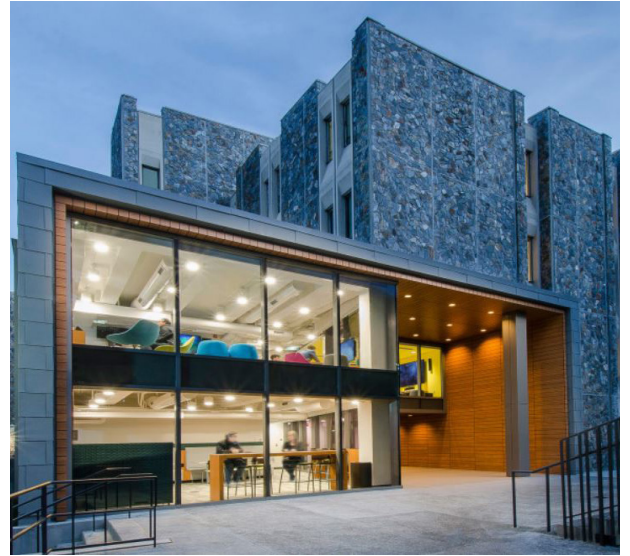
\$120 million is managed by Business Services in multiple operating budgets.

6 million square feet is cleaned by UEVS .

442,993,994 gallons of water were used at Duke last year.

112 iPads are used by operations staff across campus

8 construction cranes were on campus at one time, the most since the campus was constructed 90 years ago.



530 EMPLOYEES

29,900 work orders were created .

40,000+ invoices were processed.

27,000 flowers were planted .

2 tables were made out of campus trees and placed in residence halls.

\$411 million of capital project spend was managed by the Office of Project Management.

3,000 gallons of brine were spread prior to two winter storms.



2016 Career Service Luncheon



5 years: Zarek Rollins, Lee Clayton, Vern Pearce, Robert Burnette, Ron Murphy, Chamir Taylor, Parker Hoffman, Brian Mitchell, and Ryan Lavinder.

Not pictured: Rhoneshia Allen, William Brown, Tim Duggan, Ma Audelia Granados, Denise Kinglee, Tony McCoy, Ebony Nicholson, Edy Reyes, Uthman Rushdan, Christopher Smith, Terrance Stanton, Shaunda Vanhook, and Chris Wiley.



10 years: Philip Scott, Dudley Willis, Tavius Allen, Heath Hall, Debra Bennett, and Antonio Brown.

Not pictured: Greg Anspach, Von Bailey, Oscar Bridges, Eddie Broadie, Victor Bullock, Deandrick Corbett, Brian Dantzler, Dexter Gooch, Reggie Jones, Kelsy Lipscomb, David Malone, Sandra McClain, Letecia McDougal, Charles Moore, Orlando Watson, Brian Williams, and Dean Williams.



15 years: Mike Snyder, Tommy Davis, Mike Leezer, Lakendrix Headen, Michelle Carter-Jenkins, Paith Gentry, Shatone Bailey, Murvin Headen, Terrence Williams, Regina Elliott, Linda Washington, and Shree Davis.

Not pictured: Vincent Allen, Chris Brooks, Jermaine Evans, Geneva Hester, Ron Hurdle, La'Vell Jenkins, Dennis Kennedy, Argin Mason, Tameka McDonald, Jonathan Peoples, Delvona Snipes, Irene Watkins, and Mark Wilkinson.



20 years: Diana Brincefield, Vickie Rand, Darin Smith, and Wayne Wagoner.

Not pictured: Wayne Avery, Carolyn Cagle, Kenneth Lewis, Cheryl Mangum, Marie Weaver, Veronica Wilson.

100 Employees with 1,440 Years of Service



25 years: Mike Golden, Lisa Bryant, Diane Lawson, and Anthony Lyons.

Not pictured: Felicia Barnhill, Marcia Blount, Mohamed Hagos, Richard Lassiter, Shelia McCrae, Kelvin Sanders, Cynthia Wilkins.



30 years: Leonidas Nelson and Mike Hall.

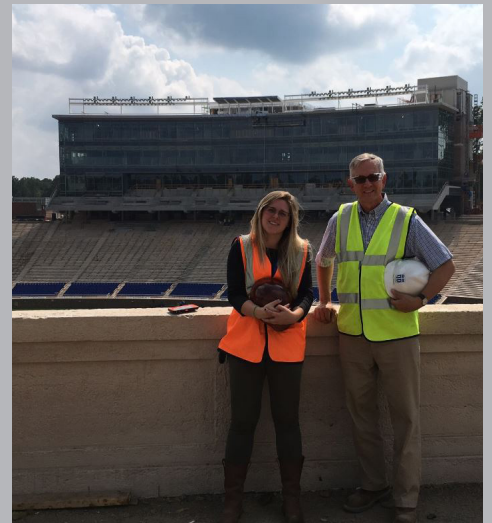
Not pictured: Curtis Bright, Bobby Browning, Emmett Dullaghan, Joe Garner, Ed Phipps



35 years: Cora Williams



Recycler Dorothy Dunkins drives a propane fueled lift truck.



Floyd Williams and Belle Farish served as project managers for the Wallace Wade construction site.



Painter Todd Allen prepares for game day on Brooks Field at Wallace Wade Stadium.



Housekeepers Alfredo Alvarez Cruz, Laura Valdovinos Robles, and Fatima Valdovinos enjoyed the International UEVS Appreciation luncheon in September



The interns on tour of the East Campus Tunnel.



Steamfitter Ron Murphy works during a steam shut down in Cameron Indoor Stadium to replace the steam and condensate lines.



The Horticultural Team plants flowers in the Chapel Drive circle.



Duke | FACILITIES MANAGEMENT

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