This report can be best viewed online here: ipf.msu.edu/ipfreport

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Many photos courtesy of Communications and Brand Strategy

Learn more:
IPF Website

Facebook MSUFacilities
Twitter MSUFacilities
The Michigan State University (MSU) Facilities and Infrastructure Report is compiled annually and shows the state of MSU’s infrastructure and facilities. It was released by MSU Infrastructure Planning and Facilities (IPF) in February 2016.

ABOUT IPF
IPF is a service organization that provides utilities, design and construction, planning and campus services to MSU. These services are critical to MSU’s mission of teaching, research and outreach. A full list of IPF services is available in the IPF Service Guide.

VISION AND VALUES
The IPF vision is to be the most high-performing, innovative, leading-edge facilities organization in the nation, with a focus on quality, customer satisfaction and value in all we do. IPF follows these values to achieve this vision:

• Stewardship: IPF is fiscally responsible and accountable for the resources entrusted to us.

• Innovation: IPF is willing to take risks, which creates value for our customers.

• Service Excellence: IPF exceeds customer expectations for enhanced teaching, learning and research.

STRATEGIC OBJECTIVES
IPF has identified four strategic objectives to guide its work and culture and to ensure alignment with MSU’s Bolder by Design imperatives.

• Enhance MSU stewardship by improving efficiency and/or reducing costs.

• Improve the customer experience by strengthening key systems.

• Strengthen employee development by creating a comprehensive pipeline of T-shaped individuals.

• Expand innovation and external collaboration by leveraging our experience.

ASSETS
MSU’s East Lansing campus is 5,200 acres which includes just under 22.3 million square feet of buildings, an arboretum with more than 44,000 trees and shrubs, a utility distribution system, an electrical production capacity of 99 MW and nominal water well capacity of 9,000 gallons per minute from 18 wells. Our total steam capacity is 1,300,000#/hour.

MSU also has a transportation fleet of approximately 1,500 vehicles. The university uses over 600 fiber optic strands to facilitate core campus IT services (e.g. MSUnet, unified communications, cellular, TV and dedicated departmental services).
CAMPUS STEWARDSHIP

IPF Campus Stewardship Indicators

- **Water Intensity Reduction**
  - FY15 goal: 10% reduction from baseline 2010
  - Current: 7.1% reduction

- **Power Plant Efficiency**
  - 12-month avg. vs. stretch goal of 68%
  - Current: 55.9%

- **MMBTUs/electric MWH**
  - 12-month avg. vs. U.S. Energy Information Administration (EIA) Benchmark of 10.35%
  - Current: 11.8%

- **Better Buildings Challenge**
  - FY15 goal of 10% reduction
  - Current: 9% reduction

- **% GHG Reduction**
  - FY15 goal of 30%
  - Current: 25.2% reduction

- **% Campus Renewable Energy**
  - FY15 goal: 15%
  - Current: 8.5%

This graph illustrates the progress made by MSU in relation to the energy transition plan goals and cogeneration facility performance stretch goals. The blue line represents our actual progress as a campus in relation to the stated goal or benchmark.

Cost & Staffing vs. Peer Group Average

- **Daily Service Actuals**
  - $/GSF

- **Campus Inspection Index (Score)**

- **Maintenance Staffing**
  - GSF/FTE

- **Custodial Staffing**
  - GSF/FTE

- **Total PM $/GSF**

- **Total Facilities Operating $/GSF**

- **Total Spending $/GSF**

This graph illustrates our current costs and staffing levels as a campus facilities group in relation to a peer group of similar research universities in similar climates. The red line indicates the peer group average for any one metric, and the blue line indicates MSU’s costs or staffing levels for the 13-14 calendar year.

View an annotated version of the above charts here.
IMPROVING CAMPUS STEWARDSHIP: IPF WILL.
Enhance MSU stewardship by improving efficiency and/or reducing costs.

IMPROVING EFFICIENCY, CUTTING COSTS
Infrastructure Planning and Facilities is committed to growing Michigan State University as a world-class institution of higher education. IPF helps maintain affordability through lower operational costs and working to ensure that we have adequate resources for present and future generations of Spartans.

ENERGY AND EMISSIONS
Energy has a significant financial, environmental and community impact for Michigan State University. IPF is addressing this impact by reducing emissions, investing in conservation and energy efficiency programs, and planning for a renewable energy future.

Reduction in Greenhouse Gases

The last coal train...

In 2015, MSU announced it will stop burning coal in 2016, and the T.B. Simon Power Plant will switch to natural gas as its primary fuel source. To date, greenhouse gas emissions have been reduced by 25.2 percent. See a video on the last delivery here.
NEW LOOK AT PROFESSIONAL SERVICES LOWERS FEES BY 30 PERCENT

IPF Planning, Design and Construction staff members were looking for ways to reduce costs to clients and return money to the university. To do it, they took a look at the professional services charged to customers on construction projects.

These included design administration, interior design and inspection, to name a few. Clients were charged for each service separately. These professional services have been combined into one fee, which is backed by the Office of Financial Analysis and Reporting. The rates are meant to cover costs and will be reassessed annually.

The new process provides a transparent and consistent services assessment for campus clients. The result? A 30 percent reduction in fees, from five percent (or more) of overall costs to about three and a half percent.

ACTIVE STEWARDSHIP: ON TASK CONSTRUCTION

Once again, MSU had a robust year of capital construction projects. Nearly $150 million was budgeted for 47 major projects. The final cost of these projects was just under $140 million, resulting in a total of $10.7 million being returned to the university. That return represents 3 percent of the original project budgets.

To learn more about construction projects completed in 2014-15, visit here.

Please watch the MSU Construction: 2015 video to see construction projects that were completed or in progress.

CAMPUS OPERATIONS

IPF continually improves campus operations to conserve resources and maintain the campus environment. In 2014-15:

• The MSU Surplus Store and Recycling Center diverted 60 percent of the university’s waste, preventing more than 19 million pounds of material from entering a landfill.

• Infrastructure Planning and Facilities began to develop water trend data to accurately measure MSU’s water use intensity in energy production, consumption, irrigation, research and maintaining the built environment.

• IPF Transportation Services maintained a fleet of environmentally-friendly vehicles, leading to reduced emissions and overall fuel consumption.

See a video on MSU’s sustainability efforts on the Be Spartan Green website.
MEETING CUSTOMER NEEDS

Improve the customer experience by strengthening key systems.

MSU IPF strives to improve customer experiences by strengthening key systems. IPF implements various systems to communicate with customers, including an online platform (FAMIS), customer service center (ContactMSU), a new construction representative model and the Faculty Readiness Program (FRP).

ContactMSU

MSU is a complex organization that can be difficult to navigate. ContactMSU is a team within IPF Telecommunication Services that supports the MSU community and beyond by offering customer service to streamline customer access. Staff members deliver relevant, timely information that includes general campus inquiries, service requests, event specifics and much more.

ContactMSU handled more than 114,500 phone calls over a 12-month period.

FACULTY READINESS PROGRAM

The Faculty Readiness Program (FRP) is a new initiative delivered by IPF to work in collaboration with academics to deliver outstanding projects that are high quality and time and cost efficient to support MSU’s research agenda. Goals of FRP include improving the time frame of project completion for incoming faculty and aligning project expectations with appropriate delivery methods. During 2014-15, 17 FRP projects were completed. Key projects include:

- $216,000 in alterations for athletic training new faculty in the department of Kinesiology at IM Circle
- $150,000 to construct offices for four new faculty in the department of physiology human medicine
- $98,500 of alterations to several rooms in the clinical center for a new recruit in the department of radiology
SURVEY DATA
IPF collects survey data each fiscal year from faculty, staff and students. More than 3,500 surveys were opened for the 2015 survey. Primary conclusions of the 2015 report include:

- 83 percent of respondents say buildings and grounds are important or very important.
- 81 percent say IPF meets or exceeds their expectations.
- 61 percent have high or very high expectations of IPF.

FAMIS CLOUD CONVERSION
 FACILITIES ASSET MANAGEMENT INFORMATION SYSTEM (FAMIS) software provides products and services to help organizations maintain and operate facility assets, manage space and control capital projects. To ensure that IPF meets its objective to deliver exceptional customer service satisfaction, it is relevant to maintain systems with updated technology. The upcoming conversion of FAMIS to cloud-based software benefits MSU in many ways:

- Provides staff and customers with anytime, anywhere access to their project information
- Saves time/improves efficiency by establishing service level agreements for common requests
- Eliminates gaps on service requests through customer surveys
- Allows for immediate project changes (and a better customer experience) through valuable reports, alerts and dashboards
- Post-work satisfaction scores show where improvements could be made
- Saves customers time and frustration through automated space requests

PLANNING, DESIGN AND CONSTRUCTION MODELS

REPRESENTATIVE SERVICE
In a fall of 2015 initiative to enhance a culture of outstanding client service, the IPF Planning, Design and Construction (PDC) team created a client representative role to partner with the four major client groups on MSU’s campus: academics, RHS, athletics and infrastructure.

One IPF representative maintains a connection with the client to streamline communication and foster strategic planning. The representative is the client’s advocate and provides access to ensure outstanding delivery of capital projects.

SURVEY DATA
The results from five questions asked on a recent customer survey were combined to come up with an overall customer satisfaction score. This satisfaction index compared MSU to peer Big 10 universities. MSU’s customer satisfaction score of 72.5 was closely in line with most of the other universities. IPF is working on improving this score by focusing on better customer communications and projects such as those described below.
DEVELOPING EMPLOYEES FOR THE 21ST CENTURY

Strengthen employee development by creating a comprehensive pipeline of T-shaped individuals.

The services IPF performs for MSU are becoming more complex as new ideas, technologies and expectations are introduced. It takes a 21st-century workforce to meet these challenges. IPF is incorporating new programs and processes into its workforce development plan in order to make sure our employees rise to the challenges of today’s—and tomorrow’s—workforce demands. For instance:

• Our workforce engagement subcommittee has defined the competencies of a T-shaped employee and is applying them to recruitment, hiring, on-boarding, performance, evaluations and rewards, training, succession planning, retention and other touchpoints.

• Some competencies that are being explored and developed with relevance to MSU in mind include lifelong learning, collaborative communication, innovation and teamwork.

• A new succession planning heat map shows supervisors and managers how close employees might be to retirement (by showing age and years of service). Job shadowing, mentoring and transfer of knowledge are some of the succession planning activities that will take place.

DRIVING RESULTS FOR THE WORKFORCE: PERFORMANCE EXCELLENCE CHAMPIONS

• IPF was at the forefront of the Performance Excellence Program with staff members serving on the implementation team, advisory group and roll-out.

• Training is offered to employees, supervisors and administrative assistants who have questions or concerns about the new process and goal setting.

<table>
<thead>
<tr>
<th>IPF T-SHAPED PROFESSIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIFE LONG LEARNER</td>
</tr>
<tr>
<td>SKILL BASED KNOWLEDGE</td>
</tr>
</tbody>
</table>

T-shaped employees work together, collaborate and share many similar qualities, adding value to MSU for lasting results.

IPF employees: by the numbers

<table>
<thead>
<tr>
<th>FY 12-13</th>
<th>FY 13-14</th>
<th>FY 14-15</th>
<th>FY 15-16 (as of 12/31/15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover (excluding retirement)</td>
<td>17</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>Retirements</td>
<td>15</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>Employees eligible to retire</td>
<td>201</td>
<td>205</td>
<td>200</td>
</tr>
<tr>
<td>New employees¹</td>
<td>96</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>Retention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total workforce as of June 30 (regular employees only)²</td>
<td>782</td>
<td>792</td>
<td>764</td>
</tr>
</tbody>
</table>

¹ FY 12-13 - CPA, Surplus, Sustainability merged with IPF (45 of these employees)
² FY 12-13 - Land Management transferred out of IPF (15 employees)

Turnover is similar to last year, but nearly double what it was in 2012-13. The numbers show a turnover of 3.9 percent. Retirements doubled in 2014-15 from the previous two years, but still represent only 3.8 percent of the workforce. More than a quarter of IPF employees are eligible to retire, and IPF is paying increased attention to succession planning. Hiring dropped to about a third of what it was two years ago, which is one of the reasons IPF reduced its workforce by 3.5 percent.
ElevateU is used regularly throughout IPF as a way to advance knowledge and drive home key topics. Short (3-5 minute) videos are sent out to all supervisors every Monday morning focusing on leadership, mentoring, metrics and performance.

Video hits are also tracked by Human Resources and are widely viewed in places such as the monthly newsletter from Dan Bollman called “Details with Dan” focusing on culture, diversity and inclusiveness.

INDIVIDUAL GOAL SETTING
The Performance Excellence program allows supervisors to help employees create their own plans for how they will support unit goals and IPF’s overarching strategic objectives.

IPF supported the program’s development with staff members serving on the implementation team and advisory group, and helping with the program’s roll-out. IPF will offer additional training to employees as needed.

EMPLOYEE ENGAGEMENT
Employees are engaged in a multitude of ways to provide input on IPF operations and include the following:

- Feedback is always sought through virtual and physical suggestion boxes, completion of employee surveys and by participating in subcommittees, focus groups and taskforce groups.
- IPF has five active strategy subcommittees (communications, customer, IT strategy, organizational performance, workforce), and all committees have labor, administrative and professional staff as committee members.
- Business leaders meet biweekly to brainstorm topics and share ideas. Face-to-face written exit interviews are requested of each employee leaving IPF to help with employee retention, morale and succession planning.

CUSTODIAL LEAD TRAINING
Custodial Services developed a 12-week pilot program intended to develop building leaders and supervisors. The program (LEAD) includes a DISC assessment and also uses resources from elevateU and case studies to deal with common employee issues and conflict management.

Next steps for the program include:

- Revisions to the program will be made based on feedback from supervisors.
- Open enrollment for the next session will take place in spring of 2016 and will involve participation from other departments to expand implementation of the program.

“The key to high performance leadership is identifying strengths and weaknesses of yourself and others and applying that information towards creating a successful team. LEAD is the first step in that process.”

- Sean Fox-Elster, Service Manager
EXPRESS EXPERIENCE LETS US
INNOVATE AND COLLABORATE

Expand innovation and external collaboration by leveraging our experience.

Innovation is a transformational change that adds value for stakeholders. As one of IPF's strategic objectives, encouraging innovation includes empowering employees to make changes that benefit the university. It also means creating a process to implement new and creative ideas with beneficial outcomes for the MSU community.

Both innovation and collaboration are enhanced when IPF employees apply their unique experience. At the intersection of the three values — innovation, collaboration and experience — unexpected solutions emerge.

**Landscape Services** is deploying geographic information systems (GIS) technologies on mobile platforms to increase efficiency. Called Collective, this new mobile app coupled with action analytics, is making a difference. Action analytics use measurement, process improvement and behavior change to encourage a culture of measurement and improvement.

Crews in the field use the app on an iPad, helping them plan their tasks, split up duties, determine needs and upload notes, which are then uploaded to a dashboard that shows real-time progress. Other results include:

- Work quality and quantity improve, meaning that more work on the campus environment gets done without sacrificing quality.
- Workers say they are happier at work, which has the potential to reduce turnover; MSU benefits from retaining greater expertise.
- Processes have moved from manual (paper) to digital, freeing up time to do other work that adds value to MSU.

READ THE STORY AND VIEW A VIDEO
LEADERSHIP AND RECOGNITION IN SUSTAINABILITY

- Signed the White House climate action plan pledge
- Hosted a statewide student solar design competition, inspiring clean energy innovation
- Recognized with a silver-level Bicycle Friendly University award
- Nominated for an inaugural Governor’s Energy Excellence Award for achievement in energy efficiency specific to the Better Buildings Challenge
- Received National Recycling Coalition annual Outstanding Higher Education Award

CAMPUS ENGAGEMENT AND INNOVATION

Achieving IPF’s campus stewardship goals requires partnerships across the university with a focus on research, innovation and engagement.

- Programs like the Spartan Treasure Hunt engage employees with their building systems to improve overall efficiency and environmental effectiveness across campus.
- The MSU Sustainability Fellows Program awarded $150,000 in its first year to faculty research projects designed to improve sustainability on campus. To date, $120,000 has been provided for on-campus student sustainability research and projects through the Be Spartan Green Student Project Fund.
- The IPF Sustainability department has recognized 193 spaces across campus as Spartan Green Certified.
- In 2014-15, 8,829 individuals subscribed to communications from the Sustainability department’s various channels featuring events, news and tips on how to Be Spartan Green.

BALDRIDGE PERFORMANCE EXCELLENCE

As IPF began strategic planning in 2015, it was evident that using a proven “template” for the planning process would not only make it easier, but also provide a better chance for success. The IPF Strategy Team chose the Baldrige Performance Excellence Program as their handbook. Its use has provided tools to answer critical questions about the organization, building the background of information IPF leaders needed to select four strategic objectives to guide IPF’s work over the next several years.

MSU REAL PROPERTY HOLDINGS

The MSU Land Management Office manages MSU’s off-campus properties and facilities. MSU and the MSU Foundation’s current landholdings total over 25,600 acres. That includes off-campus properties totaling more than 20,400 acres.

- Acreage increased nearly 107 acres due to two properties being donated to MSU.
- Nearly 82 acres are leased to others.
- Just under 41 acres are for sale.

For a complete 2014-15 listing of MSU’s real property holdings, view the full report with report summary.