The University of Akron

Administrative Activities Review

Capital Planning & Facilities Management

Department of Physical Facilities

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Interim Chief Planning and Facilities Officer

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Capital Planning and Facilities Management

A. Mission and Goals

Capital Planning and Facilities Management (CPFM) provides services related to campus planning, design, sustainability, and construction on campus: providing a clean, safe, and comfortable environment for students, faculty, and staff.

The University of Akron underwent a large building boom between the years of 2000 and 2012 to prepare for Vision 2020. With the enrollment goals of Vision 2020 unlikely to be met and the universities bonding at capacity, the Office of Capital Planning and Facilities Management has adjusted and continues to adjust its focus. With an emphasis on campus infrastructure, renovation, and careful planning, the Office of Capital Planning and Facilities Management is leading the effort to “right size” the campus and focus capital expenditures to the appropriate places.

B. Services

Planning, Architecture, Interior Design, Landscape Design, Parking Design, Construction and Technical Services, Construction Management, Programming, Cost Estimating, Sustainability, Renderings / Presentations, Higher Education Information Reports, Institutional Reporting, Real Estate Services, ADA (Americans with Disabilities Act) Compliance, Building Code Compliance, Liaison with Ohio Department of Higher Education, Controlling Board, & Ohio Facilities Construction Commission

❖ Capital Planning

The University of Akron receives, on average, $18.5 million every 2 years for capital improvements as part of the biennium capital appropriations bill from the state of Ohio. As of 2017, the University of Akron has an estimate $157 million in deferred maintenance. With the assistance of the Physical Facilities Operations Group (PFOC), the Office of Capital Planning and Facilities Management evaluates and prioritizes campus needs. The list of recommended capital improvements, in the form of a 6-year capital plan, in consultation with the CFO, Provost's Office, and President's Office, is provided to the University President and Board of Trustees as the University's capital request.

This effort is of the highest priority and takes place over several months, once every two years. The primary personnel involved is the Interim Chief Planning and Facilities Officer, the Assistant to the VP, Capital Planning Facilities Maintenance, and Manager Construction and Space Management.

In addition to the Biennium Request, CPFM is responsible for campus master planning, real estate, and maintaining the design and construction guidelines.

Critical partners (University) include:
Office of the President
Office of Academic Affairs
Vice President Finance & Administration/ CFO
University Council – Physical Environment Committee
Department of Physical Facilities

Critical Partners (Others) include:
Lisa H. Dodge – Sean P. Dunn and Associates, LLC
Ohio Department of Higher Education
Inter-University Council of Ohio

Customers/ End Users:
Careful and deliberate planning of capital resources has a direct impact on every member of the University community, the city of Akron, and the surrounding region.

Key Performance Analysis:
The attached **Facilities Asset Measurements** were compiled by Sightlines, LLC in 2017 and address critical facilities needs for Education & General (E&G) funded space only.

The University of Akron currently maintains approximately 8.7 million net square feet (nsf) of space including auxiliary, residential, and athletic space. The E&G space that is benchmarked accounts for 4.2 million net square feet of the total.

Current replacement value of existing E&G space is $1.65 billion. Total asset reinvestment need is $374 million, including deferred maintenance, and life cycle needs coming due between 2017 to 2026.

Brief Assessment:
Projected spending over the next 10 years is anticipated to be approximately $115 million, including $19M/ Biennium from state appropriations and $2M/ year from local funding. This accounts for only 30% of anticipated 10-year need. These numbers do not include auxiliary, residential, or athletic space. Recommendations for the best use of available funds include a focused investment on infrastructure, building mechanicals and envelope, and an overall reduction in net square feet, "right sizing".

❖ Project Management

As a percentage of workload, project management and its various subsets is the primary service provided by the Office of Capital Planning and Facilities Management. All construction and capital projects on the university, except for small maintenance and repair projects, are managed by CPFM. At this moment, there are approx. 46 open construction projects in various phases, ranging in cost from $50,000 to over $5M, with an average of $20M to $25M in construction and related costs a year.

CPFM provides a full range of services for the university related to project management. This includes, but is not limited to:

- Architecture
- Programming
- Cost Estimating
- Interior Design
- Parking Design
- Architectural Rendering
- Construction and Technical Services
- Construction Management
- ADA Compliance
- Building Code Compliance

State funded capital projects are initiated by CPFM, after approval through channels outlined above, and serve all corners of the university. Other construction projects are initiated by the individual college or department. CPFM will provide initial programming, design, and cost estimating to determine the feasibility of the department's request. If warranted, CPFM will also work with the Department of Development and the end user to provide architectural renderings and drawings to aid in fundraising efforts.

After funding has been secured, and approval to proceed comes from the administration, CPFM procures the architects/ engineers and construction managers/ design builders, and leads the project through design, bidding, construction, and closeout.

Critical partners (University) include:
Vice President Finance & Administration/ CFO
University Council – Physical Environment Committee
Department of Purchasing
Physical Facilities Operations Center
Environmental and Occupational Health and Safety
Information Technology Services/ Audio Visual Services

Critical Partners (Others) include:
Architect/ Engineer (Project Specific)
Contractor/ Construction Manager (Project Specific)
Ohio Facility Construction Commission
Office of Industrial Compliance
State of Ohio – Controlling Board
City of Akron
Summit County

Customers/ End Users:
Capital planning provides Project Management to all units of the university.

Key Performance Analysis:
Depending on the type of project, capital investment in a facility has an anticipated life expectancy of anywhere between 8 years for interior space, and 40 or more years for building mechanical systems and envelope. While "on-time, and under budget" is the first key indicator of success, it cannot be at the expense of long term viability of the project. Proper oversight is essential, if not built correctly, the university will end up dealing with the consequences in the long run. (i.e. InfoCision Stadium Railing and High Temp Hot Water Lines.)

Sample Recent Projects	Estimated Budget	Actual Budget
Law School Renovation	$21M	$20M
Polsky Exterior Façade	$1,775,000	$1,425,000
General Lab Renovation	$4M	$4M
ICS LJFF I Promise Suite	$732,000	$600,650
Roof Replacements	$811,000	$785,000

Brief Assessment:
Project management entails the oversight, coordination, and balancing of several often-competing factors. As the primary representation for the university on all university construction projects, the project manager; controls the budget, reviews and approves pay applications, is the primary contact between the end user and the university community with the contractors, architects, and engineers; ensures compliance with university design and construction standards, Ohio Revised Code, and applicable building codes; and guides the project from inception to completion.

Until the vacant position in project management is filled, staffing levels are insufficient to address all projects on the current capital bill concurrently. Projects are being postponed until the position can be filled, or after completion of some current projects.

❖ Space Planning and Reporting

Capital planning maintains institutional reports and Higher Education Information Reporting; evaluates space needs, allocation, and utilization; and updates building space plans for planning and other purposes.

Critical partners (University) include:
Office of the President
Office of Academic Affairs
Vice President Finance & Administration/ CFO
Office of University Registrar
Office of Administration and Technology Transfer
Institutional Research
University Council – Physical Environment Committee

Critical Partners (Others) include:
Higher Education Information System (HEI)
HEI Capital Planning

Customers/ End Users:
All units of the University of Akron

Key Performance Analysis:

The following table includes Classroom and Laboratory utilization rates for the past several years. Data for 2017 is not yet available. Utilization rate is extremely low.

Higher Education Reporting Data Date 15th day of Fall Semester

Year	2013	2014	2015	2016	2017
Net Change		1.96%	-0.11%	0.00%	0.05%
Gross Square Feet (note 3)	8,746,507	8,917,896	8,907,725	8,907,725	8,912,594
Net Change		-3.89%	-3.71%	-8.43%	-4.34%
Student Headcount	25,041	24,067	23,174	21,221	20,300
Net Change		-2.49%	-1.96%	-7.90%	-4.87%
Student Credit Hours	314,551	306,722	300,715	276,949	263,452
			-14.59%		
Classroom Utilization 8AM-4PM	54.2%	note 1	47.3%	note 1	note 2
			-0.39%		
Class Laboratory Utilization 8AM-4PM	25.8%	note 1	25.7%	note 1	note 2
Net Change		-2.05%	-3.33%	-6.35%	-6.76%
Employees	5,175	5,069	4,900	4,589	4,279

Note 1 Data not reported even years

Note 2 Higher Education Data not available

Note 3 Projected decrease to ~ 8.7 million for 2018 due to building demolitions

Brief Assessment:

Current data suggests that classroom and lab utilization rates coincide with the decrease in student head counts and credit hours attempted. This data is invaluable as the university seeks to find efficiencies is space and facility usage.

❖ Facilities Management

The Physical Facilities Operations Center reports to the Interim Chief Planning and Facilities Office. See DEPARTMENT OF PHYSICAL FACILITES, page **13.**

C. Resources

- **Personnel Organizational Chart - See Appendix B**

Interim Chief Planning and Facilities Officer (1FTE)

Oversees all aspects of the Office of Capital Planning and Facilities Management. Serves as liaison with state and local entities in all construction, planning, and maintenance activities.

Assistant to VP/ Fiscal Officer (1FTE)

Manages the fiscal activities for the divisional of Capital Planning and Facilities Management. Manages the fiscal activities for state and locally funded construction projects. Serves as University liaison regarding fiscal and job-related duties.

Manager, Construction and Space Planning (1FTE)

Coordinate University construction project's schedules, review project specifications and change orders, and advise University Facilities Project Managers in the performance of their duties. Direct the space data management system for state reporting requirements, promote efficient use of University facilities through the use of space standards, manage a routine procedure for solving problems with in-house space allocation, provide space planning input into architectural programs for new construction projects and assist with the biannual state capital request.

Manager, Facilities Projects (2FTE)

Coordinate and oversee the activities relating to the construction and remodeling of University facilities. Prepare and assist in the preparation of drawings for University related construction projects. Update drawings of existing buildings and site conditions for University files.

Manager, Facilities Project Senior (1FTE, 1 Vacant FTE)

Direct and coordinate outside contractors/consultants and internal University departments in the execution of capital improvement projects. Inspect, review and approve work of contractors and other University personnel along with project submittals, drawings and other related paperwork/correspondence.

Administrative Assistant (1FTE)

Provide assistance to supervisors in the administration of departmental programs or activities. Direct daily operations pertaining to departmental programs and procedures. Relieve supervisors of routine and some non-routine administrative duties. Exercise independent judgement in resolving issues or concerns related to departmental policies and procedures.

- **Financials – See Appendix A**

- **Equipment and Technology**

  All team members of the Office of Capital Planning and Facilities Management have either a desktop or laptop computer.

  Key software:
  AutoCAD
  Office 365 Suite
  Sketchup Pro
  Adobe Creative Suite

  All project managers, manager construction and space allocation, and interim chief planning and facilities officer have university smartphones. The smartphones allow for real time access to building plans, photographs, and documentation while in the field, and provide time and location data in photographs to aid in the management and documentation of construction projects.

  Key equipment and vehicles

2008 Ford Fusion	3FAHP06Z98R186420
2018 Kawasaki Mule	JK1AFCR18JB531673
Designjet T2300 Plotter	CN1C75L00

- **Space**

  The Office of Capital Planning is in approx. 4800sf, located on the third floor of the Lincoln Building. There are currently 4 vacant offices and a vacant administrative cubicle/ reception desk. A smaller, compatible unit could be accommodated within our space.
  All vacant, unassigned space on campus is the responsibility of the Office of Capital Planning and Facilities Management.

Facilities Asset Measurements – Benchmarking – 2016 Sightlines Survey

University of Akron: Key Facilities Asset Measurements

The University of Akron

	Scope of Analysis	Current Replacement Value	Total Needs
8.1 Million nsf 90 buildings	4.2 Million nsf Education & General (E&G) funded space only	$1.65 Billion	$374 Million $88 / nsf

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Choosing a Peer Group

The University of Akron

Comparative Considerations

Size, technical complexity, region, geographic location, enrollment and funding are all factors included in the selection of peer institutions

E&G Peer Institutions	Location
Bowling Green State University	Bowling Green, OH
The University of Maine	Orono, ME
University of New Hampshire	Durham, NH
Oregon State University	Corvallis, OR
University of North Texas	Denton, TX
Cleveland State University	Cleveland, OH
Towson University	Towson, MD
Portland State University	Portland, OR
University of Southern Mississippi	Hattiesburg, MS
University of Rhode Island	Kingston, RI
Virginia Commonwealth University	Richmond, VA
Clemson University	Clemson, SC

Ohio Peer Institutions
University of Toledo
Bowling Green State University
Kent State University
Miami University of Ohio
The Ohio State University
University of Cincinnati
Cleveland State University

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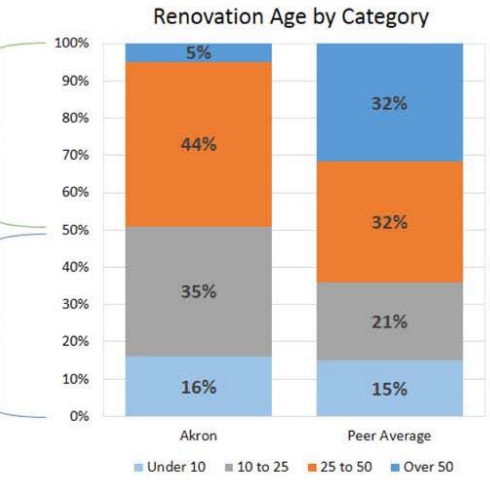
Campus Renovation Age Profile

Akron has a balanced age profile of over and under 25 year old space

49% of space over 25 years; Asset Reinvestment – **"Catch-Up" Investment**

51% of space under 25 years; Annual Stewardship - **"Keep-Up Investment"**



Buildings Over 50
Life cycles of major building components are past due. Failures are possible. Core modernization cycles are missed.
Highest risk

Buildings 25 to 50
Major envelope and mechanical life cycles come due. Functional obsolescence prevalent.
Higher Risk

Buildings 10 to 25
Short life-cycle needs; primarily space renewal.
Medium Risk

Buildings Under 10
Little work. "Honeymoon" period.
Low Risk

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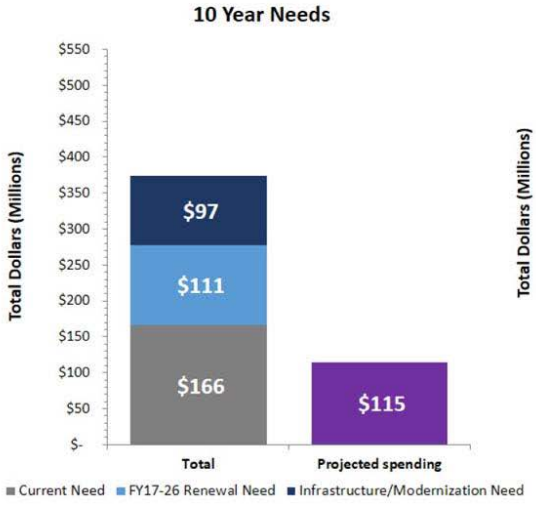
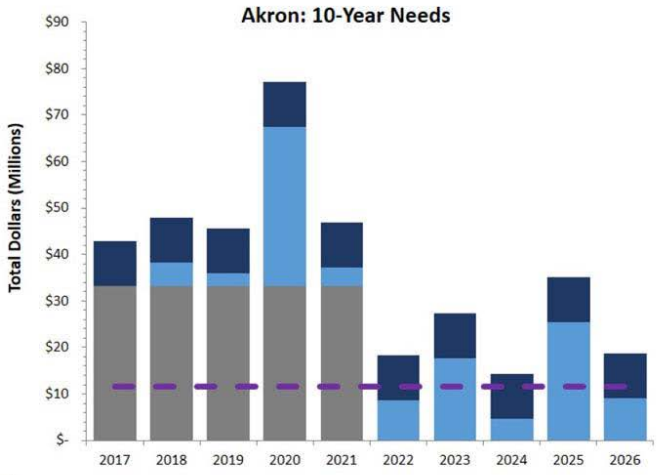
Total 10 Year Needs with Projected Investment





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Projected Spending:
$19M/Biennium of State Appropriations
$2M/year from institution

2.

Department of Physical Facilities

A. Mission and Goals

The employees of the Department of Physical Facilities provide service to campus as it relates to the daily maintenance and repair of all buildings and grounds: providing a clean, safe and comfortable environment for students, faculty, and staff.

The Department of Physical Facilities is comprised of four main units:

1. **Business Administration**
2. **Maintenance and Operations**
3. **Energy Operations**
4. **Grounds and Building Services**

Detailed description of each unit to follow.

B. Services

Physical Facilities Business Administration

Physical Facilities Business Administration is the hub of Physical Facilities. Everything from communication, material procurement, union business and fiscal/budget analysis are conducted on a day to day basis.

❖ Service Center

Communication is the number one responsibility of the Service Center. Whether it be by radio dispatching or phone/email, most interactions between Physical Facilities and external sources begin and end with the Service Center. For example, the Service Center maintains a roster of emergency contacts in buildings throughout campus, known as building coordinators. In the event of an emergency, the Service Center can notify these building coordinators of any developing situations. Additionally, the Service Center is also the purveyor and champion of WebTMA, the department's computerized maintenance management system. Through WebTMA, the Service Center manages the facilities workflow sequence. The process begins with a maintenance request, whereby, the Service Center converts a request to a work order and adds labor and material cost information. Simultaneously, they also input and maintain important historical maintenance records. Before completing a work order, the Service Center performs a final review to ensure customer satisfaction as well as data integrity in WebTMA.

Critical Partners

- University Communications
- University Police

End Users

- Internal Department - 5%
- External University Staff/Faculty – 55%
- Students – 35%
- General Public – 5%

Key Performance Analysis

- 113 building coordinator records maintained
- 8,865 estimated direct phone calls taken
- 7,196 requests converted from online submission
- 24,369 work orders created in FY18

Brief Assessment

- The Service Center's greatest strength is its customer service. No matter the issue, a leaky showerhead to an all-out emergency, every

situation is responded to with care and professionalism. The Service Center's other strength is WebTMA and adherence to WebTMA's workflow process. Everything in the department flows in, through and out of WebTMA. The Service Center has recently completed moving a large majority of technicians to iPads in effort to increase efficiency and ensure a higher level of data integrity. In the future, the Service Center hopes to move all technicians to iPads, further increasing the efficiency and effectiveness of maintenance technician time.

Potential Changes/Trends

- Increased technology – The Service Center will always take calls, but the future is pointing towards increased use of communication through WebTMA as requestors become more and more comfortable with online maintenance requests.
- Increased reliance on the Service Center – As Physical Facilities as a whole moves to an increased reliance on technology, the Service Center will be called upon to assist technicians and manage these technological changes as well as navigate the workflow process as dictated by WebTMA.
- WebTMA Automation – WebTMA has the ability to process work orders 24/7 with automated software. Software limitations and budgetary constraints have prevented implementation thus far, but the industry is moving in this direction.

❖ Procurement/Stockroom

The procurement and stockroom subsection of Business administration is integral to Physical Facilities and ultimately the University. The employees in this area use a University P-Card/PeopleSoft to source and comparison price all parts, tools, material and contractor needs for the whole department. By providing this centralized procurement service, the technicians of Physical Facilities are left to focus on the maintenance of the University. Further, experience shows that the comparative pricing performed in a centralized procurement model saves budgetary money versus individual ordering and avoids individual ordering bias. The Physical Facilities stockroom provides a similar service, but instead of going outside the University, the stockroom maintains tools, parts and materials onsite. Items in the stockroom are either used in such volume that it makes sense to have them on site or so vital that immediate access is a necessity to the basic function of the University.

Critical Partners

- Purchasing
- Central Stores

End Users

- Internal Department 85%

- External University Staff Faculty 15%

Key Performance Analysis

- 4,072 WebTMA internal requisitions (represents request for tools, parts, materials or contractor service)
- 4,909 WebTMA Purchase Orders processed in a year (represents orders outside University of Akron)
- 1.55% inventory shrinkage, starting inventory $284,252.11, ending inventory $279,832.98
- Procurement Card Spending
    a. Parts and Services
        A. FY18 = $1,269,320.35
        B. FY17 = $1,268,288.10
    b. Elevator and Refuse
        A. FY18 = $593,387.64
        B. FY17 = $508,781.89

Brief Assessment

- The procurement/stockroom's number one strength is to save the University and department money. On the front end, money is saved by paying the least for any said part, tool or contractor service. On the back end, the money saved is twofold. First a technician is freed of the responsibility of sourcing and coordinating the acquisition of an item. Secondly, the technician is unencumbered by any predetermined biases of using a particular vendor or even a particular item.

Potential Changes/Trends

- Lean/On Demand Inventory – As vendors increase technology and same-day delivery, the Stockroom will be able to adapt an on-demand model where items are sourceable with such speed that much less on-site inventory will be required.
- Supply Houses versus Amazon – Several online companies like Amazon, Zoro and SupplyHouse.com are making inroads on the brick and mortar industry supply houses local to the University. These companies are able to stock a wider variety of inventory at a cost savings compared the local supply houses. In the future, Physical Facilities will likely source an even greater deal of items from online vendors as these companies make shipping comparable to local delivery.
- Purchasing Cooperatives – In an effort to simplify business transactions and increase purchasing power, local and state governments are moving towards a group model where overall purchasing power is considered. Currently only large commodities are being sourced in this manner, but trends are pointing towards small items like parts and tools being sourced in a similar manner as commodities are today.

❖ Union Business/Timekeeping/Recruitment

This section of Business administration is three pronged. The first prong is responsible for all union business, from the scheduling of grievances, administration of employee disciplines, to overseeing the development of the shift line up. Employees in this area become subject matter experts in all aspects of the union contract and advise both departmental management and human resources on interactions with the union. The second prong is timekeeping. In a department of 200 plus people, ensuring compliance to proper timekeeping is imperative. These employees function as the "time clock experts." Since the majority of employees in the Physical Facilities department are under contract and its corresponding rules, the administration of timesheet use, approval and processing is often wrought with complexity. The final prong of this area is recruitment. The nature of facilities maintenance is high turnover, necessitating a dedicated section of business administration to manage the recruitment process, guaranteeing positions are filled with qualified applicants in a timely manner.

Critical Partners

- Information Technology
- Human Resources

Customers

- Internal Department 95%
- External University Staff/Faculty 5%

Key Performance Analysis

- Processed 56 positions from position creation, to recruitment to filled positions.
- 14 positions active in the recruitment process
- Grievances Processed (including Step One, Two and Three)
    a. FY17: 24
    b. FY18: 24
- Disciplines Processed
    a. FY16: 65
    b. FY17: 102
    c. FY18: 68

Brief Assessment

- In interactions with the union, individualized attention and impeccable record keeping are key. The processes put forth by the contract are complicated and this area provides a guide through the contract language. Further, using the time clock and time sheets can be complicated, maintenance technicians frequently need assistance and support. The employees in this area are on-site, present when a

problem occurs, and immediately able to assist with any issues that arise. Finally, recruitment in facilities is imperative. Recruitment's biggest strength is the ability not only fill positions, but the ability to fill positions with highly qualified individuals. Especially as overall unemployment decreases to historic levels, the pool of possible qualified applicants also decreases. Without this internal oversight, Physical Facilities overall talent pool could begin to wane or even worse, total human capital available may be unable to meet the obligations of the department.

Potential Changes/Trends

- Aging Work Force – It will be important to invest in new employees to allow knowledge transfer and the capture of skills unique to the University before these employees retire.
- Unemployment Rate - The hiring process will only become more complicated as the unemployment rate inches lower in the United States.
- Contract Renegotiation – The union's current contract is approaching the last year. Any changes and revisions will need reviewed and implemented by the employees in this area.
- Janus v. AFSCME – The recent Supreme Court decision has the potential to further muddy waters in regards to union administration and interactions. Especially considering the possibility of employees optionally leaving the union.

❖ Utilities

Utilities are a necessity of everyday life. This element of business administration, reviews, tracks and ultimately pays every individual and aggregate utility bill received by the University. The utilities area also makes calculations for the impartial chargeback of cost throughout auxiliaries on campus. Through this calculation, auxiliaries are held accountable for their use of water, gas, electric and heating/cooling water. In addition, the utilities area also coordinates University participation in utilities consortiums such as Industrial Energy Users. Finally, the utilities area administrates participation in energy related programs such as Demand Response and PLC curtailment. Demand Response is a program where the University stands by, ready to reduce electrical load in the event of an electrical grid emergency. PLC curtailment is similar, but instead of reducing load to help the grid, load is reduced to decrease capacity costs in the following year.

Critical Partners

- Accounts Payable
- Budget
- Safety

Customers

- Auxiliary Organizations
- Entire Campus Community

Key Metrics

- 3,360 utility bills processed in FY18
- Approximately $200,000 realized through participation in demand response program

Brief Assessment

Utilities represent a multi-million dollar budget every single year. The utilities section maintains, records and reviews utility bills as to better support the University as it moves to be more energy efficient and save utility spending. The area's biggest strength is when these records pay off. Just this year, as the University considered renewing the gas and electric contracts, the utilities area was able to provide aggregated information and raw utility bills which were important to the process of choosing a new utility supplier. Before this area was implemented some years ago, this information would have taken weeks to aggregate and digest, contacting each utility separately to re-create information that could have been captured in the first place.

Potential Changes/Trends

- Sustainability – The energy industry is already heavily on the path of energy efficiency and sustainability. Every indication is that the future holds an additional push towards clean energy and energy conservation.
- Change of Suppliers – In 2018, the University embarked on a bid process to renegotiate both gas and electric suppliers. The result of this renegotiation will undoubtedly impact the employees in the utility area as they adjust processes to pay aggregate bills and track energy usage.
- Ancillary Money/Energy Savings Opportunities – Three years ago the University's demand response program netted approximately $800,000. By FY17, demand response revenues had decreased by almost 75%. While still a revenue generator, demand response is quickly becoming a smaller player in the energy market. To fill the gap, the University is now participating in PLC curtailment to effect savings in capacity billing. However, to replace the revenue lost by decreased demand response, the University needs to consider more aggressively participating in PLC curtailment or potentially participating in a new program such as synchronous reserve (where load drops are minutes instead of hours.)

Physical Facilities Maintenance and Operations

Physical Facilities mission is to serve the University of Akron Main campus as well as satellite facilities. All facets of maintenance repairs involving buildings and equipment, serve our students, employees and community to ensure a clean, safe and healthy environment. Maintenance supports aging infrastructure with upgrades and ample staff to perform daily operation duties.

❖ Physical Facilities Trades and Zone Maintenance

Physical Facilities Trades and Zone Maintenance provide daily support to campus buildings either by work order request or a P.M. (preventative maintenance) schedule. Service calls are classified and organized from urgent to routine then dispatched to key zones for immediate attention.

- **Zone Maintenance**

Zone Maintenance is the first responder to service calls on campus. The University of Akron is divided into five "Zones" and each maintenance group is responsible for their area. Zone Maintenance knows the buildings within their zone well and they address all minor repairs including, but not limited to, lamp replacement, hot and cold calls, and water leaks.

Zone Maintenance is responsible for basic preventative maintenance within their zones including, but not limited to, filter replacement, motor maintenance, and exhaust fan and belt replacement.

- **Preventative Maintenance Group**

The preventative maintenance group are responsible for large preventative maintenance across campus including, but not limited to, bi-annual servicing of motors and belts, compressors, and air dryers, and filter replacement on all large air handlers.

- **Trade Shops**

Trade shops are licensed and state certified journeymen. They do both maintenance and repair on university facilities and smaller construction projects.

Carpenter and Paint Shop

The carpenter and paint shop provide smaller general trades services including rough and finish carpentry, millwork, concrete repair, glazing, ADA door testing and repair. Most work provided by the Carpenter and Paint shop is work order based.

Plumbing Shop

Maintains, repairs, and installs new as per request all work related to gas, water, sewer, and steam lines. Work is both project specific and maintenance.

Preventative Maintenance*: Grease traps, back-flow preventers, and fire pumps.

Electric Shop

Maintains, repairs, and installs new as per request all work related to medium and low voltage electrical systems. Work is both project specific and maintenance.

Preventative Maintenance*: Fire alarm, fire pumps, and suppression systems.

HVAC Shop

Maintains, repairs, and installs new as per request all work related to heating, ventilation, and air conditioning. This includes compressors, low pressure boilers, steam generators and pneumatic systems.

Preventative Maintenance*: Boilers, split systems, package systems, and air handlers.

* note: list of preventative maintenance items is not comprehensive.

Safety Officer and Contract Maintenance

The Department of Physical Facilities has a dedicated safety officer who oversees proper training and documentation for staff and is in charge of OSHA compliance within the department.

The Department of Physical Facilities Contract Maintenance oversees all elevator and roof warranty, preventative maintenance, and repairs for over 80 roofs and 130 elevators.

Critical Partners

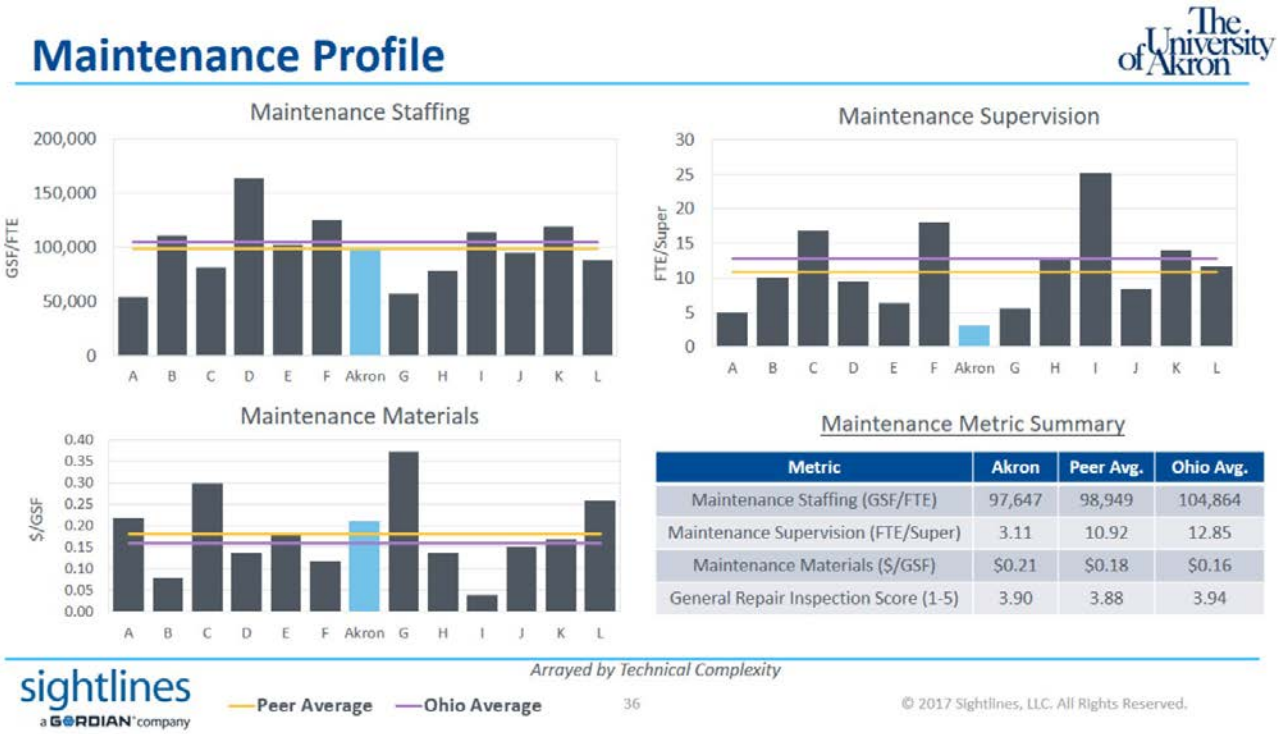
- Physical Facilities has vendors that are available as needed under a Time & Material contract for projects or emergencies that arise that are beyond the scope of the individual shops.
- Under the umbrella of Physical Facilities you will find skilled trades that are supported by Zone Maintenance personnel. Both divisions support services to staff, students and research facilities. All campus maintenance flow through Physical Facilities eliminating the need for individual departments having one or two individuals performing maintenance like duties thus reducing overlap or duplication of services.

Customers/ End Users

- All units of The University of Akron.

Key Performance Analysis

- Campus wide visual inspections based on student, parent, staff and greenspace expectations
- 24,369 work orders created in FY18



Brief Assessment

- The largest challenge of Physical Facilities is providing top level service to our students, faculty and staff with a reduction of key staff members. Physical Facilities is fortunate to have well trained staff and updated equipment that allows large areas to be serviced while maintaining focus on the following;
    a. Emergency (or response) maintenance
    b. Routine maintenance
    c. Preventative maintenance
- Trades and Zone Maintenance is currently supervisor heavy as compared to peer institutions, though overall staffing remains below others. Address through attrition and future hiring.

Future Plans

Potential Changes

- Consolidation
    a. Shift lineup changes
    b. Merging zones to trades
    c. Consolidating managers and increasing trade members.
- Updates to Web TMA technician IPads
- Updating night shift to electronic devices
- Increase income earning projects
    a. Staff consolidation reducing overlap of services will allow for projects previously outsourced to remain in-house.
- Increased training for employees, increase use of technology
- Reduce maintenance apprentice program from 4 to 2 year program

Trend

- Shifting from night to more of a day presence.
- In-house lateral moves and upward movement to skilled trades.
- Predictive Maintenance
    a. Computer software to forecast the failure of equipment based on age, user demand, and performance.
- Aging Equipment/Aging Building
- 5 Star Fridays to access facilities otherwise occupied during week

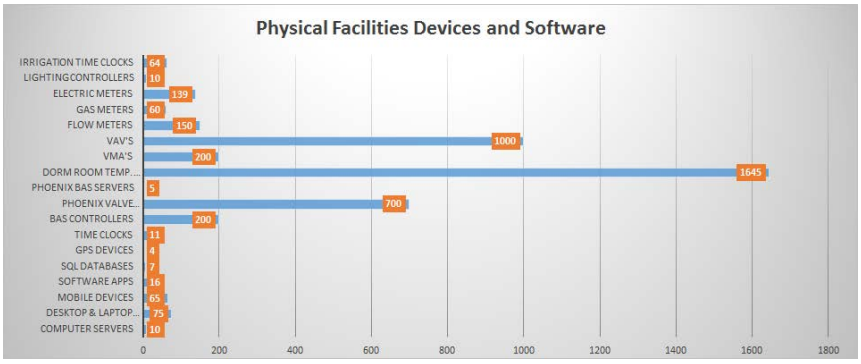
❖ Physical Facilities Information Technology

The Information Technology division of Physical Facilities creates and maintains systems that are integral to the success of our department and campus community. We provide a variety of facilities management services:

- Hardware and software Installations and upgrades
- System Training and problem resolution
- System Security
- Database Administration
- Data Analysis
- Energy Management
- GIS/GPS Mapping and Surveying
- Campus Utility Protection Notification
- Computer-Aided Design (CAD)
- Drone Mapping, Imaging and Inspection

Device and Software Breakdown

- **(10)** Computer Servers
- **(75)** Desktop & Laptop Computers
- **(65)** Mobile Devices (iPads) for Technicians
- **(16)** Departmental Software Applications
- **(7)** Enterprise SQL Databases
- **(3)** GPS Receivers and Data Collector
- **(1)** ODOT CORS Base Station
- **(11)** Employee Time Clocks
- **(200)** Building Automation Controllers
- **(700)** Phoenix Valve Controllers
- **(5)** Phoenix Building Automation Servers
- **(1645)** Dorm Room Temperature Controls
- **(200)** Variable Air Volume Modular Assembly
- **(1000)** Variable Air Volume Devices
- **(150)** Flow Meters
- **(60)** Gas Meters
- **(127)** Eaton Electric Meters
- **(12)** Johnson Controls Electric Meters
- **(10)** Interior Lighting Controllers
- **(64)** Irrigation Time Clocks
- **(750,000)** GIS Database Records



Critical Partners

- Capital Planning and Facilities Management
- Wayne Campus Facilities
- Medina Campus Facilities
- The Department of Surveying and Mapping
- University – Information Technology Services (ITS)
- Johnson Controls
- Ohio Utilities Protection Service

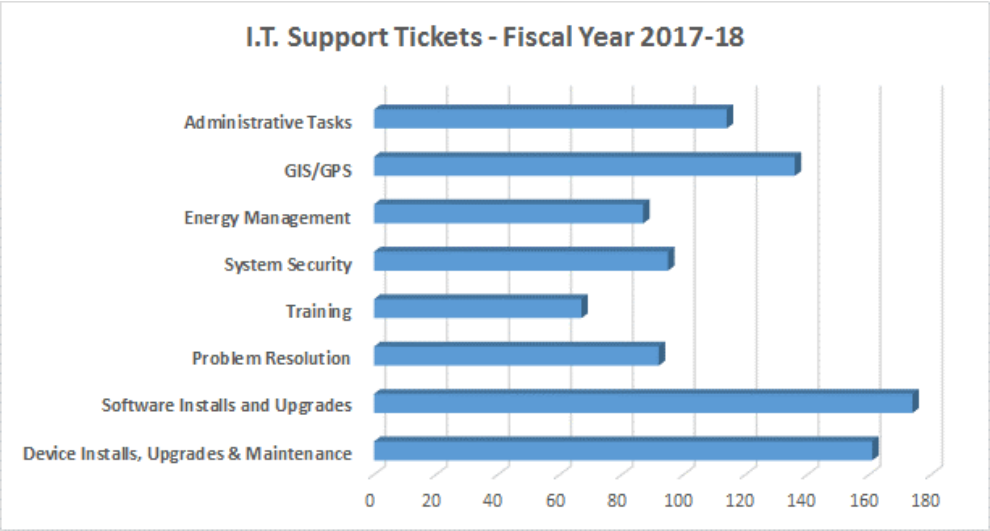
End Users

- Internal Department
- External University Staff/Faculty
- Students
- Engineering, Consulting and Contracting Firms

Key Performance Analysis

Physical Facilities Information Technology closed **(926)** support tickets for the Fiscal Year 2017- This area has one (1) Full-time employee.

Volume Indicators Graph



The Future of Facilities Management

Technologies that will change facilities management

- Artificial Intelligence (Building Systems that collect and analyze data)
- Smart Building Technology (Automated devices connected to the Internet)
- Building Information Modeling and Technology
- Mobile Technologies

Physical Facilities Energy Operations

❖ Energy Center

The primary function of UA's Energy Center is to provide a consistent and reliable source of heating and cooling for the connected portions of campus. Providing a comfortable learning environment is important to student success and retention as well as the comfort of those that work at the University. The reputation of such encourages an upward trend in recruitment of new students.

Primary Services

Maintain building comfort by providing a safe, reliable and consistent supply of high temperature heating water and/or chilled water to campus. In order to do so, this group is responsible for the operation and maintenance of three large hot water generators, five chillers, a 4 million gallon chilled water storage tank, 10 large cooling towers, 30 + pumps of varying sizes and types, water treatment for nearly 5 million gallons of water, nearly 15 miles of system piping, 25 utility vaults and countless valves and controllers.

Relative Magnitude (Scope) of Service

The main heating and cooling plant serves all of central campus (nearly 40 buildings with one of or both systems). The tunnel system and underground piping systems cover most of the main campus.

Critical partners (University) include:
Vice President Finance & Administration/ CFO
Office of Capital Planning and Facilities Maintenance
Department of Physical Facilites

Critical Partners (Others) include:

Gardiner Service Company – Green, Ohio

Gardiner is a full service maintenance company specializing in routine chiller maintenance. They assist with various chiller issues we have in the plant.

Corrosion Fluids Products – North Canton, Ohio

Corrosion Fluids is an area company that specializes in pump rebuilding and are an integral part of the plant's ability to maintain reliability.

Lombardi Water Management, Inc. – Plain City, Ohio

Lombardi acts as a consultant in keeping the water quality of our high temperature water and chilled water systems at an acceptable level. Water quality is crucial in maintaining high heat transfer rates and system efficiencies.

Johnson Controls - Cleveland, Ohio Office (JCI)

In a partnership with Brewer-Garrett Company, Johnson Controls performed several energy upgrade projects which helped with plant efficiencies. They are still on campus and playing a critical role with monitoring our ongoing energy usage.

Optimum Energy –Seattle, Washington (OE)

As part of a large-scale energy performance contract, Optimum Energy was responsible for optimizing the chiller plant efficiency through closely monitored chiller and pump sequencing.

❖ HVAC Automation

The primary function of HVAC Automation is to provide consistent and reliable heating and cooling at a comfortable level on campus. Providing a comfortable learning environment is important to student success and retention as well as the comfort of those that work at the University. The reputation of such encourages an upward trend in recruitment of new students.

Primary Services

Maintain building comfort through proper calibration, installation, maintenance and monitoring of all high temperature and building heating water and/or chilled water equipment on campus. This group is responsible for the programming and monitoring of 7 different computerized controls programs related to various areas on campus. They also install and maintain 40+ network automation engines, countless controllers, actuators and control valves that orchestrate a reliably comfortable campus learning environment. Finally, this group spearheads all efforts on campus for energy curtailment and improved efficiencies.

Relative Magnitude (Scope) of Service

The HVAC Automation group installs, repairs and monitors virtually every system in all 82 buildings on campus.

Critical partners (University) include:
Vice President Finance & Administration/ CFO
Office of Capital Planning and Facilities Maintenance
Department of Physical Facilites

Critical Partners (Others) include:

Johnson Controls (JCI) – Cleveland, Ohio (Office)

Johnson Controls is a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. At UA, JCI assists with new HVAC controls installations, programming and service issues. JCI's Metasys control system is instrumental in measuring, monitoring and maintaining building comfort as well as troubleshooting for maintenance purposes.

Siemens Controls – Cleveland, Ohio (Office)

Similar to JCI's function, there are 5 buildings on campus utilizing Siemens Controls Insight.

Phoenix Controls – Acton, Massachusetts

Phoenix Controls is a recognized leader in the design and manufacture of precision airflow control systems for use in critical room environments. Their Controls equipment is installed on virtually every laboratory hood on campus.

Telkonet – Waukesha, Wisconsin

Telkonet is the leader in intelligent automation, occupancy-based energy management and IoT technology. Their EcoSmart Automation Platform creates a student resident experience that intelligently responds to usage and preferences, while reducing energy consumption and improving our facility management capabilities.

Optimum Energy –Seattle, Washington (OE)

As part of a large scale energy performance contract, Optimum Energy was responsible for optimizing the chiller plant efficiency through closely monitored chiller and pump sequencing.

Delta Controls – Vancouver, Canada

Delta Controls is a global leader in Building Automation Systems (BAS), with over 300 distributors, and many thousands of installations in more than 80 countries. Delta Controls is recognized as a market leader in the manufacture of open-protocol BAS. Their system has been recently installed at UA's Wayne Campus.

Trane Controls – Madison, Wisconsin

Trane is a division of Ingersoll Rand specializing in HVAC equipment and control systems. Trane's Tracer program is utilized in a hand full of campus buildings.

Customers / End-Users

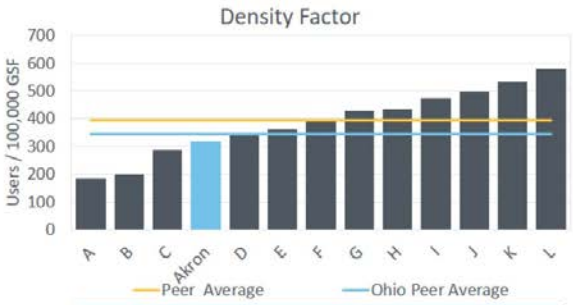
All units of the University of Akron

Key Performance Analysis

The University of Akron has paired with the Sightlines group to assess various maintenance and space issues across campus. Their findings were then compared with peer institution data and reported to us at the end of the process. Included in this report are pertinent items as they relate to our unit.

The above graph below indicates the substantial reduction in campus energy usage due to the Energy Performance Contract and related reduction measures. In fact, years 2015 and 2016 had similar weather profiles and, as shown, energy consumption has been reduced significantly during that time. In comparison to our peer group, however, we still have some work to do to get our energy profile in line with theirs. We have very recently implemented several strategies to accomplish this.

Qualifying Metrics – Technical Complexity and Density Factor



Technical Complexity Impacts:
- Daily Operating Costs
- Maintenance Trades Staffing Mix
- Energy Consumption
- Capital Replacement Costs

Density Factor Impacts:
- Daily Operating Costs
- 'Wear and Tear' on Facilities
- Maintenance & Custodial Operations
- Capital Replacement Timelines

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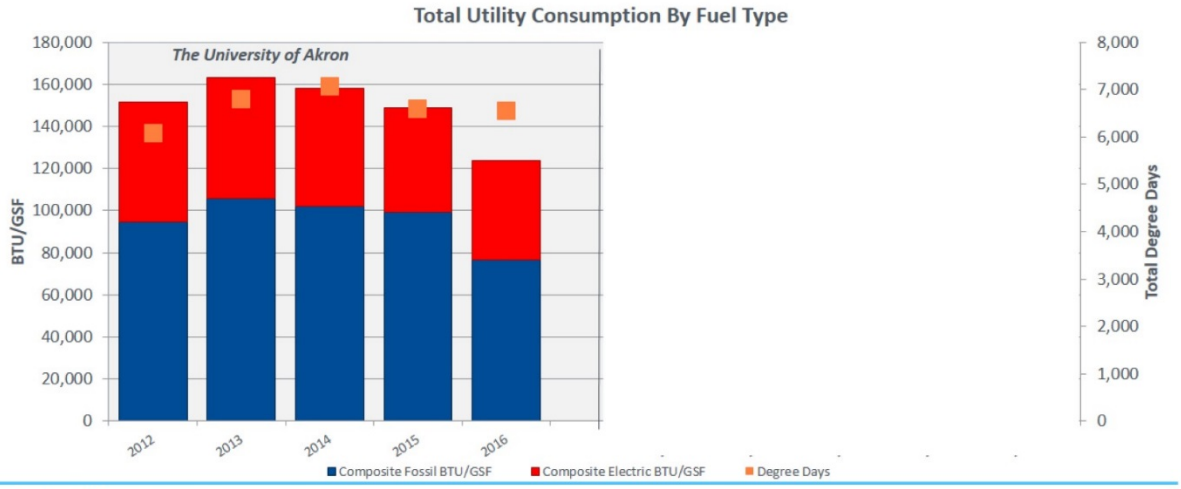
Energy Consumption: Degree Days

FY15 and FY16 had similar weather demands; Gaining Energy efficiencies in FY16



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Degree Day: A unit used to determine the heating or cooling requirements of buildings, representing a decrease or increase of one degree below/above (65°F) equates to one degree day.

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Brief Assessment

The University's main heating and cooling plant has an impeccable history of reliability and consistency (estimated reliability in the 99% range) as there have been little to no interruptions to the service it provides. This is a testament to the abilities and dedication of the personnel running and maintaining the plant equipment. Over the past year, however, we have struggled to replace a retired engineer in this unit due to non-competitive wage issues, but still maintained this impressive record.

While the plant has minimized its downtime periods over the years, the fact remains that the majority of the equipment within the plant and its supporting infrastructure is aging. This requires increased funding for major rebuilds and replacement of equipment beyond its useful life.

Resources - HVAC Automation and Energy Center (Equipment and Software)

SOFTWARE

Each employee in HVAC Automation and UA's Energy Center is responsible for the thorough understanding of and competent operation within each of the following control system software programs.

Johnson Controls Metasys - Most of campus HVAC is controlled through JCI Metasys. It is a complex program enabling pinpoint control of dampers, valves, pumps and fans as they relate to building comfort.

Siemens Controls Insight – Similar to JCI Metasys only used in a limited number of campus buildings

Telkonet EcoSmart – Dormitory room HVAC controls allowing student flexibility while maintaining overall control from our campus plant facility

Phoenix Controls – Laboratory hood and HVAC balancing control system present in most of our campus lab buildings. Helps maintain system balance and efficiencies

BCI Delta Controls – Wayne College building controls system as well as lighting controls in our stadium facility

Trane Tracer Controls System – Generally, a more local type HVAC control system. A handful of sights on our main campus including ASB, Lincoln Building, etc.

IFix Boiler Controls Software – Boiler controls system used in the main campus plant

Optimum Energy CP30 – Chilled water plant software intended to optimize plant performance through chiller and pump staging. Also remotely monitored through the OE support company. Chiller plant can also be run in two other operational modes, although not as energy efficient.

NOTABLE EQUIPMENT
Heating and Chilled Water Plant Equipment

Each employee in UA's Energy Center must be proficient in the operation, maintenance and repair of each of the following critical pieces of equipment.

International - Lamont 70,000,000 BTUH Forced Recirculation Generator (Typ. 2)
Le Groupe Simoneau 75,000,000 BTUH High Temperature Water Generator (Typ. 1)
York Model YKHHGDJ2-DAD 1250 ton Chiller
Trane Model CVHF1470NA3NOECY301F2FBFJFA 1450 ton Chiller
York Model YKHHJBJ2-DBE 1250 ton Chiller
Trane Model CDHF2500K1MED2932903GOA203HOA2 2500 ton Chiller
Trane Model CDHF2000K1JBA2812841GOA206HOA2 2000 ton Chiller
Marley Model NC932 2650 tons total (3 cells)
BAC Model 3781C-3 950 ton cell
Marley Model NC933 2650 tons total (3 cells)
BAC Model 3781C-3 3000 tons total (3 cells)
7 Primary Chilled Water Pumps (ITT, Patterson and Weinman)
9 Condenser Water Pumps (Patterson, Worthington, ITT and Weinman)
2 Aurora Chilled Water Storage Tank Pumps
5 Secondary Chilled Water Pumps (Worthington, Weinman)

Future Plans

Department Organizational Review

Review and assess all positions within our department to continue to "do more with less". There doesn't appear to be much financial relief in sight as our department moves forward from its former regime. We must look at new ways of approaching the current workload with the same or similar number of employees. This could include rewriting some of our position descriptions and responsibilities.

Control System Consolidation

We are exploring possibilities of converting several campus buildings from their current HVAC control systems to JCI Metasys. This will allow our Automation employees to concentrate their training efforts to a smaller number of different systems. In some cases, the Metasys system will allow for better control as well.

Training

Invest in our employees' futures at the University of Akron by keeping them up to date with training on the software and equipment they use daily in their work.

Physical Facilities Grounds and Building Services

- Building Services
- Grounds Maintenance
- Special Services
- Parking Maintenance
- Athletic Maintenance

❖ Building Services

Building Services plays a critical role in the educational mission. By keeping the facilities clean, the custodians contribute to student recruitment and retention, the health of the community, and the creation of an environment in which the university stakeholders can work, study, and engage.

Organizational Benefits include:

Provides a clean environment that is aesthetically appealing that contributes to the learning process.

Provides a healthy environment that contributes to the health of individuals and the institution.

Promotes a safe and secure environment—custodians are an extra set of eyes and ears for the institution and provide an additional level of security to the campus community.

Acts as an ambassador for all—custodians are spread throughout the campus and can be ambassadors of goodwill to students, visitors, faculty, and staff who otherwise may not have contact with university personnel.

Primary Services

- Sweep, mop and scrub floors, stairs (inside and outside buildings) and other surfaces.
- Use light and heavy (industrial type) floor machines and attachments.
- Scrub, strip, wax and polish floors using heavy (industrial type) powered scrubbers and buffers.
- Vacuum rugs in offices and public areas. Shampoo rugs periodically using heavy vacuum cleaner and rug shampooing machine.
- Clean and dust furniture, exhibit cases, pictures, door trim and chalkboards.
- Adjust, clean and oil cleaners and scrubbers and change brushes, pads, rollers, buffers and other attachments. Remove, wash and replace venetian blinds, and wash ceiling fixtures, using ladders and scaffolds.
- Wash glass and trim in entrance doors. Wash window sills and glass in corridor doors.
- Wash and/or clean interior wall spaces by hand or with powered wall washing machine, working on ladders and scaffolding, as required.
- Clean and service lavatories, toilet rooms and rest rooms.
- Collect and place in containers or plastic bags trash and debris, place trash in collection area for removal by sanitation trucks.

- Replace liners in wastebaskets and trash containers.
- Move heavy furniture, supplies and miscellaneous equipment, as directed.
- Report items that need repair (doors, door checks, furniture lights, faucets, etc.)
- Sweep or shovel snow from steps and walks at building entrances and connecting walks.

Relative Magnitude (Scope) of Service

Campus	Number of Buildings	Gross Square Feet
Main Campus	60	6,367,274

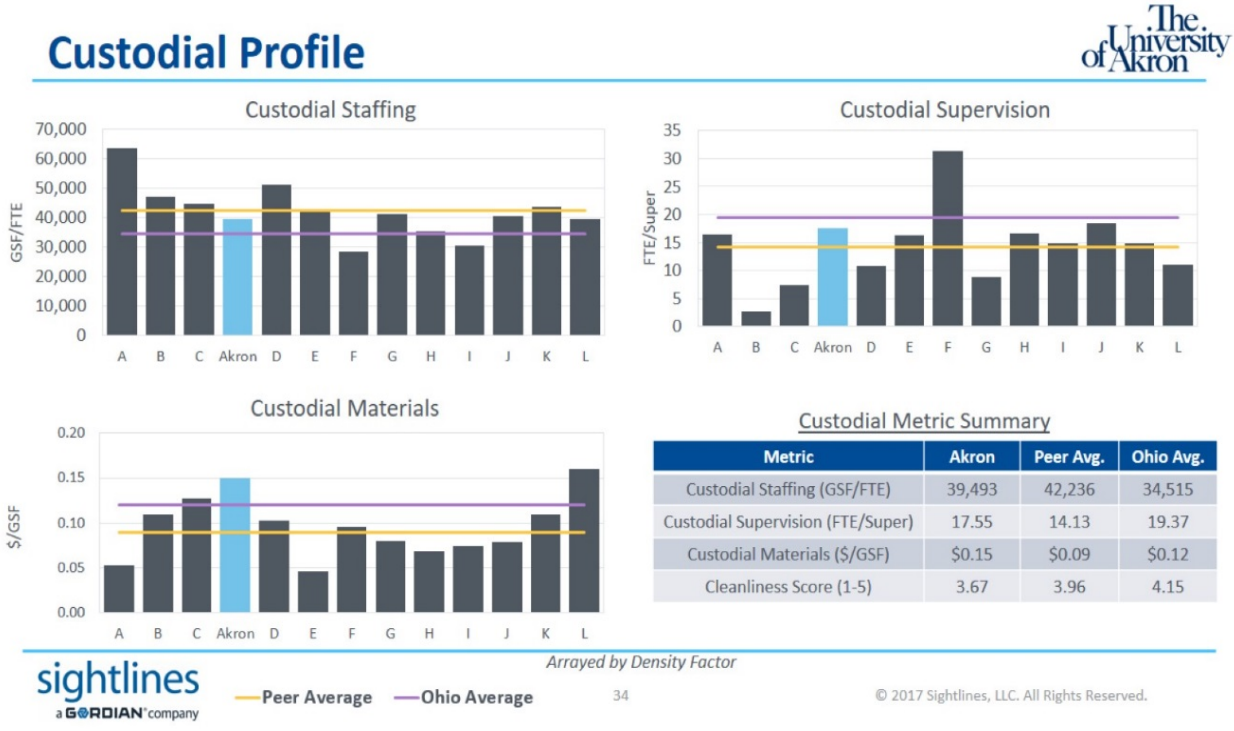
Critical Partners

Aetna Integrated Services – a fully integrated facility services company who provides commercial janitorial services to ten (10) of the University's buildings.

Customers or End-Users

All units of the University of Akron

Key Performance Analysis



Custodial Coverage by Building

Staffing Levels as of March, 2018

Taking into account APPA guidelines and standards, national and regional averages based off of Sightlines evaluation, and historical staffing levels, the proposed amount of service hours/full-time employees (FTE) per-building are necessary to guarantee a clean and healthy environment for learning.

			Daily Service Hours		FTE	
Code	**Name**	**GSF**	Proposed	Current	Proposed	Current
AERC	U of A Engineering Research Center	48715	12	2	1.5	.25
AFLD	Louis and Freda Stile Athl Fld Hse	181534	24	16	3	2
APTC	Akron Polymer Training Center	17331	4	2	.5	.25
ASB	Administrative Services Building	242239	20	8	2.5	1
ASEC	Auburn Science and Engineering Ctr.	405736	88	48	11	6
AYER	Ayer Hall	44629	10	12	1.25	1.5
BCCE	Buckingham Building	33353	6	6	.75	.75
BH	Buchtel Hall	28782	8	4	1	.5
BRH	Bulger Residence Hall*	94945	40	32	5	4
CAS	College of Arts and Sciences	139319	32	24	4	3
CBA	Business Administration Building	88783	32	32	4	4
CFC	Chima Family Center	19722	4	6	.5	.75
CHCS	Central Hower Community School	241658	52	48	6.5	6
COMP	Computer Center	22740	6	2	.75	.25
CRH	Crouse Hall	49705	12	12	1.5	1.5
EB	Express Building	2430	2	2	.25	.25
EXC	Exchange Street Residence Hall	199185	44	24	5.5	3
FEST	FirstEnergy Stadium	6627	2	0	.25	0
FOLK	Folk Hall	71044	16	16	2	2
GALU	Gallucci Hall (North)	22002	6	2	.75	.25
GDYR	Goodyear Polymer Center	153681	34	24	4.25	3
GH	Guzzetta Hall	83728	18	8	2.25	1
GHAD	Guzzetta Hall Addition	46717	10	8	1.25	1
GTTF	Gas Turbine Testing Facility	13407	4	2	.5	.25
HCPX	Honors Complex	132611	32	18	4	2.25
ICS	InfoCision Stadium / Summa Field	325648	32	16	4	2
JAR	James A. Rhodes Health and PE	127362	28	32	3.5	4

KNCL	Knight Chemical Laboratory	81374	18	8	2.25	1
KO	Kolbe Hall	89479	20	16	2.5	2
LAW	McDowell Law Center	113750	26	16	3.25	2
LH	Leigh Hall	58254	12	16	1.5	2
LIB	Bierce Library	176234	40	12	5	1.5
LINC	Lincoln Building	30544	6	2	.75	.25
MGH	Mary Gladwin Hall	55709	14	8	1.75	1
NPIC	National Polymer Innovation Center	43553	8	2	1	.25
OLIN	Olin Hall	81536	18	16	2.25	2
OLRC	Olson Research Center	72340	16	4	2	.5
ONAT	Ocasek Natatorium	64663	14	12	1.75	1.5
ORH	Orr Resident Hall	25895	6	8	.75	1
PAH	Thomas Performing Arts Hall	253378	8	8	1	1
PEAC	Polymer Engineering Academic Center	42911	10	4	1.25	.5
PFOC	Physical Facilities Op Center	87026	8	4	1	.5
POL	Polsky Building	427700	72	72	9	9
QSI	The Quaker Square Inn at The U of A	411461	36	26	4.5	3.25
RDWY	Roadway Building	61620	14	2	1.75	.25
RRH	Ritchie Residence Hall	20751	6	8	.75	1
SH	South Hall	151739	32	20	4	2.5
SHN	Schrank Hall (North)	60024	14	8	1.75	1
SHS	Schrank Hall (South)	217150	48	32	6	4
SI	Simmons Hall	99558	22	16	2.75	2
SMRH	Sisler-McFawn Residence Hall	24458	6	8	.75	1
SPCR	Spicer Residence Hall	147454	32	24	4	3
SRH	Spanton Residence Hall	58114	14	20	1.75	2.5
SRWC	Student Recreation and Wellness Ctr	162678	36	32	4.5	4
STUN	Student Union	225550	48	56	6	7
SUP	32 South College	13250	4	4	.5	.5
WBB	178 South Forge Street	77798	2	2	.25	.25
WHIT	Whitby Hall	38112	10	8	1.25	1
ZOOK	Zook Hall	49578	12	8	1.5	1
		6,367,274	1210	888	151.25	111

A staffing deficit of 322 service hours (daily) / 40.25 FTE

*Residence halls are staffed more appropriately to ensure occupancy health & wellbeing

Key Performance Analysis (Continued)

Level I - "Orderly Spotlessness"
Floors and base moldings are bright and clean. No buildup in corners.
All vertical & horizontal surfaces are freshly cleaned.
Washroom and fixtures gleam.
Trash containers emptied daily.

Level II - "Ordinary Tidiness"
Floors and moldings bright and clean.
Vertical and horizontal surfaces are clean, but some marks are noticeable.
Washrooms and shower fixtures gleam.
Trash containers emptied daily.

Level III - "Casual Inattention"
Floors are swept or vacuumed clean.
Dull spots.
Vertical and horizontal surfaces have obvious markings and dust.
Trash containers emptied daily.

Level IV - "Moderate Dinginess"
Floors are swept and vacuumed but are dull or dingy.
Dull path and matted carpet.
Conspicuous dust and dirt on vertical and horizontal surfaces.
Trash containers contain old trash.

Level V - "Unkempt Neglect"
Floors and carpets are dull and dirty.
Vertical and horizontal surfaces have major accumulations of dust and dirt.
Light fixtures are dirty.
Trash containers overflow.

APPA CLEANLINESS STANDARDS

The University of Akron

Traditionally, The University of Akron (UA) has operated and maintained its buildings at an APPA Custodial Standard Level II as outlined by APPA Custodial Staffing Guidelines for Education Facilities. This level is categorized as 'ordinary tidiness' and its trademarks include, shining floors and base molding, clean vertical and horizontal surfaces, odor-free washrooms, and regularly emptied trash receptacles. However, in recent years, as a result of steep budgetary and staff reductions, the current condition of most buildings more closely resembles an APPA Custodial Standard of Level III or IV which is described as 'casual inattention' or 'moderate dinginess'.

These levels of custodial service are characterized by swept, but dusty 'dull' floors, spots or matting in carpet, vertical and horizontal surfaces that have obvious marks, smudges and/or finger prints, and a less frequent waste collection regiment. With the exception of a few key, or signature buildings, the overall aesthetic and cleanliness of UA's buildings has decreased pointedly. As a result, cleaning concessions have been made; in 2009, PFOC suspended individual office and cubicle cleaning and directed office personnel to set their trash receptacles in the hall for easy retrieval.

In 2018, it is difficult to accomplish the seemingly routine, and public health and wellbeing are at risk. Certain cleaning tasks are completely neglected.

Key Performance Analysis (Continued)

Routine Tasks
and Cleaning Concessions

Building Services is not currently staffed to cover the following departmental impediments, most of which are routine:

- Sickness
- Long-term illness
- Vacations
- Employee training
- Special events
- Snow removal (entryways)
- Package / supply deliveries
- Office moves

Tasks performed daily are **emboldened**; the remaining tasks are performed infrequently, if at all:

Empty trash
Dust mop
Spot mop
Traffic vacuum
Spot clean carpet
Dust and spot clean
Damp mop
Full vacuum
High/low dust
Vacuum furniture
Shampoo furniture
Damp wipe air vents
Wash trash containers
Burnish floor
Polish wood furniture
Strip and refinish
Scrub and recoat

Shampoo/hot H2O extract carpet

70% of Building Services Workers are assigned to Night (3rd) Shift
Scheduling changes made in response to staffing cuts

Advantages

Better access to all spaces
(no conflict with class schedules)

Added benefit of building security and awareness of facilities issues

Disadvantages

Poor attendance and higher turnover

Personal safety concerns

No contact with staff or students
Limited access to employee services

"Bio-rhythm" concerns

Added energy costs to clean when buildings might otherwise be shut down

Brief Assessment

An increased reliance on contracted cleaners has led to a substantial decline in overall cleanliness. The cleaning contractor is habitually short of staff and unable to meet the nightly required amount of service hours. In a span of six (6) months, the contractor has accumulated in excess of 4,380 negative hours. This is not a novel case of absenteeism specific to the University's cleaning contractor, but an indication of what can be expected from most if not all cleaning contractors.

In Building Services, and throughout Physical Facilities, the employee is the department's greatest asset. A reinvestment in full-time in-house Building Services Workers would promote employee ownership, enable facilities to reach and maintain the previously described APPA cleanliness standard level II, and further take advantage of the supplemental organizational benefits listed earlier in the document.

A. The use of dilution control dispensers has allowed Building Services to decrease the overall amount of chemicals used for routine cleaning. The wall mounted unit has the capacity to store up to four concentrated cleaning products. Products are directly dispensed into bottles, buckets or floor care machines. Departmental commitment to the utilization of concentrated cleaning products and the chemical dispensing system's ability to ensure delusion accuracy has led to cost savings. With the exception of a very few specialized products for atypical and specific tasks, Buildings Services has reduced the number of products used for routine cleaning from fourteen to only four. This includes the complete abandonment of costly and environmentally destructive aerosol cans.

B. Building Services leadership is faced with increasing challenges to do more with less, and to provide equivalent or better service levels to the University when funding for such services has decreased pointedly. Physical Facilities has had to become more creative and flexible to provide levels of services that meet or exceed the stakeholders' needs across campus.

The wide-spread incorporation of automated equipment, specifically floor scrubbers, has led to more effective and efficient maintenance practices. In general, additional research and investment in evolving technology and custodial innovations will enable Building Services to best serve University stakeholders'.

In addition to the basic equipment required to maintain building cleanliness (broom, mop and bucket, high duster, vacuum, etc.), Building Services utilizes the following support vehicles and automated equipment to best serve the University:

RESOURCES - Building Services (Equipment)

Tag Name	Serial Number	BLDG	Acquisition date	Amount
2004 FORD F250 CREWCAB SN: 1FTNW20L34EB12651	1FTNW20L34EB12651		11/4/03	20,940.42
SCRUBBER, WINDSOR CHARIOT 1 EXTRACTOR	SN: 1006014000584	AFLD	5/11/11	10,897.00
SCRUBBER, 24" SPEED DISK	418206	ASEC	12/4/08	7,589.38
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330000702	ASEC	1/25/11	5,595.00
SCRUBBER, NOBLES 614363 20" SPEED	10203825	ASEC	5/31/12	5,679.02
SCRUBBER, NOBLES 614363 20" SPEED	10316466	CAS	1/30/07	5,536.78
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING (654574)	SN: 10061330001467	CAS	3/17/11	5,540.00
SCRUBBER, NOBLES 614363 20" SPEED	10311799	CBA	1/29/08	5,878.85
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330001465	CH	3/17/11	5,540.00
SCRUBBER, FANG 26" VIPER AUTOMATIC	SN: 4014206151	FOLK	12/8/09	5,195.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330001466	GH	3/17/11	5,540.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330001308	ICS	2/22/11	5,695.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330001419	JAR	3/17/11	5,540.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	10061330002060	KNCL	1/27/12	5,790.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING (636299)	SN: 10061330000134	KO	1/25/11	5,595.00
SCRUBBER, FANG 26" VIPER AUTOMATIC	1600	LH	1/8/10	5,195.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330000383	MGH	3/22/10	5,589.00
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	10061330002056	OLIN	1/27/12	5,790.00
ADVANCE ADFINITY SCRUBBER X20R (REV)		PFOC	10/11/13	5,651.00
ADVANCE ADFINITY SCRUBBER SC750 28R (REV)		PFOC	10/11/13	9,280.50

TRUCK, 2005 WHITE FORD F250	SN: 1FTSX20585EC28558	PFOC	3/9/05	21,425.50
SUV, 2012 WHITE FORD FLEX AWD	2FMHK6CC8CBD19022	PFOC	1/20/12	29,976.80
SCRUBBER, NSS 26" NSS WRANGLER AUTOMATIC	02AGJR	POL	6/17/02	5,769.16
SCRUBBER, WINDSOR CHARIOT RIDING (98406920)	SN: 10061090000442	POL	2/8/10	9,479.00
SCRUBBER, NOBLES 614363 20" SPEED	10294605	SHN	5/31/12	5,536.78
SCRUBBER, WINDSOR CHARIOT ISCRUB-OB RIDING	SN: 10061330001468	SHS	3/17/11	5,540.00

❖ Grounds Maintenance

The primary function of Grounds Maintenance is to create a quality environment conducive to learning. The appearance of the University affects recruitment and the mental and physiological health of the students, faculty, and staff who live and work there. The facility grounds are usually what is first encountered and therefore their impact is profound. First impressions of the grounds can affect enrollment of students, employment of faculty and staff, and the attitudes of visitors and benefactors.

Primary Services

- Maintain campus lawns by irrigating, mowing, edging, hand trimming, fertilizing, and using weed control methods. Prepare areas for seed or sod, lay sod and sow seed. Operate riding mowers, utility vehicles, rototillers, lawn sweepers, hydraulic sprayers, aerators as needed.
- Use hand tools to remove snow and ice from stairs, walks and ramps. Operate salt spreaders, tractors, and Bobcats to remove snow and ice from walks, drives and parking lots.
- Maintain campus trees and shrubs by planting, pruning, watering, spraying, weeding and cleaning shrub plantings. Operate brush chippers, stump grinders, water tanker with pumps, hydraulic sprayers as needed.
- Plant, maintain, trim, prune hedges and remove papers and other debris which accumulate in the hedges.
- Sweep up dirt and debris, clean around trash compactors, and collect rubbish left on campus.
- Prepare and plant flower beds for growing annuals and bulbs. Use rototillers as needed.
- Apply herbicides, insecticides, dormant oil, and fungicides to control weeds, insects and disease attacking campus plant life. Use hydraulic sprayer as needed.

Relative Magnitude (Scope) of Service

Physical Environment		
Athletic Turf	607,458 Sq. Ft.	(14 acres)
General Grounds Turf	2,129,207 Sq. Ft	(49 acres)
Walkways (Concrete and Brick)	1,497,158 Sq. Ft	(34 acres)
Trees	4,616	

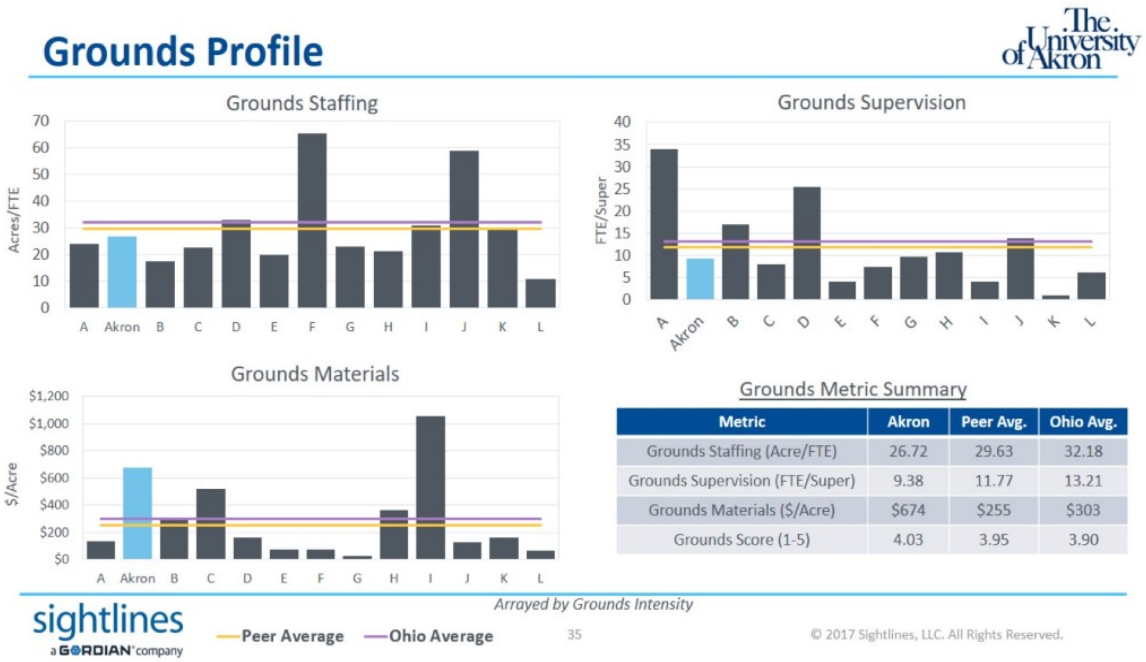
Critical Partners (Other)

- *Ready Field Solutions*
  Ohio based company that provides mulch and edging services on an annual basis.
- *CUE – Community University Education Purchasing Association*
  CUE is a professional, non-profit association that makes it possible for public, non-profit entities to save substantial sums of money through volume collective purchasing. Negotiated rates and guaranteed availability of road salt and other deicers help to ensure Grounds ability to perform snow and ice removal.
- *Weaver Industries*
  A non-profit organization that provides vocational training and employment opportunities for adults with disabilities. Weaver employees support Grounds Maintenance by providing litter and debris control services.

Customers or End-Users

All units of the University of Akron

Key Performance Analysis



Brief Assessment

The National Recreation and Park Association has developed maintenance standards specific to institutional landscaping. Currently, the condition of The University of Akron's landscaping is between a level, 3 and 4, which is categorized as moderate to moderately-low maintenance. The industry standard is a level 2, or high-level of maintenance, for government grounds, college, university, or school campuses. This is not to say that certain maintenance tasks performed at the University do not exceed a level 3 or 4. However, collectively, the overall appearance of the physical campus has declined as a result of budgetary restrictions.

Despite being considerably understaffed in comparison to the University's peer groups and Ohio averages, Grounds Maintenance outscored its cohorts in a 2017 evaluation conducted by SightLines, a benchmarking company.

In Grounds Maintenance, and throughout Physical Facilities, the employee is the department's greatest asset. A reinvestment in Grounds Maintenance personnel would promote employee ownership, enable facilities to reach and maintain a higher level on the National Recreation and Park Association scale, and better attract and retain students.

Industry recognition:

(2018) Ohio Landscape! Award recipient for H. Peter Burg Memorial Garden renovation, presented by the Ohio Landscape Association

(2015-2017) Recipient of Keep Akron Beautiful, Beautification Watch Award

A. Campus Tree Care

Physical Facilities has charted the location, variety, and health of its trees using GPS technology. This type of contemporary tree inventory has allowed Grounds Maintenance personnel to better serve and protect the over 4,600 trees on main-campus. The modernized inventory will allow for trees to be quickly located, more effectively monitored for health hazards, and lead to a more diversified tree catalog.

B. Irrigation

Approximately 80% of The University of Akron's 48 acres of turfgrass and landscaped flower beds are irrigated. Turfgrass and other plant materials require regular irrigation during establishment and grow-in. Thereafter, the same turfgrass and plant materials need to be irrigated on a semi-regular basis to prevent drying-out and to maintain the desired visual affect.

In 2015, the former time-clock based irrigation controls were replaced by the vastly more efficient weather/evapotranspiration (ET) based control system. This ET system, developed by H2O Applied Technologies, more closely matches irrigation with actual watering requirements by determining plant moisture loss and loss of soil saturation. This is accomplished by collecting daily weather data, as well as, scheduling irrigation to reflect local rain events and other weather occurrences. An estimated 25% decrease in campus water as it relates to irrigation is expected.

RESOURCES - Grounds Maintenance (Equipment)

Description	VIN	Tag #
Aireator 6FT Turf Core		GROU25
Beam Rider Laser Paint Striper		UA133651

Bearcat Leaf Vacuum (2005)		UA130943
Bearcat Leaf Vacuum (2006)		UA131453
Bobcat 94" Snow Pusher	A01500721	GROU44
BOBCAT S595 SKID LOADER (2018)	B3NL13662/MODEL# S595	UA999995
Broyhill SprayerTank 500 Gallon		GROU42
BUFFALO TURBINE	SERIAL#24801MODEL#BT-CKB4	GROU4
Dodge 2500 Pickup Truck (2000)	3B7KF26Z7YM219278	UA125513
E-Z Dumper Hydraulic Pump 18-06-04	410898	GROU34
E-Z Dumper Hydraulic Pump 23-02-04	410446	GROU33
E-Z Dumper Hydraulic Pump 28-10-05	411397&00001	GROU35
E-Z Dumper Hydraulic Pump 28-10-05	411391&00002	GROU36
Ford 1720 Tractor (1991)	UL31368	UA106500
Ford 1920 Tractor (1997)	UL40833	UA120238
Ford F-250 3/4 Ton Pickup (2005)	1FTNF21575EA61494	UA130775
Ford F-250 3/4 Ton Pickup (2015)	1FTBF2B65FEC16202	UA133020
Ford F-250 3/4 Ton Pickup (2015)	1FTBF2B65FED51338	UA133166
Ford F-250 Plow Truck (2008)	1FTNF21538EE12387	UA131580
Ford F-250 Plow Truck (2015)	1FTBF2B61FEC69270	UA133065
Ford F-350 1 Ton Dump Truck (2003)	1FDWF36L53ED85361	UA130132
Ford F-350 1 Ton Dump Truck (2009)	1FDWF37Y19EB12243	UA131915
Fulton Trailer 5 x 10 (1995)		GROU01
Hi Way Salt Box	113621	UA126913
Hi Way Salt Box	113620	UA126840
Hi-Way Super P-9 Salt Spreader	396384	UA133621
Hydrotek SK3008KAF Cleaning Machine	200700858	UA132210
Hydrotek SS38004VG Cleaning Machine	200801660	UA131695
Hyster #5000 Rated Gas Tow Motor	H177B06215V	UA123217
John Deere 2653B Trim Mower	1TC2653TPCT060339	GROU48
John Deere 317 Skid Steere Loader	T00317A115594	UA131152
JOHN DEERE HD300 SPRAYER	SERIAL# 1TC300GXTCT040029	GROU2
John Deere TC125 Turf Collection	SN:1TC0125XTFT 090044	UA133563

JohnDeere 2020A Pro Gator 2011	TC202A050252	UA132396
JohnDeere 2030A Pro Gator 2012	1TC203AFCCT060493	UA132555
Kaeser Air Compressor 1999	569/9016	UA121996
Kubota (2005)	KRTV900A51042154	UA131003
Kubota (2005)	KRTV900A51042274	UA131005
Kubota MX5200 Tractor (2016)	57297	UA133553
Kubota RTV 1100 (2009)	KRTV110091022292	UA131813
Kubota RTV 1100C (2015)	A5KC2GDBVDG010780	UA999981
Land Pride Box Scraper		GROU16
LELY SPREADER	SERIAL#23202116077139/MODEL#M	GROU3
Miller Matic Welder 1993	13269	GROU32
New Holland BB-95 Back Hoe (2007)		UA131252
New Holland Boomer 2035 (2008)	Z9DA06399	UA131823
New Holland Boomer 2035 (2008)	Z9DA06435	UA131824
New Holland Frontend Loader	YL290745	GROU27
New Holland L-175 Skid Steer (2008)	N8M492240	UA131565
New Holland T1520 (2011)	ZANGL1291	UA132331
New Holland T1520 (2011)	ZANGL1254	UA132204
Pro-Tech Snow Pusher	27788	GROU20
Scag 48" Walk Behind	SN# K9900007/MODEL# SWT48-15FS	GROU 54
Scag 52" #1 Turf Tiger II(2018)	SN#N0300012	UA999990
Scag 52" #1Tiger Cat (2015)	J9006621	GROU51
Scag 52" #2 Tiger Cat (2015)	J9006668	GROU52
Scag 52" #2 Turf Tiger II(2018)	SN#N0300013	UA999991
Scag 52" #3 Tiger Cat II(2017)	SN#L9100240	UA999987
Scag 52" #4 Tiger Cat II (2018)	SN#L9100363	UA999989
Scag 52" V Ride	SN# K6100835	UA999986
Scag Turf Tiger 61" Z-Turn Mower	J2700295	UA999998
Smithco Rake (1998)	817	GROU11
Smithco Rake Superstar 2008	13269	UA131639
Sweepster S26P6 (2004)	350006	UA130410

Tennant Hawk 1225 Sweeper (2001)	HAWK-1225	UA128075
Toro Propass 200 Top Dresser (2016)	316000103	UA133571
Toro Workman		OTHE01
Toro Workman 2020 (2001)	220002575	UA999997
Toro Workman 3200 (2001)	220000134	UA128289
Toro Workman 3200 (2001)	220000133	UA128288
Toro Workman 3200 (2001)	220000257	UA128512
Toro Workman 3230 (2002)	220000607	UA129193
Toro Workman 3230 (2002)	220000166	UA128559
Toro Workman HDX-D 4WD (2010)	310000210	UA132012
Trencher, Bradco 1994	612	UA112479
Turf Time 72" Turf Roller	06309382817NSH	GROU47
Turfco Top Dresser II (1989)		UA101408
Ventrac 4227 Tractor (2009)	XFB3523	GROU50
Wiedenmann Terra Spike GXI8 (2015)	1040423GX09151064	UA133572

Future Plans

Potential changes

Site furnishing uniformity

Benches, trash and recycling receptacles, and bike racks are all examples of necessary site furniture. Often, if site furniture is not similar or does not share the same color and material, a furniture grouping may appear disjointed or uncoordinated. Currently, there is a number of site furnishings in need of replacement. Moving forward, further commit to repairing or replacing dated or worn site furnishing with uniformity should be kept in mind. Also, site furnishing should be virtually maintenance-free and durable to lessen the chance of premature reinvestment.

Campus pesticide use

At The University of Akron, traditional chemical applications are a part of a larger pesticide management program. A new focus on Integrated Pest Management (IPM) has been realized. The more environmentally sound program will use an array of green methods to help alleviate pest problems. A system of biological, mechanical and physical controls will be introduced to lessen the University's dependence on chemical controls.
Chemical applications are typically scheduled during the early morning hours or on weekends to limit interaction with the campus community. All chemicals are applied according to recommended safety standards and guidelines.

Further commitment to equipment training

Fully take advantage of manufacture training to avoid costly breakdowns related to employee neglect or inexperience; training cost is the leading inhibitor of continued education in facilities.

❖ Special Services and Recycling

Carryout departmental relocation needs, including the collection and delivery of surplus property and large packages that may require specialized moving equipment.

Provide the necessary solutions and leadership to develop and utilize sound, cost effective recycling and waste management strategies, as well as, support student-led sustainability initiatives.

Primary Services

- Perform general labor functions - delivery of supplies, moving of furniture, and garbage collection.
- Surplus property system - dispose of and redeploy University property.
- Special events and commencement - Provide the necessary preparatory work for events of high importance.
- Manage daily recycling collection, including paper, commingled and compost waste streams.
- Support student engagement and waste reduction efforts.

Relative Magnitude (Scope) of Service

Campus	Number of Buildings	Gross Square Feet
Main Campus	60	6,367,274

Critical Partners

- *EPA*
  The Environmental Protection Agency is an independent agency of the United States federal government for environmental protection.
- *River Valley Paper Company*
  Manager, processor and exporter of waste paper headquartered in Akron, Ohio.
- *Republic Services*
  Provides responsible waste disposal and recycling services to the University.
- *Paradise Composting*
  A Class II compost center licensed by the Ohio EPA for food waste disposal.
- *ReWorks*
  Summit County's solid waste management authority, providing direction, and at times, financial support in an attempt to boast recycling expansion.
- *Aramark*
  The University's food service provider.

4. Customers or End-Users

All units of the University of Akron

5. Key Performance Analysis

<u>Organic Waste</u>

On September 16, 2015, in alignment with Target 12.3 of the UN Sustainable Development Goals, the United States Department of Agriculture (USDA) and EPA announced the first ever domestic goal to reduce food loss and waste by half by the year 2030. By taking action on the U.S. 2030 Food Loss and Waste Reduction goal (2030 FLW reduction goal), the United States can help feed the hungry, save money for families and businesses, and protect the environment. Led by the USDA and EPA, the federal government is seeking to work with communities, organizations and businesses, along with partners in state, tribal and local government, to reduce food loss and waste by 50 percent over the next 15 years.

In response to the EPA's Sustainable Development Goal, Physical Facilities has partnered with Aramark to reduce waste associated with meal preparation and to capture and divert post-consumer food scraps from the landfill.

In 2017, Aramark installed a food waste tracking terminal called LeanPath in Robertson Dining Hall. The objective, reduce food waste related to meal preparation. The terminal allows culinary team members to weigh and document (photograph) all food waste prior to disposal.

Lessons learned from LeanPath have helped Aramark avoid overproduction, food expiration, and has led to better trimming practices.

The preparatory food waste, once logged in the LeanPath system, is combined with food and paper waste cleared from students' plates.

The combined food scraps are then staged in a specialized compactor designed to hold food waste. Once every ten days, the compactor is transported to a class II compost facility where the organic waste is transformed into nutrient-rich compost.

Physical Facilities monitors the process, working to ensure the integrity of the waste stream, and planning how to best utilize the high-quality finished product. Approximately 60 yds. of compost, created from the food waste at Rob's, has been incorporated back into The University's landscaped beds and turf grass in the Spring of 2018.

In addition to better managing its food waste, Aramark has nearly eliminated single-use items, investing heavily in reusable serving and glassware.

Also, the tray-less program at Robertson helps to reduce daily water usage and energy from the dish machine; it is no longer necessary to wash thousands of trays each day.

To date, 64,250 lbs. of organic waste has been collected, weighed and recycled. If not for the partnership between Physical Facilities and Aramark, this large amount of waste would have been landfilled and ultimately contributed to the production of methane, a greenhouse gas. Instead, the organic waste was taken to a class II compost facility and made into a nutrient rich soil amendment.

Additionally, a single-stream recycling front end loading (FEL) dumpster has been placed at Rob's to capture recyclables. The overall reduction in total waste being landfilled has allowed facilities to reduce the size of the garbage FEL and frequency of pickups (see averages below / estimation).

2014 – 2017 (August)
Robertson Dining – (1) 8 yd. garbage container, pickup frequency of 5 times per-week
Annual waste total- 2092 yds. / (estimated) 230,120 lbs.

2017 (August) – Present
Robertson Dining – (1) 3 yd. garbage container, pickup frequency of 3 times per-week
Annual 157 yds. / (estimated) 17,270 lbs.

Zero-Waste – InfoCision Stadium

Special Services and Recycling's collective goal has been to divert 90% of the total amount of waste generated at any home football game. This exceedingly high percentage of diversion is significant because it qualifies an event as 'Zero-Waste' by EPA standards. With the support of our game-day team members, including the newly acquired maintenance personnel from both Athletics and Parking Services, the department met its goal on October 15, 2016 successfully diverting 90.2% of the total waste generated during UA's football contest against Western Michigan. To put that in perspective, with an excess of over a ton (2,000 lbs.) of combined waste, a mere 194 lbs. of 'trash' went to the landfill.

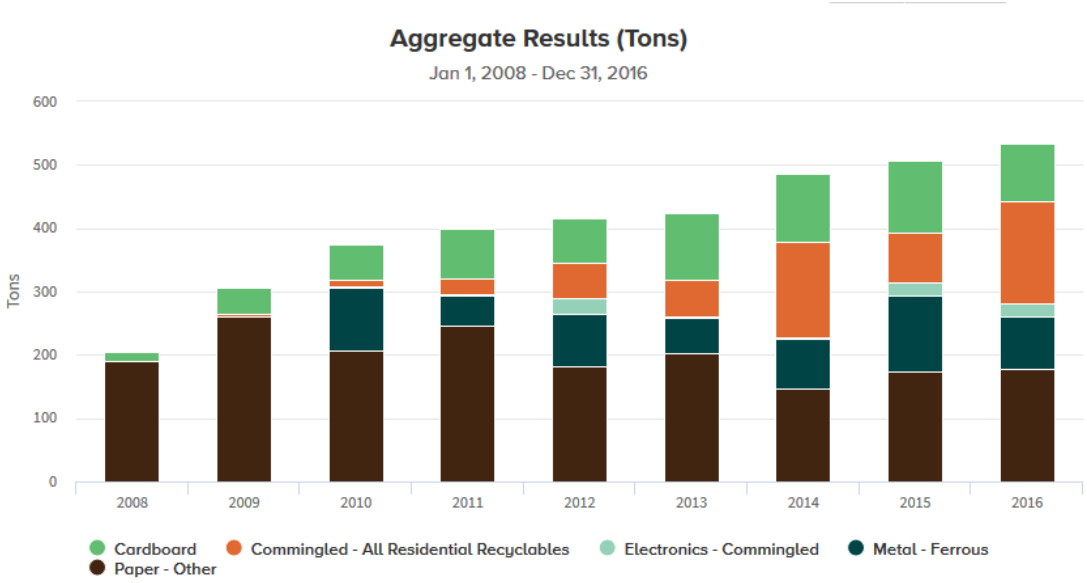
The Zero-Waste initiative at ICS has garnered a significant amount of recognition from the Game Day Challenge Organization (GDC) and its sponsors Keep America Beautiful, Recyclemania Inc., College and University Recycling Coalition and EPA Waste Wise. Since 2012, the GDC has conducted "friendly competition(s) for colleges and universities to promote waste reduction". While participating in these challenges, The University of Akron has received the following awards for its innovative waste reduction strategies:

- National Diversion Champions Game Day Challenge (2017)

Rank	***School***	***Diversion Rate (%):***
1	The University of Akron	93.568
2	University of Rochester	91.55
3	Humboldt State University	89.046
4	Coastal Carolina University	87.437
5	Clemson University	86.878

- Mid-America Conference (MAC) Championship Game Day Challenge (2013) (2014) (2017)
- National Diversion Rate Runner-Up Game Day Challenge (2014)
- National Organics Reduction Champion Game Day Challenge (2013)

Past trends and 2017 Material Report



Aggregate Results (Tons)

Displaying data collected for: Jan 1, 2008 - Dec 31, 2016

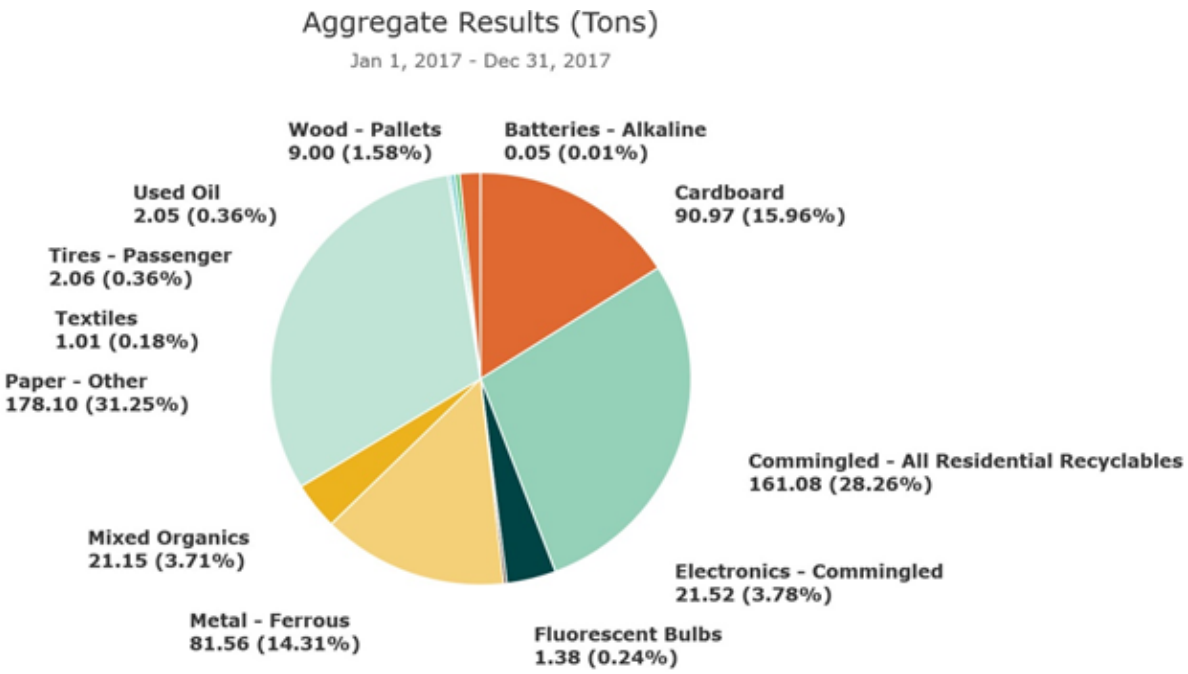
Displaying 5 results Search:

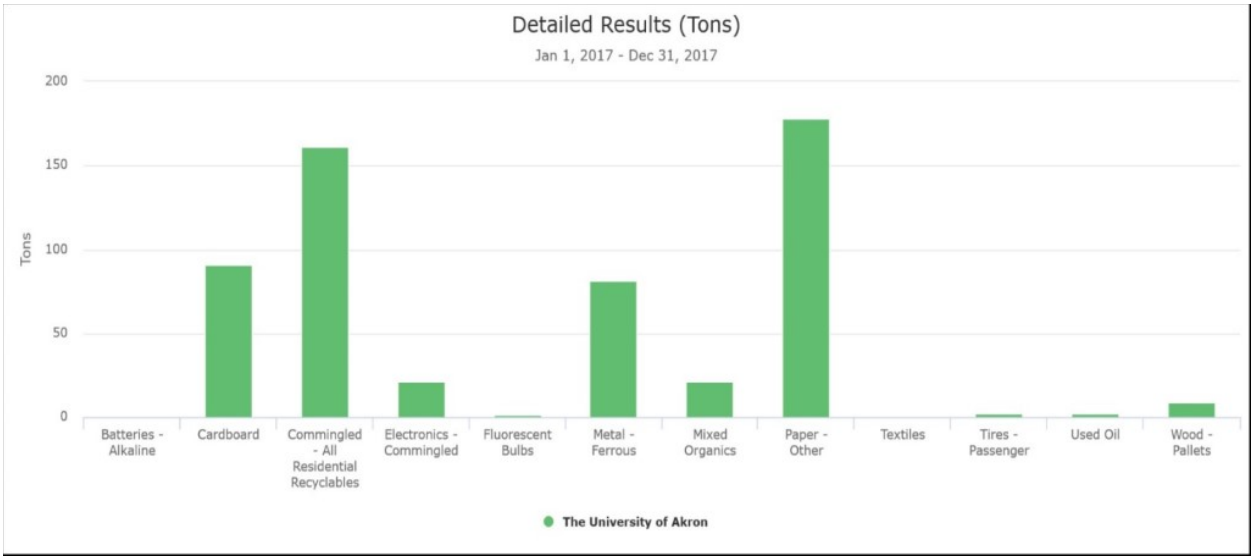
MATERIALS	2008	2009	2010	2011	2012	2013	2014	2015	2016
Cardboard	13.83	42.44	56.86	79.35	70.35	105.93	107.00	114.32	90.97
Commingled - All Residential Recyclables	0.43	2.38	10.15	24.10	57.00	57.88	151.72	79.46	161.08
Electronics - Commingled	0	0	0.89	0.93	23.58	1.77	0.74	19.23	21.52
Metal - Ferrous	0	0	100.86	49.34	82.88	55.71	79.43	120.87	81.56
Paper - Other	190.52	261.50	206.24	245.35	182.34	202.31	146.53	173.74	178.10
Total	204.78	306.32	375.00	399.07	416.15	423.60	485.42	507.63	533.23

Sampling of the University of Akron Annual Aggregate Trend Report

- (2008-2016) Annually, more and more materials are diverted from the waste stream; 7 types of materials recycled in (2008) compared to 28 different materials in (2016)
- (2011-2015) Registered a 144.9% increase in recovered ferrous metals; (2011) 49.34 tons-(2015) 120.87 tons
- (2012-2015) Realized a 62.5% increase in recovered recycled cardboard campus-wide; (2012) 70.35 tons - (2015) 114.32 tons

- (2011-2014) Reported a 529.5% increase in collected commingled or mixed recyclables; (2011) 24.1 tons - (2014) 151.72 tons
- (2010-2013) Aggregate results (tons) for all recyclable material, campus-wide, rose from 412.13 (2010) to 728.46 (2013), an increase of 76.7% overall





AGGREGATE RESULTS (TONS)

Displaying data collected for: Jan 1, 2017 - Dec 31, 2017

Displaying 12 results Search:

MATERIALS	TONS
Batteries - Alkaline	0.05
Cardboard	90.97
Commingled - All Residential Recyclables	161.08
Electronics - Commingled	21.52
Fluorescent Bulbs	1.38
Metal - Ferrous	81.56
Mixed Organics	21.15
Paper - Other	178.10
Textiles	1.01
Tires - Passenger	2.06
Used Oil	2.05
Wood - Pallets	9.00
Total:	569.93

Brief Assessment

The Princeton Review's 2018 College Hopes and Worries Survey indicated that a majority of respondents (students & parents), 63%, said having information about colleges' commitment to environmental issues would contribute "strongly," "very much," or "somewhat" to their application / attendance decisions.

Further investment in programing specific to recycling, and the addition of Special Services and Recycling personnel, will enable facilities to reach and potentially exceed departmental expectations and EPA waste reduction goals.

A commitment to additional research and investment in evolving technology and innovated waste management practices will enable the University to attract those students who value institutional sustainability.

Industry recognition / awards:

(2017) National diversion champion in EPA sponsored Game Day Challenge; garnered international coverage for diverting in excess of 93% waste during Akron (opponent / Iowa State) football competition (September)

(2012, 2013 & 2016) Alcoa Inc. / Coke-A-Cola bin grant recipient – (215) recycle bins received; approximate value $34,615

RESOURCES - Equipment and Technology

A. ReTrac Connect

Special Services and Recycling utilizes Re-Trac Connect to efficiently collect, manage, and analyze recycling and solid waste data. The Re-Trac software allows facilities to set and monitor progress as it relates to improved waste management goals.

B. Ford F-650 18' Box Truck

A vital piece of equipment to the department, its regular preventative upkeep enables the relocation services provided by facilities to continue uninterrupted.

Special Services and Recycling (Equipment)

Description	VIN	Tag #
Ford F-250 3/4 Ton Pickup (2010)	1FTBF2B66BEA57684	UA131882
Ford F-450 DUMP TRUCK (2007)	1FDXF46Y67EA02636	UA131113
Ford F-650 18' Box Truck (2008)	3FRWF65A48V078848	UA131568
Ford Flex Sel Crossover (2011)	2FMHK6CC2BBD29124	UA132201

Future Plans

Potential changes

- **Bin parity & uniformity**
  Special Services and Recycling will work towards bin parity, both inside buildings and out of doors, in an effort to increase waste diversion. Bin parity, which places a recycle bin at every existing trash can location, will offer University stakeholders the option to responsibly manage their waste. In addition to bin parity, uniformity throughout bin type and signage will further promote ease of use and improved participation.

  To date, Physical Facilities has been awarded 215 recycle bins through the Alcoa Inc. / Coke-A-Cola bin grant program.

❖ Parking Maintenance

Provide regular maintenance, including scheduled deck inspections, to ensure safe and well-maintained parking facilities.
Repair and/or resurface damaged parking lot surfaces
Maintain and manage environmental wear and tear to ensure uninterrupted functionality.

Primary Services

- Clean all surface lots and decks daily of litter and natural debris. Operate mechanical sweeper and utilize other appropriate cleaning supplies and equipment to clean lots and/or surfaces.
- Wash enclosed stairwell walls and interior windows.
- Perform routine preventative maintenance as required.
- Prepare and paint various surfaces with appropriate painting supplies and equipment.
- Report to Parking Services any unsafe conditions in surface lots and decks and take corrective action as directed.

Relative Magnitude (Scope) of Service

Parking		
Flat Surface Lots & Decks	2,762,699 Sq. Ft	(64 acres)

Critical Partners

- Parking and Transportation Services at The University of Akron
- National Parking Association – a market leader in the parking industry who supplies Parking Maintenance personnel educational materials on new parking technology and innovations.

Customers or End-Users

All units of the University of Akron

Key Performance Analysis

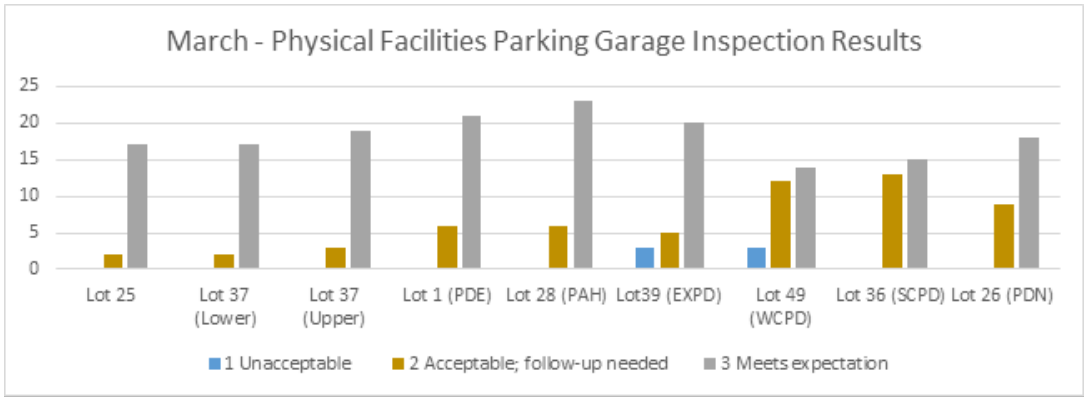
On a monthly basis, inspections are conducted by Parking Maintenance to ensure parking garages are in good condition and meeting operational and maintenance standards outlined in the National Parking Association's (NPA), *Parking Facility Maintenance Manual*.

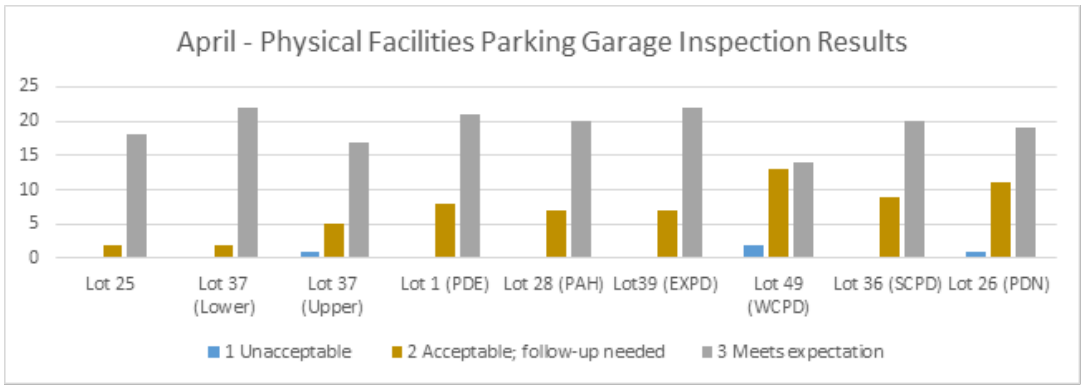
Bearing in mind NPA's maintenance standards, the following checklist was devised as a benchmarking tool enabling regular assessment of the University's parking decks.

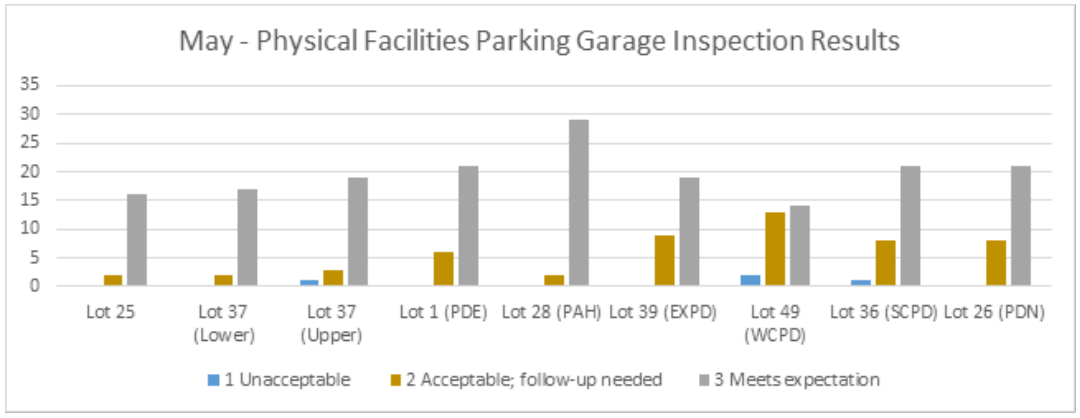
Regular inspections allow Parking Maintenance to concentrate its limited labor force on those points characterized as unacceptable, the majority of which are immediately addressed. This approach enables effective planning and correct utilization of labor. Repairs are tracked via a computerized maintenance management software. Seasonal changes, age of parking deck, amount of traffic, waste accumulation, etc. account for shifting needs in the sample data. Specific inspection points may at times not be applicable

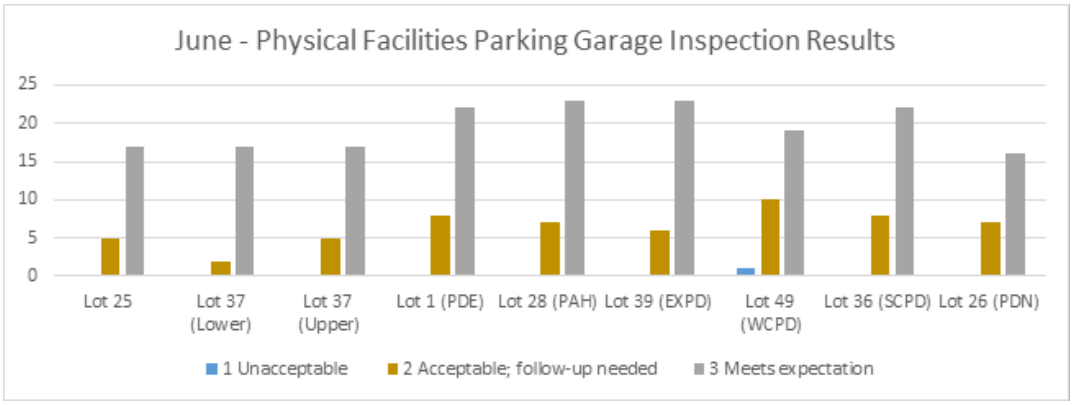
depending on the particular parking garage and time of year; when this occurs, it is noted on the inspection sheet.

A four-month sample of deck inspection results follows the aforementioned checklist.









Deck inspection sample

Inspection Date and Time: **Parking Garage:** **Inspector (signature):**	**Ratings:** **1 – Unacceptable; does not meet standard** **2 – Acceptable; follow up needed** **3 – Meets expectation**			
Inspection Item	Ratings 1-3			Follow up items / note(s)
	1	2	3	
Exterior				
Exterior facility is clean and free of graffiti				
Sidewalks surrounding garage are clean of litter, debris, stains and trip hazards				
Landscaping is free of trash and cigarette butts				
Doors and hardware are lubricated and functional				
Handrails are painted and rigid (secure)				
No visible concrete deterioration or concrete debris				
Slabs, beams, columns, and walls are free from deterioration				
Interior				
Parking levels and ramps are clean, free of debris and spills				
Facility is free of graffiti and vandalism				
Free of litter, debris, throughout the facility				
Area around trash receptacles and elevators are clean, free of stains and debris				
Deck and ramp lighting is operational				
Emergency lighting is operational				
Lights are operational and free of cobwebs				
Trash receptacles are clean, disinfected, odor free				

Pedestrian pathways are clean and free of debris and stains				
Elevator floors and walls are clean, dry, free of debris and dust				
Floor drains are clean and free from obstruction				
Elevators are fully operational				
Painted surfaces are not faded and clean				
Traffic – bearing membrane (deck coating) undamaged / not deteriorated				
Expansion joints are not leaking / in good order				
No visible concrete deterioration or concrete debris				
Slabs, beams, columns, and walls are free from deterioration				
Stairwells				
Lighting is fully functional and stairwells are well lit				
Free of graffiti, vandalism, debris, soil				
Landings and beneath the stairwells are clean and free of debris				
All stairs are clean, free of dust and debris				
Handrails are painted and rigid (secure)				
Safety Equipment				
Fire extinguishers and hose boxes are in good working order				
Signage (Graphics)				
Operator signage is intact, current and clean				

Brief Assessment

In 2015, the University underwent a campus-wide consolidation or centralization of maintenance responsibilities. Now a part of Physical Facilities, Parking Maintenance personnel and leadership have access to additional equipment and expertise, the latter of which, has proven to be very beneficial. Case in point, Grounds Maintenance's Master Mechanic has developed a preventative maintenance program for Parking's invaluable street sweepers. Equipment break downs have significantly decreased, and when they do occur, the repair time is considerably shorter.

In Parking Maintenance, and throughout Physical Facilities, the employee is the department's greatest asset. The addition of laborers within Parking Maintenance would promote employee ownership and maintain NPA maintenance standards.

RESOURCES - Equipment and Technology

Nilfisk RS – 501 Street Sweeper

> The incorporation of automated equipment, specifically the Nilfisk RS-501 Street Sweeper and Tennant 6500 Street Sweeper, has led to more effective and efficient maintenance practices. In general, additional research and investment in evolving technology and parking innovations will enable Parking Maintenance to best serve University stakeholders'.

Parking Maintenance (Equipment)

Description	VIN	Tag #
Ford F-250 3/4 Ton Pickup (2000)	1FTNF21L4YEB58879	UA125336
Ford F-350 1 Ton Dump (2008)	1FDWF36528EE12394	UA131563
Nilfisk RS-501 Street Sweeper	074129094	UA133469
Stowe Econo-Roll R-2000		UA999985
Tennant 6500d Street Sweeper	5642	UA124221
Toro Workman 3230 (2002)	220000603	UA128970

Future Plans

Potential changes

Further commitment to equipment automation and education

Further incorporation of automated equipment into Parking Maintenance is necessary if the daily cleaning regiment is to be completed on a regular basis. Fully take advantage of manufacturer training to avoid costly breakdowns related to employee neglect or inexperience; training cost is the leading inhibitor of continued education in facilities. Establish a core of automated equipment to serve as a temporary replacement for equipment undergoing preventative maintenance or reactionary repair.

❖ Athletic Maintenance

Support the University's student athletes by performing necessary preparatory services, including the setup of all materials associated with athletic practice(s), competition(s), special event(s), and facility rentals, as well as, maintain the athletic turf through technical expertise and the use of specialty equipment.

Continually enhance the playability and visual appeal of the University's athletic fields.

Primary Services

- Athletic event setup - work related to special and sports events, including estimating, ordering, scheduling work, problem solving, and quality control.
- Snow Removal - perform snow removal in assigned area(s).
- Maintain athletic fields using appropriate lawn care procedures, including striping of playing surfaces, dragging infields, setting bases in position. Use riding mowers, rototillers, aerators, lawn sweepers as needed.
- Athletic facilities rental preparation / cleanup
    - Sweep, mop and scrub floors, stairs (inside and outside buildings) and other surfaces.
    - Clean and service lavatories, toilet rooms and restrooms.
    - Collect and place in containers or plastic bags trash and debris, place trash in collection area for removal by sanitation trucks.
    - Replace liners in wastebaskets and trash containers.
    - Move heavy furniture, supplies and miscellaneous equipment, as directed.
    - Report items that need repair (doors, door checks, furniture lights, faucets, etc.)

Relative Magnitude (Scope) of Service

Physical Environment				
Athletic Turf		607,458 Sq. Ft.		(14 acres)
Code	**Buildings**		**Gross Square Feet**	
AFLD	Louis and Freda Stile Athletic Field House		181,534	
CHCS	Central Hower Community School		241,658	
FEST	FirstEnergy Stadium		6627	
ICS	InfoCision Stadium / Summa Field		325,648	
JAR	James A. Rhodes Health and PE		127362	

Critical Partners

- Athletics Department (operations) at The University of Akron

- NCAA – The National Collegiate Athletic Association publishes semi-annual manuals on proper planning and construction guidelines, as well as, instructions on preparing facilities for intercollegiate athletic competition. These guidelines must be adhered to in order to maintain compliance.

4. Customers or End-Users

- The University of Akron fields 18 men's and women's varsity teams, comprised of more than 450 student-athletes. Athletic Maintenance services the student athletes, coaches, athletic admins, and Zip fans associated with those varsity teams.
- Community members (facility rental) – AA Founder's Day, Akron Marathon, intramurals, high school athletic teams, etc.

Key Performance Analysis

Cultural practices

Since 2015, the following cultural improvements have been made to the Athletics Maintenance Program; these improvements are helping to ensure compliance with surface standards established and monitored by the NCAA (Division I):

- **Continue an aggressive aerification program**. This has helped alleviate compaction, thatch, and a prevalent organic layer. It will continue to improve drainage, plant gas exchanges, root growth, and overall turf health.

- **Maintain topdressing program**. Topdressing continues to improve heavy clay native soil profiles, drainage, significant reduction in thatch layer, and has helped alleviate low areas on playing surfaces.

- **Preventative pesticide program**. Has helped to eliminate stress on turf from insects, fungi, and weeds

Since Athletic Maintenance has adopted these cultural maintenance practices, observations conclude that the amount of pests present and the prevalence of turf related diseases has substantially decreased.

Time Spent on Athletics – (2015) Goals Study of the Student-Athlete Experience

Current college student athletes are reporting more time devoted to athletic pursuits than was reported in 2010. This in-season increase occurred across divisions and for both men and women.

- *Change in median time spent on athletics:–Division I: 32 hours/week in-season in 2010, 34 hours/week in 2015*
- *FBS football players continue to report the highest weekly in season time commitments (median=42 hours/week, up from 39 hours/week in 2010).*[1]

Division I							
	Baseball	Men's Basketball	Football (FBS/FCS)		All Other Men's Sports	Women's Basketball	All Other Women's Sports
Athletic Hours (per-week)	40	34	42	41	32	35	32

As the expectations of student athletes continues to rise, in regards to time devoted to athletic pursuits, so does that of Athletic Maintenance. As a part of the student athletes support staff, Athletic Maintenance is devoting more time

and service hours to the preparation and clean-up of practices, team meetings and meals, competitions, securing and admitting access to the facilities, etc. than ever before.

Scheduling extremes, including early morning and (late) evening practices, requires a depleted staff to make weekly scheduling adjustments to keep up with athletic demand.

Brief Assessment

In 2015, the University underwent a campus-wide consolidation or centralization of maintenance responsibilities. Now a part of Physical Facilities, Athletic Maintenance personnel and its leadership have access to additional equipment and maintenance expertise. Further consolidation occurred through the combination of the Athletic Facilities Supervisor and the Grounds Superintendent positions. The new position, Athletic Facilities and Grounds Superintendent, has enabled an unprecedented level of efficiency and cooperation between the formerly separate maintenance groups.

RESOURCES - Equipment and Technology

New Equipment

The recent acquisition of a turf tractor, aerifier, core harvester, and top-dresser has allowed for drastically improved serviceability and improved self-reliance, no longer needing the regular support of a contractor.

Develop a **drone strategy** for use in sports turf management

Data that can be collected via drone can be used to perform volume calculations, create contour lines with elevations, create digital surface and terrain models, and evaluate turf health. Drone use in combination with proposed fraze mowing could aid Athletic Maintenance by tracking recovery time and mowing effectiveness.

The following equipment is a shared asset between Athletic and Grounds Maintenance.

Athletic Maintenance (Equipment)

Decription	VIN	Tag #
Advance Floor Scrubber (JAR)	SN#3000152518/Model# Advenger	UA999984
Aireator 6FT Turf Core		GROU25
Beam Rider Laser Paint Striper		UA133651
BUFFALO TURBINE	SERIAL#24801MODEL#BT-CKB4	GROU4
JLG Articulating Boom (AFLD)	SN#0300077866/MODEL 600A	UA130628
John Deere 2653B Trim Mower	1TC2653TPCT060339	GROU48
JOHN DEERE HD300 SPRAYER	SERIAL# 1TC300GXTCT040029	GROU2
John Deere PR15-GatorTS(2017)(JAR)	1M04X25JVHM121118/MODEL TS	UA999988
John Deere TC125 Turf Collection	SN:1TC0125XTFT 090044	UA133563
JohnDeere 2030A Pro Gator 2012	1TC203AFCCT060493	UA132555
Kubota (2005)	KRTV900A51042154	UA131003

Scag Turf Tiger 61" Z-Turn Mower	J2700295	UA999998
Smithco Rake (1998)	817	GROU11
Smithco Rake Superstar 2008	13269	UA131639
Turf Time 72" Turf Roller	06309382817NSH	GROU47
Turfco Top Dresser II (1989)		UA101408
Wiedenmann Terra Spike GXI8 (2015)	1040423GX09151064	UA133572

Future Plans

Potential changes

Mechanical means of combating Poa annua

Athletic and Grounds Maintenance are currently gauging the feasibility of developing a fraze mowing program to combat the buildup of Poa annua, an annual meadow grass, which is present throughout the University's natural playing surfaces. Poa annua is problematic because of its shallow root system's inability to provide a safe and stable field of play.

Fraze mowing is an aggressive cultural practice that can remove (up to) the top 2" of the turfgrass surface. A spinning rotary tiller scalps the playing surface, removing the present thatch, black layer, incompatible soil layers, shallowly rooted weeds, and weed seeds leaving only turfgrass roots, rhizomes, and crowns.

First Energy Stadium's soccer pitch is conservatively 35% Poa annua; continued Poa annua infiltration will eventually render the field incompatible with NCAA surface standards.

Annual laser grading of infield

Commit to laser grading as a method of maintaining surface grade and dimensions at softball, which in turn, will prevent the need for considerable renovations overtime.

Improved athletic coverage

The addition of an Athletics Facilities Maintenance Worker would allow for much needed afternoon coverage and alleviate the frequency of overtime and continually changing shifts (weekly) amongst team members. The latter of which is a departmental stressor and contributor to decreased morale.

Department of Physical Facilities

Potential changes

1. Shift adjustments

Explore the feasibility of shifting an additional 10-15% of Building Services Workers to a partial day-shift in order to address employee morale, as well as, expose the campus community to one of its primary maintenance providers. A more typical shift would lessen employee turnover, begin to address chronic absenteeism, and support a healthier staff.

2. Contract cleaning assessment

Reevaluate the University's reliance on contracted cleaning and document what services are not being regularly performed. Consider the feasibility of reducing the overall number of buildings cleaned by the contractor and replacing them with University full-time or part-time Building Services Workers as a means to better service the University.

3. Further commitment to equipment automation and education

Further incorporation of automated equipment into Building Services daily cleaning regiment. Fully take advantage of manufacturer training to avoid costly breakdowns related to employee neglect or inexperience; training cost is the leading inhibitor of continued education in facilities. Establish a core of automated equipment to serve as a temporary replacement for equipment undergoing preventative maintenance or reactionary repair.

4. Creation of Custodial Equipment Repair Technician job classification

Building Services is incredibly reliant on automated cleaning equipment; equipment automation has been an expensive, albeit necessary, investment considering the exceptionally depleted workforce.

The department's goal would be to replicate the success that Grounds Maintenance has had with the addition of a Master Mechanic i.e. streamlined repair, drastically shorter repair times, improved book keeping and customer service, dedicated preventative maintenance program, avoiding costly external repair, etc.

The Custodial Equipment Repair Technician is a necessary position that could be created from a current (or future) vacancy. All repairs, scheduling, necessary paperwork / work-orders and material requests, training, etc. would funnel through this individual.

Trends

1. **Energy Conservation**

   Many tools, equipment and programs were instituted as part of the Energy Performance Contract constructed between 2012 and 2016. We must continue to keep pace with the world and universities nationwide to attract an increasingly more energy conscious student population and to reduce utility costs on campus by staying abreast of all available energy saving opportunities.

2. **Deferred Maintenance**

   The University of Akron has lagged behind several peer institutions in addressing deferred maintenance. To maintain the University as a viable, modern institution capable of providing a comfortable learning environment, we must improve our investment capability in the assets already on campus.

3. **Addressing employee morale**

   The recognition of employee contributions, specific to building maintenance, has been directly linked to improved building performance and a reduction in overall employee turnover. Industrywide, employers are creating inventive ways of bringing attention to the contributions of their maintenance employees. Building Services will respond in turn by making decisions that support employee health and wellbeing, as well as, identifying atypical methods of employee contribution recognition.

C. Resources

- **Personnel Organizational Chart - See Appendix B**

Position	Description	Number
Administrative Asst	Provide assistance to supervisors in the administration of departmental programs or activities. Directs daily office operations pertaining to departmental programs and procedures. Relieves supervisors of routine and some non-routine administrative duties. Exercises independent judgment in resolving issues or concerns related to departmental policies and procedures.	1
Admn Safety Officer	Provide a safe work environment for University employees by enforcing all federal, state and local safety regulations.	1
Asst Building Service Worker	Perform duties in accordance with established standards and instruction related to cleaning.	5
Asst Groundskeeper	This position is responsible for maintaining campus grounds and landscape.	1
Asst Groundskeeper Crt	This position is responsible for maintaining campus grounds and landscape.	2
Athletics Mntc Supv	Supervise maintenance activities related to the upkeep athletic facilities, proper event preparation, appropriate maintenance of athletic fields and the removal of seasonal snow and ice.	1
Atletics Facilities Maint Worker	Maintain athletic facilities, perform event preparation, maintain athletic fields and remove snow and ice.	2
Bldg Mntc Supt	Oversee employees who are assigned to the maintenance, inspection and alteration of University buildings, equipment, and grounds. Assist with the planning of work projects and prepare cost/time estimates. Maintain direct supervision over Building Maintenance Assistant Superintendents and/or Building Maintenance Repair Workers and/or any employees as assigned.	11
Bldg Svcs Wkr	Responsible for cleanliness of assigned areas including but not limited to trash removal, rearrangement of classroom furniture, light clean-up.	26
Bldg Svcs Wkr Crt	Responsible for cleanliness of assigned areas including but not limited to trash removal, rearrangement of classroom furniture, light clean-up.	41

Carpenter	Under general supervision from supervisor perform semi-skilled and unskilled carpentry work	1
Coord PFOC Procurement	Perform the material acquisition process for the department, balancing material request deadlines with competitive price analysis.	1
Coord, Physical Facilities Admin	Oversee and coordinate the office functions for Facilities Administration, while providing administrative support to Directors, Managers and Supervisors.	1
Custodial Supt	Direct the operational and personnel activities of the department as related to custodial staff in campus buildings and residence halls.	6
Departmental Systems Admin	Supports the technology used to provide programming support and assistance to a University department. Works as a liaison between various departments and maintains department systems which includes various software packages and programming languages.	1
Dir Bldg Srvs Gnds & Spec Srv	Be responsible for direction of all assigned units providing multiple maintenance services to the campus and assure that the University community's needs and expectations for such services are met.	1
Dir PFOC Business Admin	Direct the business operations and human resources functions of the Department of Physical Facilities. Manage all fiscal activities for the department as well as the Purchased Utilities budget. Supervise multiple areas within the unit.	1
Director Maintenance & Oper	Direct the financial and personnel aspects of the Maintenance and Operations Department. Oversee the daily operations of the repair and remodeling, preventative maintenance and construction.	1
Electrical Engineer	Control the University's high voltage distribution system which supports a wide range of functions. Identify the need for specific electrical projects at the University and manage the projects to completion.	1
Electrician	Under general supervision from supervisor perform semi-skilled and skilled electrical installations, repair electrical equipment and perform maintenance on electrical system.	2
Energy Management Superintendent	Perform installations, programming, maintenance, troubleshooting and repair of all university energy management systems. Supervise union and student employees performing related duties.	1

Energy Management Tech	Install, program, monitor, maintain, troubleshoot and repair energy management systems including, but not limited to, data collection devices, electronic and pneumatic control devices, actuators, positioners, sensors and transducers in campus buildings.	1
Estimator & ADA Coord	Estimation of labor and materials with regard to small campus projects while monitoring associated budgets. Ensure that applicable codes and other legal requirements are met in the process of communicating project information to campus.	1
Grounds Supt	Direct proper care and maintenance of college grounds.	2
Groundskeeper	Performs routine grounds maintenance that may include watering, raking, mowing, weeding, planting, and trash/litter removal. Operates truck and/or powered grounds equipment.	1
Groundskeeper Crt	To provide care and maintenance of campus grounds.	6
HVAC Technician Apprentice	Under general supervision from supervisor perform skilled, semi-skilled and unskilled installations. Perform repair and preventative maintenance on air conditioning, refrigeration and heating equipment. Plan, inspect, record and monitor HVAC concerns. Research concerns and order repair parts and supplies. Individuals selected are expected and must complete the University Apprenticeship Training Program. Entry grade is a 05. At time of program completion, employee will move into a Grade 09 at the certified rate.	1
Irrigation Specialist Crt	Irrigates turf and landscaped areas as needed, performs necessary repairs, and monitors irrigation systems digitally.	1
Laborer	Provide multiple maintenance services to the campus community. Support operations in assigned department.	6
Maint Repair Wkr	Under general supervision perform skilled, semi-skilled and unskilled maintenance work on buildings, athletic fields, exercise equipment, vehicles and equipment.	1
Master Mover	Manage all requests for furniture, equipment, and heavy freight deliveries.	0
Mech Engineer/Director Energy Oper	Supervision and direction of all positions listed herein. Responsible for all plant operations and energy related decisions regarding curtailment or general energy savings initiatives. Responsible for mechanical, plumbing and fire protection improvement projects as well as new equipment additions.	1

Mechanic	Perform proper servicing, maintenance and cleaning for all vehicles, carts and grounds equipment.	1
Mgr Building Services	Responsible for the cleanliness, sanitation, appearance, working or living environment of more than six million square feet of academic and general= purpose buildings. The manager provides the leadership to subordinate superintendents and supervisors in planning, establishing and maintaining the highest achievable custodial cleaning program commensurate with the resources made available. Responsible for the timely treatment and elimination of crawling insects and rodents in campus buildings.	1
Mgr Parking Mntc & Events	Direct the operational and personnel activities of the department as related to Parking Maintenance in campus flat surface lots and parking garages.	1
Mgr. Gnds,Spec Svcs and Recycling	Responsible for the management of all Grounds, Special Services, and Recycling maintenance activities.	1
Mntc Repair Wkr	Under general supervision perform skilled, semi-skilled and unskilled maintenance work on buildings, athletic fields, exercise equipment, vehicles and equipment.	8
Mntc Repair Wkr Apprentice	Under general supervision perform skilled, semi-skilled and unskilled maintenance work on buildings, athletic fields, exercise equipment, vehicles and equipment at apprentice skill level. Individuals selected are expected and must complete the University Apprenticeship Training Program. Entry grade is a 05. At time of program completion, employee will move into a Grade 09 at the certified rate.	3
Mntc Repair Wkr Crt	Under general supervision perform skilled, semi-skilled and unskilled maintenance work on buildings, athletic fields, exercise equipment, vehicles and equipment. Serve as team leader and train others in proper work methods and procedures.	1
Mover	Perform furniture, equipment, and heavy freight deliveries.	0
Mst Bldg Svcs Wkr	Under supervision, performs semi-skilled cleaning and general maintenance duties.	1
Mst Bldg Svcs Wkr Crt	Under supervision, performs semi-skilled cleaning and general maintenance duties.	12
Mst Carpenter Crt	Under general supervision from supervisor perform skilled, semi-skilled and unskilled carpentry work. Serve as team leader and train others in proper work methods and procedures.	4

Mst Electrician Crt	Under general supervision from supervisor, perform skilled electrical installation and repair work at Master Electrician level. Serve as team leader and train others in proper work methods and procedures.	4
Mst Groundskeeper Crt	Responsible for maintenance of specific areas of university grounds. In addition, supervises operation of grounds staff in the absence of the Grounds Supervisor.	2
Mst HVAC Tech Crt	Under general supervision perform skilled, semi-skilled and unskilled installations. Perform repair and preventative maintenance on air conditioning, refrigeration and heating equipment. Plan, inspect, record and monitor HVAC concerns. Research concerns and order repair parts and supplies. Serve as team leader and train others in proper work methods and procedures.	6
Mst Mechanic	Under general supervision from supervisor, perform scheduled maintenance on University vehicles and equipment. Inspect vehicles land equipment used by University personnel. Diagnose problems and repair as required. Serve as team leader and train others in proper work methods and procedures.	1
Mst Mechanic	Oversee motor pool which includes proper servicing, maintenance and cleaning for all vehicles, carts and grounds equipment.	1
Mst Mntc Repair Wkr	Under general supervision perform skilled, semi-skilled and unskilled maintenance work on buildings, athletic fields, exercise equipment, vehicles and equipment. Serve as team leader and train others in proper work methods and procedures.	2
Mst Mntc Repair Wkr Crt	Under general supervision perform skilled, semi-skilled and unskilled maintenance work on buildings, athletic fields, exercise equipment, vehicles and equipment. Serve as team leader and train others in proper work methods and procedures.	4
Mst Mntc Repair Wkr Crt	Install, program, monitor, maintain, troubleshoot and repair energy management systems including, but not limited to, data collection devices, electronic and pneumatic control devices, actuators, positioners, sensors and transducers in campus buildings.	1
Mst Painter Crt	Under general supervision perform skilled interior and exterior painting. Serve as team leader and train others in proper work methods and procedures.	4
Mst Painter Crt	Under general supervision perform skilled interior and exterior painting. Serve as team leader and train others in proper work methods and procedures.	4

Mst Plumber Crt	Perform skilled, semi-skilled, and unskilled plumbing repairs and installations. Plan, inspect, record and oversee plumbing concerns. Evaluate systems, research solutions and order repair parts and supplies. Serve as team leader and train others in proper work methods and procedures.	5
Painter	Under general supervision clean and paint interior and exterior surfaces of buildings or other structures. Perform skilled plastering and wallpapering.	1
Parking Maint. Shift Leader	Supervise maintenance activities as related to Parking Maintenance in campus flat surface lots and parking garages.	1
Part-Time Stationary Engineer	Lead skilled and unskilled workers in the complete operation and maintenance of the main campus heating and cooling plant equipment. Assist in the resolution of system issues across campus and monitoring campus HVAC control systems.	1
PFOC Budget/Fiscal Admin	Manage the operating budget and assist with departmental decisions relating to businesss and financial operations.	1
PFOC Inventory Mgr.	Manage, coordinate and direct the stockroom operations. Oversee the departmental storeroom inventory process from procurement to material receipt, inspection, distribution and reconciliation. Reconcile credit card on a daily basis.	1
Plant Mntc Engineer	Manage the operation of the main campus heating and cooling plant and its associated piping systems to provide reliable comfort to campus buildings	1
Plumber	Perform unskilled, semi-skilled and skilled plumbing repairs and installations. Plan, inspect, record and oversee plumbing concerns. Evaluate systems, research solutions and order repair parts and supplies.	1
Recycling Supt	Under general supervision of the Manager of Grounds, Recycling, Special Services and Recycling, provide front line supervision in the areas of heavy equipment operation, moving, special event preparation, solid waste and recycling management.	1
RLH Facilities Wkr	Assist with maintenance, repairs and installations within the Resident Life & Housing department.	1
Service Center Rep.	Assist with entering maintenance work order records by entering and monitoring the TMA system, radio system, emails, web	1

Service Center Rep. Sr.	Maintain all maintenance work order records by entering and monitoring. Work closely with all departments on campus making sure work gets to the proper shops so it can be done in a timely manner. Assis with directing calls and individuals appropriately.	1
Stationary Engineer 2	Lead skilled and unskilled workers in the complete operation and maintenance of the main campus heating and cooling plant equipment. Assist in the resolution of system issues across campus and monitoring campus HVAC control systems.	4
Storekeeper	Under general supervision receive and distribute stock and supplies. Receive shipments, unload stock and check for correct quantity and condition. Issue and deliver supplies and equipment.	1
Student Asst (R)	Perform routine departmental functions.	2
Student Asst (R)	Perform routine departmental functions.	12
Water Treatment Specialist	Monitor and maintain water quality for plant machines, condensate lines, high temp hot water lines and related equipment. Conduct periodic tests and add chemicals as needed while maintaining appropriate records of each.	1

- **Financials – See Appendix A**
- **Equipment and Technology – Listed in each section above**

Appendix A – Divisional Financials

Appendix A – Divisional Financials

2014	Personnel	Non-Personnel	Utilities***	Total
Budget	$12,238,987	$2,206,535	$8,041,927	$22,487,449
Actual	$12,238,988	$801,670	$8,027,917	$21,068,575
Difference				**$1,418,874**

2015*	Personnel	Non-Personnel	Utilities***	Total
Budget	$12,708,655	$1,999,455	$8,018,082	$22,726,192
Actual	$12,708,655	$1,452,959	$8,018,082	$22,179,696
Difference				**$546,496**

2016**	Personnel	Non-Personnel	Utilities***	Total
Budget	$14,325,242	$11,871	$7,859,045	$22,196,158
Actual	$14,325,241	($1,333,269)	$7,859,045	$20,851,017
Difference				**$1,345,141**

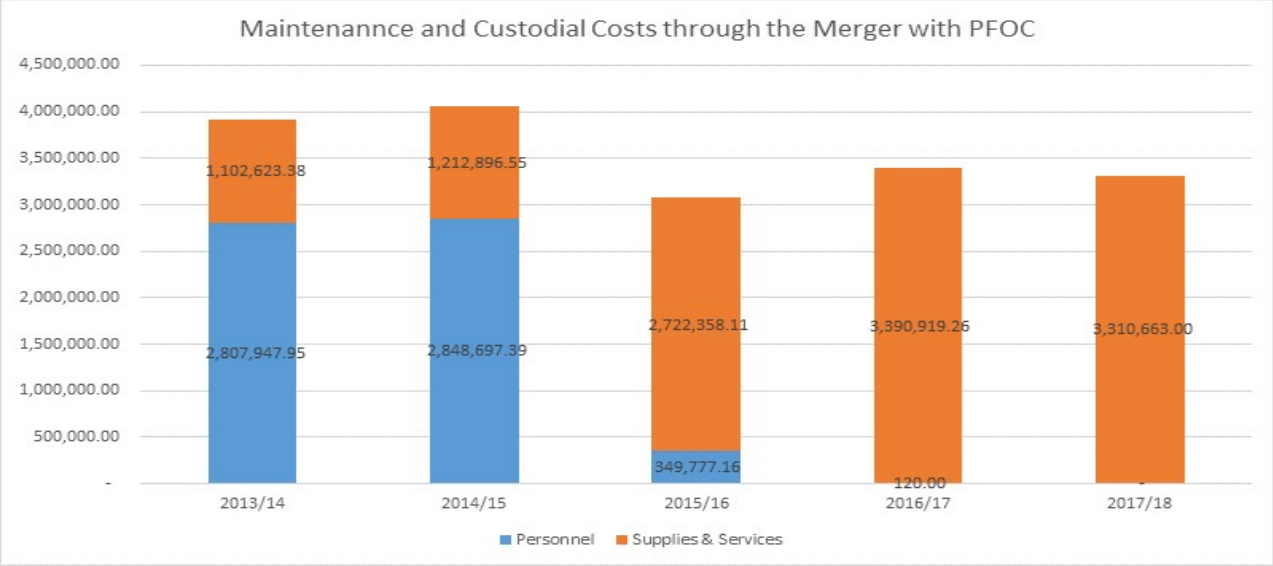
2017	Personnel	Non-Personnel	Utilities***	Total
Budget	$13,922,159	($1,321,697)	$9,185,455	$21,785,917
Actual	$13,920,481	($2,063,635)	$9,185,455	$21,042,301
Difference				**$743,616**

2018	Personnel	Non-Personnel	Utilities***	Total
Budget	$13,396,883	($1,676,853)	$8,600,645	$20,320,675
Actual	$13,396,472	($2,096,277)	$9,033,420	$20,333,615
Difference				**($12,940)**

*2015 Non-Personnel expense increased due to renovations to President's Residence

**2016 PFOC assumed custodial and maintenance responsibly for Auxiliaries. See chart below for Residence Life and Housing savings from the merger.

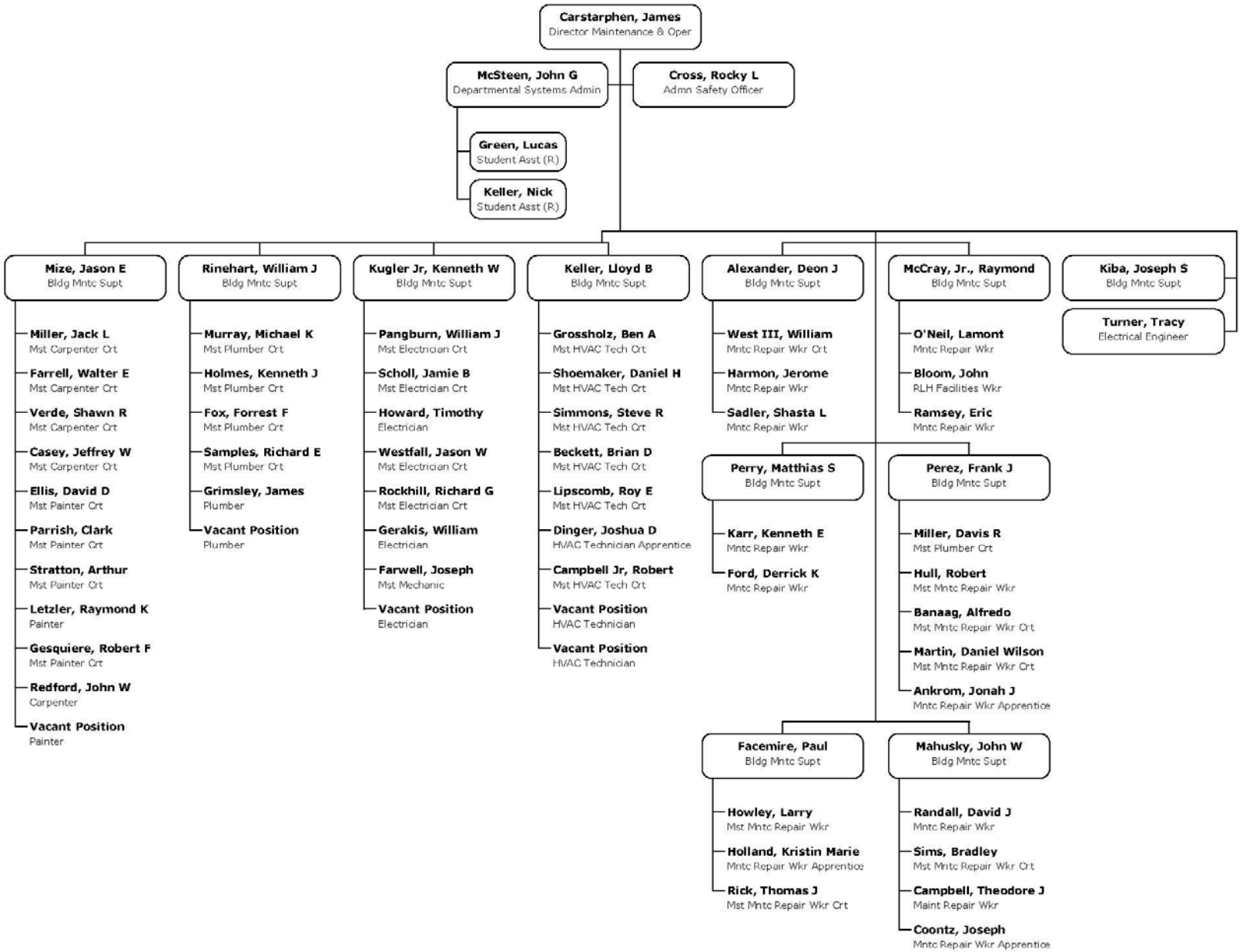
***Utilities are net Performance Contract Savings and Demand Response. Demand Response payments reduced in FY2017 and FY2018.



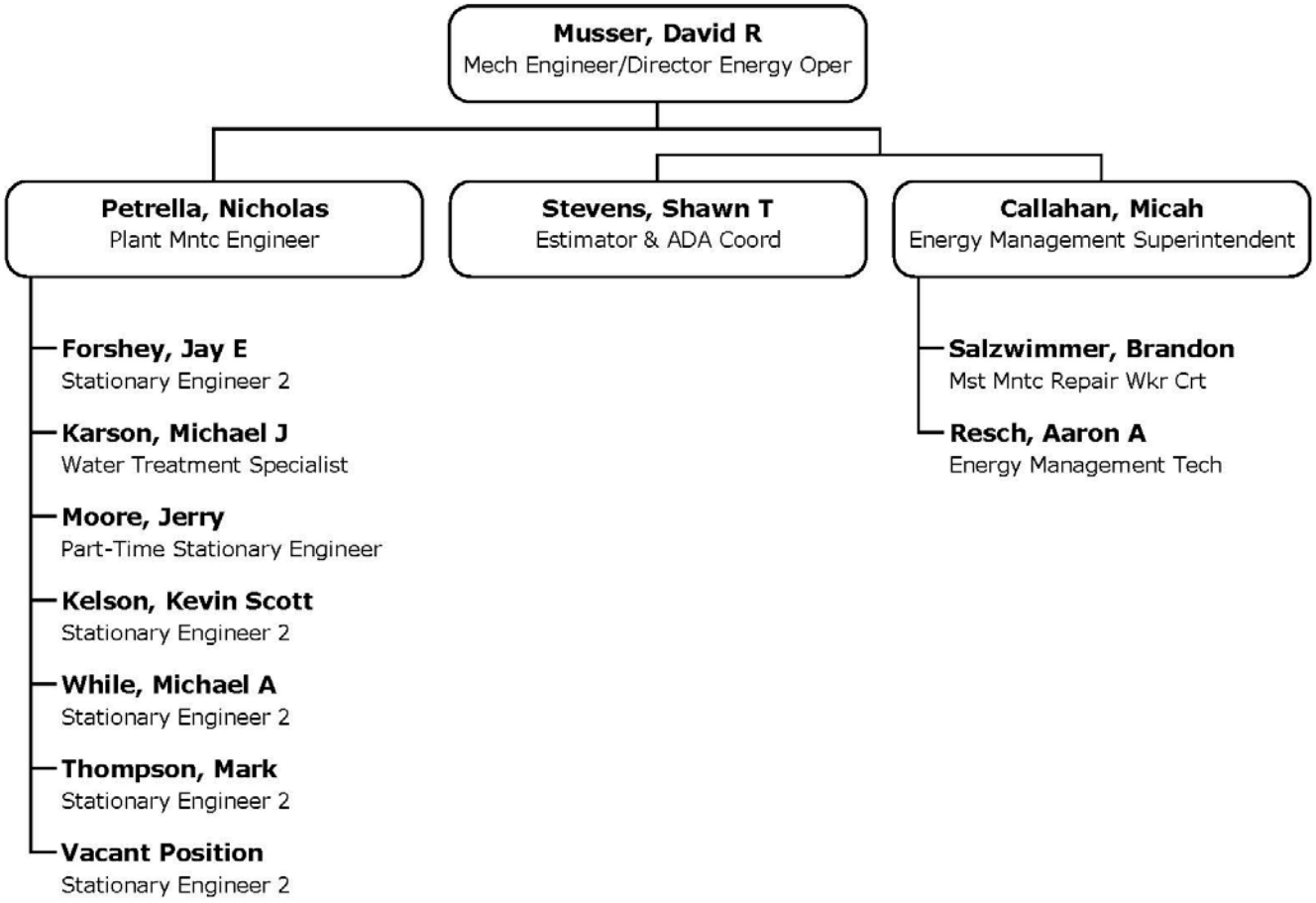
Appendix B – Organizational Charts

Capital Planning & Fac Mngt

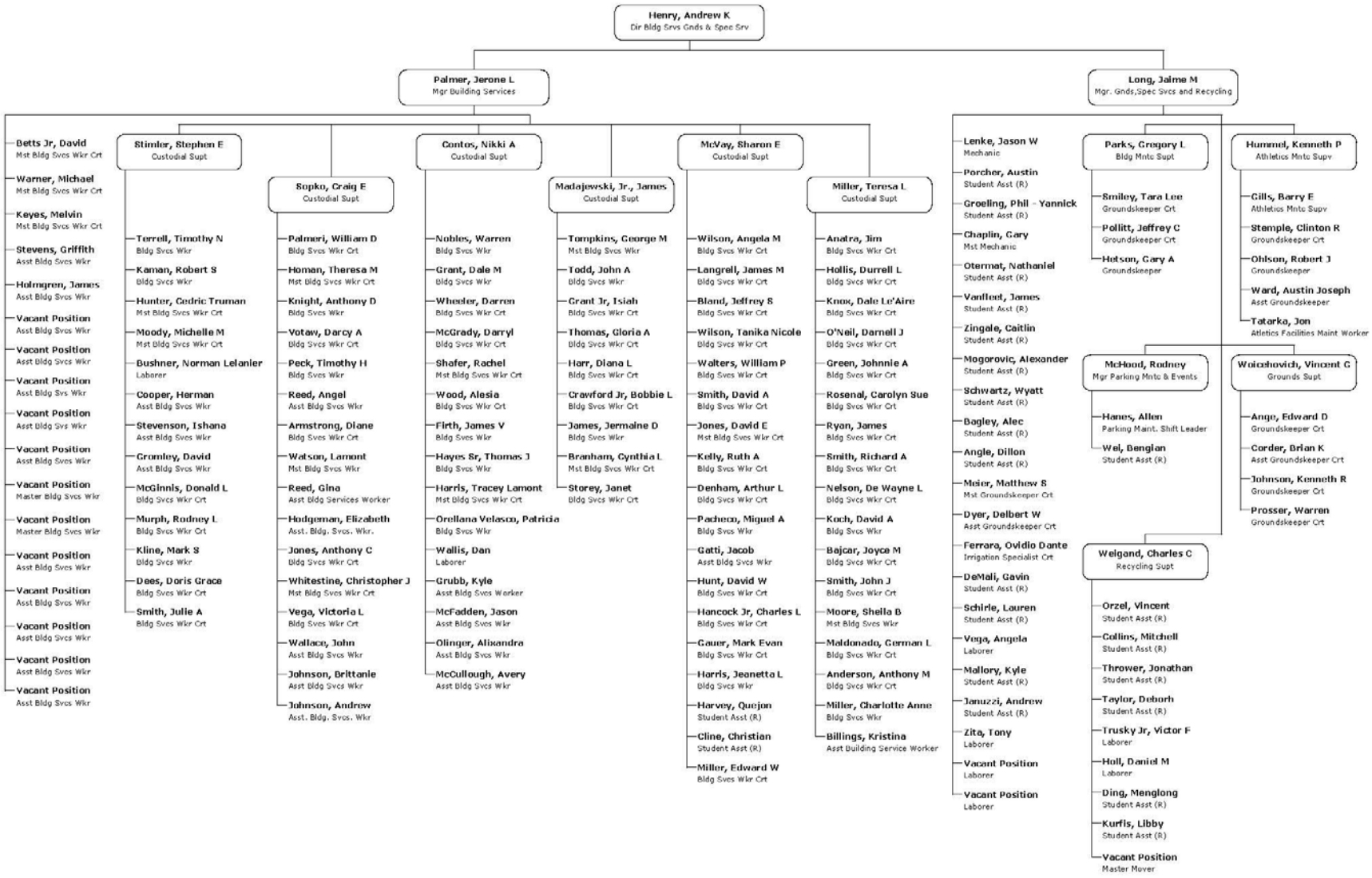
Mataintenance and Operations



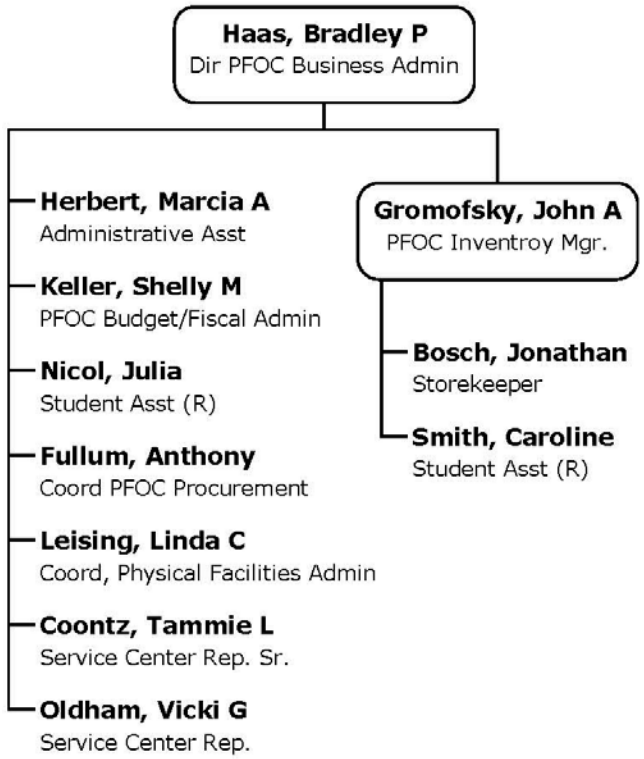
Energy Operations



Grounds and Building Services



Business Administration



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