# TABLE OF CONTENTS

A MESSAGE FROM THE AVP FOR FACILITIES MANAGEMENT .......................... 3

OUR VISION ................................................................................................................. 5

**ADMINISTRATION DIVISION**
- BUSINESS OPERATIONS UNIT ............................................................... 6
- INFORMATION TECHNOLOGY UNIT .................................................. 8
- LABOR RELATIONS UNIT ................................................................. 10
- ORGANIZATIONAL PERFORMANCE AND EFFECTIVENESS .......... 11

**ARCHITECTURE AND DESIGN DIVISION** .................................................. 12

**CONSTRUCTION DIVISION** ........................................................................... 15

**ENGINEERING DIVISION** ............................................................................. 18

**PLANNING, SPACE MANAGEMENT AND CAPITAL PROJECTS DIVISION** .. 20

**OPERATIONS DIVISION**
- CUSTODIAL SERVICES UNIT ................................................................. 22
- LANDSCAPE SERVICES UNIT ............................................................... 24
- MAINTENANCE SERVICES UNIT ......................................................... 33
- ROBERT BEAM POWER PLANT UNIT .................................................. 36
- TRANSPORTATION SERVICES UNIT ................................................ 42
Our Vision
A Message from the Associate VP for Facilities Management

Insights from 2016

2016 proved to be another transformational year for Facilities Management. A number of capital projects, capital renewal/deferred maintenance projects, operational and organization changes, and staffing changes consumed a very active year for Facilities Management and WMU. All of this was in alignment with the strategic planning of FM, Business and Finance, and WMU.

Our Business Office has been instrumental with streamlining processes across all FM Divisions and Units. FM managed 425 active projects with a budget of $246 million. Its 386 full-time employees and over 100 students and temporary employees managed the campus facility portfolio with a budget of $53 million. Our IT Unit managed the Windows 7 deployment and many technology initiatives for all FM Units. Our Labor Relations Unit focused on consistency with our new collective bargaining agreement, reached a tentative agreement in a record two-day negotiation with MSEA and supported a wonderful annual summer picnic for all bargaining unit employees in the new Dining Center. The Organizational Performance and Effectiveness Unit continues to focus on the project management process, guide the subcontracting process per the collective bargaining agreement, and initiate several new process initiatives.

The Planning, Space Management and Capital Projects Division was very active with a new Five-Year Capital Outlay Plan; implementing projects such as the Valley Pond, Stadium Drive Apartments, and planning for the College of Aviation, Wayfaring, and BTR 2.0 projects. The Architecture and Design Division worked on design standards and supported many capital and renovation project designs. The Construction Division started the year with a new process to manage projects, completed many capital and smaller renovations, tracked construction recycling, and initiated a new customer satisfaction form. The Engineering Division supported all projects and completed the Waldo Library transformer and Valley steam line replacements. The Lawson Arena ice and refrigeration system was also completed.

Our Operation Division Units were very active with positive changes. They all are working with a new AFSCME contract. Custodial completed the transition to Process Cleaning and implemented a “live” training program for new hires. Landscape had a change in leadership as Tim Holy sz retired and Mark Frever took over the helm. They were recertified by the PGMS for a four-star accreditation and Tree Campus USA. They also initiated a successful program to use goats to manage a natural area in the Valley. The Maintenance Unit completed several long-term plans for elevators and fire alarms; improved processes with customer communication,
QR code and GPS technology, and a program for Awareness of Diversity and Culture with their employees. The Power Plant changed the utility unit rates, completed a new collective bargaining agreement and emissions testing for their MDEQ permit, and saw staffing changes as Russ Northey retired. The Transportation unit managed 278 vehicles under a new DOE Alternative Fuel Transportation mandated program.

All of this year’s activity was led by very capable Division and Unit leaders and performed by facility professionals and great support staff. They all take their facility stewardship mission very seriously and focus every day on customer service and improving their key performance indicators. The FM team is proud of our accomplishments this past year and look forward to another year of positive progress and as we transform our campus built environment.
Our vision is to be an exemplary higher education facilities management organization. We will be known for:

- Excellent service to the University community
- Excellence in stewardship of the campus environment
- Professional and effective communication
- High standards for professional and personal accountability
- Practicing sustainable development and management of campus resources
Administration Division

Business Operations

The Business Office continues to streamline processes with our project reporting. Over the year, we have held monthly meetings with the divisions of Engineering, Construction, and Planning, Space Management and Capital Projects to communicate effectively on current issues and progress. It’s proven to be very helpful for all.

**FM PROJECTS JULY 2015 - JUNE 2016**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget FY 2015-16</th>
<th>Benefit Eligible Employees</th>
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</thead>
<tbody>
<tr>
<td>Planning</td>
<td>$499,532</td>
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<tr>
<td>Construction</td>
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<tr>
<td>Architecture and Design</td>
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<td>Engineering</td>
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<tr>
<td>Operations</td>
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<td>Maintenance</td>
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<td>Custodial</td>
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<td>Transportation</td>
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<td>Power Plant</td>
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<td>Landscape</td>
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<tr>
<td></td>
<td>$48,302,611</td>
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<td>Administration</td>
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<td>Network Services</td>
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<td></td>
<td>$53,690,751</td>
<td>386.0</td>
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</tbody>
</table>
Information Technology Unit

Accomplishments

- Deploy NetApp mirror for file storage
- Migrate production TMA to Server 2012
- Support for Revit/TMA integration
- Refresh of TMA Dashboards for maintenance. Create new dashboards for Sign Shop, Remodel Shop, and FM 24/48
- Visual Maps for some buildings on campus
- Laptop deployments: 14
- Desktop Deployments: 15
- Tablet deployment: 6
- Windows 10 upgrades: 10
- Support installation of Armstrong Sage
- Support new project management model
- Install AutoDesk license server to support new licensing model
- Migrate all AutoDesk users to new licensing model; Begin installing AutoCAD 2017
- Niagara AX new SQL Server
- Migration of division and department webpages to University CMS
- Emergency Shut Off documentation on TechWeb
- Update FM webpage template/look
- R25 report for techweb
- Cleanup of IP space for physical plant building
- Barcode printing
- Support Webmail to W-Exchange migration
- Install Office 2016 or update Office 2013 to support Outlook client for support of W-Exchange migration
- PDQ Deploy / PDQ Inventory to manage software deployment to workstations
- Deploy the suite of free AutoDesk viewing software to workstations; DWG True View, Design Review, Navisworks Freedom
- Update Sketchup to 2016
- Desktops build and deploy for Power Plant security study
- Multifunction printer deployments for Physical Plant and Document Room
- IT Tickets; opened:327, closed:307
- Buildout for new GIS application
- Assist with the upgrade of GIS platform to ESRI Server
- Hardware number counts reflecting deployed equipment throughout all of Facilities Management:
  - Computer Desktops: 163
  - Laptops: 36
  - Tablets: 10
  - iPads: 111
  - Production and Support Servers: 53
**Labor Relations Unit**

**Accomplishments**

- Participated in interview panels for multiple positions (including the Landscape and Engineering Directors) with the goal of complying with university policies, employment laws and diversity standards.
- Received, heard and answered all Step Two AFSCME grievances. Attended all Step Three grievances.
- Worked with the FM and other AFSCME directors in training all supervisors and managers in the new ASCME contract. Turnout for the 2 sessions was excellent.
- Facilitated the implementation of the Contract Administration Team which meets monthly to discuss administrative issues.
- Assisted with the continuation of the WEcare program by assisting with the annual employee appreciation picnic.
- Worked with the Power Plant on addressing the issues that arose with the implementation of the 12-hour shifts. Worked through contractual issues with the training committee and kept the Labor Relations Director apprised of all activity.
- Worked with both Power Plant Management and MSEA Leadership to determine the issues for bargaining. Reached a tentative agreement in record time. The contract was ratified by both the MSEA membership and the Board of Trustees.
- Continued meeting with the division directors to work on common threads and work towards consistency of contract administration and disciplinary actions. The team was expanded to include the Manager of Organizational Performance and Effectiveness and the development of a facilities-wide Professional Development Plan.
- Worked with Projects and Construction to more efficiently deal with subcontracting issues.
- Worked closely with Management and the Union to engage the assistance of HelpNet, getting employees assistance with issues that were leading to termination.
- Participated in ongoing professional development: Miller Canfield annual employment seminar, Michigan Labor Management Association one-day conferences, Kalamazoo Area Labor Management monthly speaker series, and the MIAPPA
Organizational Performance and Effectiveness

Accomplishments

- Collaborated with all FM Divisions in assessing current project processes for accuracy, continuity and emulation of industry defined standards and practices.
- Development and documentation of all Project Processes and Phases in the Facilities Management Project Manager Handbook.
- Provided client education through personal contact and Project Management presentations to various client groups.
- Monthly subcontracting meetings with AFSCME representatives and other WMU departments to present project requests and ongoing project progress.
- Assessed and provided AFSCME notification for all Facilities Management subcontracted work.
- Assessed all new project requests and assigned project managers.
- Continuing Project Manager education and process oversight - Ongoing weekly meetings with Project Managers and Technical Specialists to identify and document challenges, successes and improvements in all areas of construction planning and execution.
- Provided semi-monthly meeting opportunities for non-Facilities Management construction assets to address coordination, progress and process questions for past, present and future projects.
- Determined future objectives including:
  - Construction Team and Client Surveys
  - Overtime Process Improvement
  - Project Debriefing Protocol
  - Construction Software – Options and Assessment
  - APPA/MIAPPA Project Management
  - Professional Development
Architecture and Design Division

Accomplishments


- Promote and create the WMU design culture through education, university branding, professional development and global diversity awareness. Complete 50 percent. Diversity awareness events participation complete. Behind the W branding staff participation is in progress; 50 percent complete. Professional development for project management MiAPPA conference participation and designer AUID conference educations complete. Continued online education participation for software skills.

- Continue to track project estimates and performance efficiencies. Complete 100 percent. Projects tracking in TMA are within budget. A&D’s average billing hours totaled at 28.234 which met the targeted 27-hour goal.

- Continue to refine and enhance Sign Shop efficiencies through online signage requests and internal processes. Complete 75 percent. Client signage requests via online web requests is fully operating with work order creation via service center processing.

- Specification of a free-standing standard recycle unit for building interiors campus-wide with collaboration from Custodial and the Office for Sustainability. Complete 100 percent. Rubbermaid Configure unit selected.

- Develop the new Architecture and Design webpage and maintain current information highlights. Complete 100 percent. Main page with project photos and information verbiage complete; division directory uploaded, Bronco Sign Shop page fully integrated, Frequently Asked Questions page complete and Contact Us page in operation.
• Continue to provide professional design support services for the new Valley Dining Center.
  Complete 100 percent. Furniture, fixtures and equipment (FF&E) was specified, BID/Procured, and installed for both levels of the facility. The FF&E was on target, under budget and delivered on schedule. Design support and review throughout all project phases is complete.
• Provide support to the FM department for Award for Excellence.
  Continuous effort – on going by means of effective customer service, successful project design and construction and post occupancy support.
Construction Division

Accomplishments

This has been a year of major changes in approaches to managing projects and we are now a new kind of construction division within Facilities Management. We now imagine things that others don’t, we build things that others can’t and we now deliver outcomes that make the University better bringing together the physical environment to have positive outcomes in the work of the staff, student life, and pedagogy.

- New Valley Dining Center completion in July 2016
  Complete 100 per cent. The Valley Dining Center was substantially complete with phased move-in beginning in early July and complete occupancy by late July. Training for employees was initiated in July and continued into August as planned. The project was completed on time and under budget.

- New Valley Dining Center completion of design documents and construction start in spring 2015
  Construction was started May 2 on schedule. This goal was completed 100 percent.

- Send client satisfaction form and record results (WEcare)
  Completed 50% per cent. A new survey form and process to measure client satisfaction was developed and implemented. Surveys were sent to clients upon project completion and during active project phases, but the return rate was too low to obtain a meaningful measure. This goal will continue into 2017.

- Establish and place new on-line forms for project assignment to project managers.
  The new forms were developed and are posted on the website and used on a daily basis. The new process has proven to be effective and efficient and this goal is 100 percent complete.

- Implement on-line forms for project closeout to include the document room
  The new form and process, for first time, now includes the document room which insures complete documentation and accuracy of building data following changes to the spaces due to new construction.

- Measure client complaints with a goal of 90 percent reduction.
  Complete 100 percent. There are now very few complaints regarding customer service. Of the four complaints, two were considered of a legitimate nature and remedial action was taken to change the process to assure a high level of customer service as we move forward. This is an ongoing goal and will be continued into 2017.
• Track individual efficiency by the number of chargeable hours recorded on a weekly basis. This goal is 100 percent complete and has improved efficiency and effectiveness of project managers.

• Track shop 9 efficiency by tracking the number of chargeable hours recorded and reported weekly. This has proven to be a highly effective goal in establishing the efficiency of this shop and will be continued into 2017. Individual efficiency by number of chargeable hours recorded on the weekly Project Time Report. Complete 100 percent.

• Continue data base of recycling results for new construction and renovation work. Complete 100 percent. Updated website regarding tonnage recycled was also implemented.

• Implement new website and maintain same with current projects and items of interest to the campus community. The website changes have created interest in the project and this goal is 100 percent complete.
Engineering Division

Accomplishments

- Waldo Library Transformer replacement.
  Replacement of the 50 plus year old transformer
  Upgrade to campus standard 13.8 K voltage
  Work was completed with minimal disruption to library operations

- Goldsworth Valley steam and condensate replacement
  Replacement of 630 feet of deteriorated steam and condensate line
  Sized to support the new dining facility

- Lawson Arena improvements
  Installation of new ammonia-based refrigeration system
  Installation of new rink boards and glass
Planning, Space Management and Capital Projects
Division

Accomplishments

- Updated the Five-Year Capital Outlay Plan
- Goldsworth Valley Enhancements Project
- Renewal of Stadium Drive Apartments
- Funding for the College of Aviation Project
- The design of BTR 2.0
- Analysis and completion of a great number of feasibility studies
- Wayfaring Signage Plan and Design
Operations Division

Custodial Services Unit

Accomplishments

- Process cleaning rollout - zones E, K
- AFSCME contract negotiations - new contract
- Project work throughout campus included interior and exterior window washing, pressure washing of sidewalks and building facades, stadium seating, arena (Read & Lawson) seating, high dusting utilizing aerial lifts, mass re-lamping of a dozen classrooms
- Skill refresher training for all M-2 custodians
- Development and implementation of “live” training program for new hires and transfers
- Improved effectiveness of quality auditing program
- Identified supply costs per building and built budget framework for zone supervisors to utilize
## Landscape Services Unit

### Accomplishments

**Replaced/Repaired and Patched Steps in Several Locations**

- Replaced/Repaired and Patched Steps in Several Locations
  - Repaired 7 step complexes
  - Repaired a multitude of tripping hazards throughout campus
  - Applied 51.03 yards for the above repairs = 2,755 square feet of concrete surface

### Hardware, Fencing & Furniture

- Fence repairs due to tree storm damages
- Refurbished and replaced plexus benches at the Trustee Fountain

### Landscape Enhancements

- Direct involvement with several major landscape improvements related to building projects including:
  - Western View
  - Valley Dining Center
  - Heritage Hall
  - West Overlook
  - Goldworth Valley Apartments
  - Goldworth Valley Pond Enhancement
  - Wayfinding study
  - Storm water retention areas
- Sprayed Round-up to control weeds at campus shrub beds, tree wells, parking lots, curb lines, sidewalks, fence lines, etc.
- PLM applications for algae at GV and CEAS ponds

### Annual Flowers

- Installation of 6,000 square feet of annual flower beds:
  - The 3-D floral peacock at Miller Circle Drive
  - Miller Circle Drive
- Chemistry Building
- Waldo Library
- Haenicke Hall
- Schneider
- Hall/Fetzer
- Gilmore Theatre
- Lee Honors
- Bernhard Center
- Kohrman Hall
- Ad Building
- The Oaklands
- Welborn Hall
- Trimpe Building
- Moore Hall
- CHHS
- 1201 and 1219 Short Road
- Elmwood Apartments
- Five flower trees at the Chemistry Building and one at CEAS

- 190 plus planters circulate around campus
- 58,000 square feet of existing perennial and grass gardens

**Campus Trees**

- Ninth consecutive year to achieve the distinction of Tree Campus USA awarded through the Arbor Day Foundation
- Tree History – 1991 to 2016:
- Trees Planted = 1,875 total
  - Purchased/planted and/or transplanted
  
  **46 total trees planted in 2016**

- Trees Transplanted = 314 total
  - Taken from various building construction projects and moved/transplanted to different sites throughout campus
  - One tree was transplanted

- Tree Take-Downs = 726 total
  - Storm damaged, health and safety hazards
  - Trees in building construction zones too large to safely and/or successfully transplanted

  **A total of 24 trees were removed in 2016**

- Parkview Campus Management Plan continues
- Wildlife Management Plan continues
Natural Areas

WMU Facilities Management, Landscape Services Natural Areas and Preserves Program, serves Western and the Kalamazoo community through the stewardship of 500 acres of university property for ecosystem integrity, passive recreation, education and research.

Main Campus
- 1600 customer hours of Staff student and visitor tours, training, educational programs, volunteer events and mentorship for student class projects and internships.
- Served 7 faculty professors with field programs and classroom presentations and facilitated work of graduate students research on University properties.
- Served 14 students through meetings, information and resources needed to facilitate class projects and internships.
- Propagated 6000 Native plants in WMU Biology Department Finch Greenhouse. Distributed Native plugs to 10 local groups and organizations.

Parkview Campus
- 150 customer hours of educational programs, volunteer events and tours for staff, students and visitors.
- Construction coordination and management of new swan facilities for 4 swans at Parkview campus ponds.

Kleinstuck Preserve
48-acre nature preserve owned and managed by WMU, with labor and additional resources provided by volunteers from The Stewards of Kleinstuck.
- 3000 customer hours of tours, programs, volunteer events and management in the Preserve hosted by Natural Areas and the Stewards of Kleinstuck.
- Served 6 local schools with classroom and field programs.

Asylum Lake Preserve
274-acre nature preserve owned by WMU under the management of the Asylum Lake Policy and Management Council (ALPMC), a volunteer group composed of local citizens, WMU faculty and staff
- 1000 customer hours of tours, programs, and volunteer events for Adults and Children.

Miscellaneous off campus outreach programs and events
400 customer hours of off campus outreach programs and events.

Sustainability/LEED-EB Initiatives
- Fourth year of certification in the Michigan Turfgrass Environmental Stewardship Program (MTESP)
- Adhere to all mowing protocols
- Adhere to all fertilizing protocols
  - Non-phosphorus fertilizers used on all campus lawns
- Organic fertilizer is being used to lessen the impact of commercial fertilizers and build micro-biotic action in the soil
- We continue to move towards a pesticide free campus. This was our eighth season not using 24D products for broadleaf weed control
- Use of IPM Practices for all pest control activities:
  - We apply the least toxic pesticide only after proper protocols are followed using all strategies of IPM practices first and foremost. All pesticides are scrutinized by our Environmental Health and Safety department and the director’s approval is needed before we are allowed to use a product. Two major factors determine whether or not a product can be used; human toxicity and environmental effects. When a chemical is approved, everyone involved receives safety training.
- Adhere to all storm water management protocols including storm water pollution prevention initiatives and maintenance plans.
- Computerization of irrigation systems to the BAS (building automated systems)
- Recycle the following materials:
  - Yard waste
  - Wooden pallets
  - Concrete rubble and asphalt
- Our equipment is subject to a strict preventative maintenance (PM) program during the off-season winter months. All landscape services equipment, from Bobcat skid loaders to Workman carts; from riding mowers and push mowers to weed whips and blowers and everything in between are taken apart and repaired and/or in some cases rebuilt (i.e., engines) before the growing season begins.
  - Our mechanic keeps a maintenance log on each piece of equipment he services; for PM’s, repairs, and routine maintenance (i.e., oil changes). We can determine the longevity of individual pieces of equipment by reviewing the mechanic’s log. This allows us to prioritize replacements based on costs and operating efficiencies.
  - Continuing the process of incorporating small equipment in TMA for inventory and maintenance recording

**Snow Removal Tactics**

Snow removal tactics:
- Landscape Services started researching and reviewing the new liquid anti-ice and deicing tools 13 years ago to see if they could be used in our snow and ice removal operations. Eight years ago we were anti-icing our walks and also started pre-wetting some of our bulk road salt. Today, we pre-wet (pile treat) all of our bulk salt supply for roads, lots, and walks. We continue to use anti-icing tactics on sidewalks. We use beet juice at six gallons per ton for a pre-wet and use 80-20 mix; 80% natural brine and 20% beet juice for anti-icing applications.
WMU’s campus includes:
- 24.6 lane miles of roads
- 39 miles of sidewalks
- 60 lane miles of parking lots
- Total of 123.6 lane miles to de-ice for every snow/ice event

As a point of reference; 123.6 lane miles is like driving two times from Kalamazoo to South Haven and back.

<table>
<thead>
<tr>
<th>Average Season Snowfall</th>
<th>Snow Total</th>
<th>Amount of Salt Used</th>
<th>Tons used per inch</th>
<th>Pounds per land mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12 Season</td>
<td>54.5”</td>
<td>927 Ton</td>
<td>17</td>
<td>275</td>
</tr>
<tr>
<td>2012-13 Season</td>
<td>64”</td>
<td>1,100 Ton</td>
<td>17.18</td>
<td>278</td>
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<tr>
<td>2013-14 Season</td>
<td>117.8”</td>
<td>1,442 Ton</td>
<td>12.24</td>
<td>198</td>
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<tr>
<td>2014-15 Season****</td>
<td>75.3”</td>
<td>1,220 Ton</td>
<td>16.2</td>
<td>262</td>
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<tr>
<td>2015-16 Season</td>
<td>71.4”</td>
<td>1259 Ton</td>
<td>17.63</td>
<td>305</td>
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</tbody>
</table>

*Untreated salt and no anti-icing tactics used
**Began anti-icing tactics on walks
***Began pre-wetting all bulk rock salt and continue to use anti-icing techniques
****We discovered this year that for snow events late in the season and as snow piles melt, melt water refreezes and creates very slippery conditions, thus we had to reapply salt over most surfaces. Conclusion: the pounds per lane mile is actually quite lower than the figure shown as it relates to the total snow fall

The above matrix shows significant reductions of salt usage per inch of snow fall per lane mile of plowed surfaces. There has been an overall reduction of 30% of salt usage over the last 8 years.

2015-16 Snow Statistics
- 55 Snow Events
- 2 Freezing Rain Events
- 71.4” of Snow
- 1 Freezing Fog
- 1 Flash Freeze
The Use of Beet Juice as a Snow Removal Tool
- Environmentally friendly; 100% organic
- Lower overall lane mile cost; amount of salt usage drops
- Proven residual effect
- Begins de-icing process immediately
- Reduces bounce and scatter
- Improves melting efficiency
- Rinses solids concentration
- Helps prevent black ice
- Prevents salt piles from clumping and freezing

Campus Community Expectations:
- Roads, parking lots, walks and entrances open and clear of snow and ice by the start of each business day for vehicle and pedestrian traffic alike

Conditions that Affect Landscape Services Snow Removal Efforts:
- A trace to 4” of snow before 10 p.m. will be cleared by 8 a.m. the next morning
- A snowfall greater than 6” will take 24 hours to clear after the end of storm
- Early morning snowfall that continues throughout the day hampers our ability to keep surfaces clean and clear, but they will be passable until the end of storm, at which point total cleanup will be completed within 24 hours

Complaints from the campus community are followed up immediately by a supervisor who will contact the appropriate snow removal operator. The concern will be addressed in a timely fashion as work load and weather dictates.

Snow Removal Complaint Summary:

<table>
<thead>
<tr>
<th>Winter Season</th>
<th>Snowfall Total</th>
<th>Streets &amp; Lots</th>
<th>Walks</th>
<th>Total</th>
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<tbody>
<tr>
<td>2010-11</td>
<td>79&quot;</td>
<td>5</td>
<td>14</td>
<td>19</td>
</tr>
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<td>2011-12</td>
<td>54.5&quot;</td>
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<td>16</td>
<td>21</td>
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<td>2012-13</td>
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<td>2013-14***</td>
<td>117.8&quot;</td>
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<td>2014-15</td>
<td>75.3</td>
<td>7</td>
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<tr>
<td>2015-2016</td>
<td>71.4</td>
<td>16</td>
<td>18</td>
<td>34</td>
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</tbody>
</table>

*Pre-wetted entire load of bulk salt to use on roads, lots, and walks
**Continued anti-icing of walk w/an 80 to 20 mix of natural brine and GeoMelt
***90% of complaints were direct result of timing issues; heavy snowfall rates began in early morning hours just prior to school opening

**Athletics**
- Projects
  - Installed edging and decorative stone around soccer shrubs
- Support for Athletic Events
  - Softball games; soccer games
  - Football games
  - Tennis matches
  - Basketball games
  - Gymnastic meets
  - Cross country meet
  - Volleyball matches
- Support for Athletic Camps
  - Football, baseball, softball, volleyball, soccer
- Support for SRC Events including field maintenance and game preparations:
  - IM softball games; IM football games; IM soccer games; tarps for events in SRC, Lacrosse Club team, and Rugby Club
- Support for Special Events and Community Events
  - USTA Nationals Tennis Tournament, ITA Tennis Tournament, MHSAA Tennis Tournament, Rocket football, Girls on the Run, community baseball games, Baseball Scout Day, St. A’s track day, Homecoming March Down, Special Olympics, baseball tournaments, high school tennis tournaments (separate from MHSAA), high school basketball; NFL Pro Day; game rentals

**Equipment Improvements**
- Miscellaneous small equipment replaced as needed; weed whips, blowers, etc.

**Support for Special Events & Community Activities**
- Youth Opportunities Unlimited (Y.O.U)
  - 4 projects in the City of Kalamazoo
- Bronco Bash
- Homecoming
- Campus Classic 5K Run
- Athletic Events
  - CommUniverCity Night
  - Home Football Games (5)
  - USTA @ Sorenson Courts
- BTR Bike Race
- Student Garden Organization
- Fall Welcome Activities
- Residence Hall Move-In/Move-Out
• Various Residence Hall Life activities
• Tree Walks and Garden Tours for staff and students
• WMU Commencements
• Kalamazoo Holiday Parade
• WMU United Way
• Kalamazoo in Bloom
• Asylum Lake Preserves
• John F. Kennedy Center Five Senses Garden
• Various Dedication events
• Spring and Fall into the Streets
• Stewards of Kleinstuck

Additional Support to Other Departments
• Coordinate AFSCME uniform fitting/ordering process for FM Department
• Assist Logistical Services by delivering large, bulky items
• Assist Maintenance Services by transporting heavy items and staging equipment
• Pallet recovery/recycling; campus wide
• Assist art department by moving exhibits and displays using heavy equipment
• Assist ESEM w/disposal of research animals
• Assisted OFS with Gibbs House property
• Assisted with all AFSCME picnic logistics
• Assist Parking Services with various needs
• Assist Student Activities with various events
• Assist Athletics with various events and activities
• Assist University Relations with events and activities
• Change flags/banners at Tent Promenade for International Student Services
• Control the American flags at the Tent Promenade

Departmental Recognitions
• Professional Grounds Management Society (PGMS) 4 Star Accreditation: Recertified in April
• Renewal of our status as a “Tree Campus USA” through the National Arbor Day Foundation for the seventh consecutive year
• Several news articles published for FM Newsletter
Maintenance Services Unit

Accomplishments

- Completed strategic long term funding plan for Campus Elevators
- Completed strategic long term funding plan for Campus Fire Alarm Systems
- Renewed 5-year contract for Fire Alarm Systems
- Revised Job description for Manager of Operations to Manager of Professional Development
- Integrated classroom schedules to offer accessibility for Maintenance personnel
- Updated Emergency Shutoff Valve location across campus and shared with all trades via iPads
- Revised vacancy posting procedure among shops, reducing duration of vacancy during shop postings
- Created draft onboarding document for new employees
- Reviewed electronic Annual and Sick Leave approval process using Kronos system
- Created safety program within shops trades to reduce work related injuries
- Implemented revised “hang tags” and Bronco Fix It signage for improved notification while working in spaces
- Implemented new apartment turnover notification process with Student Affairs management
- Implemented weekly open status report with building coordinators
- Consolidated bronco project request processing into service center duties
- Upgrading campus wide equipment identification from Barcode to QR codes
- Completed utility condition analysis for primary system
- Completed repairs to 6 steam–condensate system across campus, reducing steam loss and increasing condensate return rates to power plant
- Implemented GPS system with 2-way radios
- Created and monitor monthly chargeback verification for work orders between Student Affairs and GF
- Completed 28th year of campus steam trap program with partial installation of remote monitoring of traps in SRC and campus vaults
- Initiated “Customer Service” Program
- Developed program with HelpNet for Awareness of Diversity and Culture among workforce
- Administered and tracked 27 various training, certification and testing for employees and equipment
- Updated annual Maintenance ASFCME, Management and Student Policy Handbook
- Completed Annual “Family Meeting” for Maintenance focusing on Customer Service
- Completed integration of BIM for existing building Phase 1 – all general fund primary buildings
- Revised closeout documentation process as part of the Project Management workflow
• Service Center processed 17,162 Bronco Fix-It Requests
• Service Center addressed 5,943 calls since transition to the new phone system in October
• Total of 19,862 work orders were created by Service Center staff
• Service Center processed 115 event requests
• Service Center managed 24 utility outages
• Maintenance Services addressed a total of 21,818 Do-It-Now work orders and 15,108 Preventative Maintenance work orders
Robert Beam Power Plant Unit

Accomplishments

Every year is special and unique at the Robert M. Beam Power Plant and though we perhaps did not experience the number of unusual events of the prior year such as the fire on turbine 8, the shift to a new turbine maintenance provider (Siemens), the implementation of a new 12-hour shift schedule for power plant employees, or the May 2, 2015 earthquake, this past year nonetheless had its own unique accomplishments and events.

Probably the most significant event of this past year in terms of its potential long term impact was not equipment, consumption or employee related, but administrative in nature involving how the power plant steam and electric rates are generated and in turn billed to our end users, including (and especially) ourselves.

Basically, this involved changing how the cost of the natural gas going into the gas combustion turbines was accounted for. Previously it was split between the electric and steam output of the gas turbine and its companion heat recovery boiler based on the respective energy content of each stream. Going forward, the cost of the gas will be assigned only to the electric output and the steam produced by the energy recovered hot exhaust off the turbine engine would be considered “free” for billing purposes.

This would have the effect of moving our present distorted steam and electric rates more in line with current market rates and better position the university to achieve energy savings now and in the future. For example, with previous internal electric rates on the order of 4 cents or less per kilo-watt hour it was to the point where LED bulb conversions could not be justified and conversely the high steam costs of over $20 per thousand pounds discouraged the use of the heat recovered “free” steam that was being generated.

This change was approved by management and went into effect with the October 2015 monthly billings. The effect approximately doubled the electric rates from about 4 cents to 8 cents/kWh with a corresponding similar decrease in the cost of steam from about $15/mlbs (thousand pounds) to half of that. We are already seeing an increase in electric related energy conservation projects and encouraging new investments in steam infrastructure and steam sourced cooling equipment.
This internal energy rate change turned out to be somewhat timely in that Consumers Energy also implemented a significant change in their billing rates in December 2015 that will have far reaching effects on our operation particularly in the area of electrical demand. For example, the summer peak electric demand costs increased by some 70% to $20/kilo-watt (summer) and $17/kW (winter). They were $12 and $10 respectively before. This puts even more of a premium on reducing electric use during the peak times between 11am and 7pm M-F. Facilities Management has already proactively reacted to this change by moving forward with installing its first thermal energy storage system to save on electric costs by generating chilled water at night during off-peak times and using that stored energy during the day to mitigate exorbitant peak time electric costs. We are also looking into the feasibility of adding additional electric generation at the plant both for peak shaving as well as backup to the utility.

Another special accomplishment from this past year was the successful negotiation (2 days!) of a new 3-year bargaining unit agreement with MSEA (Michigan State Employees Association) that represent the 17 power plant employees. This underscores what can be achieved in a collaborative, cooperative relationship with labor and management. This did not happen overnight but is something that is worked on daily with the goal of building on past successes and continually finding ways to improve how we interact and support each other going forward.

Beyond that, a significant accomplishment for the power plant this past year was the successful completion of our renewable operating permit emission testing. We are not “permitted” to sit on our laurels here at the power plant so to speak, but instead need to demonstrate every 5 years to the Michigan DEQ (Department of Environmental Quality) that we can successfully operate our boilers within the emission limitations required by the State of Michigan and EPA in order to continue to operate. This involves a two-step process where you first apply to renew your permit to operate and then once approved by MDEQ, you have one year to demonstrate through stack testing by certified testers. Last year we completed step and had a new 5 year operating permit approved effective April 15, 2015, thus giving us one year to complete the requisite stack testing. We are glad to report this was successfully completed this past fall with no issues to report.

**Staffing**

This was the first year in many that we were able to maintain full staffing throughout the year of the 17 MSEA bargaining unit positions. However, that is not to say there weren’t any other staffing changes. It was certainly with mixed emotions that we celebrated Russ Northey’s official retirement after 27 years here in the power plant. Russ actually served as power plant manager for KPH before the plant transferred to Western in 1994. Russ truly led by example and was totally dedicated to supporting the employees in any way he could and left a legacy we will strive to build on. There was some good news to come out of this with the hiring of his eventual replacement, Ms. Tara Tresh, who began work here in the power plant on a part-time basis in October 2015. In a “creative” arrangement within Facilities Management, Tara shares her time both here in the power plant and in FM – Business Operations supporting Michele Cole. So far this unique relationship appears to be working for all parties.
Both Mr. Walden and Mr. Long continue to advance and develop in the “professional development program” with each assuming more responsibility and demonstrated competence. Mike now generates and submits the annual US Energy Administration required reporting documents and Bill is now generating and overseeing the many operating instructions needed for special weekend operations for special turbine and system operations and activities. Of course, the weekly newsletter authored and generated by Mr. Long, “The Boiler Room Bugle” continues to be must read material for all.

We are also glad to report that Mr. Thomas Maida joined the 25-year club this past year.

## Shift and Scheduling

The new 12-hour shift schedule developed by power plant employees and first implemented in September 2014 continued to be in force for the entire year this past year with rave reviews. This was and continues to be a hugely positive change for all employees providing a significantly improved and needed work-life balance and boost for workplace morale. We appreciate the support of management in this very positive workplace change. The “paperless” leave request/approval system, also developed and run by the employees, continues in place with continual minor improvements. This continues to be well received by the employees with leave requests now typically received and approved sometimes in minutes as opposed to weeks or months previously. We have recently gone a step further in terms of paperless with the work schedules and calendars now posted in the “cloud”.

## Training and Development

A main focus of the power plant is the continued training and development of plant staff. A joint Labor-Management committee meets regularly to monitor and report on the progress of the apprentices currently in the program all the while focusing on their success. To improve feedback and communication, the Committee recently began requiring monthly reports from all apprentices and those new employees not actively in the apprenticeship program. The apprentices are encouraged to offer feedback and suggestions for improvement that is responded to. One area the Committee is working on is reviewing and upgrading the level one and two advanced training program and opportunities for those journeypersons who want to build on and advance their training.

We had one graduate of the apprenticeship program this past year and are glad to report that Mr. Kevin Bridges achieved his journey level status in May 2015. This brings to 10 the total number graduates (9 active and 1 retired) of the apprenticeship program since its inception fourteen years ago in April 2002.

The 10-course “Boilerology” program developed by Mike Walden the previous year continues to be a much needed addition to the overall training program. We expect it to be a fixture going forward as well as something we can expand and build on.
Operations/Outages/Trips

This was yet another year of no electrical outages from Consumers Energy resulting in their main breaker to the power plant opening and causing the plant and campus to go “black” until power could be restored. I always like to take this opportunity to note that we have one of the most robust electrical supply and distribution systems that I know of with not one, but two separate 46 kV (kilo-volt) power supplies from Consumers from two different sources, two 100% capacity transformers plus looped electrical feeds from the power plant to campus largely through a well maintained underground cabling network on campus. In addition, we have capacity internally to generate nearly all of our electrical at all times except for certain high electric load times in the late summer, early fall.

Regarding the turbines, we had a total of 6 unscheduled turbine trips this past year, fortunately all off-peak. The first was related to a fuel control valve issue in November, followed by two consecutive trips both related to a failed air differential switch in April, two consecutive trips related to HRSG low water conditions in May and then a fuel valve mis-track in May as well. This compared to four the previous year, three of which were on-peak. Beyond that, turbine 8’s engine was overhauled this past year and Turbine 7 is scheduled for overhaul this coming year.

Mention needs to be made of a great job of troubleshooting and repairing by plant staff this past year in regards to turbine/HRSG (heat recovery steam generator) operation. After several days of investigating the cause of several boiler and con control malfunctions it was finally determined to be associated with the control wiring on the unit literally melting inside the conduit. This wiring was rated for 170 degrees but the ambient temperatures around this conduit sometimes well over 200 degrees F. This was wiring and conduit that had been installed since the unit first came on line in August 1997 and overtime became brittle eventually failing. Plant staff responded by replacing and relocating parts of the conduit and wire that were vicinity of the 1000-degree turbine exhaust and 400-degree boiler exhaust saving unscheduled trips and outages. They went on to replace substantial sections of conduit and wiring and both units.

Safety and Environmental

We are glad to report yet another year (at least 11 now and counting) of no loss time due to on-the-job injuries. And this is from a power plant staff that is performing all the major hard, physical work of pipe-fitting, welding, rigging, etc., needed to maintain and operate a power plant. Safety first and foremost is always the guiding principle for the employees. The culture that has developed with this in mind along with the great support we receive from Environmental Health & Safety and their emphasis on training and safety, has helped to establish and maintain this record.

Related to safety and safety training, beyond the usual EH&S annual training for hearing protection, asbestos awareness, lockout-tag out, confined space, etc., an arc flash study was completed for ERC this past year.
The power plant remained in environmental compliance with all regulations and reporting requirements this past year. All required emission reports both to the state and federal branches of government were completed as required by law.

**Cyclical Maintenance Activities**

This year happens to be one for a number of cyclical maintenance activities that happen to be coming due somewhat at the same time.

Every four years (actually corresponding to the Presidential election cycle) we contract with UIS (Utilities Instrument Service) to do all our switchgear, breaker and protective relays inspection, cleaning, testing and certification. A lot of this activity requires close collaboration with FM for switching and outages on campus. This work began in the spring and typically is completed in the fall.

Every five years, we test the structural integrity of all our other pressure vessels in the plant consisting of the deaerator tanks and the hot lime pressure vessel both here and at ERC. This happened to fall on this year and was successfully completed for both facilities in the first quarter of FY 16. This was welcome news as these units for the central plant are now 20 years old and approaching the time where problems may start to appear. The fact it hasn’t is in part testament to the quality of our water treatment program.

Every 2 years we perform an inspection of our hot lime vessel and its companion softeners and filters. Similar to above, that happened to be this year as well and we are glad to report the hot lime system was successfully cleaned, inspected and passed its metallurgical testing as well.

**Other items of note**

Phase I of the controls upgrade to the hot lime vessel was completed. The goal of this project was to replace now obsolete and unsupported programmable controls (an increasing problem throughout the plant) and was conducted in partnership with Rockwell Automation with their field service engineer overseeing the project and power plant staff performing all of the installation. This approach was very successful with the project being completed ahead of schedule in about half the time projected. We will be utilizing this same approach when performing Phase II this fall.

Annual required boiler internal inspections were performed and successfully completed for all units both here and at ERC.

We are currently working jointly with the Office of Informational Technology (OIT) to identify and address internet security concerns. Through this effort to date, three old Windows XP units were identified as a major problem and were subsequently replaced. We are looking into possibly a third party coming in to perform additional testing at this time.
Transportation Services Unit

Accomplishments

New EPA Requirements

Western Michigan University was informed by the US department of Energy (DOE) that beginning in model year (MY) 2015, WMU would be required to comply with the DOE’s Alternative Fuel Transportation Program. The DOE established this program in 1996 pursuant to Congress’ directives in section 501 and 507(o) of the Energy Policy Act 1992 (EPAct 1992). EPAct 1992 aims to reduce our nation’s dependence on petroleum by increasing the presence of alternative fuel vehicles (AFVs). The 2015 Model year was our first year in the program and we met and actually exceeded the EPAct requirements set by the DOE.

Routine Service

The routine services on 278 university vehicles, numerous off-road pieces of equipment including golf carts, utility vehicles, ice resurfacing machines, loaders, backhoe, tractors, trailers, etc. were all completed on time.

The semi-annual services on 30 stationary emergency generators were completed on time and within expectations.

In April the yearly dielectric testing of the aerial lift trucks was completed.

Sustainability

Continued recycling all paper, cardboard and plastic.
54 old batteries were recycled
30 - gallons of antifreeze was recycled
1,760 - gallons of used oil was recycled
1 barrel of crushed oil filters was recycled

Vehicle Recalls this Year

G.M., Ford & Chrysler vehicles that had recalls this year totaled 34.
Vehicle purchases this year
1 Small SUV (College of Aviation)
3 Small pickup trucks (Parking Services)
21 Full size pickup trucks (Landscape, Maintenance, ICA)
2 Compact passenger vans (West Hills & ICA)
22 Compact cargo vans (Maintenance & lock shop)
1 Full Size 12 passenger van (Geology)
10 Full size cargo vans (Maintenance & Construction services)

Continued educational training
We had 14 hours of automotive training per mechanic this year.