

# Facilities Management Department

## A Division of Business and Finance

### Annual Report 2014



WESTERN MICHIGAN UNIVERSITY

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*Our Vision*



WESTERN MICHIGAN UNIVERSITY



Facilities Management Department

**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

It is our vision to lead and provide support services to FM Divisions and Units so they are successful.

Planning

It is our vision to be forward thinking partners in the future development of the physical campus, exploring bold solutions and dynamic approaches to implement the university's mission and goals while balancing the interests of the various members of the university community.

Projects

It is our vision to design and deliver superior projects through creative problem solving, knowledge, expertise and effective project management.

Engineering

It is our vision to build facility excellence through innovation, state of the art technical support, expertise, and collaboration.

Operations

It is our vision to exceed our customer's expectations through responsive, caring, and fiscally responsible service.

## *A Message from the Associate VP for Facilities Management*

# Insights from 2014...

The Facilities Management Team continued to build on our strategic plan and find incremental improvements in all areas. Our WEcare program had two plenary sessions for all FM employees and continues to be the theme focusing on an organizational cultural of customer service and continuous improvement. Our FM goals are in alignment with the Business and Finance strategic plan and were supported with our senior staff participating in a Business and Finance retreat. Furthermore, the past year has been very active with capital projects and changing staff due to many retirements and staff transfers. Our senior leadership team was pleased to welcome Michele Cole in our Business Office.



Our FM Divisions and Units were very productive this past year and should be proud of their many accomplishments. This Annual Report provides the highlights of their achievements. I encourage you to take the time and read the document and, hopefully, you will appreciate the variety of things we do for our customers and Institution.

The Administrative Division and all of FM managed a major Computerized Maintenance Management System software upgrade from desktop TMA to WebTMA. This software change also provided an opportunity to streamline and improve processes within and across areas. Workstations were upgraded to Windows 7 and FM completed the transition to the Western Active Directory Environment. Cell phone changes, mobile desktop solutions, VMWare virtual machines, and many application software changes were also accomplished. The Labor Relations Unit was extremely helpful to all Divisions with hiring, contract, and personnel issues.

The Planning Division focused on the new Medical School facility, programing and schematic design of the new Dining Facility and Alumni Center, and updated the five year capital outlay plan. Many space management issues were also addressed.

The Projects and Construction Division was extremely busy with East Campus and residence hall demolition projects. Construction of two new residence halls and the Alumni Center renovation were among 569 active projects that billed \$79M this year. This was also a significant year for process improvement that included new forms, improved customer communication, standardized reporting, and tracking efficiencies.

The Engineering Division managed many utility and HVAC projects and worked closely with the Projects Division on project process improvement. They completed energy, chiller, and utility strategic plans and were instrumental with the University STARS initiative. Commissioning and

the Document Management areas had new leadership and saw significant improvements. The Utility and GIS area was awarded a significant storm water grant that will improve our stewardship role in this area. The GIS and BIM areas continue to excel and build geo-reference data bases that will improve operational efficiencies for years to come.

The Operations Division, the largest in FM, has been extremely busy. Custodial is working toward the Green Seal Certification and staffing changes has consumed a lot of time. Landscape experienced one of the worse winters but brought the beauty of our campus back over the Spring and Summer. They completed re-certification in the Michigan Turfgrass Environmental Stewardship Program. Maintenance completed the transition on PDA to iPads for all hourly technicians. They were instrumental with the WebTMA upgrade and instituted many process improvement projects. The Power Plant completed a professional development plan, changing staff to a 12 hour shift, and experienced staff changes. Most notably was the plant generated its 1 billion kilowatt-hour of electricity. The Transportation Unit was active with new vehicle purchases and sustainability process improvements.

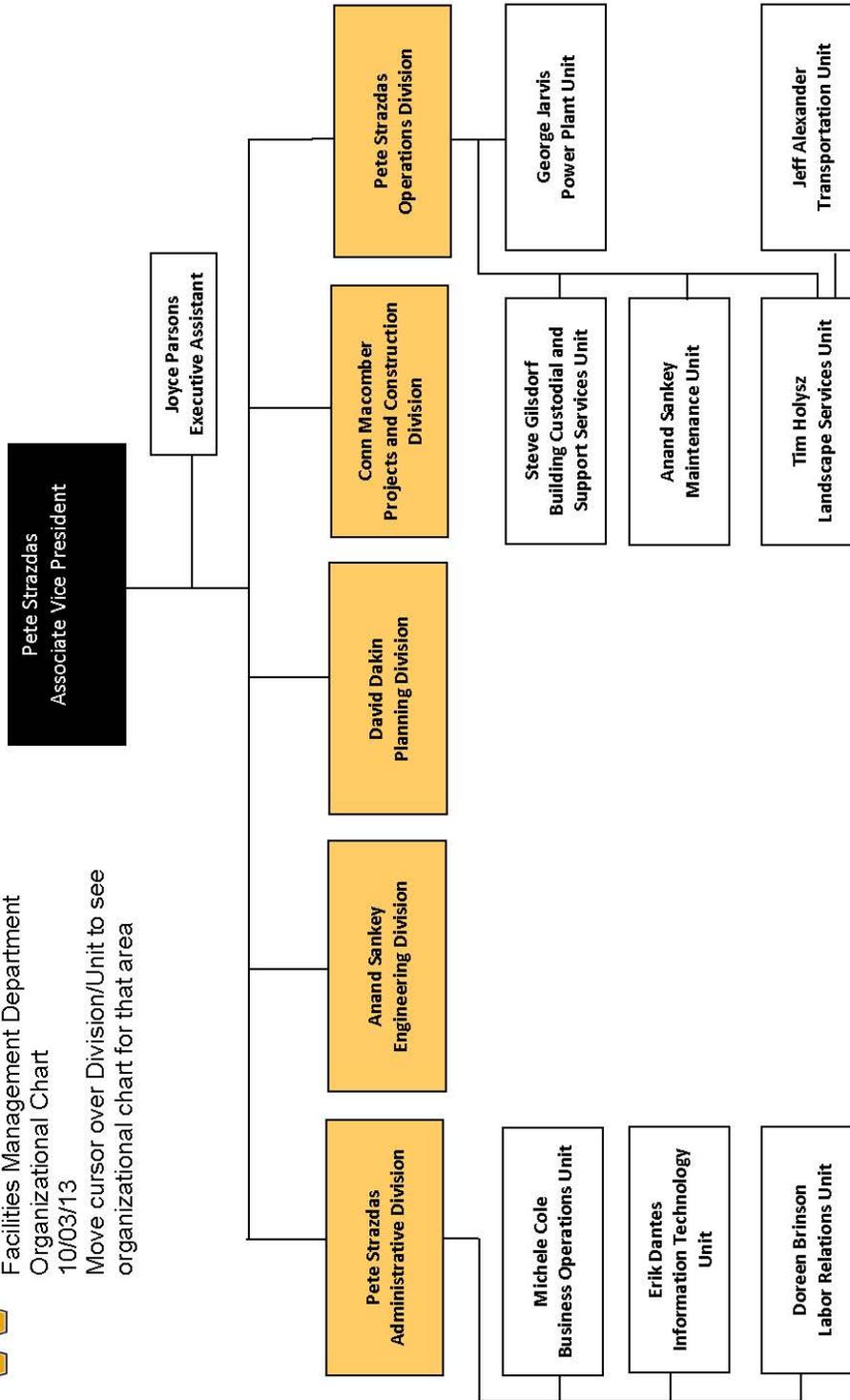
In closing, we must recognize the good work and successes in our Department are accomplished by our team members. Therefore, we recognize them with the pictures on our report cover page. Collectively, the 413 full time employees and our many temporary and student employees have participated in our cultural transformation and been the driving force behind our facility stewardship responsibilities. They deserve the credit for the results published in this Annual Report.



**WESTERN MICHIGAN UNIVERSITY**

Facilities Management Department  
Organizational Chart  
10/03/13

Move cursor over Division/Unit to see  
organizational chart for that area



***Administration Division***

***Business Operations***

In fiscal year 2013-14, the Business Operations Unit adopted a new web based project tracking system (TMA). Although there are still bugs to work out, we were able to launch a new and improved on line billing website for our internal and external customers. Hard copy billings are no longer necessary as we considered sustainability in our process improvement. February brought the opportunity to showcase the site during a business manager meeting, and we were very encouraged by the enthusiasm for our product.

We also are in the process of working with two other FM departments, Projects & Construction and Engineering/Maintenance Services, to develop better communication and job responsibility for all work orders and projects submitted to FM. Customer satisfaction is extremely important and will continue to be a focus during 2014-15.

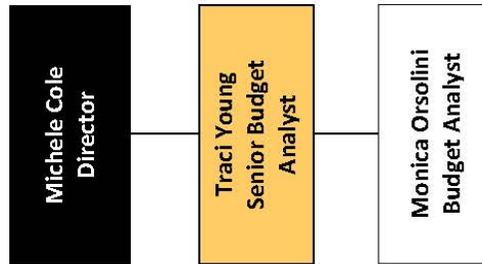
The following is an overview of Facilities Management projects and each Division and Unit's budget and employee count.

<b>FM PROJECTS JULY 2013-JUNE 2014</b>			
Total Number of Active Projects			569
Total of Project Budgets		\$	288,820,391.76
Total Billed		\$	78,795,959.88

<b>BUDGETS &amp; EMPLOYEE INFORMATION</b>				
		Budget FY 2014	Benefit Eligible Employees	Non-benefit Eligible Employees
<b>Planning</b>		\$ 379,965	3	-
<b>Construction &amp; Projects</b>		\$ 2,216,809	23	2
<b>Engineering</b>		\$ 915,722	10	-
<b>Operations</b>				
Maintenance		\$ 9,097,112	115	-
Custodial		\$ 10,017,540	177	1
Transportation		\$ 605,665	5	-
Power Plant		\$ 20,901,206	18	1
Landscape		\$ 4,442,418	53	-
		\$ 45,063,941	368	4
<b>Administration</b>				
Network Services		\$ 286,655	3	-
Associate VP		\$ 337,712	2	-
Business Operations & Labor Relations		\$ 256,356	4	1
		\$ 880,723	9	1
		\$ 49,457,160	413	5



WESTERN MICHIGAN UNIVERSITY  
Facilities Management Department  
Business Operations  
Organizational Chart  
10/03/13



## Information Technology Unit



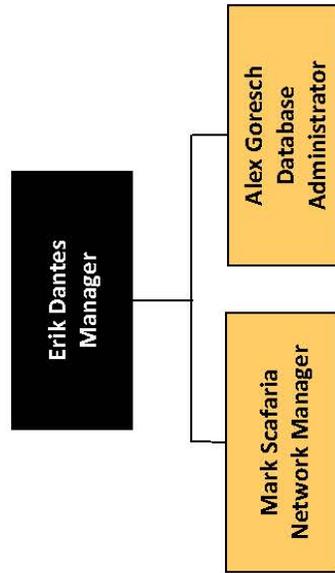
### Accomplishments

- Upgraded most computers to Windows 7
- Primary WADE (Western Active Directory Environment) migration completed on time
  - Converted print environment to Windows print server, replacing printers when needed
  - Designed and tested Microsoft NTFS file system to replace Novell
  - Developed Microsoft Group policies necessary to automate the user environment including drive letter mappings and group memberships.
  - Test and develop workstation imaging solution
  - Update backup solution to accommodate new storage
  - Developed several processes to speed the conversion of each user's profile from Novell
- WebTMA
  - Converted from desktop TMA to WebTMA
  - Rewrote processes and reports for WebTMA
    - Account synchronization with GLOW into TMA
    - Trades overtime
  - Work with TMA to resolve data migration issues
  - Keep WebTMA up to date as new versions became available
  - Worked directly with TMA to help them develop their Revit integration tool
  - Update and maintain 2 separate testing environments for WebTMA (test and revit integration)
  - Develop and implement WebTMA dashboards through maintenance in order to enhance workflow and increase efficiency. Trained interested departments how to create dashboards for themselves.
  - Developed streamlined process for sign shop work order creation for billing signs
  - Put in ~50 product change requests with TMA after finding bugs/product-gaps in WebTMA

- Write reports within TMA and SSRS for department use
- Audit and cleanse building and space information with document room staff
- Develop and deploy automatic TMA work order survey
- Develop and schedule reports for survey and work order status
  
- VMWare virtual machine infrastructure
  - Deployed VMs (virtual machines) on the new cluster mostly relating to WebTMA
  - Purchased one new physical server to be members of the VM cluster
- Update parking and campus maps for 2014
- Began deploying mobility/desk solution.
- Trades paperless/mobile device
  - Chose hardware platform based on multiple factors including ease of use; chose iPad Mini as the solution
  - Deployed 90 iPads to maintenance trades. Most were hardware replacement
  - Using MobileTMA GO which allows trades to much more easily enter time on work orders compared to MobileTMA, which ran on their older hardware
  - Assisted in development and training for trades
- Continued collection of data for building database
- Attend Microsoft Active Directory server and application management training
- Began migration of webpages to University CMS
- Initiated new remote support solution
- Continue to work with Accruent to resolve issues with Famis install
- Continue to support and rollout new mobile phones and related technology
- Began Windows 8 deployments
- Participate in Technology Advisory and Governance Group (TAGG)
- 385 IT tickets completed



WESTERN MICHIGAN UNIVERSITY  
Facilities Management Department  
Information Technology  
Organizational Chart  
10/03/13



## Labor Relations Unit



### Accomplishments

- Participated in interview panels for multiple positions: Manager BCSS, Associate Director BCSS, Administrative Assistant Maintenance Services, Supervisor Landscape Services, Supervisor Remodeling Services. A critical component was to ensure that employment laws and diversity standards were respected.
- Worked with Human Resources AVP to ensure the central labor relations functions were carried out in the absence of the Labor Relations Director. One significant accomplishment was to finalize a grievance settlement that dated back to December 2012. This required extensive coordination of multiple divisions, payroll and HR.
- Designated by Business and Finance VP to act on her behalf as the grievance officer for an AAUP grievance. Was able to settle the issue by organizing and supplying the requested information to the AAUP leadership; they subsequently withdrew the grievance.
- Took on the role of facilitating the Joint Efficiencies Meeting that had been delayed due to complicating factors. This was a requirement of the 2012 negotiated agreement. Meetings were scheduled and issues initiated in various FM departments and Dining Services. The meetings began in December and were held monthly with significant attendance by both negotiating committees.
- Assisted with the continuation of the WEcare program by hosting the third FM-wide program; the topic was Behind the W, the ambassador program that was initiated by VP Rosine. This was the first time they agreed to customize the program for one specific department, even though they had been approached on previous occasions.
- Worked with the power Plant on addressing the concerns that were raised by the employees to the CEDRS mediator. The biggest impact came in the establishment of a

committee which studied the shift situation at the Power Plant that had been in existence for decades. The work of the group was adopted and an implementation committee worded in conjunction with the training committee to deal with the multiple complexities of making this transition to a 12 hour shift. A letter of understanding was authored with the Union and was fully endorsed by the MSEA President, FM AVP and B/F VP.

- Worked with Landscape Services and CEDRS mediator to deal with ongoing employee relations issues with a group of employees who were engaging in continuous conflict that was impacting the work of the division.
- Continued meeting with the division directors to work on common threads and work towards consistency of contract administration and disciplinary actions.
- Continued in-depth work with BCSS management with many disciplinary issues and the settlement of grievances that benefited both parties.
- Worked with Projects and Construction to more efficiently deal with subcontracting issues.
- Continued leadership roles on the executive boards of the Kalamazoo Area Labor Management and the Michigan Labor Management Association.
- 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 annual conference, monthly Kalamazoo Area Labor Management speaker series, and the Fall MiAPPA conference.

## *Planning Division*

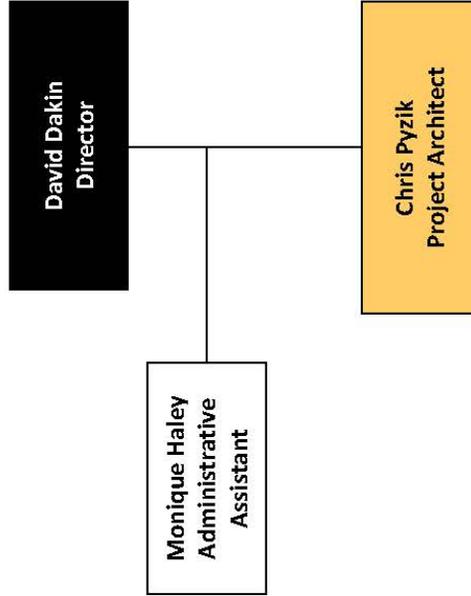


## *Accomplishments*

- Western Michigan University's School of Medicine facility.
- New Dining Facility program and schematic design.
- Design of the Icon.
- New Alumni Center program and schematic design.
- Updated the Five Year Capital Outlay Plan.



WESTERN MICHIGAN UNIVERSITY  
Facilities Management Department  
Planning Division  
Organizational Chart  
12/17/12



## Projects and Construction Division

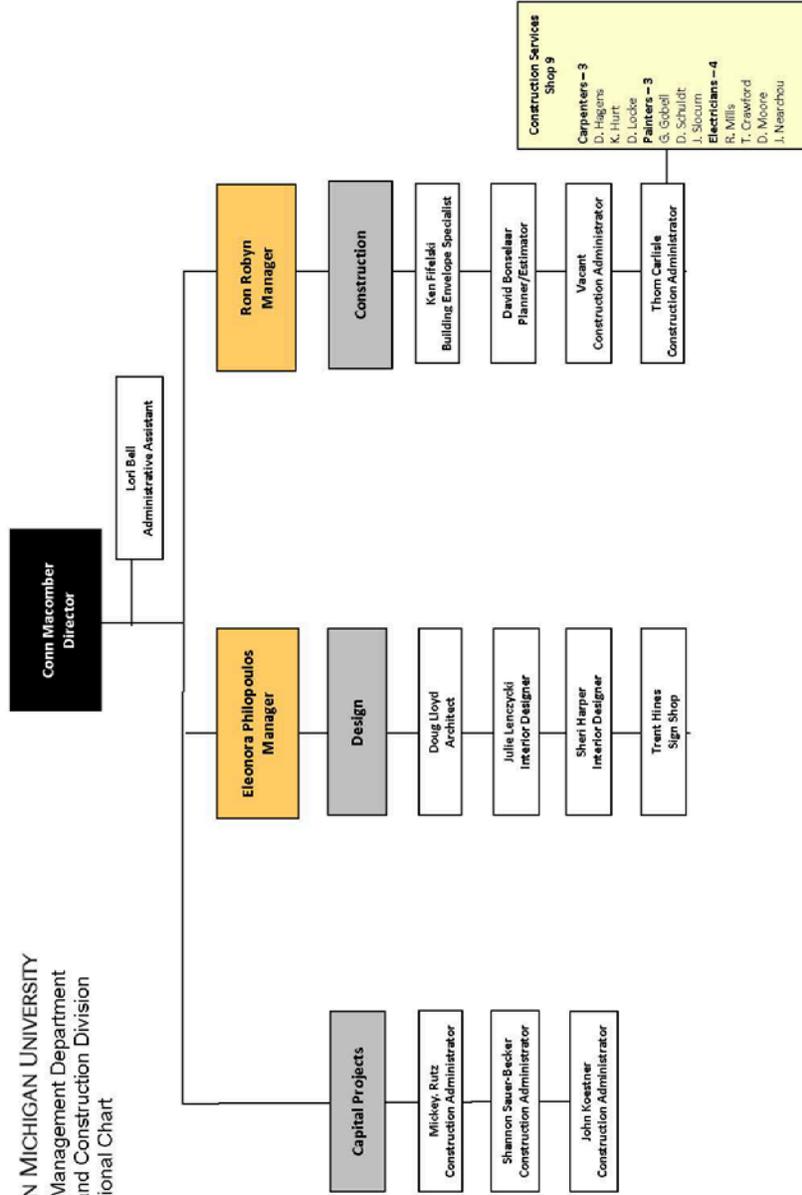


### Accomplishments

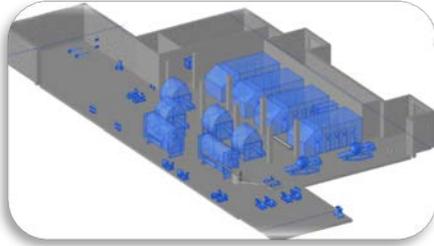
- Abatement and demolition of East and Main Campus buildings by December 31 of 2013 within budget (5.1,b)
  - Complete 100 per cent. Abatement work for Speech and Hearing, West and North Hall were completed on October 30, 2013. Demolition of Speech and Hearing and West Hall were completed by October 30, 2013. North Hall demolition (part of the East Hall project) is in progress with scope to maintain south wall façade, completion anticipated by October 2014. Bigelow and Hoekje abatement and demolition completed November 2013.
- Measure client satisfaction with survey form (WEcare)
  - Complete 100 per cent. Survey form and process were developed and implemented. Surveys are sent to clients upon project completion and during active project phases.
- Establish and place on-line new forms for project requests and authorization for efficiency (WEcare)
  - Estimate – no details
  - Estimate with details (design and drawings) – requires F & CC
  - Do it now - requires an authorized fund and cost center
  - Complete 75 per cent. Estimate process is nearly complete and pending website implementation.
- Initiate customer communication process on a schedule for weekly project updates (WEcare)
  - Complete 75 per cent. Project managers and designers circulate bi-weekly client log communication reports to assure customer communication. Pending standardized reporting format and determining effectiveness of reporting.
- Establish a data base of recycling results for demolition and new construction and place on-line at the Projects and Construction Website (5.2,a,b,c; STARS)
  - Complete 100 per cent. Continued data collection is generated and uploaded to website per associated projects. Data recording content reflects actual tonnage of materials recycled and materials sent to landfill.

- Measure client complaints with a goal of a 90% reduction (WEcare)
  - Complete 100 per cent. Client survey responses indicate 50% reduction.
- Track individual efficiency by number of chargeable hours recorded on the weekly Project Time Report (5.1,a,b)
  - Complete 90 per cent.
- Establish and place on-line new project request format for signage needs (WEcare)
  - Complete 100 per cent. Updated website regarding services provided was also implemented.
- Each item above is to be included in the annual performance review as appropriate (WEcare)
  - Complete 100 per cent.

**WESTERN MICHIGAN UNIVERSITY**  
 Facilities Management Department  
 Projects and Construction Division  
 Organizational Chart  
 9/15/14



## Engineering Division



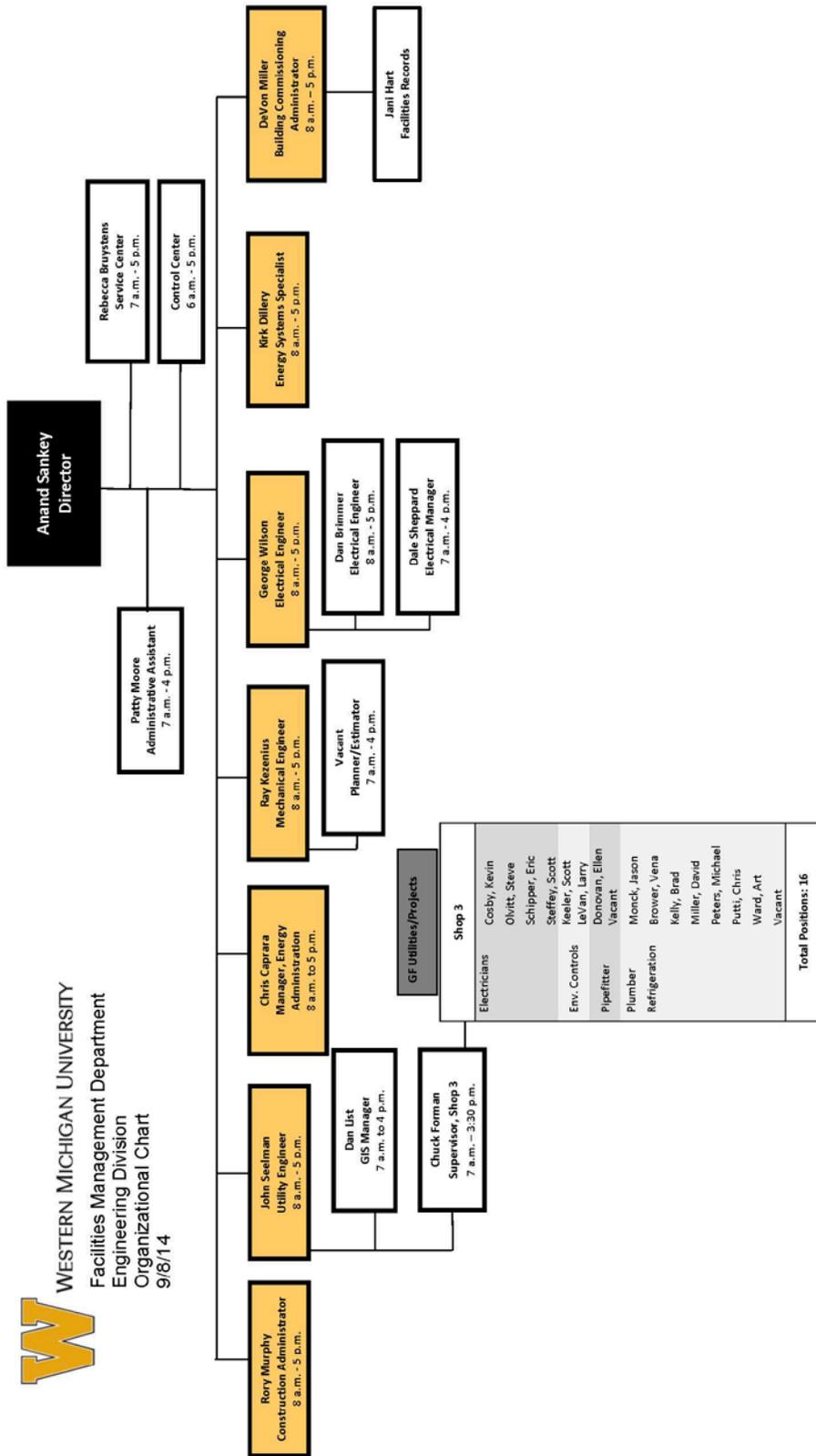
### Accomplishments

- Updated interior lighting guidelines to increase the efficiency of lighting for renovations and new construction
- Developed "Energy Reduction Strategic Plan", which ties energy reduction goals to the university's climate action plan
- Phased out accent halogen lighting in interior spaces
- Provided data for University STARS initiative
- Completed annual switchgear maintenance - part of 7 year rotational program
- Obtained the Commissioning Process Management Professional (CPMP) certification through ASHRAE.
- Hired CAD/Facility Document Coordinator in the Facilities Records Department.
- Completed the 10-month near end warranty walk-through for Chiller Plant Expansion at Schneider Hall.
- Completed the 10-month near end warranty walk-through for Zhang Legacy Collections Center.
- Continually tracking all warranty work orders for major capital and renovation projects for completion and closed.
- Developed "Cradle-to-Grave" project management process.
- Developed service manual that includes pertinent information (i.e., floor plans, warranty dates, attic stock, punchlists, issues log) for the Facility Management Team.
- Completed the commissioning (functional performance testing) of the new replacement air-cooled chiller at Seelye Athletic Center, new air handler Bernhard Center, Sangren Flossie's,
- Developed the commissioning construction checklists for new replacement cooler tower at Miller Auditorium and Gilmore House
- Re-instituted the retro-commissioning process for existing buildings on campus.

- Assisted with the interview and selection process of the independent commissioning agents for East Hall Alumni Center, New Dining Facility, Dunbar Hall, Dalton Center, and Schneider Hall.
- Accepted the duties of Owner Representative for USGBC LEED projects.
- Maintaining the BIM Execution Plan as a “living document” to be project specific.
- Assisted with the development of the mapping initiative of the existing building 3D (Revit) models and Centralized Maintenance Management System (CMMS – WebTMA).
- Participated in a joint effort with a team of representatives from Engineering, Projects and Construction, and the Business Operations to improve the Project Process from “Cradle to Grave,” specifically focusing on the Project Closeout Process.
- New standards were established for the BIM models with TMA database, simple floor plans and a training guide was created to implement these standards and a spreadsheet to track the implementations and BIM inventory.
- In progress campus electrical vault condition analysis
- In progress campus sidewalk lighting/brightness condition analysis
- Completed Valley 1 primary electrical system replacement
- Add the Office for Sustainability, Kilgore Road Boiler , Valley 3 HVAC to the BAS
- Upgrade heat exchanger control valves in Eicher, Garneau, Harvey, Lefevre, Ackley, and Shilling
- Upgrade controls at SRC
- Complete wireless control upgrade at Everett
- Host various classes and colleges at the control center
- Support warranty issues at Sangren Hall, Zhang Legacy Collections Center, remodeling of Bookstore, design and construction of new residence halls, holiday setbacks, Plaza Fountain and Michigan Ave. Icon, HVAC issues for Follett Bookstore, East Hall renovation, attend many training sessions on a multitude of subjects
- Meet with new control contract bidders
- Sent one FTE to Niagara BAS school
- Created Chiller Strategic Replacement Plan
- Refurbished cooling towers at SRC and Friedmann
- Replaced Miller cooling tower and enclosure
- Completed overhaul of Bernhard Center Chiller
- New elevator service provider
- New elevator monitoring system and graphics for 11 of our elevators
- New confined space monitors and docking stations from Industrial Scientific
- Floor plans and graphics updated on Fire Alarm TrueSite Workstation to Lawson, Health & Human Services, CEAS, Chemistry, Dalton, Zimmerman, Legacy
- Bid and awarded new utility Time and Material contract for Camera and Utility Cleaning
- Steam vaults vault condition analysis completed
- Rebuilt steam vault 44, Completed design for the rebuild of steam vault 42
- Stormwater - completed construction of 5 bmp's sites, received approval for construction of 6th site

- Substantially completed Arcadia Creek monitoring grant
- Applied for, and received, SAW grant addressing storm and sanitary sewer infrastructure locations
- Initiated construction of the Sindecuse/Schneider hall steam line replacement project
- Condensate line repairs - Burnhams , Waldo library and Wood Hall
- Lighting projects - Upgraded street lighting on Western Ave and Rankin Ave to LED
- Upgraded lighting on the Miller parking deck, Sindecuse Lot 40
- Initiated exterior lighting control through BAS system
- Paving/parking ramp projects - Annual parking ramp repair project initiated at Ellsworth and Miller ramp, Annual paving project initiated at lots 40 and 18, Completed traffic/parking study of the Fetzer Center Rankin ave corridor
- Terminated gas service to buildings no longer using natural gas
- Completed rehabilitation of Chiller ACC-1 Haenicke Hall
- Completed annual back flow preventer testing program
- Storm / Sanitary Sewer Maintenance – annual sewer cleaning of all dining facilities and 16 additional locations on campus with various problems – identified and resolved
- Upgraded Engineering Website to University CMS format
- Implemented 10 new Key Performance Indicators
- Created Wellness Program for Division
- GIS Manager acquired certification as Geographic Information Systems Professional
- Organized WMU FM involvement in the changes in Miss Dig reporting due to new legislation
- GIS Data Development - conversion of Data to Esri Local Government Model

**WESTERN MICHIGAN UNIVERSITY**  
 Facilities Management Department  
 Engineering Division  
 Organizational Chart  
 9/8/14



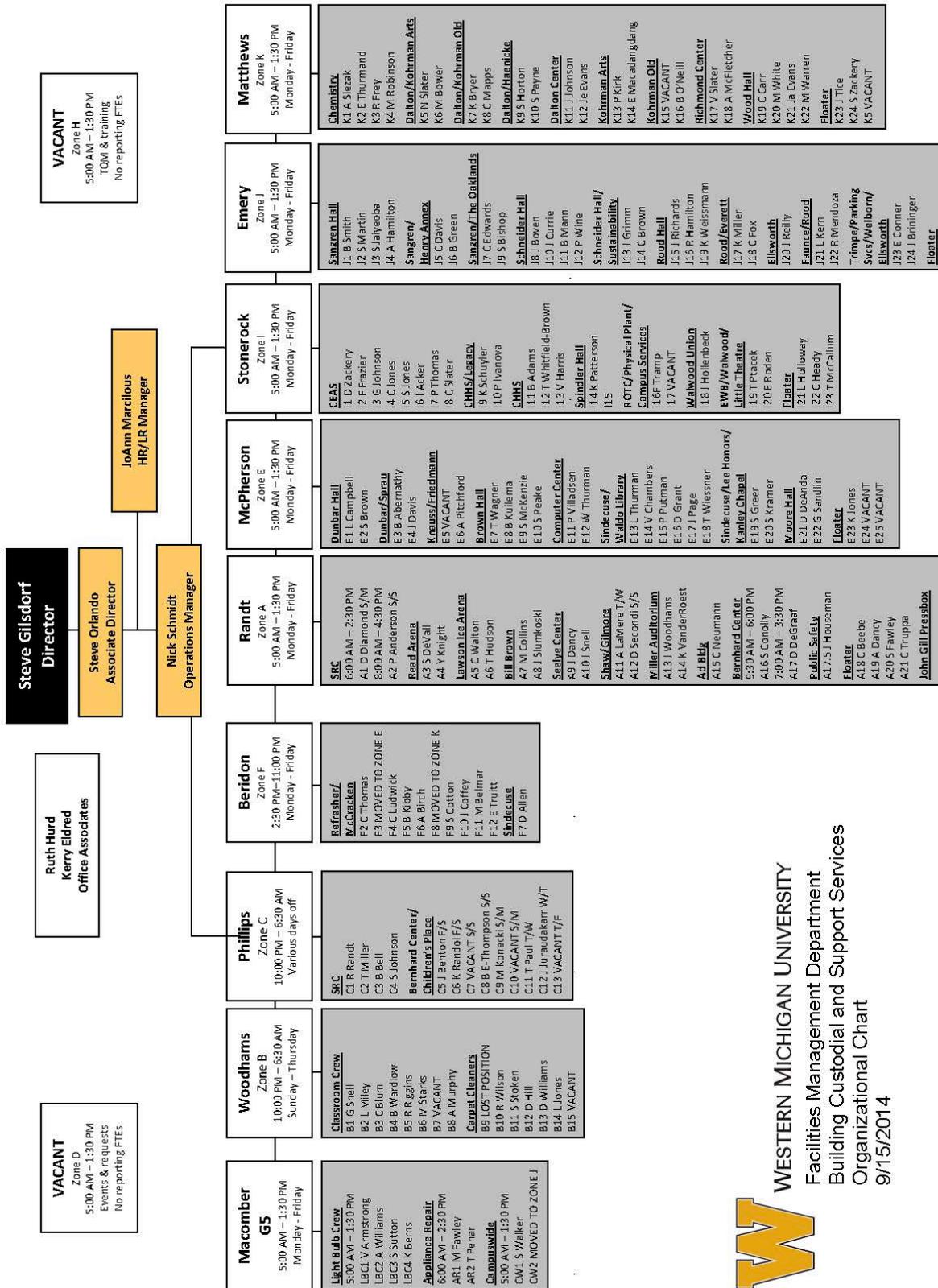
## *Operations Division*

### *Building Custodial and Support Services Unit*



### *Accomplishments*

- Completion of Green Seal Certification – submission to include completion of process and procedure development in the following areas:
  - Comprehensive customer communication plan- completed
  - Site specific (building- CHHS) green cleaning program including staffing, scheduling and work requirements. This will include SOP review for all BCSS procedures to ensure compliance with Green Seal requirements- scheduled August 2014
  - Equipment preventative maintenance program- scheduled fall 2014
  - Auditing/inspection program- scheduled August 2014
  - Floor (hard surface and carpeting) care program- scheduled fall 2014
- APPA Award for Excellence- custodial module- work completed for Green Seal will apply toward APPA Award for Excellence—coordinated through FM administrative office.



**WESTERN MICHIGAN UNIVERSITY**  
Facilities Management Department  
Building Custodial and Support Services  
Organizational Chart  
9/15/2014



***Landscape Services Unit***



***Accomplishments***

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

- Brick on Miller Auditorium verandah steps
- French Hall steps; patched, re-coated slurry seal
- Steps from Lot 100 to Faunce
- Western Avenue steps leading from Lawson
- Zimmerman front entrance steps
- Burnham’s front entrance steps
- Siedschlag front entrance steps
- Lot 10 stairs
- Repaired collapsing curb inlet in Lot 61
- Repaired collapsing curb inlet on Western Avenue by WVA-II
- Repaired collapsing manhole/ring/cover at Legacy Center
- Repaired collapsing manhole/ring/cover on West Shaw Lane
- Repaired a multitude of tripping hazards throughout campus

***Hardware, Fencing & Furniture***

- Repaired chain link and decorative fences at numerous locations:
  - Several small sections along the MDOT non-motorized path
  - Davis Street practice fields
  - Asylum Lake perimeter fence, 1200’ along east property line
  - Gibbs House fencing project
  - Installation of fencing around the Upholstery Shop perimeter
  - Assisted with installation of new decorative fencing at WVA-II Along Howard Street
  - Repaired meter posts at the Bernhard Center
  - Repaired fencing and gate posts, then reset fence at Waldo Stadium Press Box
  - Refurbishing of plexus furniture throughout campus
    - 8 carousel tables and umbrellas from CEAS
    - 20+ benches
    - Process will continue into next year
  - Various work orders for minor hand rail repairs throughout the year

### *Landscape Enhancements*

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- Creation of FM/LS garden walking tour; interactive on our web page
- Rood Hall sunken garden; rock/boulder garden w/new water feature
- Lot 16 traffic island; new rock formation w/engraved "W" Western Michigan University
- Sindecuse new patio area includes decorative fencing/tables and umbrellas
- Amphitheatre improvements; pruned mature honeyloucsts and added large flower and tree planters
- Gilmore House back patio area re-landscaped following AC project
- Direct involvement with several major landscape improvements related to building projects including:
  - New residence halls
  - New dining facility
  - McCracken
  - East Campus Alumni Center
  - New icon
  - WVA-II
  - Way-finding study
  - GV Pond study
  - Storm water retention areas
  - Miller cooling tower replacement
- Continuation of our dumpster painting program, another 70 units were painted and redistributed throughout campus
- Over 100 annual planters repainted
- Removed graffiti as it appeared; hot spots continue to be Howard Street bridges, walks around GV Pond area, and the round-a-bout tunnel
- Sprayed Round-up to control weeds at campus shrub beds, tree wells, parking lots, curb lines, sidewalks, fence lines, etc.
- Mulched approximately 90% of campus shrub beds and tree wells using shredded bark
- PLM applications for algae at GV and CEAS ponds

### *Annual Flowers*

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- 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 Center
- 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*

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- Sixth consecutive year to obtain the distinction of Tree Campus USA awarded through the Arbor Day Foundation
- The University Tree Walk was expanded and updated
- Implemented tree assessment protocol to value trees impacted by construction

#### Tree History – 1991 to 2014:

- Trees Planted = 1,787 total
  - Purchased/planted and/or transplanted from WMU Parkview Nursery
- 45 total trees planted in 2014
- Trees Transplanted = 304 total
  - Taken from various building construction projects and moved/transplanted to different sites throughout campus
  - Largest group of trees (72) were transplanted due to Chemistry project
- Tree Take-Downs = 652 total
  - Storm damaged, health and safety hazards
  - Trees in building construction zones too large to safely and/or successfully transplanted
  - Largest group of tree removals at one time (65), due to 1992 October snow and ice storm
- A total of 51 trees were removed in 2014

### *Natural Areas*

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#### MAIN CAMPUS

- 424 customer hours of tours, educational and volunteer programs
- 620 hours of undergraduate student volunteer and education hours
- Staff mentor for 8 undergraduate students
- 20 hours of graduate student consultation hours
- 15 hours of WMU class time serving 8 faculty members
- Facilitated sustainability grants for 3 students
- Enhanced native buffer zone on north end Valley 1 to reduce erosion around natural seep by planting native perennials

- 700 additional woodlot trees identified, measured (DBH) and mapped using GPS.
- Continued development of natural areas' layer on GIS integrator map.
- Propagated 2500 Native plants in WMU Biology Department Finch Greenhouse.
- 30 hours consultation on Native plantings for new construction: Valley Dining Unit, East Campus Alumni Center, Western View Apartments, Zhang Legacy Archives, New Campus residence Halls, Rood Hall Sunken Garden, Storm Water Features
- Creation of Campus Wildlife Management Plan and wildlife corridor and habitat presentation
- Updated woodlot management plan
- Tree Campus USA publication
- Identification and management of rare Dwarf Hackberry tree population on campus
- Assisted training for Admission Student Ambassadors
- Assisted in training Orientation Student Leaders

#### PARKVIEW CAMPUS

- 90 customer hours of tours and native seed collection
- GPS mapping of native plants, invasive species and trees at CEAS
- Continued development of CEAS/BTR management plan and management consultation for existing prairie landscape

#### KLEINSTUCK PRESERVE

48acre nature preserve owned and managed by WMU

- 630 adult volunteer / education hours
- 1000 student volunteer/ education hours

#### Research

- Kalamazoo Nature Center avian monitoring
- Soil sampling analysis, MSU grad student
- Monthly photo monitoring at nine sites
- Smithsonian Institution tree monitoring study w/Kazoo School students

#### Education

- Kazoo School-caring for native planting plots
- Montessori School-caring for native planting plots
- Kalamazoo Math and Science Center (KAMSC)
- Parkwood Upjohn School
- Maple Street Public School
- Saint Augustine's day of service
- ENVS Service learning class mentor, presentations, tour of Preserve, facilitate student projects
- Stewards of Kleinstuck Programs: Frog Walk, Piping in the Preserve, Wildflower Walk, Wellness Walk, History Tour

#### Ecological Improvements

- Stewards of Kleinstuck held 15 workdays and five days of service removing invasive species, planting native plants, trail improvements, and removing trash
- Cut brush and enlarged overgrown sedge meadow
- Facilitated prescribed burn of invasive brush
- Restoration work in over six acres of Preserve
- Planted 1,000 native plants grown in WMU's Finch Plant Science Greenhouse
- Planted 50 native shrubs and trees
- Sowed 12 pounds of native seeds

#### Infrastructure Improvements

- Working w/City of Kalamazoo and WMU Union staff to facilitate sanitary sewer maintenance on ½ mile of easement/trail
- Implemented storm water management plan for Chevy Chase entrance developed by Keiser and Associates
- Discussions with City of Kalamazoo, to secure deed for WMU access at the Stearn Street entrance

#### ASYLUM LAKE PRESERVE

274 acre nature preserve owned and managed by WMU

- 350 adult volunteer/education hours.
- 625 student volunteer/education hours

#### Research

- Dr. Gill, WMU Biology Department: Effect of anthropogenic noise on the behavior of wrens
- Dr. Koretsky, WMU Geosciences Department: Influence of road salt deicers on lake water chemistry and mixing

#### Education

- Hosted "Outside in our Schoolyard" event with Kalamazoo Nature and the WMU Office of the President
- WMU First Year Experience volunteer day
- WMU Environmental Field Geochemistry Course
- Spring and fall Asylum Lake Celebration Day sponsored by ALPA and WMU Natural Areas Program
- M-TECH class presentation on the natural/native communities of Michigan
- ENVS class presentation on the natural/native communities of Michigan
- Visits by Orientation Student Leaders
- MSU Medical Residents Wilderness Training
- Wellness and FM Staff walks of Preserve

#### Ecological Improvements

- Continuing ecological restoration work by Wildtype, LTD removing invasive species from upland Oak forest sites
- Additions and maintenance to bluebird nest box trail

#### Infrastructure Improvements

- Repair of property line fence on north and east border of Preserve, including 1,200 square feet of new fencing

#### Off Campus Outreach

- Natural areas and native plant presentations at MSU, Calvin College, Kalamazoo Wild Ones, Wenke Greenhouse, KPS Teachers meetings

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#### *Sustainability/LEED-EB Initiatives*

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- Second 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
  - Compost tea 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 sixth season not using 24D or similar products
- 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 IM 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) which uses ET (evaporation rates to water) for "smart watering."
- 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.
- In the process of incorporating small equipment in TMA for inventory and maintenance recording

Snow removal tactics:

- Landscape Services started researching and reviewing the new liquid anti-ice and deicing tools 11 years ago to see if they could be used in our snow and ice removal operations. Seven 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.

Average Seasonal Snowfall = 72"	Snow Total	Amount of Salt Used	Tons Used per Inch	Pounds per Lane Mile
2006-07 Season*	76.5"	1,740 Ton	27.74	368
2007-08 Season**	95"	1,710 Ton	18.0	291
2008-09 Season***	126"	1,403 Ton	11.13	180
2009-10 Season	80"	1,184 Ton *	14.8	239
2010-11 Season	79"	1,248 Ton *	15.79	256
2011-12 Season	54.5"	927 Ton	17	275
2012-13 Season	64"	1,100 Ton	17.18	278
2013-14 Season	117.8"	1,442 Ton	12.24	198

\*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

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 33.4% of salt usage over the last 7 years.

**2013-14 Snow Statistics**

50 Snow Events

3 Freezing Rain Events

117.8" of Snow

**The Use of Beet Juice as a Snow Removal Tool****Beet Juice:**

- 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
- Help 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 snow fall greater than 6" will take 24 hours to clear after the end of storm.
- Early morning snow fall 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 clean-up 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:

Winter Season	Snowfall Total	Number of Complaints		
		Streets & Lots	Walks	Total
1996-97	unavailable	107	78	185
1997-98	unavailable	38	36	74
1998-99	unavailable	108	135	243
1999-00	unavailable	24	14	38
2000-01	unavailable	139	97	236
2001-02	unavailable	89	50	139
2002-03	unavailable	33	33	66
2003-04	61"	56	45	101
2004-05	59"	41	37	78
2005-06	52.5"	23	23	46
2006-07	76.5"	29	30	59
2007-08*	95"	19	24	43
2008-09**	126"	21	24	45
2009-10	80"	21	17	38
2010-11	79"	5	14	19
2011-12	54.5"	5	16	21
2012-13	64"	10	16	26
2013-14*** x	117.8"	41	12	53

\*Pre-wetted entire load of bulk salt to use on roads, lots, and walks

\*\*Continued anti-icing of walks 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

**X Taking the square feet of surface areas that were plowed and the snowfall amounts, we moved 3.1 million cubic yards of snow, the equivalent of 540 million pounds of water for the 2013-14 season.**

### *Athletics*

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- Projects
  - Laser graded Hyames and Ebert skins
  - Built new baseball visitor's bullpen mound
  
- Support for Athletic Events
  - 9 softball games
  - 19 soccer games
  - 5 football games
  - 3 tennis matches
  - 31 basketball games
  - 5 gymnastic meets
  - 1 cross country meet
  - 12 volleyball matches
  
- Support for Athletic Camps
  - Football, basketball, baseball, softball, volleyball, soccer
  
- Support for SRC Events
  - IM softball games; IM football games; IM soccer games; tarps for events in SRC, Lacrosse Club team, and Rugby Club team and LGBT student party
  
- Support for Special Events and Community Events
  - USTA Zonals Tennis Tournament, USTA Midwest Tennis Tournament, 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; MAC Gymnastic Championships, softball game rentals, high school indoor track
  
- Employee Training Opportunities
  - Hearing protection training

### *Equipment Improvements*

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- Replaced one Gator vehicle
- Various small equipment replaced as needed; weed whips, blowers, etc.
- Replaced Tool Cat

### *Support for Special Events & Community Activities*

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- Bronco Bash
- Homecoming
- Soap Box Derby

- Campus Classic 5K Run
- Athletic Events
- CommUniverCity Night
- Home Football Games (5)
- USTA @ Sorenson Courts
- High school baseball rental
- 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*

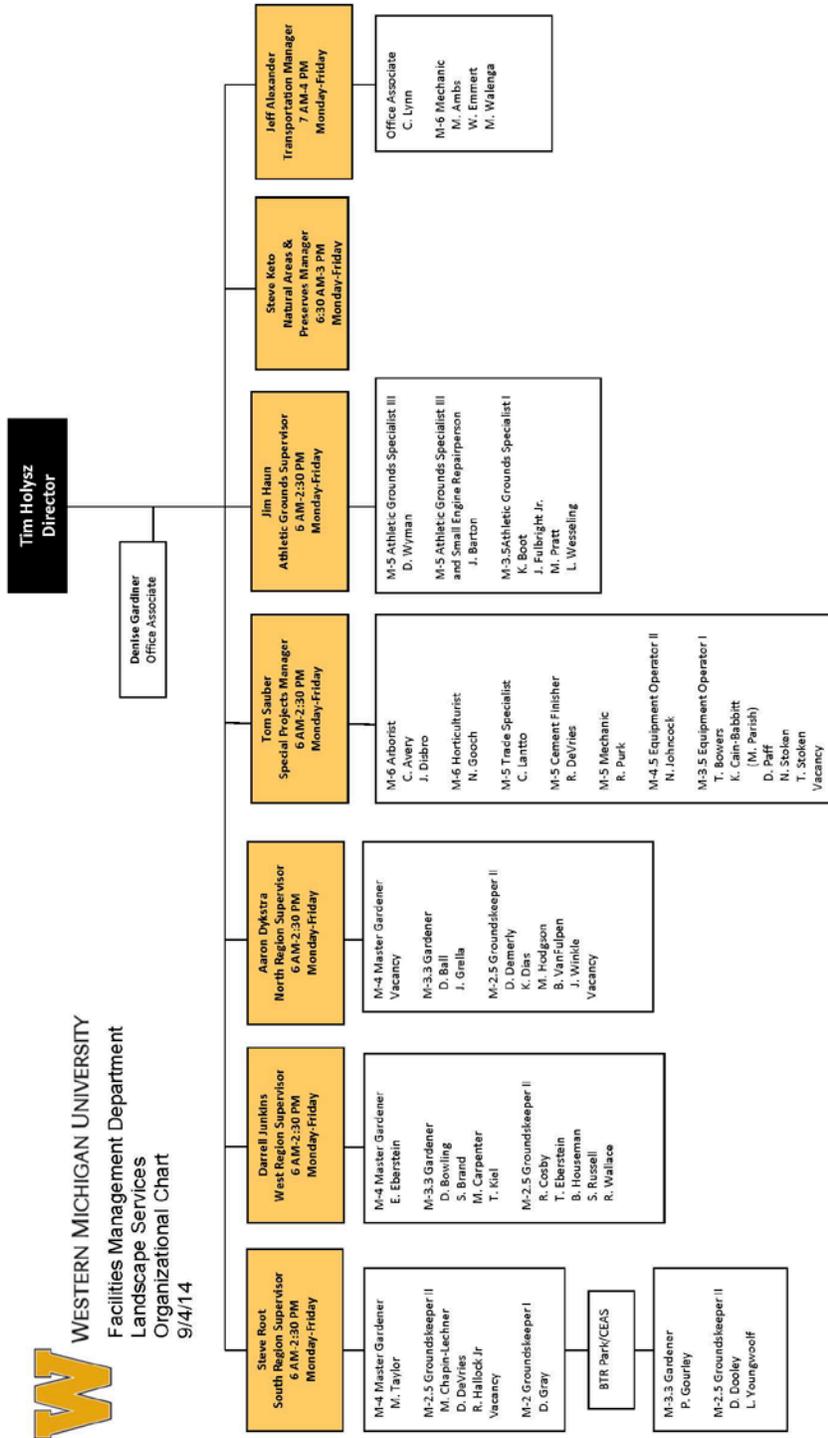
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- Assisted HR/Umar with job description videos for M-2 and M-2.5 positions
- Coordinate AFSCME uniform fitting/ordering process for FM Department
- Assist Logistical Services by delivering large, bulky items
- Assist Maintenance Services by transporting 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 renovations
- Assisted with the Einstein sculpture installation at CEAS
- 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*

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- Renewal of our status as a “TreeCampus USA” through the National Arbor Day Foundation for the sixth consecutive year
- Staff members Deanna Bowling and Steve Keto were recognized by the ‘Make a Difference Award’



## Maintenance Services Unit



### Accomplishments

- Upgraded Maintenance Services to Smart Devices – utilizing iPad for daily work order management
- Revised Maintenance Services webpage to University CMS format
- Created 8 additional key performance indicators for tracking and process improvement
- Formalized process improvement for Light Bulb renewal for Residence Halls
- Upgraded to new web based Computerized Maintenance Management System
- Summer Projects include Gilmore House improvements, SRC Pool painting and tile repairs, Athletic Facilities seating repairs, Glass repairs, controls upgrades, and more
- 2014 Residence Hall benefitted from a new process for identifying and submitting known issues, eliminating the need for “room by room” inspections. Renewal included top-down painting of French Hall, Davis Hall lobby and public spaces, and all residence facilities refreshed and serviced. Apartment turnovers completed with only limited flooring outsourcing.
- Heavy snow loads last winter damaged several structures, Seelye IPF shown above, for instance. Spring storms with high winds also took their toll on utility infrastructure. Freezing pipes and subsequent floods were commonplace, and water service freezing in city mains was frequent; in the Office for Sustainability Building lasted for weeks.
- Emergency repairs were made when necessary due to failed piping in Faunce Student Services Building. Because of abnormally high failure due to age, the heating system was drained in summer to facilitate major piping upgrades.
- New compressed air system installed at Wood Hall to resolve compressed air and control reliability issues.
- Zhang Legacy Collections Facility - building and site added to portfolio, with all staff training, turnover of materials/documentation, and warranty period successfully completed.

- Working in conjunction with FM IT staff, dashboards developed are now used for tracking daily workloads, and for continuously calculating Key Performance Indicators for work order completion and backlog
- Customer Satisfaction Surveys sent out for all FM Service Calls, any negative responses are resolved
- Accepted to participate in the 2014 WMU 2014 Academic Leadership Academy
- Participated in the 2013/2014 Everyone Counts Faculty Professional Learning Community
- Behind the W Brand Ambassador Workshop
- Upgraded campus exterior lighting to banner rated with LED lighting
- Completed Year 27 of steam trap program
- Continued with exterior summer painting program
- Completed summer general fund entry way carpet replacement program



## *Robert Beam Power Plant Unit*



### *Accomplishments*

#### *Staffing*

Management approved a "professional development plan" for the power plant allowing for possible upward mobility in the plant along with an additional position to facilitate this process.

Efforts were subsequently undertaken during the year to hire additional staffing to reach the revised authorized level of 17 bargaining unit positions. These efforts were dealt an initial setback with the unexpected resignation of one of our newest employees, Mr. David Clark, on October 7. Mr. Lucas Wisel was ultimately hired to replace this opening and began work on August 12. Subsequent hirings of Mr. Matthew Cronkhite on January 6 and Mr. Demetrius Appleton on January 13 followed, allowing us to reach our allotted number of positions resulting in the power plant ending the year fully staffed.

#### *Scheduling*

This additional position allowed the work schedule of the employees to be modified. The first change was to eliminate the "brutal" two-man Swing Shift and combine this crew into one large six-man Relief Shift crew that took effect September 1. The results were not what we had hoped for and this schedule structure was abandoned in June 2014 in favor of a 12 hour shift schedule developed by plant staff members themselves. This new 12 hour shift schedule went into effect in July 2014. We are looking forward to reporting positive progress over the course of the coming year.

#### *Training and Development*

The Apprenticeship Training Program, begun in April 2002, celebrated its 12th year in existence this past year. There are currently a total of 7 journey level graduates of this program in the power plant.

This past year saw Kevin Bridges reach the 50 percent completion status in the apprenticeship program - electrical. Mr. Art Priest also successfully completed his Advanced Level 1 training for instrumentation and controls.

The Training Committee, with the tremendous assistance of Mr. Mike Walden, adopted revised training requirements for new apprentices entering the program incorporating more classroom training hours and more cross training of the electrical and mechanical disciplines. Mike was also helpful in

coordinating the various Kellogg RMTC programming changes with our training program that took place when RMTC totally converted their software operating system this year.

### *Outages*

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Another year of no outages from Consumers Energy resulting in their main breaker opening to report. We also experienced no storm related gas turbine trips this past year as well.

A relatively minor electrical outage took place August 1 on the 2400 volt line feeding the Hospital and the older part of East Campus due to debris falling on the aerial portion of that line. Power was restored in approximately two hours.

On October 5, the plant experienced a failure of a relief valve on the 60-5 reducing station that resulted in a steam outage to campus and the Hospital of approximately four hours duration.

### *Safety*

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Glad to report yet another in a long line of years (at least 10 and counting) with no loss time due to on-the-job injuries.

Standard set of required safety training completed for plant staff including CPR, hearing protection, asbestos awareness, lock-out tag-out, respirator fit testing, lift truck testing and training and confined space training.

Environmental Health and Safety replaced all 42 fire extinguishers in the central plant.

Plant staff began installation of ambient gas sensors in plant as a result of a failure of a fitting in the high pressure gas line in the plant.

Plant staff assisting in completion of an update to the existing arc flash study that should be complete in the first quarter next year

### *Administrative*

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Worked with FM and Purchasing in bidding out the water treatment services contract. A new five year contract was ultimately awarded to Chem-Treat.

New power plant employee uniform contract was bid out and awarded to Continental Linen.

All employees with the exception of one, qualified for the sick leave sell back incentive program this year.

Reported plant data for various outside agencies: Princeton Review, STARZ and EIA (Energy Information Agency).

Worked with Dale Anderson on consultative basis to provide third party review and report on employee issues and concerns.

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### *Accomplishments/Recognition*

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The power plant reached an historic milestone of 1 billion kilowatt-hours of electricity generated on October 31, 2013, almost nineteen years to the day when Western assumed operation of the power plant.

Plant staff was recognized by the Vice President and Joe Reish for 13 consecutive years of 100 percent staff participation in United Way.

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### *Turbine Operation and Maintenance*

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Confirmed with RRESI (Rolls Royce Energy Systems, Inc.) the extent and coverage of the long term service agreement (LTSA) in regards to upgrades and obsolescence particularly in regards to the gas valves and controls. The gas valve on #8 was subsequently replaced under the service agreement. RRESI remains in the process of identifying availability of various control items in their inventory.

RRESI indicated that the part of their operation that serves us will be taken over by Siemens by the end of 2014. It is unknown at this point how this will affect us.

30,000 hour overhaul performed this past year on Turbine 7 and engine restored to "as new" specifications.

Gearbox replaced on Turbine 8 as required per the service agreement to retain coverage.

The hot section on Turbine 8 engine was rebuilt after excessive wear in second stage vanes was discovered during inspection.

We had a total of six unscheduled turbine trips this past year: 1) July 29: Bleed valves opened due to an air fitting leak resulting in accidental discharge of CO2 fire suppression system; 2) Aug 27: Fitting in a high pressure gas pilot line failed resulting in gas discharge into space; 3) Oct 3: High lube oil temp on #8 due to failure of oil cooling fan; 4,5) Nov 26/27: Utility sensing relay failed; 6) Jun 17: Speed sensor failed on compressor.

As a result of the above, a spare set of CO2 cylinders was subsequently purchased and installed on site to provide backup in the event of an accidental discharge. Also, funding was approved for the purchase and installation of gas sensors located in the space to warn for gas leaks is in process.

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### *Environmental*

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Glad to report that the power plant remained in environmental compliance with all regulations and reporting requirements this past year.

Efforts began this past year with modifying the existing Renewable Operating Permit (ROP) through a Permit to Install (PTI) process in preparation for its formal renewal of the ROP which expires in February 2015. This PTI has been completed and will be submitted to the Michigan Department of Environmental Quality by August deadline.

The annual Michigan Air Emission Reporting System (MAERS) report completed in conjunction with our environmental consultants NTH and submitted as required.

Reports generated and submitted to the Energy Information Agency (EIA) as required.

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### *ERC*

Bronco Substation maintenance contract with Consumers Energy renewed for another 5 years (2013 - 2018).

Consumers Energy identified a "hot spot" in the cable feed to the voltage regulator "B" that was subsequently repaired over Christmas.

Trane installed a communications upgrade to facilitate data exchange between central plant and ERC.

The ERC cooling tower sump line was excavated due to suspicion of a leak that ultimately could not be located - system closed back up and now being monitored.

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### *Various Projects*

Plant staff continued with installation of infra-red survey windows on our switchgear to facilitate thermographic inspections.

Jointly worked with KPH personnel to correct domestic hot water piping issues from hardness getting back into our system from failed check valve on theirs.

Sub contracted to Cripps-Fontaine to eliminate storm drain in road and repave and perform curb cut to address some of the other stormwater issues on site.

Plant staff completed installation of superheater steam traps on all boilers that has resulted in significant reduction of water hammer issues on startup.

Plant staff completed installation of a variable frequency drive controller on boiler feedwater pump #7 with impressive results to date.

Plant staff completed major upgrade to the gate controls on the Stadium Drive entrance gate.

Plant staff completed a major improvement upgrade to the hallway outside the control room.

Plant staff completed installation of a new feedwater control valve and piping modification on HRSG #7. Similar work to be done on #8 HRSG this coming year.

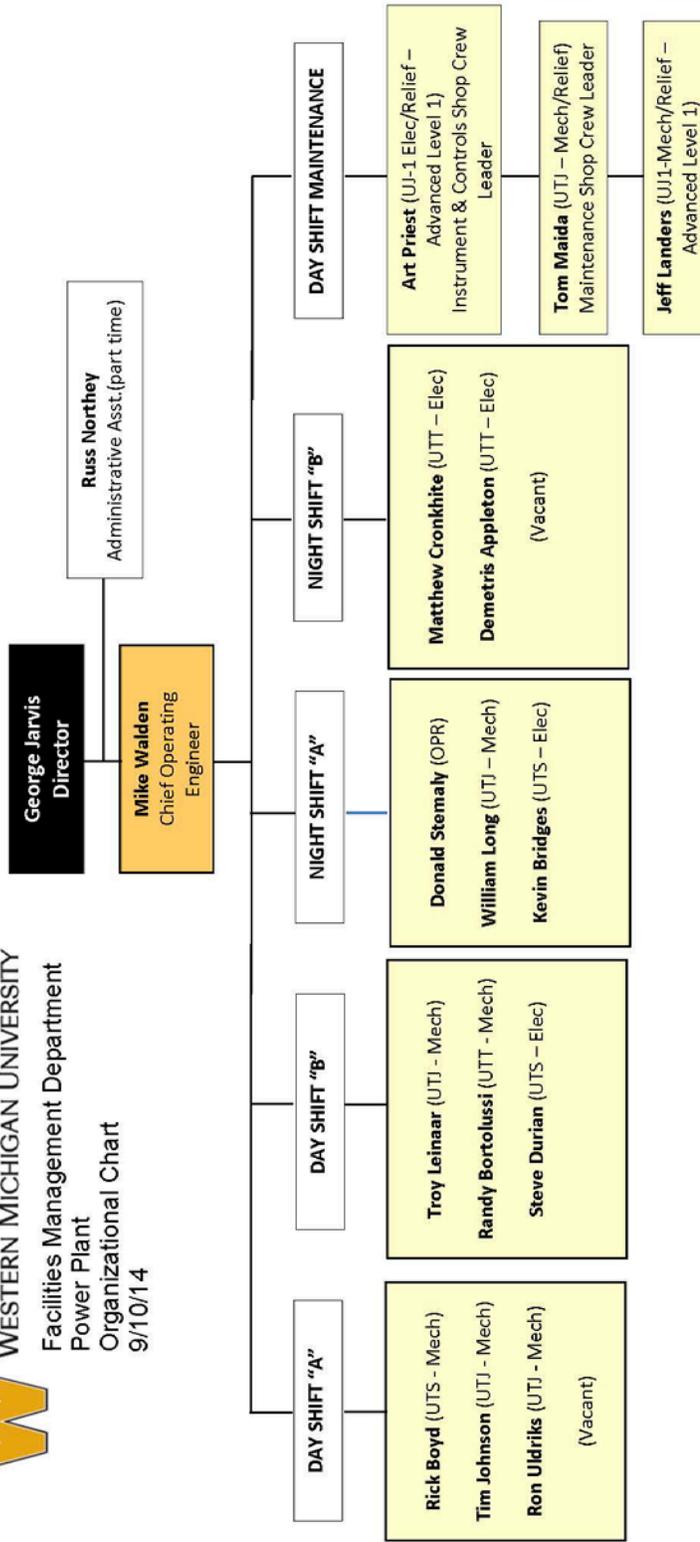
Plant staff replaced the force draft fan motor on #8 HRSG. An additional unit was purchased for on-site backup so as not to have to rely on Boiler 6 as backup in the future should this situation occur again.

Steam turbine taken down in September and sent out for repair due to bearing failure.

Hot lime system shutdown for biennial cleaning and inspection. Non-destructive testing of shell also performed. No issues or problems to report.

Annual boiler inspections successfully completed on all boilers (five at the central plant and three at ERC) with no major issues or problems to report. However, it was noted that the refractory in the furnaces of HRSG's 7 & 8 is starting to show some signs of its age (16 years) and may need major replacement in the next year or so.

**WESTERN MICHIGAN UNIVERSITY**  
**Facilities Management Department**  
**Power Plant**  
**Organizational Chart**  
 9/10/14



Key:  
 OPR – Operating Engineer  
 UTT – Utility Technician – beginning apprentice  
 UTS – Utility Specialist – completed 50% of program  
 UTJ – Utility Journeyman – successfully completed 100% of program  
 UJ1 – Advanced Level 1 Journey Level Achievement  
 Elec – Electrical/Instrumentation journey program trained  
 Mech – Mechanical journey program trained  
 Day/Night Shift 'A' & 'B': 12 hour shift crews

***Transportation Services Unit***



***Accomplishments***

***Mission Statement***

Transportation Services is dedicated to providing exceptional service and customer care to the university community with safe, reliable and well maintained vehicles and equipment, balancing sustainable technologies with cost effective practices.

***Vision Statement***

To be recognized by the university and the community as a leader in reducing our environmental footprint by embracing emerging technologies that meet the needs and expectations of the university.

***Routine Vehicle Services***

- All of the routine vehicle services were completed on time and within expectations.
- All routine generator services were completed but due to the late spring the services were pushed back a few weeks, at the time we were still responding to snow plowing issues when we would typically be doing the generator services.
- The yearly routine dielectric testing of the aerial lift trucks was completed in early May, the dielectric services are generally completed in the middle of April but with the late spring and the continued snow issues the testing was pushed back a few weeks.

***Vehicle Body Damage Repairs***

This year was exceptionally long, snowy and extremely cold. Many storms were followed closely by another and the driving conditions were to say the least a challenge. Every spring the university vehicle fleet is checked for body damages which are then scheduled and repaired. This year we expected to see a lot more winter damage but to our surprise damages were within the norm, in fact Building Custodial and Support Services had no winter damage to repair.

### *Extending Vehicle Life Cycles*

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This year we took a closer look at the vehicle life cycles for the departments within Facilities Management. We looked closer at the vehicle's purpose, the yearly mileage, the repair cost history and the expected residual value at the end of the life cycle. We found that many of the vehicle life cycles could be extended. A majority of Landscape Services vehicles will continue on the seven year life cycle due to the type of work being done with these vehicles. Maintenance Services vehicles were extended to an eight year life cycle and Building Custodial and Support Services vehicles were extended to a nine year life cycle. Our intention is to keep the vehicles as long as we can while balancing repair costs to cost effective replacement of the vehicles. By extending the life cycles we are able to save the departments money.

### *Vehicle Purchases this Year*

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- 3 - Police SUV Cruisers (DPS)
- 3 - Detective cars (DPS)
- 15 - Mini cargo vans (Maintenance)
- 3 - Pickup trucks (Maintenance Services, Maintenance Stores and Athletics)
- 1 – Large SUV (Aviation)
- 1 – Cargo Cutaway van – 10' box truck (Residence Life)
- 2 – Full Size passenger vans (Geosciences)
- 3 – Utility vehicles (1 - Landscape, 2 - Maintenance)
- 1 – Compact tractor and attachments (Office of Sustainability)
- 1 – 15 passenger shuttle (Aviation)

### *Sustainability*

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- Each spring all of the floor drains and the automotive hoist containment areas are cleaned and vacuumed by an environmental cleanup company to keep any residual liquids from migrating into the surrounding ground and causing contamination.
- Recycling of all paper, cardboard and plastic.
- All old batteries are picked up by the vendor and recycled when the new batteries are delivered.
- 93 - gallons of antifreeze was recycled
- 1,430 - gallons of used oil was recycled
- 2 – 55 gallon barrels of crushed oil filters were recycled
- 144 – tires were recycled/reclaimed

### *Continued Education Training*

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We had 20.5 hours of automotive training per mechanic this year.



WESTERN MICHIGAN UNIVERSITY  
Facilities Management Department  
Transportation  
Organizational Chart  
12/14/12

