

FACILITIES SERVICES SUMMARY OF SERVICES ANNUAL REPORT

July 2021- June 2022



Facilities Services Department

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www.mtsu.edu/facserv/

...maintaining facilities and grounds... in a safe, clean, and functional condition...Continuous growth...Continuous Improvement



Assistant Vice President's Summary	3
Central Administration	
Accounting Information Services	5
Employee Development Services	19
Work Order Services	8/9
Building Services	14
Construction Administration	
Construction Administration/Capital Maintenance Services	15
Construction/Renovation Services	16
Custodial Services	18
Energy Services	
HVAC	11
Utilities: Central Plant	10
Engineering Services	
Campus Utilities	6
Center for Energy Efficiency	6
Elevators & Generators	12
Engineering Services	12
GIS and Locating	12
Information Technology/Operational Technology	12
Key Shop	12
Recycling Program	7
Systems Engineering	12
Environmental Health & Safety Services	
Civil & Environmental Engineering Services	13
Fire & Life Safety Services	13
Industrial Hygiene & Laboratory Safety	13
Features	
Campus Master Plan Excerpts	20
Capital Maintenance Project List	21
MP-2 Maintenance Projects	9
MTSU Sustainable Campus Fee Project List	22/23
Grounds & Greenhouse Services	17
Motor Pool Services	18
Performance Measures	
Building Services	14
Employee Development Services	19
Energy Services: Central Plant & HVAC	10/11
Engineering Services	12
Environmental Health & Safety Services	13
Grounds/Greenhouse Services	17
Motor Pool Services	18

MTSU Facilities Services is a department reporting to Senior Vice President Alan Thomas of the Division of Business and Finance.



FSD website

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Assistant Vice President's Summary

Joe Whitefield

3

The mission of Facilities Services is to maintain facilities and grounds and present them to the university tenants and the public in a safe, clean, and functional condition while managing the resources and assets in accordance with applicable requirements, procedures, and constraints.

FY 21/22 has concluded and FY 22/23 is well underway. The fiscal year will be most noted for the return to normal operations following the easing of the COVID-19 pandemic. Plans and protocols were revised and implemented throughout the year. As always, Facilities Services maintains a constant focus on productivity management, innovation, informed decision making, and effective communication in serving the campus community.

This report highlights many accomplishments in FY21/22 for the department and updates the O&M and capital budgets. The following are samples of the Accomplishments and Challenges/Opportunities.

Accomplishments

Performance Metrics

The Summary of Services report from the previous FY identified a combined total of 106 individual goals across the departmental work units for the FY21/22. Overall, 82 of the goals were completely met or had substantial progress toward their completion (77%), 19 of the goals had progress toward completion but remain on-going (18%) and 5 of the goals had showed little to no progress (5%).

Capital Projects, Construction Renovation Projects, and Maintenance Projects

- 3 capital construction projects were completed totaling \$2.80 million
- 13 new capital construction projects in design totaling \$124.11 million
- 131 renovation projects were completed totaling \$2.20 million
- 121 major maintenance projects were completed totaling \$1.96 million



Customer Service and Communication

- All work units combined to complete 19,213 work orders for the year
- Administered the customer survey process that produced useful feedback and consistently high ratings for services
- Continued weekly meetings with Residential Life maintenance staff to review work progress for Housing

Management and Productivity

- Participated on the University SACSCOC Committee for the 5th year accreditation review
- The business intelligence software program was expanded within the department providing for significantly enhanced work analytics and improved project planning.
- Staff, informational and safety meetings were conducted throughout the department
- EH&S training software (Safe Colleges) was used to enhance all forms of required training for the department and campus community

Energy Management

- The TN High Performance Building Guidelines are used to design energy efficiency and sustainability features into capital projects
- Facilities Services applies for and has been awarded numerous Sustainable Campus Fee projects to improve energy efficiency and sustainability of several existing facilities across campus
- The MTSU Energy Guidelines are in effect for the campus

Challenges and Opportunities

Pandemic

The impacts of the COVID-19 pandemic are diminishing with regard to facilities operation. Health and safety of Facilities Services employees and all members of the campus community remains the primary priority. Direct and indirect budget impacts and fiscal responsibilities are also concerns as resources are being directed away from COVID specific activities, but supply-chain issues and inflation remain. As FY22/23 begins, these effects and their ramifications are still unfolding in many aspects of university operations.

Budgets

Maintenance and Operations (O&M) budgets are for basic operational needs such as custodial services, grounds services, central utilities services, light bulb changing, etc., and routine maintenance and repair of facility systems such as HVAC, electrical, etc. The O&M budgets for Facilities Services have remained level over the years.

(Continued on page 4)

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FY21/22 concluded with significant signs of significant inflation on both an annual basis and month-to-month basis. Inflation factors will impact all aspects of operations including in-house labor costs (and staffing), material costs, contractor support costs, and utilities. This will be a major area of focus for FY22/23 and beyond.

Capital maintenance projects are submitted each year, typically totaling \$10 million - \$13 million, to provide for the major repair and replacement needs of the campus. Funding formulas indicate an annual need of approximately \$15 million just to remain level. FY22/23 submissions of \$11,798,000 resulted in approved funding for 5 projects totaling \$7,160,000. Funding levels below the annual requirement are expected to continue. These deficits accumulate over time to a condition referred to as "deferred capital renewal." This condition is reported on in the Campus Master Plan.



Utilities/Energy Costs

On the whole, energy and utility costs in FY21/22 increased 4.1% from the previous FY. This increase is associated with increased energy demand from the full-scale return to normal campus operations following the COVID-related reduction in the use of facilities in the previous year(s). Even with the increased energy use/costs, there is an aggregate cost reduction of 11.4% compared with FY 16/17. Beyond the consistent use and efficient operations of the facilities and utility plants over the years, natural gas rates had been consistently low.

However, inflation and market volatility has driven the commodity price up considerably. MTSU was able to lock in two years of lower natural gas rates prior to the market effects blunting the price increase in the short run. This is positive considering the reliance on natural gas to fuel the 5-mw turbine/cogeneration system. The Tennessee Valley Authority continues to adjust (net increases)

electrical rates. MTSU maintained our time-of-use rate. As such, we remain judicious in our utilities operations and more efficient in every aspect of energy management.

New Buildings and Infrastructure

New buildings add to the O&M and utility needs of the campus. The recent growth increases the demand for O&M services as well as the infrastructure capacity. Most notably, construction on the School of Concrete and Construction Management building is scheduled for completion in Fall of 2022.

Energy and Sustainability

There are many initiatives designed to increase the greening of the campus such as the Sustainable Campus Fee program, the Tennessee High Performance Building Guidelines for capital projects, the recycling program, etc. These programs and initiatives are effective but are also limited by economic factors such as first costs and paybacks. Energy and environmental regulations are increasing as well. Overall, Facilities Services and the Center for Energy Efficiency do an excellent job of integrating the economic and program elements to maximize the energy and sustainability benefits across the campus.

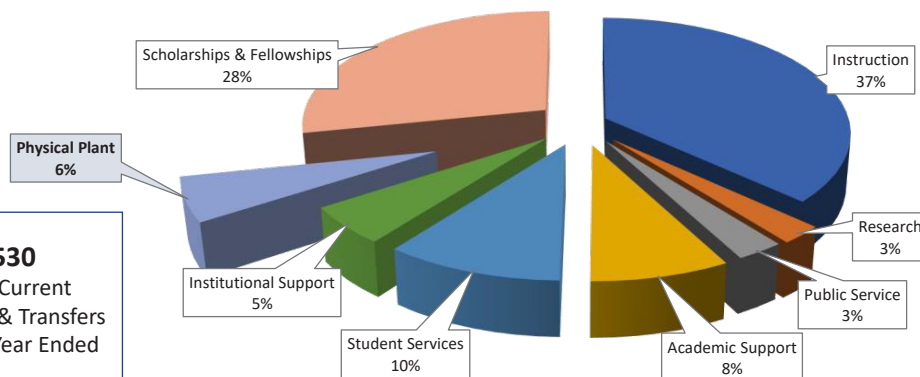
Conclusion

Although constrained by resources and inflationary pressures, we continue striving to maintain the campus in a safe, clean, and functional manner while aligning the department with the University mission and the Academic Master Plan. I want to express appreciation to the Facilities Services staff for their dedication and good work in pursuit of these goals during difficult circumstances. The accomplishments listed throughout this document are a testament to their commitment to Middle Tennessee State University.

Finally, as we serve the university, it is important that we hear from our customers. Please review this document (as well as our website) for our service delivery. As always, feel free to contact us and let us know how we can serve you better.

—Joe Whitefield

MTSU E & G Expenditures 2021-2022



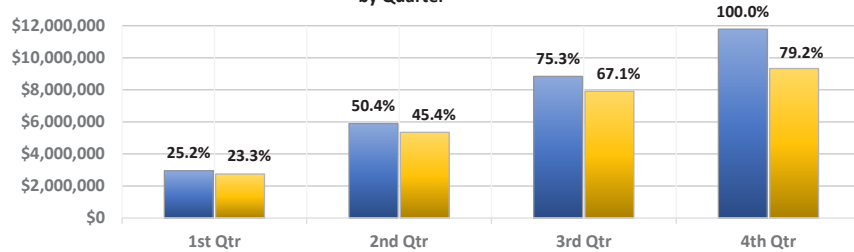
Total: \$445,309,530
 Source: Schedule of Current
 Funds Expenditures & Transfers
 by Function for the Year Ended
 June 30, 2022

Central Administration: Accounting Information Services

Lori Yoders

5

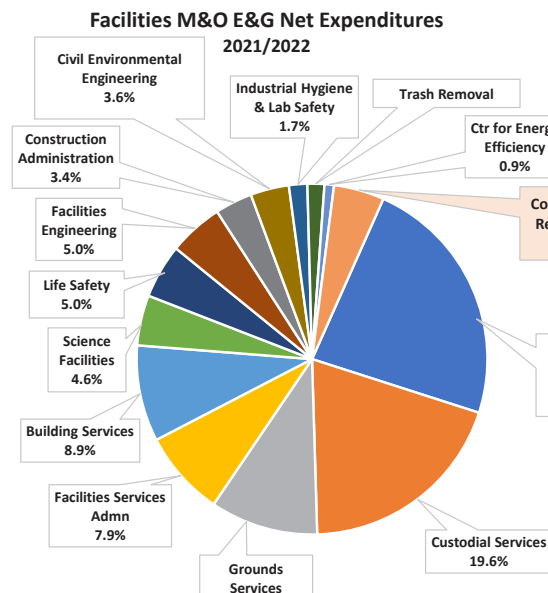
**Facilities M&O
E&G Budget & Expenditures
FY 2021/2022
by Quarter**



FY2021/2022	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	End-of-Year Totals	% of Total
Total M&O E&G Budget	\$7,127,602	\$7,127,602	\$6,972,654	\$7,050,128	\$28,277,986	
Total M&O E&G Expenditures	\$5,515,693	\$8,701,102	\$6,312,480	\$6,485,823	\$27,015,098	
-Non-Facilities M&O E&G Expenditures	(\$4,899,606)	(\$4,899,606)	(\$4,793,092)	(\$4,846,349)	(\$19,438,653)	
Facilities M&O E&G Budget	\$2,947,105	\$2,947,105	\$2,947,105	\$2,947,105	\$11,788,420	50.6%
Facilities M&O E&G Expenditures	\$2,747,119	\$2,603,841	\$2,560,455	\$1,419,511	\$9,330,926	
% of Facilities Exp/Budget	23.3%	22.1%	21.7%	12.0%	79.2%	
+ Facilities Work for Others (WFO)	\$1,321,736	\$1,544,753	\$1,461,885	\$2,979,481	\$7,307,855	49.4%
+ Const. Renov. Work for Others (WFO)	\$350,879	\$462,933	\$373,183	\$607,516	\$1,794,511	
Facilities M&O E&G Expenditures with WFO	\$4,419,734	\$4,611,527	\$4,395,523	\$5,006,508	\$18,433,292	

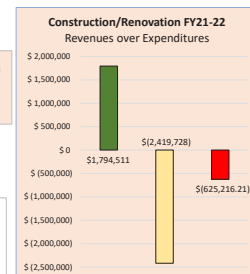
Accomplishments & Highlights 2021/2022

- Updated spreadsheets to utilize data bases & spreadsheets to manipulate the data set with functions & formulas to produce increasing data integrity, data consistency, and better data analytics
- Developed preliminary processes outline for Facilities Accounting's procedures manual
- Utilized Facilities Accounting meetings to build on knowledge as an essential force in the financial development to update data, track changes, & refine the framework of spreadsheets & documents
- Implemented the collection of vendor's certificates of insurance through the Facilities purchasing process
- Continued to update the Facilities contract list & contract information
- Provided continuous accounting support to the Facilities Department, ensured monthly billing demands, accumulated costs to reclassify, & met University cut-offs throughout employee shortages & long-term medical leave
- Continued to provide Notary service to the University



Goals 2022/2023

- Optimize technology to improve efficiency & expand day-to-day operations & management functions
- Continue to seek new technology to improve workflow by reducing inefficiencies & improving productivity
- Implement University Point of Sale (POS) software & interconnected POS devices for accurate, real-time sales of goods & services to calculate the amount owed by the customer, issue a receipt for the transaction, purchasing, FIFO inventory management with barcodes, financials for month-end billing, cost analysis, & sales trends
- Prepare descriptions for outline to move forward with the documentation of a Facilities Accounting procedures manual
- Input information utilizing Excel Forms to produce an Asset/Building/Property Facts & Figures reference manual
 - Track, manage, & organize projects with a project management software to achieve all scope & budget goals within the given time constraints
 - Continue to work toward providing training resources for new employees & annual training for current employees/managers/supervisors
 - Build on knowledge as an essential force in the financial development to update data, track changes, refine the framework of spreadsheets & documents
- Annually review & update contract lists and contract information
- Encourage employee development, education, and certification



Accomplishments & Highlights 2021/2022

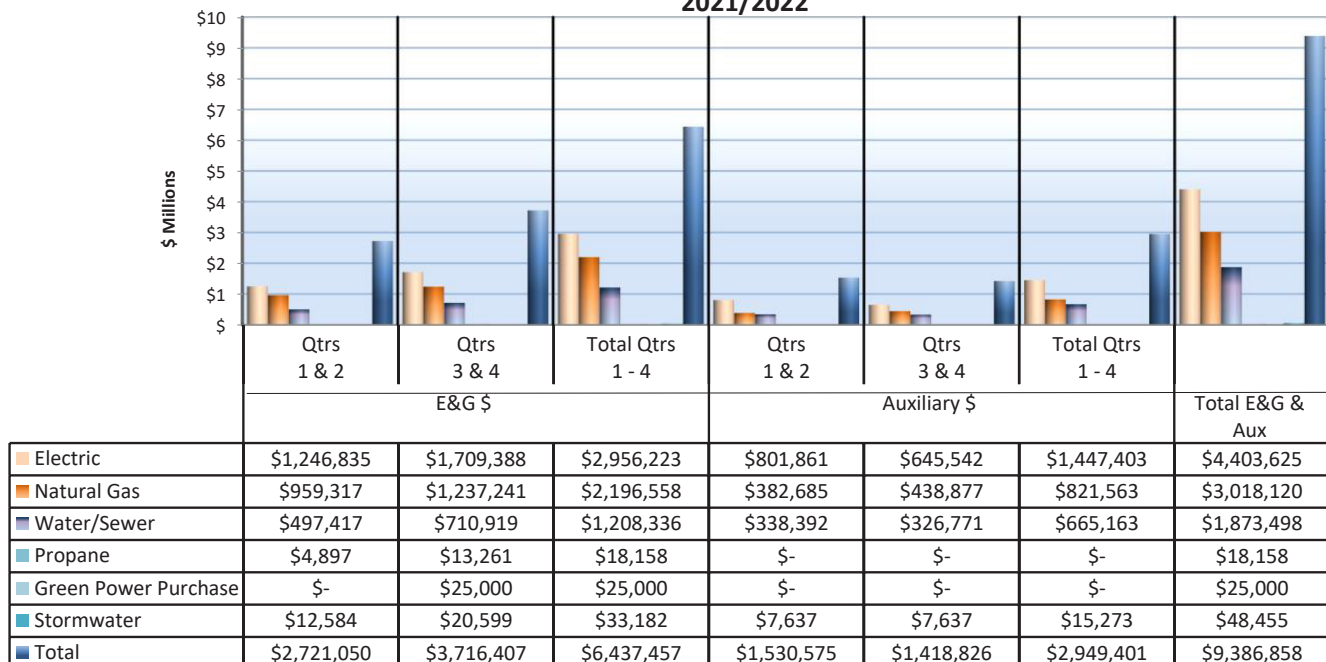
- Achieved annual utility related agreements with Tennessee Valley Authority and Middle Tennessee Electric (MTE): Generation Partners, Green Power Switch, TVA's Back to Work credit
- Completed annual utilities reports per THEC, NCAA requirements; provided EIA monthly emissions data for required reporting
- Began discussion with MTE regarding monthly billing adjustments/arrangements
- Provided utility cost information for monthly auxiliary and leased properties invoicing
- Supported State Facility Utility Management (SFUM) platform for State of Tennessee
- Updated Physical Facility Inventory Surveys (PFIS) for facilities and capital maintenance under THEC
- Continued partnered support of MTSU Sustainable Campus Fee Committee (SCF) under Student Affairs; oversight of awarded sustainable projects and Students for Environmental Action (SEA) projects
- Provided support for utilities/metering/control design specs for new construction (School of Concrete & Construction Management), renovation projects (College Heights Building, Dairy Farm, capital projects), and Cogen Plant gas meter update
- Continued COVID-19 mandatory adjustments/response issues; supported MTSU's 'Charting Our Course Plan'
- Continued serving on the President's Commission on the Status of Women, Women in STEM, and Tennessee Girls in Stem Boards
- Published Summary of Services Annual Report for FY20/21

Goals 2022/2023

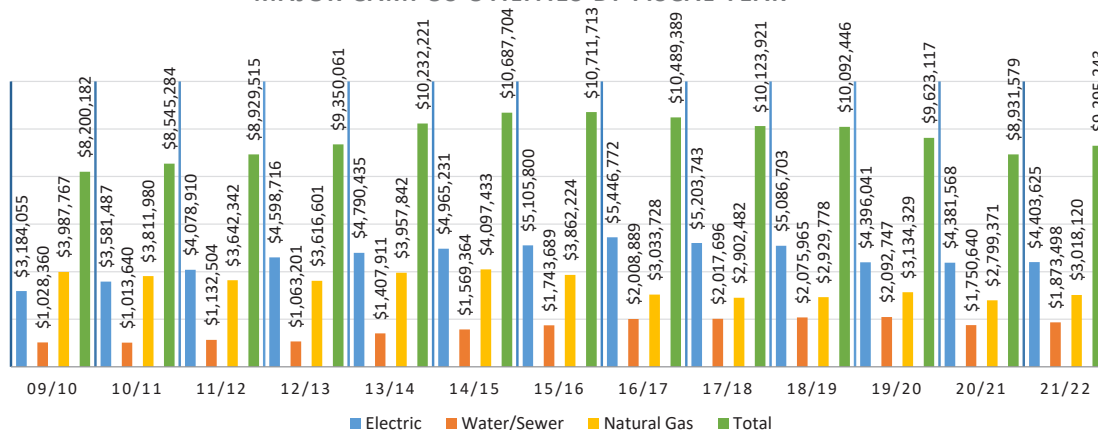
- Support and employ MultiVista construction documentation program
- Support utilities and sustainability design processes in new campus construction (Applied Engineering Building, outdoor tennis complex)
- Continue 'Green Snapshots' information system for campus sustainability reporting
- Continue participation with building utility information for State Facility Utility Management (SFUM) for State of Tennessee
- Continue working with THEC on updating Physical Facility Inventory Surveys (PFIS) for facilities and capital maintenance
- Continue to communicate with vendors and university departments with information as needed: utility/energy management data, support, research (new service, demolition projects, audits) and to resolve issues
- Continue support of MTSU Sustainable Campus Fee Program and other sustainable practices on campus
- Continue support of University Academics through internships, student workers, and volunteer opportunities, support classroom instruction for university departments per request
- Support further development and implementation of Power BI Analytics Program for utilities and building surveys
- Continue to collect and maintain thorough data for all utilities for the University

Total Campus Utilities

2021/2022



MAJOR CAMPUS UTILITIES BY FISCAL YEAR



Recycling Program - MTSU Recycles

Linda Hardyman



Accomplishments & Highlights 2021/2022

- Recognized the 50th anniversary of the MTSU Recycling Program
- Highlighted in "The Tennessee Conservationist" magazine article recognizing Recycling Program beginnings on campus by Dr. Pat Doyle
- Maintained recycling program to meet campus needs employing student and temporary workers
- Supported recycling efforts for Campus Planning, Capital Construction, and Construction/Renovation projects in multiple building's renovation projects, move in/move outs
- Expanded recycling efforts for maintenance metal recycling
- Supported implementation of Sustainable Campus Fee (SCF) projects submitted by students and others; supported/completed several awarded grants (Health & Human Performance) for water refills
- Continued facing major commodities issues relating to downturn in recycling markets, i.e. vendor availability, re-structured recycling for local community, limited access to particular commodity collections; issues with COVID-19; partnership arrangement with Rutherford County; staffing
- Continued athletic recycling support in suites, stadiums, tailgating areas with Students for Environmental Action (SEA) as Sustainable Campus Fund (SCF) project; expanded additional sports venues
- In addition to routine program tasks, responded to 520+ special requests for recycling on campus
- Supported Customs and other special outreach events on and off campus per opportunity

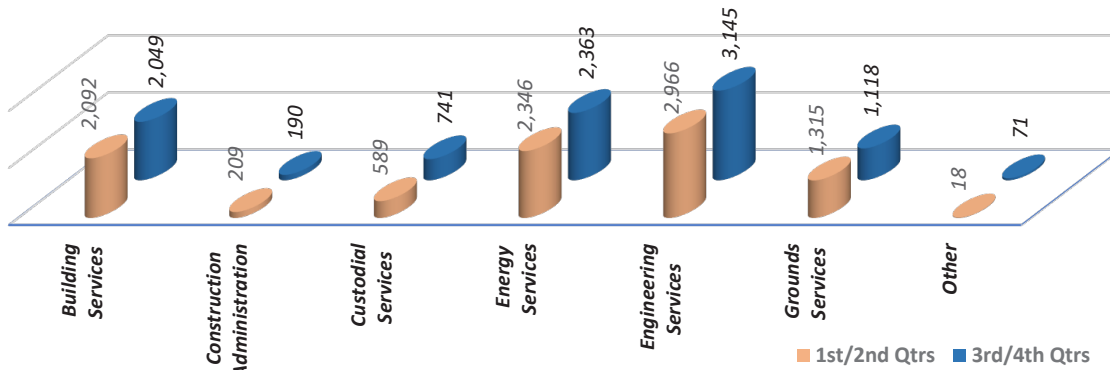


Goals 2022/2023

- Continue to direct Sustainable Campus Fee (SCF) sustainability projects – water refill stations, solar picnic table, solar trash compactors, etc.
- Explore available initiatives to grow the program, deal with marketing issues, and avoid tipping fees for campus waste going to the landfill with efforts for least impact on the program due to marketing/commodities issues – face the many unique challenges
- Carry on support of recycling education, correcting/promoting recycling issues, improving presence of recycling collection bins on campus
- Continue to support Campus Planning, Capital Construction, Construction/Renovation, and maintenance projects
- Continue to work with athletics staff to provide appropriate recycling at athletic events
- Continue working with MTSU Sustainable Campus Fee Program for recycling project funding
- Improve presence of SCF in Power BI
- Explore partnership opportunities with MTSU initiatives, Recycle Rutherford, Rutherford County Government, existing vendors
- Continue to provide classroom support through guest lectures, environmental seminars, and storm water initiatives
- Continue staff participation in training and development programs



WORK ORDERS CLOSED BY QUARTER 2021/2022



Work Orders Closed	1st Qtr		2nd Qtr		3rd Qtr		4th Qtr		Annual Total	
Subdepartment	# WO	% of Total	# WO	% of Total	# WO	% of Total	# WO	% of Total	# WO	% of Total
Building Services	978	21.2%	1,114	22.6%	945	21.2%	1,104	21.2%	4,141	21.6%
Construction Admin/ Construction Renovation	105	2.3%	104	2.1%	79	1.8%	111	2.1%	399	2.1%
Custodial Services	247	5.4%	342	6.9%	394	8.8%	347	6.7%	1,330	6.9%
Energy Services	1,151	25.0%	1,195	24.2%	1,041	23.3%	1,322	25.3%	4,709	24.5%
Engineering Services	1,399	30.4%	1,567	31.8%	1,520	34.1%	1,625	31.1%	6,111	31.8%
Grounds Services/Motor Pool	716	15.5%	599	12.2%	467	10.5%	651	12.5%	2,433	12.7%
Other	11	1.2%	7	0.2%	13	0.3%	58	1.1%	90	0.5%
Annual Totals	4,607	100%	4,929	100%	4,459	100%	5,218	100%	19,213	100%

Accomplishments & Highlights 2021/2022

- Hire and train three new Work Order Clerks, producing training materials for future use and central storage via MS Teams
- Worked with shop personnel to submit open work order progress notes, enhancing communication with FSD personnel, Housing staff, and other customers
- Coordinated with unit directors and leads to perform Mainsaver record audits, including preventative maintenance items and personnel records
- Continue to provide new and modified Argos reports to FSD Accounting and others; implement automated reports for Procurement, President's Office, Food Services
- Assisted shops with better use of Mainsaver, including improved queries and work queue views and ability to assign contractors for better tracking of outsourced items
- Converted daily verification process of man-hour data entry from manual/paper-based system to electronic (Argos to Power BI)
- Coordinated with FSD Systems Administrator for redesign, improved customer survey process, data availability in Power BI
- Supported FSD Systems Administrator in migrating current monthly, annual, and periodic Mainsaver reports to Power BI, streamlining SCF project tracking in Power BI

http://www.mtsu.edu/facserv/work_request_forms.php

Goals 2022/2023

- Assist with upgrading Mainsaver to latest version
- Continue to investigate use of online forms and handheld devices to input and access Mainsaver data; explore integrating Mainsaver Connect into shop workflow
- Identify ways to improve accuracy and consistency of Mainsaver data to support continued efforts to analyze and report on FSD activities
- Continue to document and compile work order processes and procedures to produce operations manual
- Continue to advance Mainsaver event notification for work order activities for FSD and non-FSD personnel
- Redesign, simplify work request web forms for ease of use
- Coordinate with FSD Systems Administrator to develop Power BI reports for specific customer groups; propose adjustments to Power BI reports for improved access to data
- Digitize work order storage and supporting documentation for easier retrieval



Maintenance Projects: MP-2's

As part of the Facilities Services (FSD) maintenance project process, MP-2 forms are used to track those maintenance projects which are major repair or replace projects beyond the routine, often involving deferred maintenance, multidiscipline event-related, or non-budgeted repairs that are \$5,000 or greater.

For FSD funded projects that are not considered of a Construction/Renovation nature, outside our normal operating budget, and needing expenditure approvals from a budgetary authority, completion of an MP-2 form provides a preliminary estimate for project approval and funding, assignment of a tracking project number, and allows all elements of projects to be accurately tracked until completed.

MP-2 Project Summary 2021/2022		
Subdepartment	# Projects	Project Value
Building Services	18	\$563,251.11
Energy Services	61	\$619,139.64
Engineering Services	5	\$55,702.71
Environmental Health & Safety	19	\$307,466.26
Grounds Services	12	\$145,101.41
Motor Pool	4	\$191,554.00
System Engineering	1	\$28,395.56
Other	2	\$35,833.99
Split Departments	2	\$15,871.92
Total	121	\$1,962,316.60



LED Rretrofits for Exit Signs - Library



Porch Repairs - Alumni House



Central Plant - Chiller #6 Leak & Bearing Repair



Gutter replacements - 1403 E Main



New Pump North Cooling Tower

Customer Satisfaction Survey

The Facilities Services Department initiated a Customer Service Satisfaction Survey in 2016 to provide better communication with our campus community. The valuable feedback has provided better understanding of Customer's expectations and satisfaction with our level of service.

The feedback has also allowed Facilities Services to evaluate our systems and procedures and to continue to improve our customer service culture.

...handled in a very timely manner!

Thank you for all you do!

...Shop 90 is always courteous & helpful!

2021/22 Work Order Customer Satisfaction Survey	
Did you receive an email when the work order was opened?	98.9%
Did you receive an email when your work order was completed?	97.8%
Did the Corrective Action adequately address the problem or requested work?	4.77
How satisfied are you with the timeliness of the response(s) to your work request?	4.77
How satisfied are you with the customer service you received?	4.81
Scale: 5-Very Satisfied 1- Dissatisfied Responses: 273	

Accomplishments & Highlights 2021/2022

Heating Plant

- Revised Cogen Boiler Plant Operator training manual and made it electronic
- Continued Cogen PM schedule on critical equipment to reduce unscheduled outages/equipment downtime
- All Operators included in performing PMs to increase equipment awareness, encourage ownership
- Developed PM strategies for Campus' Mechanical Rooms, including rotating equipment, heat exchanger profiling to gauge performance, & water quality testing
- Increased security for Cogen Plant to prevent unessential people entering
- Increased environmental awareness as regards to Diesel Dike area, particularly documentation & reporting
- Successfully completed 4,000 Hr Condition Assessment of Solar turbine & generator set
- Heating Plant projects
 - Installed new hydrogen sensor in battery room
 - Repaired #3 boiler feedwater pump; purchased a new feedwater pump
 - Received successful inspection report for Deaerator tank during annual Maintenance
 - Installed new gas meters in boiler gas lines

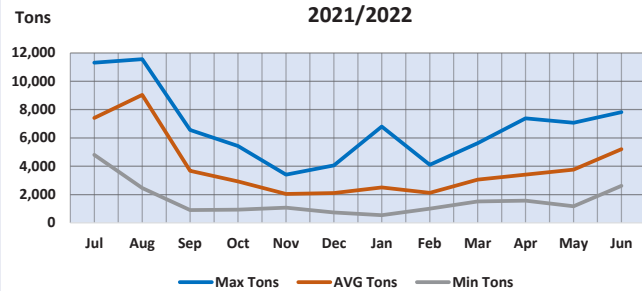
Goals 2022/2023

- Develop strategy to ensure peak efficiency energy input to mechanical rooms; maximum energy savings from overheating water used as a heating medium
- Continue all PM programs to drive down maintenance costs as well as catastrophic failures
- Create automated sequencing logic based off relational information gained from Chiller plants for future endeavors

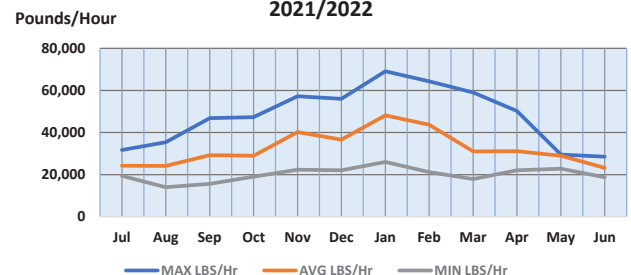
Chilling Plant

- Successfully recruited and hired a Building Energy Management supervisor
- Successfully completed annual maintenance event for 10 existing plant chillers
- Established operational relationship between Central Plant & Satellite Chiller plant through extensive testing/operational knowledge; streamlined operation of plants
- Repaired Miller Ed cooling tower, increasing reliability of the plant
- Chilling Plant projects
 - Replaced South tower condenser water return line in tower sump; sealed and wrapped for protection against oxidation & premature failure
 - Replaced North tower condenser water pump; added house pad to assist in replacing spare condenser water pump
 - Improved lighting in specific areas of the plant

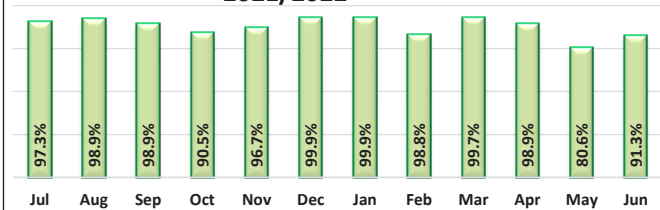
Chilled Water Tonnage
2021/2022



Steam Production
2021/2022



Turbine: Percent Runtime By Month
2021/2022



2021/22 Central Plant Equipment Peak Operational Levels

Natural Gas Fired Turbine/Generator					Steam Boilers					Chillers				
5 MW (Nominal)					85,000 Pounds/Hour (Peak)					11,500 Tons (Peak)				
	Mid-Year	3rd Qtr	4th Qtr	Annual		Mid-Year	3rd Qtr	4th Qtr	Annual		Mid-Year	3rd Qtr	4th Qtr	Annual
Peak MW	5.0	5.2	5.0	5.2		Max Peak Tons	11,321	6,798	7,824		11,321			
Avg MW	4.5	4.8	4.5	4.6	Avg LBS/ Hr	48,441	55,762	29,844	44,682	Min Tons	730	1,008	1,171	1,171
Total MWH	19,262.2	10,343.1	8,767.0	38,372.3	Peak LBS/ Hr	57,222	69,092	50,194	69,092					
Purchased Power: 40,424.04 MWH														

Purchased Power: 40,424.04 MWH

Energy Services: HVAC & Building Management Systems

Jeff McConnell Les Mayberry Jeff Henderson Keith Pinkston Russell Miller

11

Accomplishments & Highlights 2021/2022

Building Management Systems

- Continued optimization/improvement of Desigo graphics
- Enhanced network reliability while increasing speed by cleaning up & streamlining comm protocols & firewalls
- Resolved root causes of several sources of repeat work orders including
 - Low air pressure on the building at BRAGG causing hot water valves not to close completely
 - Configuration issue in room HVAC controllers across multiple buildings causing hot water valves to seem to be not functioning properly
 - Programming changes to Sam Ingram chiller to prevent it from operating as unreliably
 - Identifying pulley issue on Sam Ingram AHU 3 causing it to routinely snap belts & lose temperature control of the conference center
- Began using remote notification capability of Desigo to improve after hours response time to problems, often before they even had a chance to become Work Orders from occupants

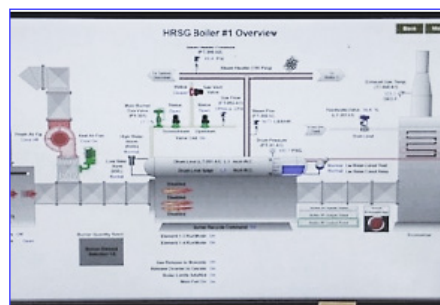
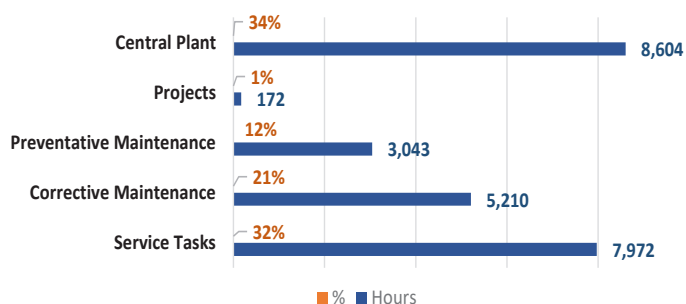
HVAC

- Managed 23 maintenance projects for housing and academics buildings
- Changed 1000 filters in fan coil units for Housing complex
- Implemented PM process to assist with condensate drainage issues for Housing complex
- Managed 61 maintenance projects campus wide

Goals 2022/2023

- Establish baseline & historical data on equipment to shift work from being primarily reactive to proactive
- Continued use & development of Power BI to increase workflow management efficiency, reduce administrative downtime
- Efficiently leverage contracts for additional and/or specialized manpower resources
- Reduce WO volume, increase response efficiency by continuing to learn the TriaTek software platform and associated equipment
- Continue to develop workflow processes for filter change management
- Continue to develop strategies to assist Housing manage HVAC workload

Energy Services
Man-Power Allocation
2021/2022



2021/2022	Energy Services: Operation and Maintenance Work Orders											
Subdepartment	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO
14 - HVAC	1,367	\$484,646	\$355	7	\$716	\$102	13	\$130,890	\$10,068	1,387	\$616,252	\$444
21 - Steam	220	\$223,381	\$1,015	15	\$962	\$64	644	\$91,445	\$142	879	\$315,788	\$359
27 - Central Utility Plant	108	\$41,744	\$387	9	\$14,273	\$1,586	30	\$936,029	\$31,201	147	\$992,046	\$6,749
50 - HVAC PM	73	\$30,924	\$424	314	\$28,207	\$90	24	\$105,826	\$4,409	411	\$164,957	\$401
52 - Energy Management	609	\$218,387	\$359	55	\$46,963	\$854	54	\$406,900	\$7,535	718	\$672,250	\$936
53 - PM Filters	168	\$136,621	\$813	874	\$152,837	\$175	37	\$101,893	\$2,754	1,079	\$391,351	\$363
Annual Total	2,545	\$1,135,703	\$446	1,274	\$243,958	\$191	802	\$1,772,983	\$2,211	4,621	\$3,152,644	\$682

2021/2022	Energy Services: Project Work Orders									
Project Type	GW (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
14 - HVAC	1	\$8,960	24	\$151,832	3	\$3,731	12	\$8,138	40	\$172,661
21 - Steam	-	\$0	4	\$17,910	-	\$0	-	\$0	4	\$17,910
27 - Central Utility Plant	-	\$0	10	\$95,553	-	\$0	-	\$0	10	\$95,553
50 - PM HVAC	-	\$0	1	\$29	-	\$0	-	\$0	1	\$29
52 - Energy Management	23	\$212,980	0	\$0	-	\$0	-	\$0	23	\$212,980
53 - PM Filters	-	\$0	5	\$147,525	-	\$0	-	\$15,765	10	\$163,290
Annual Total	24	\$221,940	44	\$412,849	3	\$3,731	17	\$23,903	88	\$662,423

Accomplishments & Highlights 2021/2022

Systems Engineering

- Supported construction administration for the new School of Concrete and Construction Management Building
- Completed COVID-19 related air quality improvement projects in the Chris Young Café and Murphy Center

GIS and Locating

- Completed 862 utility locate tickets for contractors working on campus
- Maintained ongoing coordination with contractors and designers to assist with timely resolutions of utility routing conflicts and questions
- Supported documentation of the underground utilities at the new Concrete and Construction Management Building

Elevators & Generators

- Completed 532 total elevator work orders and inspections with associated spill prevention PM activities
- Completed 410 total generator work orders and inspections with associated spill prevention PM activities
- Installed ADA placards on all elevators per new state code
- Installed and updated Maintenance Control Procedure Manuals and Electrical prints for all 82 elevators and lifts on campus per new state code

Information Technology/Operational Technology (IT/OT)

- Digitized training material for critical work groups
- Championed Teams for improved departmental communication

Key Shop

- Cut a total number of 2,398 keys in the following areas: 822 academic, 1064 housing, 25 auxiliary, and 487 other
- Completed rekeying of Murphy Center and Rutledge Hall
- Added 9 additional card access doors for a total of 992 readers on campus

2021/2022	Engineering Services Activities: Project Work Orders									
Project Type	General Work (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Subdepartments	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
15 - Key Shop	0	0	2	\$29,001	0	\$0	64	\$30,413	66	\$59,414
47 - Elevators, Generators, & Utility Locating	0	0	31	\$46,128	0	\$0	0	\$0	31	\$46,128
44 - IT/OT	0	0	0	\$0	0	\$0	0	\$0	0	\$0
46/48 - Systems Engineering	0	0	3	\$19,092	1	\$2,394	0	\$0	4	\$21,486
Total	0	0	36	\$94,221	1	\$2,394	64	\$30,413	101	\$127,028

Goals 2022/2023

Systems Engineering

- Provide review and ongoing participation in the construction phase of the Science Building Air Valve Replacement and Tennis Complex projects
- Conduct design reviews and provide engineering input for the design of the new Applied Engineering building and Student Athletic Performance Center

GIS and Locating

- Issue an RFP and coordinate surveying services to verify & document existing underground site utilities across campus
- Incorporate designer information from new utility surveys into existing MTSU ARCGIS mapping to provide accurate information for future use

Key Shop

- Support the opening of the new School of Concrete and Construction Management Building
- Provide input and direction for new access control systems serving Capital Outlay Projects including the Student Athletic Performance Center and the new Applied Engineering Building

Elevators & Generators

- Support 2022-2023 Elevator Modernization capital maintenance project with the updates of elevators in KUC, Cason Kennedy Nursing Building, Walker Library (4 Passenger elevators), and Peck Hall #1
- Continue improving barcode system procedures to provide more accurate equipment inspection information and diagnostic capabilities

Information Technology/Operational Technology (IT/OT)

- Integrate 360 degree images into floor plans to create Virtual Walking Tours and document critical components such as shut-off valves and breakers
- Expand Facilities Services Digital Transformation with process and reporting enhancements
- Create a campus wide "at a glance" utility dashboard
- Automate data collection from critical systems on campus

2021/2022	Engineering Services Activities: O&M Work Orders											
Subdepartment	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost
13 - Key Shop	1,128	\$174,785	\$155	15	\$3,615	\$241	37	\$104,508	\$2,825	1180	\$282,908	\$240
47 - Elevators/Generators/Utility Locating	292	\$29,958	\$103	815	\$39,087	\$48	357	\$238,121	\$667	1,464	\$307,166	\$210
44 - IT/OT	8	\$4,454	\$557	-	\$0	\$0	-	\$0	\$0	8	\$4,454	\$557
46/48 - Systems Engineering	9	\$22,397	\$2,489	15	\$38,235	\$2,549	12	\$58	\$5	36	\$60,690	\$1,686
Total	1,437	\$231,594	\$161	845	\$80,937	\$96	406	\$342,687	\$844	2,680	\$655,218	\$244

Environmental Health & Safety (EH&S) Services

Alan Parker Mark Hatcher Jake Turner Katherine Green

13

Accomplishments & Highlights 2021/2022

Fire & Life Safety Services

- Completed Campus Wide Siren System Control System repairs and updates
- Removed 192 Guardian III kitchen hood systems from the Womack Lane Apartment complex - created fiscal savings of \$82,560 every 5 years or \$16,512 per fiscal year
- Completed two Sprinkler System repair projects in Greek Row House #3 and #5 – repaired/replaced main lines that were corroded or leaking
- Added 2 additional monthly inspection programs for Area of Refuge Phones and Automated External Defibrillators designed to provide better service and protection for the Campus community
- Updated inspection processes for all preventative inspections and maintenance of Life Safety Systems by transitioning from a manual process to scannable barcodes and electronic filing of inspections

Civil & Environmental Engineering Services

- Submitted 2021/2022 TDEC Annual Report
- Created new MOU with City of Murfreesboro (with new metrics) for 2022/2023 - renewable through June 2031
- Conducted numerous Stormwater events & activities
- Coordinated with Campus Planning/Construction Management on stormwater & water utilities to ensure proper design & installation on new Applied Engineering Building, Tennis Complex, & Student Athletic Performance Center

Industrial Hygiene and Laboratory Safety

- Completed over 15,000 weekly, semi-annual, and annual inspections for compliance with Federal, State, and Local guidelines related to existing labs, lab hoods, hazardous materials SPCC and IACU
- Managed identification, collection, packaging, transportation, and disposal of approximately 4,803 pounds of chemical hazardous waste
- Supervised 13 asbestos containing materials (ACM) sampling and removal efforts campus wide by MTSU and contractors; conducted 37 mold work orders internally by EH&S
- Completed 4 Low-Level Waste Surveys, 13 General License Radioactive swipes with reporting, and 8 X-ray inspections with reporting to the Tennessee Department of Environment and Conservation (TDEC) Division of Remediation (DRH)
- Incorporated lab inspections as well as additional working files for IHLS into Power BI
- Maintained compliance with all associated State and Federal regulatory agencies

2021/2022	EHS & Environmental Engineering Activities: O&M Work Orders											
Subdepartment	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost
30/33/36 - Fire & Life Safety Services	470	\$53,072	\$113	649	\$20,004	\$31	1710	\$514,021	\$301	2829	\$587,097	\$208
32 - Civil & Environmental Engineering	5	\$24,922	\$4,984	110	\$2,878	\$26	10	\$144	\$14	125	\$27,944	\$224
34/35 - Industrial Hygiene & Laboratory Safety	100	\$103,663	\$1,037	198	\$37,691	\$190	13	\$573	\$44	311	\$141,927	\$456
Total	575	\$181,657	\$316	957	\$60,573	\$63	1733	\$514,738	\$297	3265	\$756,968	\$232

Goals 2022/2023

Fire & Life Safety Services

- Implement replacement schedule for fire extinguishers on campus at the end of service life
- Assist with bringing Murphy Center structural repair project to a conclusion as the primarily liaison with the TN State Fire Marshal's Office
- Support design & construction for Campus Wide Life Safety Systems capital maintenance project for Honors, Dyslexia, Mass Comm, Cope Admin, Todd Hall, Alumni Memorial Gym, & Wright/Saunders

Industrial Hygiene and Laboratory Safety

- Complete Campus Chemical Hygiene Plan with input from the Chemistry and Biology departments
- Prepare new Concrete and Construction Management building with proper cautionary laboratory signage before student occupation for classes and labs
- IHLS personnel certifications for mold inspections
- Calibration of EH&S equipment and instrumentation

2021/2022	EHS & Environmental Engineering: Project Work Orders									
Project Type	General Work (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Subdepartments	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
30/33/36 - Fire & Life Safety Services	0	\$0	10	\$25,407	0	\$0	3	\$660	13	\$26,067
32 - Civil & Environmental Engineering	1	\$4,851	1	\$18,648	0	\$0	0	\$0	2	\$23,499
34/35 - Industrial Hygiene & Lab Safety	0	\$0	3	\$81,830	0	\$0	5	\$80	8	\$81,910
Total	1	\$4,851	14	\$125,885	0	\$0	8	\$740	23	\$131,476

Civil & Environmental Engineering Services

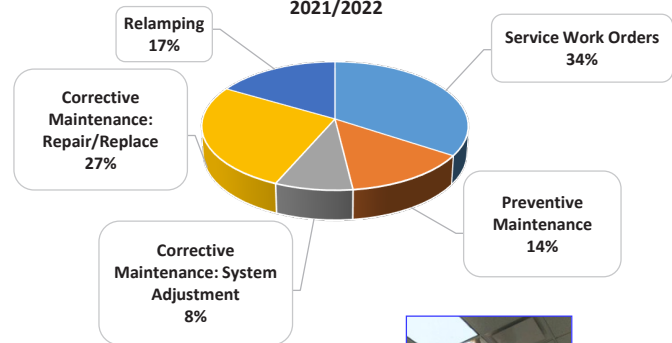
- Continue working with Campus Planning/Construction Management on upcoming campus Utilities projects
- Coordinate domestic water, sanitary sewer, and stormwater repair work on campus with the City of Murfreesboro
- Update campus drainage map as new projects arise
- File NOI with TDEC for coverage under the new NPDES permit and obtain NOC for the City and MTSU
- Continue working with the City of Murfreesboro on Stormwater Education and Outreach to meet NPDES permit compliance requirements

Accomplishments & Highlights 2021/2022

- Status of 2021-22 Goals:
 - o Main waste line at the Student Services Building is working so well that it has been placed on the ongoing monitoring list
 - o Additional 150+ Sternberg lights were retrofitted with LED lamps during the past year
 - o The PFIS records for roofing, electrical and plumbing were updated for all E&G buildings
 - o Multiple new sources of potential candidates for current vacancies were identified
- Completed over 4,000 individual service requests for FY 2021-22
- Completed 56 maintenance and special projects valued at \$5,000 or more
- Produced, adopted, and submitted completed Water Intrusion Plan for MTSU to the State of Tennessee
- Continued the process of periodic updating of PFIS records for each building on campus

Goals 2022/2023

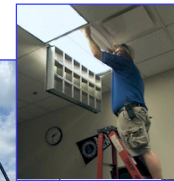
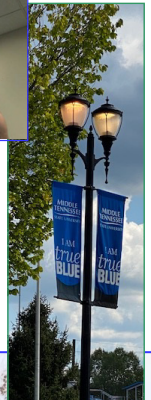
- Continue to retrofit the Sternberg light fixtures on campus with LED lamps to improve the safety and security on campus for the student population, visitors, and the larger campus community to improve campus lighting reliability with the added benefit of reducing MTSU's carbon footprint
- Continue the process of periodic updating of PFIS records for each building on campus
- Develop a responsible party training program for the newly adopted MTSU Water Intrusion Plan

Building Services: Man-Power Allocation
2021/2022

KOM Project



Valve Replacements

Lighting,
Sternbergs, and
Banners

Building Services: Project Work Orders

Project Type	General Work (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Subdepartment	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
22 - Metal Shop	-	-	-	-	1	\$18	3	\$1,272	4	\$1,290
40 - General Maintenance	5	\$5,098	24	\$80,533	4	\$70,644	17	\$2,522	50	\$158,797
90 - Construction Services	10	\$2,395	14	\$41,098	3	\$2,193	150	\$36,133	177	\$81,819
Total	15	\$7,493	38	\$121,631	8	\$72,855	170	\$39,927	231	\$241,906

Building Services: O&M Work Orders

Subdepartments	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost
22 - Metal Shop	36	\$4,917	\$137	0	\$0	\$0	24	\$9,478	\$395	60	\$14,395	\$240
40 - General Maintenance	2,538	\$343,406	\$135	323	\$64,869	\$201	136	\$155,376	\$1,142	2,997	\$563,651	\$188
90 - Construction Services	812	\$213,673	\$263	5	\$197	\$39	36	\$48,946	\$1,360	853	\$262,816	\$308
Total	3,386	\$561,996	\$166	328	\$65,066	\$198	196	\$213,800	\$1,091	3,910	\$840,862	\$215

Accomplishments & Highlights 2021/2022

- Completed Floyd Stadium Stairs Replacement; replaced rusted steel pan stairs with pre-cast concrete
- Started the Job Order Contract to replace wiring, update the transformer, and add a generator to the College Heights Campus Police Building
- Completed the School of Concrete and Construction Management (SCCM) Recording Studio Relocation in August 2021
- Started new roofing projects for the Tennessee Livestock Center and Cope Administration Building in May and June 2022, respectively
- Replaced all the exterior glass curtainwall at Murphy Center with unique, electrochromic (electronically tintable) Sage glass

Goals 2022/2023

- Improve communication of construction caused disruptions to stakeholders and the campus community overall; work with Campus Planning during Program and Design phases for better understanding of Construction Schedule timelines
- Begin construction of the Student Athlete Performance Center
- Continue to gather and update requests for Capital Maintenance projects and Archive project data into Capital Construction common drive for historical data preservation; work with Facilities ITD to help transfer information to more accessible and up to date platform
- Finish construction on the new School of Concrete & Construction Management Building September 2022; complete the structural repair portion of Murphy Center Curtainwall Replacement project January 2023
- Continue to participate in standardizing and updating Facilities work and other standards
 - Support for Campus Planning for continued standardization of work completed on campus locally as well as Capitally funded projects
 - Support Facilities Services for standardization for continuity of equipment, processes, and scope of work
- Continue to look for opportunities to participate in continuing education and webinars to keep up to date on construction processes and technologies

2021/2022 Capital Projects Summary	
FY Funded New Projects (Q1)	
Campus Wide Utilities Repair/Replacement	Cope Building Roof Replacement
Multiple Bldgs Elevator Modernization Phases 1&2	Science Building HVAC & Exhaust System Upgrades
Campus Wide Life Safety Systems Upgrades CAB/TODD/SFA/BRAG/AMG	College Heights Electrical Upgrades
Alarm System Upgrades DYS/HONORS	College Heights Break Room Renovation
Murphy Center Window Repair/Replacement	TN Livestock Roof Repair & Refurbishment
Student Athlete Center	Several Building Exterior Repairs
Tennis Center	Applied Engineering Building
FY Completed Projects	
SCCM Recording Studio Relocation (Q1)	
Floyd Stadium Stair Repair (Q2)	
Stadium Lighting Protection (Q4)	

Stadium Stairs Repairs



TN Livestock Center Re-Roof



Underground Utilities Project

Construction Administration Capital Project Summary

2021/2022	1st FY Qtr		2nd FY Qtr		3rd FY Qtr		4th FY Qtr		Annual Totals	
	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects
Beginning Active Projects	2	\$35,573,539	14	\$158,158,930	13	\$157,110,080	13	\$157,110,080	2	\$35,573,539
Added Projects	13	\$124,110,074	0	\$0	0	\$0	0	\$0	13	\$124,110,074
Completed Projects	1	\$1,524,683	1	\$1,048,850	0	\$0	1	\$191,000	3	\$2,764,533
Ending Active Projects	14	\$158,158,930	13	\$157,110,080	13	\$157,110,080	12	\$156,919,080	12	\$156,919,080

Accomplishments & Highlights 2021/2022

- Updated Special Project Request form and process
- Rebid university electrical contract
- Utilization of Microsoft Teams for virtual meetings
- Major completed renovations include:
 - o SAG 209 - TAF classroom – update equipment and room finishes
 - o MGB 104 - Data Science department relocation
 - o MEC 2nd Floor - Songwriting Center lobby and classroom construction
 - o MEC 3rd Floor - Asian Studies relocation
 - o Peck Hall 108 - Historical Preservation relocation
 - o Peck Hall 207– New classroom renovations
 - o SFA 117 – Choral room improvements
 - o Fairview 102 - STEM department office renovation
 - o CKNB 105 & 106 – Physician's Assistant Program classroom renovations
 - o JUB 330 - True Blue TV Production Services relocation
 - o Vocational Ag- Shop improvements for Food System Training Facility



Songwriters Center Lobby
Miller Education Building

Goals 2022/2023

- Update Construction/Renovation webpage
- Utilize Power BI for PFI updates
- Rebid university Direct Order Contract
- Successfully complete major renovations:
 - o TAF classroom renovations in Honors, McFarland, KOM, BAS
 - o Songwriting individual break-out room renovations
 - o Health Services paint and flooring replacement
 - o Center for Innovation in Media collaborative area renovation
 - o University Police renovations at College Heights
 - o Creative Marketing Solutions renovation at Fairview
 - o Walker Library monumental stair railing refinishing
 - o ACE Learning Center playground enhancements and expansion
 - o Scarlett Commons – multiple apartment renovations



Choral Room
SFA 117

Construction/Renovation Funded Project Summary

2021/2022	1st FY Qtr		2nd FY Qtr		3rd FY Qtr		4th FY Qtr		FY Totals	
	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects
Beginning Active Projects	51	\$1,428,472	38	\$1,387,575	32	\$1,812,903	39	\$2,182,009	51	\$1,428,472
Added Projects	44	\$804,404	18	\$744,770	26	\$738,302	60	\$1,042,428	148	\$3,329,905
Completed Projects	57	\$845,301	24	\$319,442	19	\$369,196	31	\$667,499	131	\$2,201,438
Ending Active Projects	38	\$1,387,575	32	\$1,812,903	39	\$2,182,009	68	\$2,556,939	68	\$2,556,939

Construction/Renovation Requested Projects Summary

2021/2022	1st FY Qtr	2nd FY Qtr	3rd FY Qtr	4th FY Qtr	21/22 FY Totals
Beginning Project Requests	52	43	51	73	52
Added Requests	56	34	59	52	201
Approved Requests = Change to Active Project	44	18	26	60	148
Cancelled & Expired Requests	21	8	11	8	48
Remaining Project Requests	43	51	73	57	57



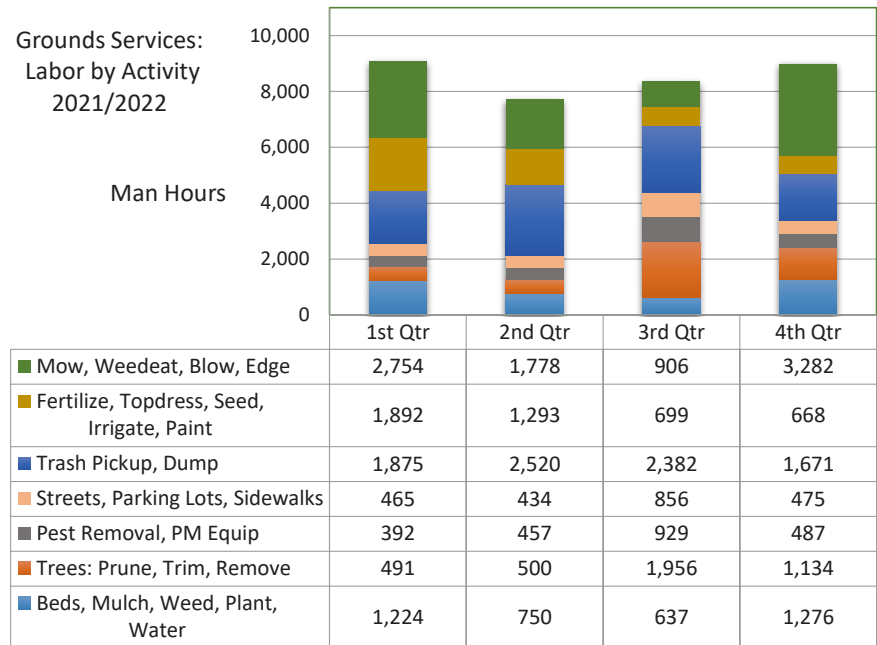
STEM Office Renovation
Fairview 102

Accomplishments & Highlights 2021/2022

- Continued sidewalk grinding to remove small imperfections and uneven spots on sidewalks around campus
- Purchased GPS/autonomous mowers to mow special areas on campus
- Repaired multiple areas of sidewalks on campus
- Continued tree replacement program
- Performed turfplaning/topdressing project on intramural fields to help improve field quality and drainage
- Continued re-landscaping of areas on campus
- Continued training opportunities

Grounds Services:
Labor by Activity
2021/2022

Man Hours



Total Hours: 34,183

Goals 2022/2023

- Improve irrigation system on intramural fields
- Perform second round of drainage improvements to soccer field
- Continue sidewalk/hardscape improvements
- Continue re-landscaping areas of campus
- Continue tree replacement program
- Explore more efficient way to paint athletic fields
- Continue training



2021/2022	Grounds: M&O Work Orders											
Subdepartment	Corrective Maintenance			Preventative maintenance			Service Task			Total		
	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost
13 - Grounds	204	\$114,653	\$562	33	\$777	\$0	79	\$747,110	\$9,457	316	\$862,540	\$2,730
19 - Greenhouse	87	\$17,731	\$204	9	\$12,672	\$1,408	57	\$276,184	\$4,845	153	\$306,587	\$2,004
31 - Dumpsters	28	\$7,403	\$264	2	\$264	\$132	25	\$183,108	\$7,324	55	\$190,775	\$3,469
Total	319	\$139,787	\$438	44	\$13,713	\$312	161	\$1,206,402	\$7,493	524	\$1,359,902	\$2,595

2021/2022	Grounds: Project Work Orders									
Project Type	GW (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Shop	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
13 - Grounds	0	\$0	20	\$339,916	2	\$7,500	2	\$2,225	24	\$349,641
Total	0	\$0	20	\$339,916	2	\$7,500	2	\$2,225	24	\$349,641

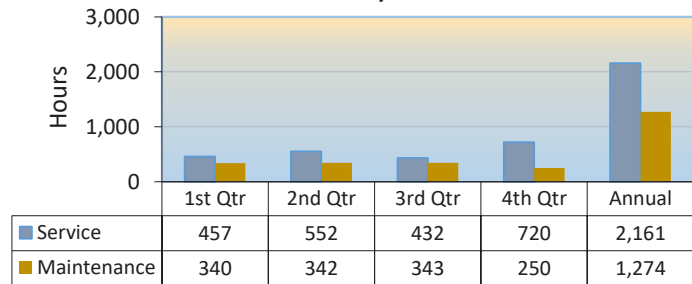
Accomplishments & Highlights 2021/2022

- Monitored and responded to changing COVID-19 response plan for Motor Pool operations and fleet reservations as we have returned to a normal amount of vehicle reservations
- Continued to upgrade shop equipment
- Met all state requirements for underground fuel storage tanks
- Continued to improve reservation process of Motor Pool vehicles

Goals 2022/2023

- Explore more efficient ways for cleaning of fleet vehicles
- Continue upgrading of Motor Pool fleet vehicles
- Implement a computerized fleet vehicle reservation process
- Continue to upgrade shop equipment to maximize efficiency
- Continue training

**Motor Pool Man-Power Allocation
2021/2022**



2021/2022	Motor Pool: Project Work Orders									
Project Type	GW (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Subdepartment	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
23 - Motor Pool	0	\$0	0	\$0	3	\$336	0	\$0	3	\$336
Total	0	\$0	0	\$0	3	\$336	0	\$0	3	\$336

2021/2022	Motor Pool: O&M Work Orders											
Subdepartment	Corrective Maintenance			Preventative maintenance			Service Task			Total		
	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost	# of WO	Total Cost	Avg. Cost
23 - Motor Pool	440	\$118,176	\$269	1306	\$442,040	\$0	136	\$117,011	\$860	1882	\$677,227	\$360
Total	440	\$118,176	\$269	1306	\$442,040	\$0	136	\$117,011	\$860	1882	\$677,227	\$360

Custodial Services Connie Hagberg Brenda Wunder

Accomplishments & Highlights 2021/2022

- Brought contractor service on-line for Housing: Corlew, Deere, Nicks Halls: contract service for Grounds Services for garbage truck driver position
- Discussion with Housing Administration and custodial contractor service for bringing Cummings Hall on-line and performing summer turnover service in Scarlett Commons
- Ensured the custodial contractor service met contract terms
- Based on COVID-19 cleaning recommendations and Campus Inventory Reports, hired supplementary employees through contractor service; distributed disinfection kits; continued weekly pick-up service/ distribution of microfiber cloths and cleaning wipes to faculty
- Serviced hand sanitizer stations throughout campus
- Completed mandatory and recommended training sessions, as required by the University and FSD/EH&S

Goals 2022/2023

- Bring School of Concrete and Construction Management Building on-line – Fall semester
- Bring Cummings Hall on-line – Fall semester
- Ensure custodial contract terms are upheld, as written
- Complete mandatory and recommended training required by the University and FSD/EH&S

E&G Space 2021/2022	Gross Square Feet	Cleanable Square Feet	% Cleanable Square Feet
Facilities Services Department			
In-house	464,964	135,164	5%
Contract Labor	2,469,682	1,793,112	74%
Murphy Center Complex			
In-house	-	-	0%
Contract Labor	595,019	501,817	21%
Total	3,554,147	2,430,093	100%

Central Administration: Employee Development Services

Connie Hagberg

19

Accomplishments & Highlights 2021/2022

- Assigned safety training topics in Safe Colleges to Facilities Services employees according to EH&S team Recommended Training List
- Updated Safe Colleges training records for employees who completed off-line training sessions
- Coordinated topic-specific safety training (requiring both classroom and hands-on instruction) for Facilities Services and other campus departments
- Prepared training reports for FSD managers or supervisors

Goals 2022/2023

- Serve as Administrator/Department Coordinator for Safe Colleges; input training assignments according to Recommended Training List prepared by EH&S; input any off-line training completed by Facilities Services employees; prepare training completion/outstanding reports, as necessary, for review
- Review and schedule any specialized safety training topics as requested by FSD Directors or Supervisors

FSD Employees Training Records 2021/2022		Leadership/Professional Development			Technical Training		
By Training Type	# Employees (Full-Time)	# Employees Trained	Total Hours		# Employees Trained	Total Hours	
			In-House	Conference		In-House	Conference
Central Administration							
-Assistant Vice President	2	2	4.4	6	2	8.4	0
-Accounting Information Services	4	4	10.3		4	15.6	0
-Employee Development	1	1	2.2		1	4.7	0
Engineering Services							
-Director	1	1	2.2		1	3.9	0
-Center for Energy Efficiency	2	2	14.9	9.5	2	9.4	0
-Work Orders	3	3	5.0	6.3	3	8.2	0
-Civil/Environmental Services	5	5	8.5		5	23.9	0
-Industrial Hygiene & Lab Safety	2	2	4.4		2	15.8	0
-Life Safety & Emergency Management	3	3	6.5		3	24.1	0
-Key Shop	2	2	4.4		2	10.6	0
-Systems Administrator	1	1	2.2	3	1	3.9	0
Building Services	13	13	23.1	3	13	106.6	0
Construction Administration	4	4	8.8	3.3	4	18.0	0
Construction Renovation	4	4	50.5		4	23.5	0
Energy Services	19	19	37.8		19	114.4	0
Grounds Services/Motor Pool	22	22	41.4		22	139.8	0
Custodial Services	12	12	24.9		12	56.4	0
TOTALS	100	100	251.5	32	100	587.2	0



Number of Employees per Total Hours Trained 2020/2021	# Employees (Full-Time)	0 Hrs	1-10 Hrs	11-20 Hrs	>20 Hrs
Central Administration					
-Assistant Vice President	2		1	1	
-Accounting Information Services	4		4		
-Employee Development	1		1		
Engineering Services					
-Director	1		1		
-Center for Energy Efficiency	2		1		1
-Work Orders	3		2	1	
-Civil/Environmental Services	5		5		
-Industrial Hygiene & Lab Safety	2		1	1	
-Life Safety & Emergency Management	3		2	1	
-Key Shop	2		2		
-Systems Administrator	1		1		
Building Services	13		6	7	
Construction Administration	4		4		
Construction Renovation	4		2		2
Energy Services	19		19		
Grounds Services/Motor Pool	22		22		
Custodial Services	12		12		
TOTALS	100	0	86	11	3

SafeColleges Training

These training opportunities available for campus departments, and more, are provided to enhance job performance, promote safety, and comply with laws and regulations.

Excerpts from Campus Master Plan 2015 - 2025

Facility Assessment: Education and General Use Facilities

Like many universities and colleges, MTSU has simultaneously experienced significant growth and increased fiscal constraints. These conditions have led to postponement of major repairs and replacement of facilities and infrastructure. This delay, combined with aging facilities, leads to a degradation of the facilities and an increased backlog of maintenance and capital renewal projects commonly referred to as deferred maintenance.

	Building Name	Building ID	Year Constructed	Gross SF	Assignable SF	Current Condition (1)	Site Suitability (2)	Physical Building Rating (3)	Existing Program Suitability (4)
ALOF	Alumni Office (2263 Middle Tennessee Boulevard)	24-172	1948	2,796	1,814	94.3	M	A	A
ALUM	Alumni Relations House (2259 Middle Tennessee Blvd.)	24-174	2008	10,105	5,435	94.7	M	A	A
BAS	Business & Aerospace Building	24-091	1997	184,931	102,233	90.1	M	A	A
BDA	Boutwell Dramatic Arts	24-031	1964	56,164	36,757	79.6	M	C	D
BLH	1417 East Main Street (Center for Historic Preservation)	24-097	1958	3,041	2,191	71.5	L	D	D
BRAGG	Bragg Media and Entertainment Building	24-083	1990	91,114	52,325	89.3	M	B	C
CAB	Cope Administration Building	24-034	1965	50,976	29,325	85.3	M	B	A
CH	College Heights Chapel	24-197	1959	9,362	7,828	75.4	M	C	C
CKNB	Cason-Kennedy Nursing Building	24-084	1994	31,494	18,259	96.5	M	A	A
COE	College of Education Building	24-229	2010	91,206	50,989	100	M	A	A
DSB	Davis Science Building	24-041	1967	75,258	40,966	81.2	H	B	A
DYS	Tennessee Center for the Study & Treatment of Dyslexia	24-155	2000	7,169	4,146	96.0	H	A	A
EHS	Ellington Human Sciences	24-025	1962	15,509	10,619	85.5	M	B	D
EZEL	Ezell Hall	24-072	1973	52,452	32,775	66.4	L	D	D
FAIR	Fairview Building	24-149	1962	38,250	22,960	89.4	M	B	A/C
FH	Forrest Hall	24-017	1954	14,177	8,807	84.0	L	D	A
FSHP	Farm Shop	24-232	2011	9,772	9,396	96.1	H	A	A
GH	Greenhouse	24-073	1975	4,774	4,709	80.1	L	D	B
HARR	1416 East Main Street (Center for Historic Preservation)	24-130	1925	2,454	1,478	80.2	L	D	D
HC	Horticulture Facility	24-093	1997	9,002	6,458	87.1	L	D	C
HONR	Paul W. Martin, Sr. Honors Building	24-166	2003	20,720	11,601	98.5	M	A	A
ING	Sam H. Ingram Building (2269 Middle Tennessee Blvd.)	24-169	1951	27,498	17,838	96.8	M	A	A
JACK	Tom H. Jackson Building1	24-003	1911	8,224	4,825	84.2	H	B	B
JH	Jones Hall1	24-005	1921	39,855	21,103	84.6	H	B	A
JUB	James Union Building	24-015	1952	58,354	36,626	83.6	H	B	A
KOM	Kirksey Old Main1	24-002	1911	83,706	45,947	70.9	H	C	A
KUC	Keathley University Center	24-042	1967	122,671	80,518	85.9	M	B	B
LIB	James E. Walker Library	24-094	1998	254,596	171,275	96.8	M	A	A
LRC	Ned McWherter Learning Resources Center	24-074	1975	65,865	38,296	93.8	M	A	A
LYTL	1114 East Lytle Street (Lytle House)	24-171	1948	1,874	1,401	89.4	M	B	B
MB	McFarland Building	24-054	1969	10,285	6,424	90.5	M	A	A
MD	Main Dairy	24-230	2011	22,190	18,987	98.8	H	A	A
MEC	Miller Education Center	24-241	1999	126,839	105,196	93.5	M	A	A
MGB	E.W. Midgett Building	24-076	1959	18,615	11,126	62.7	L	D	D
NB3	Nursing Building Addition	24-84A	2006	24,044	13,814	97.5	M	A	A
OBS	Observatory	24-194	2007	724	363	96.9	M	A	A
PCS	Pittard Campus School1	24-007	1927	47,487	29,526	79.7	H	C	B
PH	Peck Hall	24-044	1968	110,501	53,126	73.0	M	C	D
PHLP	Project Help	24-088	1996	4,568	3,158	90.2	M	A	B
PKS	Parking Services Building	24-158	1951	12,099	7,441	86.6	L	D	A
PRES	President's Home1	24-001	1911	7,794	7,015	87.2	H	B	A
PSB	Printing Services Building	24-175	2005	4,320	3,659	97.4	M	A	A
ROTX	ROTC Annex	24-010	1942	10,143	8,477	63.9	L	D	B
SAG	Stark Agribusiness and Agriscience Center	24-045	1968	25,463	15,340	76.7	M	C	A
SCI	Science Building	24-249	2014	263,670	144,540	100	M	A	A
SFA	Saunders Fine Art	24-022	1959	32,788	19,811	78.0	M	C	D
SSAC	Student Services and Admissions Center	24-245	2012	64,500	33,002	100	M	A	A
STU	Student Union	24-238	2010	210,846	111,153	100	M	A	A
TB	Telescope Building	24-106	1986	412	346	80.1	L	D	D
TCM	Telecomm Building	24-089	1996	10,267	5,959	91.8	M	A	C
TLC	Tennessee Livestock Center	24-070	1972	157,316	91,738	85.6	L	D	A
TODD	Andrew L. Todd Hall	24-019	1958	114,388	65,666	96.4	H	A	A
VA	Vocational Agriculture	24-080	1979	6,047	5,163	84.3	L	D	C
VET	Voorhies Engineering Technology	24-009	1942	39,289	28,488	78.9	L	D	C
WANH	209 North Baird Lane (Internal Audit)	24-103	1958	1,243	900	78.4	L	D	B
WMB	Wright Music Building	24-081	1980	31,357	20,802	82.5	M	B	B
WPS	Wiser-Patten Science Hall	24-008	1932	41,116	24,612	82.8	H	B	A
WSC	Wood - Stegall Center (University Advancement)	24-156	2001	10,142	4,630	98.6	M	A	B

Legend:

- (1) Current Condition Score (0-100) determined by the Physical Facilities Survey Score as of August 2015 (PFIS).
- (2) Site Suitability Score (High, Medium, Low) determined by factors including various land uses, code issues, and original campus structure.
- (3) Physical Building Rating (A-D) determined by combining the Current Condition and Site Suitability Scores as shown in the matrix.
- (4) Existing Program Suitability (A-D) determined by the factors including quantity and quality of space and the fit of programs to the design.

Deferred Maintenance:

Current Condition				
Site Suitability				
		> 90	80 - 90	< 80
	High	A	B	C
	Medium	A	B	C
	Low	C	D	D
Physical Building Rating				

Table A-2 Educational and General (E&G, Maintenance, Utilities, & Athletics)

Physical Building Rating	Square Feet	20-Year Deferred Maintenance (1)
A	1,773,836	\$35,459,630
B	886,512	\$88,670,198
C	422,487	\$46,857,416
D	240,427	\$22,538,570
Other	11,540	\$865,008
Infrastructure (2)		\$48,597,706
20-Year Capital Renewal Funding (3)		(\$56,968,010)
Total	3,334,802	\$186,020,518

MTSU Capital Maintenance

Project Lists per FY Capital Budget Request

2020 - 2021	Priority	Project Name	FY 20/21 Request	Appropriated Funding	Project Status
	1	Murphy Center Window Repair/Replacement	\$ 4,600,000	\$ 4,600,000	Funded
	2	Elevator Modernization Phase III	\$ 2,000,000	\$ -	Not Funded
	3	Water & Sewer System Updates Phase II	\$ 490,000	\$ -	Not Funded
	4	Several Buildings Roof Replacements	\$ 950,000	\$ -	Not Funded
	5	Steam/Condensate & Manhole Repair/Replacement Phase III	\$ 1,400,000	\$ -	Not Funded
	6	Sidewalk Repair/Replacement Phase I	\$ 610,000	\$ -	Not Funded
		Total:	\$ 10,050,000	\$ 4,600,000	
2021 - 2022	Priority	Project Name	FY 21/22 Request	Appropriated Funding	Project Status
	1	Campus Wide Utilities Phase 1	\$ 1,139,000	\$ 1,139,000	Funded
	2	Several Buildings Elevator Modernization Phase 1	\$ 950,000	\$ 950,000	Funded
	3	Campus Wide Life Safety Systems Upgrade Phase 1	\$ 400,000	\$ 400,000	Funded
	4	Cope Building Roof Replacement	\$ 600,000	\$ 600,000	Funded
	5	Science Building HVAC & Exhaust System Upgrades	\$ 2,000,000	\$ 2,000,000	Funded
	6	Several Buildings Elevator Modernization Phase 2	\$ 885,000	\$ 885,000	Funded
	7	Campus Wide Life Safety Systems Upgrade Phase 2	\$ 1,285,000	\$ 1,285,000	Funded
	8	Campus Wide Utilities Phase 2	\$ 1,816,000	\$ 1,816,000	Funded
	9	College Heights Electrical Upgrades	\$ 400,000	\$ 400,000	Funded
	10	Tennessee Livestock Roof Replacement/Refurbishment	\$ 490,000	\$ 490,000	Funded
		Total:	\$ 9,965,000	\$ 9,965,000	
2022 - 2023	Priority	Project Name	FY 22/23 Request	Appropriated Funding	Project Status
	1	Multiple Buildings Elevator Modernization Phase 3	\$ 1,407,800	\$ 1,407,800	Funded
	2	Campus Wide Lighting and Lighting Control Updates	\$ 952,200	\$ 952,200	Funded
	3	Multiple Buildings Mechanical and Controls Updates	\$ 2,000,000	\$ 2,000,000	Funded
	4	Campus Wide Access Control and Security Updates	\$ 800,000	\$ 800,000	Funded
	5	Multiple Building Exterior Envelope Updates	\$ 2,000,000	\$ 2,000,000	Funded
	6	Campus Wide Utilities Phase 3	\$ 2,500,000	\$ -	Not Funded
	7	Multiple Buildings Roof Replacements	\$ 1,400,000	\$ -	Not Funded
	8	Campus Wide Sidewalk Repair and Replacements	\$ 738,000	\$ -	Not Funded
		Total:	\$ 11,798,000	\$ 7,160,000	
2023 - 2024	Priority	Project Name	FY 19/20 Request	Appropriated Funding	Project Status
	1	Central Plant & Campus Utilities Updates Phase 1	\$ 3,000,000	\$ -	Funding Request
	2	Central Plant & Utilities Updates Phase 2	\$ 2,000,000	\$ -	Funding Request
	3	Central Plant & Utilities Updates Phase 3	\$ 2,000,000	\$ -	Funding Request
	4	Multiple Buildings Roof Repairs & Replacements	\$ 1,920,000	\$ -	Funding Request
	5	Multiple Buildings Structural & Exterior Envelop Repairs	\$ 2,000,000	\$ -	Funding Request
	6	Campus Wide Life Safety Systems Updates	\$ 1,500,000	\$ -	Funding Request
	7	Multiple Buildings Elevator Modernization	\$ 2,500,000	\$ -	Funding Request
	8	Multiple Buildings Hydronic Systems Renovation	\$ 480,000	\$ -	Funding Request
	9	Campus Wide Sidewalk Repair & Replacements	\$ 400,000	\$ -	Funding Request
		Total:	\$ 15,800,000	\$ 15,800,000	



Funded by a fee initiated by the MTSU student body, administered by the Division of Student Affairs, and supported by the Tennessee Board of Regents at the time, the intent of the MTSU Sustainable Campus Fee Program is to decrease consumption of non-renewable energy with a directed portion for purchasing 'green power' from TVA to facilitate production of electricity from wind, solar power, and methane gas as a clean alternative to traditional energy sources. The reminder of the funds are used for local campus projects.

MTSU Sustainable Campus Fee (SCF) Program

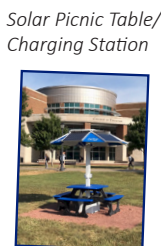
Approved Projects	2006-17	2017-18	2018-19	2019-2020	2020-2021	2021-2022	Totals
Green Power Purchase	\$ 2,200,000	\$ 150,000	\$ 50,000	\$ 50,000	\$ 22,500		\$ 2,472,500
Air Compressor System- Integrated control module/program					\$ 6,000		\$ 6,000
Air Handling Units Energy Upgrades Rec				\$ 70,000			\$ 70,000
Air Flow Meter Installations	\$ 9,000	\$ 3,500					\$ 12,500
Alternative Fuel- Biodiesel Production Project	\$ 2,500						\$ 2,500
Alternative Fuel- Convert a Bus to Run on Used Cooking Oil	\$ 15,000						\$ 15,000
Alt Fuel- Convert Vehicle to Operate on Natural Gas/Installation of Compressed Gas Station	\$ 8,500						\$ 8,500
Alt Fuel- Comparing the Pollutant Emissions for Various Alt Fuels	\$ -	\$ 5,944					\$ 5,944
Alt Fuel- Development of Flex-Fueled Engine (ph1 solar,ph2 hydrogen)	\$ 54,000						\$ 54,000
Alt Fuel- Development of High Performance Additive fuels to Reduce Emission of Pollutants					\$ 4,474		\$ 4,474
Alternative Fuel- Hybrid/Alternative Fuel Vehicle Project	\$ 47,850						\$ 47,850
Alternative Fuel- Increasing Production Capacity of Biodiesel	\$ 9,965						\$ 9,965
Alternative Fuel- Kenaf Agriculture for Sustainable Community	\$ 5,935						\$ 5,935
Alternative Fuel- Multi-fuel Bus Emission Testing Project	\$ 10,944						\$ 10,944
Alternative Fuel- Propane Powered Mower (7)	\$ 23,223	\$ 13,000	\$ 12,600	\$ 13,600	\$ 13,600	\$ 14,600	\$ 90,623
Alternative Fuel- Running Vehicles off Wood Gasification	\$ 4,500						\$ 4,500
Bee Keeping and Colony Collapse	\$ 10,000						\$ 10,000
Battery Operated Grounds Equipment (40V lithium-ion)	\$ 2,500						\$ 2,500
Bicycle Friendly Campus/shelters PH (1)/ shelter PH (1)/Pump	\$ 88,132	\$ 9,000	\$ 11,500	\$ 11,500	\$ 5,800	\$ 1,095	\$ 127,027
Biofuels- Cellulose Production/Optimization-Conversion to Ethanol			\$ 3,980				\$ 3,980
Biofuels- Conversion of Oyster Shells into Catalyst for Biofuels			\$ 3,900				\$ 3,900
Biofuels- Recycling of Fermentation Waste for Biofuels						\$ 8,500	\$ 8,500
Biofuels- Ultrasonic Generator and Biotech Applications Research	\$ 11,180						\$ 11,180
Biorenewable Solvents for Pigment Extraction and Textile Dyeing			\$ 380				\$ 380
Blast Hand Dryers for REC/ Hand Dryers (LIB,FAIR)	\$ 20,377						\$ 20,377
Boiler Sequencing Controller- M2G (ING)	\$ 7,698						\$ 7,698
BTU Meters for Chillers at Chiller Plant and Satellite	\$ -	\$ 9,000					\$ 9,000
Bypass Feeders (15 buildings)	\$ 9,800						\$ 9,800
Change Hot Water Valve Tops in Murphy Center	\$ 6,502						\$ 6,502
Chilling Plant- Pressure Gauges Installation/Heat Exchanger for Cond.	\$ 1,000					\$ 11,000	\$ 12,000
Clean/Replace Coils AMG, BRAGG, FH, VET, JUB, FAIR, KUC, TCM, BDA, WPS, TLC, MB, MC, CKN, KOM,BAS,KOM,JH,Todd,KUC,many buildings	\$ 74,651	\$ 9,500		\$ 4,000			\$ 88,151
Closed Loop Sediment Filtering System (KUC, LIB, MC, TODD, SAG, VET, LRC, BRAGG, JH, CAB, CKNB, EHS, BDA, BAS, WMB, MEC other Bldgs)	\$ 211,350		\$ 10,000		\$ 5,000	\$ 9,000	\$ 235,350
Dehumidifier Project in VET 108	\$ 13,600						\$ 13,600
Development of a Biosensor to Detect Hydrogen Production	\$ 4,250						\$ 4,250
Electric Auto-Mower - Murphy Center						\$ 12,800	\$ 12,800
Energy Analysis- Building Heating/AC Energy Efficiency Study	\$ 1,500						\$ 1,500
Energy -Conduct Light Level Studies in TODD, BRAGG, BAS, PH	\$ 5,500						\$ 5,500
Energy - Data Loggers for Energy Efficiency Analysis	\$ 8,060						\$ 8,060
Energy -Flow Meter; Compact Infrared Cameras for Energy Audits	\$ 13,350	\$ 5,000					\$ 18,350
Energy Analysis- Infr Thermometer Guns/Sensors&Monitoring Tools	\$ 500	\$ 4,905					\$ 5,405
Energy Analysis- Siemens Energy Analysis for SCI	\$ 12,000						\$ 12,000
Energy Analysis- Steam Trap Ultrasonic Test Equipment	\$ 2,600						\$ 2,600
Energy Analysis- Test and Balance Hot Water System (KUC)	\$ 12,716						\$ 12,716
Energy Books Purchase for LIB and Facilities Offices	\$ 6,323						\$ 6,323
Energy Conservation Project in BDA: Motion Sensors	\$ 4,568						\$ 4,568
Energy Efficient Replacement Washer (2)	\$ -	\$ 11,617				\$ 14,184	\$ 25,801
Flowmeter BTUmeter for MC/VET/AMG/RH/Cope			\$ 9,000	\$ 27,000		\$ 12,000	\$ 48,000
Hot/Chilled Water Valve Assessment	\$ 5,000						\$ 5,000
HVAC Controls Replacement (WMB)	\$ 29,950						\$ 29,950
HVAC Pleated Filter Projects- SCI, JH, FAIR, BRAGG, CKNB, Horse Science, HOB, WMB, ROTC, COE, HONR, Public Safety	\$ 19,999						\$ 19,999
HVAC Pocket Filter- Multiple Buildings (21+/-) Synthetic CKN,PH,BRAG	\$ 148,024	\$ 2,976	\$ 3,905		\$ 10,765		\$ 165,670
Install FilterPave Porous Pavement in Parking Lot on Champion Way	\$ 18,665						\$ 18,665
Install Variable Frequency Drives- JH, LIB, BDA,MC,BAS,MC ;Replace VFD LIB	\$ 53,846				\$ 7,743	\$ 47,000	\$ 108,589
Install Variable Speed Drive Motor Additions - 2 phases Rec Center			\$ 30,994				\$ 30,994
Install Milk Cooling System at the MTSU Farm	\$ 17,500						\$ 17,500
Install a Geothermal Cooler System on the MTSU Farm	\$ 27,150						\$ 27,150
Installation of Programmable Thermostats in F/S Maintenance Shops	\$ 1,200						\$ 1,200
Installation of Variable Speed Compressor in COGN	\$ 24,000						\$ 24,000
Insulate Pipes- Multiple Buildings (19+)	\$ 116,409		\$ 16,200				\$ 132,609
Insulated Garage Door Replacement- Motor Pool	\$ 3,950						\$ 3,950
ITD-AMX Resource Mgmt Suite Sys Upgrade; Virtual Mgmt Software	\$ 17,500						\$ 17,500
ITD- "Lights out" Cope Data Center	\$ 1,316						\$ 1,316
Lab Upgrade of Instr (ICP-OES) Donated by TN Health Dept. Lab	\$ -	\$ 7,400					\$ 7,400
Lamp Crusher	\$ 4,000						\$ 4,000
Landscape - JUB					\$ 8,000		\$ 8,000
Laser Alignment Devices	\$ 5,681						\$ 5,681

(Continued on page 23)

Approved Projects	2006-16	2016-17	2017-18	2018-19	2019-2020	2020-2021	Totals
Lighting- Ann Campbell Early Learning Center LEDs				\$ 5,696			\$ 5,696
Lighting- Retrofits Mechtronics Lab, MTSU Airport Ramp Lights	\$ -	\$ 9,050		\$ 4,300			\$ 13,350
Lighting- Retrofitted LEDs/ Outside Lamps : Old Main Circle, Walnut Grove, Rutherford Lot, E Alumni Dr, Greek Row, Ezell, Womack, Sims/Beasley, DSB, JUB, RH, VET, JACK				\$ 39,412	\$ 39,600	\$ 39,600	\$ 118,612
Lighting- Occupancy Sensors Honors Building	\$ 3,372						\$ 3,372
Lighting Projects LEDs- LIB Atrium; REC Cardio Room/indoor pool; BRAGG & PH; studio BRAGG & LRC; VET; BAS S lobby; LRC 221; WMB Hinton Hall; VET 120 lab, LIB student area	\$ 119,268	\$ 18,377	\$ 38,144		\$ 5,600		\$ 181,389
Lighting- Re-lamp CKNB (existing portion) and FAIR	\$ 61,200						\$ 61,200
Lighting- Replacement of Incandescent Lamps in MC	\$ 5,729						\$ 5,729
Lighting- Re-lamp MTSU Parking Garages with LEDs				\$ 36,658			\$ 36,658
Manhole Cover Replacement			\$ 6,600				\$ 6,600
Microfiber Cleaning System				\$ 1,296			\$ 1,296
Outside Air Damper with AFM station included for KOM, BAS, Bldgs/ BAS				\$ 40,000	\$ 20,000		\$ 60,000
Permeable Pavers for Sustainable Learning Environment (FH)	\$ 13,050						\$ 13,050
Polution monitoring of Middle Point Landfill - water					\$ 7,990		\$ 7,990
Poster Campaign and Earthwise Reusable Bag Project	\$ 18,160						\$ 18,160
Pressure Differential Sensors for MOH, BRAG, CKN, DSB, JUB, others				\$ 4,000		\$ 4,000	\$ 8,000
Protreat Mold Treatment for Air Handling Units	\$ 1,400						\$ 1,400
Re-caulk Exterior Windows (DSB)	\$ 14,000						\$ 14,000
Recycling- Community Drop-Off Upgrades	\$ 3,000		\$ 5,500				\$ 8,500
Recycling Support for Special Events (7)	\$ 10,500	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500		\$ 24,500
Recycling Supplies for MTSU Recycling Program	\$ 73,500	\$ 4,000		\$ 3,500	\$ 9,600	\$ 3,000	\$ 93,600
Recycling- Increase Behavior by Applying Behavior Sci Principles	\$ 1,300						\$ 1,300
Recycling- Pickup Truck Purchase	\$ -	\$ 14,000					\$ 14,000
Recycling Pilot Program: Dorm Room Recycling Bins	\$ 9,000						\$ 9,000
Recycling- Animation Contest with Recycling or Sustainability Theme	\$ -		\$ 750				\$ 750
Recycling- Promotion of SCF Program/RecycleMania	\$ 1,000			\$ 2,000			\$ 3,000
Recycling- Technology Lab Resources	\$ 1,800						\$ 1,800
Replace Older Motor with Energy Effic motor in HOB, WMB, SAG, MC, TLC	\$ 44,543	\$ 12,851					\$ 57,394
Replace Older Pump with Energy Efficient Pump (KUC)	\$ 5,424						\$ 5,424
Replacement of Exterior Windows (MB, HOB)	\$ 60,000						\$ 60,000
Replacement of VFD for BAS HVAC Return Fan (ph- 1 of 5)	\$ -		\$ 9,900				\$ 9,900
Research- Eco-Friendly Bio-Composting of Horse Carcasses	\$ 31,140						\$ 31,140
Research- Bring Green Chemistry to Campus (phVI)(phVII)(phVIII)	\$ 18,255	\$ 3,017	\$ 3,250	\$ 3,510	\$ 2,723	\$ 2,402	\$ 33,157
Research- "Clickable" Polymers	\$ 600						\$ 600
Research- Develop Novel Approach to Producing Biofuel	\$ 9,500						\$ 9,500
Research- DRIPS Project (D and R into Pervious Surfaces)	\$ 13,500						\$ 13,500
Research- Environmentally Benign Synthesis Using Electrochemistry	\$ -		\$ 3,100				\$ 3,100
Research- Pesticide Impacts on Soil Microbe Health	\$ -		\$ 8,500				\$ 8,500
Research- Plastic Recycling Priorities: Quantifying Different types of Microplastic Particles found in Surface Water						\$ 6,636	\$ 6,636
Research- Sustainable Design: Recycling of Ginseng Plant Waste for Biofuel Using Pond Microbe	\$ -		\$ 9,000				\$ 9,000
Research- Turning Manure into Gold	\$ 1,000						\$ 1,000
Restroom Flush Valves Replacement (LIB)	\$ -	\$ 9,020					\$ 9,020
ReRev Cardio System Elliptical Machines in REC	\$ 30,000						\$ 30,000
Self-Sustainability Initiative Through Alternative Horticulture	\$ 10,000						\$ 10,000
Server Consolidation/Visualization- Health Services	\$ 20,000						\$ 20,000
Siemens Ctrlrs for Var Air Vol Boxes - LIB (26 boxes)/LIB (30 boxes)				\$ 10,560	\$ 12,534		\$ 23,094
Solar- Unmanned Aircraft System Solar Project						\$ 32,980	\$ 32,980
Solar Attic Fans in FH and EHS/ WH	\$ 28,932				\$ 3,500		\$ 32,432
Solar- Big Belly Solar Trash Compactor (9)/software upgrade	\$ 23,094	\$ 11,789	\$ 11,800		\$ 7,540		\$ 54,223
Solar- Golf Cart Conversion 1 and 2 (electric to solar)	\$ 24,380						\$ 24,380
Solar- Install 8kW System	\$ 81,224						\$ 81,224
Solar- Patio Umbrellas (2) / Picnic Table (2)	\$ 4,500			\$ 13,195	\$ 13,700		\$ 31,395
Solar- Buy Organic Dyes for Organic Dye Sensitized Solar Cells	\$ 1,100						\$ 1,100
Solar- Boat Project/ Student projects trailer	\$ 14,011				\$ 5,000		\$ 19,011
Solar- WMTS-FM 88.3 Solar Power Supply Project	\$ 31,900						\$ 31,900
Stwater Ctrl Proj- Rain Gardens, Bioremediation Ponds for M54	\$ 38,859	\$ 11,500	\$ 5,000				\$ 55,359
Compliance/Maint, Bank stabilization, PKG Lot Run-Off, Native Plants							
Student Suitabilities Ed. Initiative ; Learning Garden-Raised Bed	\$ 2,500					\$ 4,000	\$ 6,500
Sub-Metering for Chilling Plant and MC	\$ 8,000						\$ 8,000
Tree Planting Projects (7)	\$ 8,500	\$ 15,500	\$ 12,500	\$ 11,000	\$ 8,000	\$ 6,000	\$ 61,500
Ultrasonic Transmitters (MGB)	\$ 18,130						\$ 18,130
Water Conservation for Rural and Urban Citizens	\$ 25,000						\$ 25,000
Water Refill Stations- SGA Resolution 7-14-F, Multiple bldgs (61 units)	\$ 29,585	\$ 31,532	\$ 41,212	\$ 25,200	\$ 12,200	\$ 17,500	\$ 157,229
Y-pattern Valve Changeout- COGN	\$ 7,600						\$ 7,600
Total:	\$ 4,127,804	\$ 360,152	\$ 390,598	\$ 356,286	\$ 327,587	\$ 200,000	\$ 5,762,427



Tree Projects



Solar Picnic Table/
Charging Station



Water
Refill
Stations



Bike Shelters



Recycling bins



Big Belly Solar Trash
Compactors





Summary of Services

2021/2022 Annual Report

This report is produced by the FSD assistant vice president and staff and published by FSD Administration.
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Please Recycle!