

Fall 2021

# Fiscal Year 2023 Budget Information

## 5-Year Capital Request Planning and Capital Outlay Request



Submitted by:

**MICHIGAN STATE**  
UNIVERSITY

# MICHIGAN STATE UNIVERSITY

October 29, 2021

Mr. Chris Harkins  
State Budget Director  
State Budget Office  
State of Michigan  
Lansing, Michigan 48909

Dear Mr. Harkins,

In accordance with the State Budget Office instructions, an update of Michigan State University's Five-Year Capital Plan and SFY2023 Capital Outlay request, Appendix G, is posted at the following institutional website:

<https://opb.msu.edu/functions/facilities/documents/MSUSFY23CapitalOutlay.pdf>

The SFY2023 Capital Outlay request has also been submitted via SIGMA as instructed by your office. The Five-Year Capital Planning document follows from your instructions and the academic direction of the university.

The STEM Teaching and Learning Facility that was authorized as part of Public Act 207 of 2018, officially opened its doors this Fall Semester, with a ribbon-cutting ceremony in early September. Each week thousands of students, faculty, and staff now experience this state-of-the-art facility in the pursuit of knowledge, the opportunity to collaborate, learn, and grow. With its completion we look forward to the positive impact on student teaching and learning, and research and economic development opportunities for many years to come. We sincerely appreciate the state's partnership that brought this project to fruition.



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While we provide an expanded list of capital investment needs in our Five-Year Capital Plan, the project: ***Greenhouses-Renovation of Existing and Additions – Research Expansion and Learning continues as our Capital Outlay request*** for a funding partnership with the State. MSU is internationally recognized for its excellence in research and training in the plant sciences. To maintain and build on our strength in Plant Sciences, upgraded and expanded greenhouses are essential. Our future success is dependent on maintaining and expanding the overall quality and functionality of our experimental plant rearing facilities. Agriculture is the second largest contributor to the Michigan economy with approximately \$104 billion in revenue attributed annually to food and agriculture. Total employment in the food and agriculture sector in Michigan is over 800,000 or about 17% of the state's employment. Michigan is also home to over 47,000 farms. The diversity of agricultural commodities (over 300) produced in Michigan ranks second in the nation behind California, and research on all commodity groups is conducted in the greenhouse facilities. Plant Sciences research at MSU contributes greatly to the success of these industries and is highly valued by a wide range of stakeholders. These strong, industry relevant research programs are a key component supporting growth and sustainability of the agricultural economy in the state.

The university's Five-Year Capital Plan brings forward projects that support programs with strong national reputations, expanding research bases, and high enrollment demand that will advance the university and sustain its contributions to Michigan. Emphasis is placed on facilities that focus on supporting current and future programmatic initiatives with an emphasis in science, technology, engineering, and mathematics, including biomedical, biological and engineering sciences; computation and data sciences; water and energy; and advancing our commitment to diversity, equity and inclusion.

Since my arrival, the university has engaged in the development and recent adoption of three mutually reinforcing key strategic plans: MSU 2030: Empowering Excellence, Advancing Equity, and Expanding Impact; Diversity, Equity, and Inclusion; and Relationship Violence and Sexual Misconduct – with an Academic Strategic Plan Implementation in process. In 2022 the university will launch a Master Planning Effort to update the current Campus Land Use Plan. This effort will be guided and informed by these strategic plans.

By 2030, we envision a Michigan State University that has significantly expanded opportunity and advanced equity, elevated its excellence in ways that attract vital talent and support, and has a vibrant, caring community. We remain committed to Michigan businesses, students, and families, and continue to be a critical partner in advancing Michigan's economic development.

Sincerely

A handwritten signature in blue ink, appearing to read 'SLS', written in a cursive style.

Samuel L. Stanley Jr., M.D.  
President

C: Provost and Executive Vice President for Academic Affairs Teresa K. Woodruff, Executive Vice President for Health Sciences Norm Beauchamp, Executive Vice President for Administration and Chief Information Officer Melissa Woo, Senior Vice President for Government Relations Kathleen M. Wilbur, Senior Vice President, Chief Financial Officer and Treasurer Lisa Frace

**Fiscal Year 2023 Budget Information  
Capital Outlay Request  
5-Year Capital Request Planning  
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# **Fiscal Year 2023 Budget Information**

## ***Michigan State University***

### **Five-year Capital Planning and Capital Outlay Request**

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#### **Preface**

The Capital Planning Framework and the Campus Land Use Master Plan guide Michigan State University's capital planning. The Capital Planning Framework integrates academic, support, human resources, fiscal, and facility infrastructure planning and informs the Campus Land Use Master Plan. This Plan provides a flexible framework for guiding the physical organization of the MSU campus, and includes overarching campus planning principles, specific system recommendations, the University Zoning Ordinance; and works in concert with other planning frameworks such as utilities and infrastructure, energy conservation, and mobility. Institutional participation in the planning process ensures consideration is given to relevant issues and that decisions reflect the fundamental mission and direction of the university.

The planning process includes near to long-term strategy development to ensure the university has the space and facility resources necessary to carry out its mission. This is accomplished within the context of continuing to identify ways to best utilize our resources of people, dollars, and space. Strategy development takes into consideration internal and external challenges and opportunities, the capacity to be flexible and nimble allowing for responsiveness to new opportunities, and the dynamic and evolving nature of higher education.

The university adopted in 2021 three interconnected strategic plans<sup>1</sup>: MSU 2030: Empowering Excellence, Advancing Equity, and Expanding Impact; Diversity, Equity, and Inclusion; and Relationship Violence and Sexual Misconduct – with an Academic Strategic Plan Implementation in process. In 2022 the university will launch a Master Planning Effort to update the current Campus Land Use Plan. This effort will be guided and informed by these strategic plans.

The MSU Strategic Plan 2030 – Empowering Excellence, Advancing Equity, Expanding Impact, envisions that by 2030 Michigan State University will have significantly expanded opportunity and advanced equity, elevated its excellence in ways that attract vital talent and support, and will have a vibrant, caring community. The Strategic Plan identifies goals within six key themes, intentionally ordered to begin with a focus on people, followed by themes focused on excellence reaching across the University's core missions, and concluding with foundational and cross-cutting themes required for inclusion, sustainability, effectiveness, and excellence in the future:

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<sup>1</sup> See [Strategic Plan | Michigan State University \(msu.edu\)](https://www.msu.edu/strategic-plan)

- Student success: Provide an exceptional educational experience for all students that prepares them for postgraduate success, achieving high graduation rates with no opportunity gaps.
- Staff and faculty success: Support career development and well-being of staff, faculty, and postdoctoral research associates at MSU, focusing on creating a best-in-class workplace culture and environment in which excellence and opportunity thrive.
- Discovery, creativity and innovation for excellence and global impact: Be a leader in developing transdisciplinary solutions to ecological and human problems affected by social, economic, political, climate and environmental changes.
- Sustainable health: Enhance quality of life for people everywhere by comprehensively leveraging expertise and research activity to improve health and the systems that affect health.
- Stewardship and sustainability: Provide exemplary stewardship of institutional resources to foster the long-term sustainability of MSU and its high-quality education, research and outreach and engagement programs.
- Diversity, equity and inclusion: Become a national leader in increasing diversity, promoting inclusion, ensuring equity and eliminating disparities on our campus and beyond.

## **I. Mission Statement**

For more than 160 years, Michigan State University has been advancing knowledge and transforming lives through high-impact, innovative teaching, research, and outreach initiatives. Today, as it continues to help students become responsible, knowledgeable, and productive citizens, MSU is a major public research university with global reach and extraordinary impact.

We are an inclusive, academic community known for our traditionally strong academic disciplines and professional programs and our liberal arts foundation. Our cross- and interdisciplinary enterprises connect the sciences, humanities, and professions in practical, sustainable, and innovative ways to address society's rapidly changing needs.

As a public, research-intensive, land-grant university, funded in part by the State of Michigan, our mission is to advance knowledge and transform lives by:

- providing outstanding undergraduate, graduate, and professional education to promising, qualified students in order to prepare them to contribute fully to society as globally engaged citizen leaders
- conducting research of the highest caliber that seeks to answer questions and create solutions in order to expand human understanding and make a positive difference, both locally and globally

- advancing outreach, engagement, and economic development activities that are innovative, research-driven, and lead to a better quality of life for individuals and communities, at home and around the world.<sup>2</sup>

Since the mid-1960's, MSU has been recognized as a top academic institution and is a member of the prestigious Association of American Universities, consisting of a group of elite research universities in the United States and Canada. MSU is one of only 17 public land-grant universities with membership in the Association of American Universities. MSU's success is further evidenced by its consistent inclusion among the top 100 universities in the world and in its acclaimed programs with 38 featured in the top 25 nationally, including nine rated number one.

MSU continues to ensure that research programs grow, providing an impetus for economic development while creating a culture of innovation and creativity that maintains the University's international competitiveness. MSU is a leader in creating knowledge for the 21<sup>st</sup> century, routinely receiving in excess of \$600 million in sponsored awards annually, focused in areas such as food systems; plant sciences; health sciences; computational sciences, and population and the environment, including food, water, and energy. In addition, MSU's research expenditures have trended upward for over a decade. According to the National Science Foundation Higher Education Research and Development data, MSU's research expenditures for 2019 was \$725.7 million, increasing from \$715 million in 2018. In 2014 Michigan State University launched the Global Impact Initiative (GI2) with a goal to recruit 100 new faculty in some of the most exciting new areas of research. MSU has nearly reached that goal, with candidates hired from Harvard, Stanford, Princeton, MIT, Johns Hopkins University, Lawrence Berkeley National Lab, Los Alamos National Lab, and many other top institutions.

Early 2021 Henry Ford Health System and Michigan State University, two of the state's leading education, research and health care institutions, formed a partnership: Henry Ford Health + Michigan State University Health Sciences to make Michigan a national leader in providing access to exceptional health care for all residents, scientific discovery and education for providers, patients and families. In a landmark partnership that will last for at least 30 years, both institutions are committed to aligning efforts across key departments and programs to achieve critical health care and educational goals, while addressing social issues that impact health outcomes for patients in Michigan and beyond.

MSU offers an outstanding educational value that provides pathways to opportunity. By 2030, we envision a Michigan State University that has significantly expanded opportunity and advanced equity, elevated its excellence in ways that attract vital talent and support, and has a vibrant, caring community. This fall, MSU enrolled 30,786 in-state resident undergraduate students. At the same time, MSU draws students from all over the state, country and world. This year, MSU enrolled individuals from 82 of 83 counties in Michigan, all 50 states in the United States, and more than 120 countries.

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<sup>2</sup> See <http://president.msu.edu/advancing-msu/msu-mission-statement.html>

In an ongoing effort to uphold its commitment to access, MSU has established strong and substantial financial aid programs to assure student access to high-quality MSU programs. MSU routinely enrolls in excess of 8,500 Pell Grant recipients, representing 23 percent of the undergraduate population, while at the same time keeping both the average debt amount and the proportion of students graduating with debt below state and national averages. MSU administered \$1.2 billion in financial aid for the 2020-2021 fiscal year, with 69 percent of freshmen receiving some form of aid. Budgetary increases to financial aid routinely outpace increases to tuition as MSU carefully monitors family income distribution, financial aid distribution, debt measures, and other financial aid metrics.

Michigan State is committed to Student Success, and this has emerged as central to the new MSU Strategic Plan. At Michigan State, we believe every student we admit has the ability to succeed and graduate. As established in the Strategic Plan, student success is the measure of an institution's ability to provide an inclusive, equitable curriculum and environment with the academic, social, wellness and financial support that enables all students to learn, thrive, persist, graduate, and succeed after graduation. Understood this way, student success is not a measure of the academic achievement of either individual students or students collectively; rather, measures like academic standing, persistence, graduation, sense of belonging, engagement, time-to-degree, and placement rate indicate how well an institution supports its students. MSU has been a leader in student success initiatives for more than a decade. As a member of the University Innovation Alliance, we have been part of a group of collaborative innovators determined to share knowledge and scale successes to better serve students, raise graduation rates, and create equitable educational outcomes. MSU's introduction of the Neighborhoods concept in 2010 — bringing together key resources and services students need within easy walking distance of the areas where they live — began a deep collaboration between Academic Affairs, Student Affairs and Residential and Hospitality Services that has continued to improve practices and services with a holistic view of student success.

MSU provides diverse learning experiences that blend the theoretical with the practical, combines curricular and co-curricular experiences, and instills an entrepreneurial mindset in its students. Student learning experiences include study abroad, hands-on research engagement, service learning, internships, co-ops, field placement, student teaching, and clinical placement during their degree program. All complement a variety of classroom experiences to provide rich learning opportunities. The entrepreneurial ethos fits hand-in-glove with our progressive pedagogy and approach to developing "citizen scholars" and students who are prepared for real-world careers demanding both technical and disciplinary expertise along with connective interpersonal skills. Curricular and co-curricular experiences aim to help students develop both deep knowledge within a specific content area as well as a broad set of skills across content areas focused on critical thinking, analytical reasoning, and communication.

Our collective efforts aimed to enhancing the student experience has resulted in MSU's graduation increasing to a record high of 81% in 2020. In terms of employability, 95% of students who receive bachelor's degrees from MSU are immediately employed or pursue additional education; as undergraduate students, nearly 80% graduate from MSU having already completed an internship. MSU's efforts have been recognized nationally ranking 55th by Money Magazine based upon the combination of educational quality, affordability, and alumni success, placing us 6<sup>th</sup> among Big Ten Universities and ahead of such institutions as Brown, Dartmouth, and Georgetown.

Thinking globally has always been a priority at MSU, and the university's focus on international engagement has helped establish MSU as one of the world's top 100 research universities. The 2022 Times Higher Education World University Rankings placed Michigan State University in the top 6% of global universities – and #35 among U.S. institutions. Our global ranking helps MSU recruit top students and faculty from around the world, generate revenue and funding from international and internationally focused donors, and position MSU as a leader on the world stage. MSU ranks #1 for study abroad among public institutions, offering more than 300 education abroad programs on all seven continents. In addition to their invaluable cultural and academic contributions on campus, MSU's 4,500+ international student and scholars contribute \$278 million to the Greater Lansing economy. Approximately 1,400 faculty members are involved in international research, teaching, and service projects and programs, and MSU maintains partnerships with more than 340 international institutions in over 80 countries. MSU receives \$80 million in external funding for international work each year—that's more than 10% of total external research funding annually. We continue to expand our reach around the globe through:

- The Alliance for African Partnership (AAP) is a collaborative and cross-disciplinary platform for addressing today's global challenges. AAP is developing new models of engagement for shared research while enhancing the resources and capacities of African universities, institutions, and scholars. Formally launched in May 2016, AAP builds off MSU's longstanding work in Africa and serves as a model for Africa-led partnerships, cross-disciplinary research, and applying science and the humanities to development challenges.
- The Global Youth Advancement Network (GYAN) is a coordinating platform for research and engagement activities related to the education, mentorship, and leadership training of young people around the world. GYAN's three core objectives are convening youth around the world for thought leadership, capacitating youth-serving institutions, and content/knowledge development through action-oriented research. GYAN connects faculty at MSU with faculty in partner countries to engage in collaborative research and program development related to youth employment and entrepreneurship.
- MSU plays a leading role in the federal government's Feed the Future initiative to help fight global hunger and poverty and create sustainable and safe agricultural opportunities in developing countries. A few examples of MSU's work in this area include a \$10 million grant from the U.S. Agency for International

Development (USAID) to lead the Feed the Future Innovation Lab for Food Security Policy through 2020. This is a partnership with the International Food Policy Research Institute in Washington, D.C., and South Africa's University of Pretoria; a \$16.3 million federal grant from the Borlaug Higher Education Agricultural Research and Development program to train a new generation of agricultural scientists in developing countries; and a \$13.6 million research and capacity building program funded by USAID grant that focuses on grain legumes.

- An interdisciplinary team of MSU faculty and staff is working to foster environmental justice in Southeast Asia. The Henry Luce Foundation's Initiative on Southeast Asia, or LuceSEA, is providing \$1 million in funding to help create the Mekong Culture WELL (water, ecology, land, and livelihoods) project. The partnership with the LUCE foundation helps MSU expand work that is critical to forging sustainable futures in Southeast Asia and beyond. The project will advance educational initiatives through assistantships and internships abroad, workshops, interdisciplinary training, and expanded Southeast Asia-focused courses.

Michigan State University is committed to providing world-class opportunities for success and to making those opportunities available to a broad spectrum of talented students from across Michigan and around the world. The strategic plan charges us to meet our students where they are, provide high-quality experiences for all our students, and ensure that every student has the opportunity and support to learn, thrive, and graduate.

## **II. Instructional Program and Structural Needs**

As one of 65 members of the prestigious Association of American Universities in the U.S. and Canada, a Carnegie Research University (highest research activity) institution, and Michigan's land-grant university, Michigan State is dedicated to reflecting its mission in its instructional offerings.

The continuing high quality of MSU's educational offerings has led to a steady increase in demand from students in Michigan and around the world. Indicators of this increased demand include:

- MSU received 45,426 first time undergraduate applications this year, well exceeding last year's 44,321 during the initial use of the Common App. MSU's total enrollment for Fall 2021 is 49,659, effectively even with fall 2020, despite the national average -3.0% decline experienced last year among post-secondary institutions as reported by The National Student Clearinghouse Research Center.
- Median high school grade point average (GPA) of entering students is 3.74, within the range of medians seen over the past five years.
- MSU welcomed 8,228 new undergraduate students, its largest entering class ever, including a record 2,155 students of color and 4,453 women, continuing the steady upward trajectory seen in recent years. Total graduate enrollment, including graduate professional students, is 11,204, of which 1,803 are new

graduate masters and doctoral students, and 842 are new graduate-professional students.

- MSU continues to have an outstanding record of students earning prestigious national and international scholarships. MSU has produced 20 Rhodes Scholars, 28 Goldwater Scholars, 20 Marshall Scholars, 17 Truman Scholars, 16 Churchill Scholars, 12 Udall Scholars, 9 Presidential Fellows, 7 Hollings Scholars, 5 Gates Cambridge Scholars, 5 Mitchell Scholars, 5 Beinecke Scholars, and 3 Gaither Fellows.

Michigan State University offers more than 200 programs of study, many of them nationally ranked, to meet the needs of Michigan citizens and students from across the country and around the world. MSU's undergraduate Supply Chain Management Program ranks #1 and the Broad College of Business is ranked 14<sup>th</sup> among public universities for undergraduate business programs according to *U.S. News & World Report*. Eight MSU graduate programs: African history, elementary teacher education, secondary teacher education, rehabilitation counseling, educational administration and supervision, curriculum and instruction, industrial/organizational psychology, nuclear physics, and supply chain/logistics are ranked #1 nationally by *U.S. News & World Report*. In its 2021 ranking for online graduate programs, U.S. News & World Report ranked three of Michigan State University's participating online graduate programs in the top 25 and four specific disciplinary areas in the top 7. Three programs reached top 11 status for online programs for veterans.

To ensure MSU remains a best value for students and other stakeholders, the university monitors its standing against relevant regional, national, and international peers. Areas of importance include academic quality, efficiency and value, affordability and access, and economic impact. To remain competitive, MSU must be an effective steward of its resources. As an operational baseline, in addition to targeted reductions, MSU has imposed a one percent funding reduction annually on all units to encourage operating efficiency and create resources to invest in new initiatives. Given financial impacts that COVID-19 has had on MSU, fiscal year 2022 will be the second year of incremental 3% reductions. With resources focused on mission-centric areas of the institution, MSU continues to preserve its academic rigor with a competitive student-faculty ratio (16:1) that is consistent with the Big Ten public universities' average.

- In 2021, Michigan State University announced the Gilbert Family Foundation, in partnership with the Rock Family of Companies, will support the new Apple Developer Academy in Detroit, a transformative education collaboration between Apple and MSU and the first Apple Developer Academy in North America. Apple, MSU and the Rock Family of Companies share a vision to empower diverse entrepreneurs, creators, and coders by helping them cultivate the skills necessary for pathways in the rapidly growing tech economy. The Gilbert Family Foundation grant will support the Academy's general operations and expenses including but not limited to program development, infrastructure, and staffing. The Academy welcomed its first cohort of students in the Fall of 2021. Tuition to the Academy is free, and priority admission is granted to applicants from Detroit.

Apple and MSU anticipate that the Academy will impact close to 1,000 students each year. The grant provides MSU with the capacity to not only build, but also grow and sustain pathways to employment for diverse learners.

- The MSU College of Law started a new chapter in its 129-year history by completing its full integration into the university on Aug. 17, 2020. Prior to the integration, the College of Law had retained its private, financially independent status since starting instruction on MSU's campus in 1997, though the two institutions grew progressively close over the years. College of Law and MSU leadership committed to the integration in 2018 with the unanimous support of both schools' governing Boards of Trustees and work began toward full financial, legal, and administrative integration. College of Law faculty and staff became MSU employees on Jan. 1, 2020, and the College of Law's Board of Trustees was dissolved on Aug. 17. The College of Law's financial reserves were absorbed by the university, and moving forward, operations will be financed in a manner consistent with all other constituent colleges.
- The university's Relationship Violence and Sexual Misconduct Expert Advisory Workgroup recommended the university create such a trauma-informed, inclusive, and accessible sexual assault health care program. The program, which is the first of its kind on campus, officially opened on November 12, 2020.
- In 2019, the Michigan State University Board of Trustees approved the establishment of a Department of African-American and African Studies, which is part of the College of Arts and Letters. The new department supports the work of students, faculty and staff associated with the existing African-American and African Studies, or AAAS, program and re-establishes MSU's position as a national leader in Black and Africana studies.
- In 2019, MSU launched the Burgess Institute for Entrepreneurship & Innovation, a more streamlined and holistic resource for students to provide them with tools through training, coursework, experiential programs and direct mentorship and coaching, and in 2020 the Institute launched the Entrepreneur-in-Residence Program.

Michigan State University and Lansing Community College (LCC) have formalized a partnership that improves access to a four-year degree, increases student success and helps build a pipeline of talent to meet the needs of the Mid-Michigan economy. The partnership, called Envision Green, also provides a seamless transition from LCC to MSU by embedding MSU advisors within LCC to guide students through their educational journey — a transition more than 5,500 LCC students have made over the last decade. With this partnership in place, prospective LCC students can consider MSU from the start of their higher education journey. The affordability of the LCC-to-MSU path means a four-year-degree is an option for more people in the region — crucial for building and retaining an educated workforce in Michigan.



As we maintain and enhance the academic quality of our program offerings, we must also be vigilant about the quality, flexibility, and expansion needed for our academic and instructional space. MSU must provide state-of-the-art facilities and infrastructure that will help attract and retain top-quality students, faculty, and researchers. This is vital to remain competitive in key fields, both nationally and internationally. Through entrepreneurship and a systems approach, MSU research moves rapidly from classrooms and laboratories to create new products, new industries, and new jobs. Examples of facilities that are attracting researchers and professionals include:

- The Interdisciplinary Science and Technology Building opened in September of 2019. This \$100 million, 170,000 square-foot facility is crucial to attracting top researchers and in landing multidisciplinary grants from the National Science Foundation and the National Institutes of Health. The building's six stories include wet bench laboratories, computational research space, offices, core and collaborative space, including areas for shared equipment. Its location, adjacent to the Bio Engineering and Life Science buildings and other core research facilities on campus, allows the new building to play an integral role in MSU's development of a neighborhood of scientific research in the biomedical and biological sciences.
- Fall Semester 2021 saw the opening of the recently renovated teaching and learning space at Wonders Hall. This project renovated 24,000 square feet of space including adaptive reuse of a former dining hall and kitchen into state-of-the-art teaching and learning space. The renovated spaces include three large active learning classrooms, individual and team study space, computer labs, tutoring, and the "Toolbox" for the Cornerstone and Residential Experience program in the College of Engineering. The "Toolbox" includes spaces where ideas can be generated and fabricated in a hands-on approach to learning.
- In July of 2021 MSU officially opened the STEM Teaching and Learning Facility that was funded in partnership with the state of Michigan through the Capital Outlay process. The state-of-the-art facility reflects MSU's commitment to undergraduate education. Our goal is to advance the student experience through innovative spaces that foster experiential, collaborative, and inquiry driven teaching and learning. The effort also serves to attract, retain, and engage students so they are best prepared for careers in the rapidly changing fields of science, technology, engineering, and mathematics.

The functional and physical design intentionally integrates the STEM Teaching and Learning Facility with the renovation of the former Shaw Lane Power Plant. This new and repurposed complex provides our entire community the opportunity to work and learn in an environment where creativity and adaptive innovation come, in part, through the mixing of different ideas and disciplines. This rich mix is a key ingredient for innovative solution to complex global problems.

- The Minskoff Pavilion, named after alumnus Edward J. Minskoff, opened in the fall of 2019 at the Broad College of Business. The \$62 million Business Pavilion is a 100,000 square foot facility that houses undergraduate and graduate programs. The Pavilion is designed around spaces dedicated to collaboration,

teamwork, and state-of-the-art technology that reflect changes in curriculum and pedagogy. The Minskoff Pavilion was awarded the Project Leadership Award from the Construction owners Association of America (COAA) and has received LEED Gold Certification.

- In Fall 2020 the 37,000-square-foot Billman Music Pavilion was completed. The new Pavilion increased the total facility space by more than 40 percent. This new space coupled with renovations to Cook Recital Hall and Fairchild Theatre on campus, creates high-quality teaching, practice, rehearsal, and research spaces that meet the needs of 21st century musicians.
- Michigan State University will broaden its research and education partnership with McLaren Health Care, as the medical provider builds a new hospital near the university's campus. McLaren is combining two of its Lansing hospitals into a new \$450 million facility that will be located on land purchased from the MSU Foundation in the University Corporate Research Park. This new facility will help MSU recruit top physicians and researchers to the region by providing access to tools and data that will build a healthier society and develop new life-saving therapies and treatments. The McLaren Health Care facility is currently expected to open by early 2022.
- TechSmith is moving its company headquarters from its Okemos location to Michigan State University's campus. MSU and the Michigan State University Foundation are partnering to develop a 62,500 square-foot, two-story office building in the south portion of Spartan Village for this new tenant. The office building will be located at the corner of South Crescent and Harrison Road. TechSmith has been a long-time sponsor of MSU, bringing interesting projects to MSU computer science students in the College of Engineering. The new headquarters will enhance employee wellbeing, connectedness to one another, talent opportunities, community partnerships and involvement, local brand awareness, and internship programs. Construction began June 2021 and is anticipated to conclude June 2022.
- The University identified a need for additional Biological Safety Level-3 (BSL-3) research laboratory capacity. Harmful pathogens have emerged in recent years that affect both animals and humans and are a cause for concern for the health of the nation and world. To support the current growth of research in this area, additional BSL-3 capacity has been created by leveraging the utilization of existing space through renovation and Campus Animal Resource operations. The renovation project was completed in summer 2020.
- In 2019, MSU announced moving forward with the next phase of its Grand Rapids Research and Innovation Park. A ground lease was signed for continued development of the MSU's Grand Rapids Research Center site. This includes construction of a medical innovation building and parking structure, scheduled to open in late 2021. The new building will focus on driving innovation through public-private partnerships by encouraging relationships across tenants, and as a result, bring new discoveries to market. This building is named for Doug Meijer,

a cancer survivor and advocate for treatment for all cancer patients. Anticipated outcomes of the collaboration include research, testing and commercialization of new therapies and devices. The Meijer gift was awarded to the MSU College of Human Medicine. In October 2020, pharmaceutical manufacturer Perrigo announced that its new corporate headquarters will be in the Innovation Park.

In 2020 MSU was named one of the fastest rising research universities in the U.S. MSU was ranked 5<sup>th</sup> according to the Nature Index, which tracks contribution to primary articles in some of the most prestigious scientific journals in the world. MSU's faculty bring in significant new grants for far-reaching projects. Most have substantial implications for lab space, equipment, and facilities. Examples include:

- In 2009, MSU's National Superconducting Laboratory was awarded the Department of Energy federal science project in nuclear research titled: Facility for Rare Isotope Beams (FRIB). FRIB will be a new U.S. Department of Energy Office of Science national user facility for nuclear science research. The centerpiece of the new user facility will be a superconducting linear accelerator that will increase dramatically the reach of rare isotope research in the United States. The accelerator will produce isotopes that normally exist only in the most extreme environments in the universe and will expand the usefulness of isotopes in a broad range of applications from modeling stars to understanding the workings of nanoscale electronic devices.

FRIB is a critical project for American science and the State. It not only will keep MSU on the cutting edge of nuclear science but will also ensure the training of the nuclear scientists of tomorrow while bolstering the economies of mid-Michigan and the entire State. FRIB will cost \$730 million to design and build. In FY14, the State made a commitment to bond and service the community cost share of \$94.5 million. Construction began in 2014, with completion expected in early 2022. The project reached a significant milestone in 2020 with its designation by the U.S. Department of Energy as a DOE Office of Science user facility. The designation demonstrates a substantial commitment by the sponsoring program, which provides oversight and works with the facility to maximize scientific impact and productivity. The FRIB is projected to create hundreds of jobs in mid-Michigan while bringing in more than \$1 billion of economic activity to Michigan in the next 10 years. MSU looks forward to continuing its partnership with the State of Michigan to assure the successful completion of this project.

- MSU AgBioResearch encompasses the work of more than 330 scientists in seven colleges with 3-year average annual grant expenditures of more than \$77million. These researchers, in on-campus laboratories and at 13 outlying research centers across the state, investigate topics that range from agricultural production, alternative energy and biofuel production, food safety and environmental stewardship to childhood obesity, community development, and the quality of life of Michigan your and families.
- MSU and the University of Wisconsin-Madison continue to partner in the Great Lakes Bioenergy Research Center (GLBRC). The GLBRC was established in

2007 and in 2017 was awarded an additional 5 years of Department of Energy funding to develop sustainable alternatives to transportation fuels and products currently derived from petroleum. Since its inception, the GLBRC has received roughly \$375 million in DOE funding.

- In 2019, the Michigan State University Food Security Group (FSG), based in the MSU Department of Agricultural, Food and Resource Economics, has received an \$11 million grant from the U.S. Agency for International Development (USAID) to implement a new Feed the Future Innovation Lab for Food Security Policy Research, Capacity and Influence. With additional funding from USAID offices in Africa, Asia and Latin America, the total value of this five-year award could reach \$38 million. The new lab builds on previous work done by FSG but takes a big step forward in working with local agricultural policy research organizations to strengthen their ability to carry out rigorous research on food security policy, and incorporate this research into policymaking.
- In September 2019, Michigan State University plant scientists were awarded a four-year \$2.6 million National Science Foundation grant to study tuber evolution. The study labs will use cutting-edge genomics tools to unearth the mechanisms of tuber development. The grant will support undergraduate researchers as well as outreach activities at MSU's 4-H Children's Garden.
- In 2020, researchers in MSU's Department of Horticulture were awarded a four-year \$1.13 million grant from the U.S. Department of Agriculture for their project to discover the maximum number of genes that impact blueberry fruit quality. The researchers will study the blueberry genome in order to boost yield, enhance flavor, and resist pests.
- An MSU researcher, who is part of the Global Impact Initiative, was awarded a five-year \$5 million NIH grant in 2019 to investigate the role pesticides might play in olfactory impairment and their relevance to diseases such as Alzheimer's and Parkinson's. This research will aid in the ultimate goal of understanding the early stages of neurodegenerative diseases and factors involved.
- An MSU researcher will direct a team awarded a five-year \$9.8 million grant in 2020 from the U.S. Department of Agriculture National Institute of Food and Agriculture (USDA NIFA) to study reducing threats of pathogens in low-moisture foods, like cereals, flour, dried fruits, and nuts. The multi-disciplinary team will work to reduce the risk of Salmonella, E. coli, and Listeria throughout the production and supply chain for these foods.
- In 2020, MSU researchers were granted nearly \$2.6 million from the USDA's Natural Resources Conservation Service. MSU scientists will work with farmers across the country to make their fields more eco-friendly while boosting their farms' bottom lines by developing conservation practices that cut losses on unproductive plots and make the most out of fruitful fields.

- An interdisciplinary team of MSU researchers were awarded a nearly \$2.6 million grant in 2020 from the National Institute of Health for their work on developing breast cancer treatments. The team is developing nano-therapy to treat breast cancer without the usual side effects by using nanoscopic particles to turn the body's own cells into weapons that cancer won't see coming.
- A multi-disciplinary team of Michigan State University scholars were awarded \$3.2 million in 2020 from the National Science Foundation (NSF) to deliver renewable energy to off-grid communities. This five-year project will deliver transformative advances in science and technology to communities where energy is too expensive or unreliable. These energy solutions could transform the lives of over 650 million people across the globe who are currently saddled with expensive and unsustainable off-the-grid energy options.
- Researchers at MSU's School of Criminal Justice were awarded a two-year \$1.35 million grant by the National Collaborative for Gun Violence Research in 2020 to investigate the use of extreme risk protection orders, a relatively new legal tool to reduce gun violence risk through temporarily suspending a high-risk individual's ability to access guns, and whether they are associated with reduced population-level suicide risk.
- A \$6 Million grant from the Centers for Disease Control and Prevention was awarded to MSU researchers in 2021, with the aim of closing the racial gap in health outcomes and COVID-19 vaccination rates. The grant is for the National Network to Innovate for COVID-19 and Adult Vaccine Equity, or NNICE project. The goal of the grant is to boost COVID-19 and other adult vaccine literacy, confidence, access and receipt.
- In 2021 the Andrew W. Mellon Foundation awarded \$1.4 million to Michigan State University for Enslaved: Peoples of the Historical Slave Trade, or Enslaved.org, a first-of-its-kind database containing millions of records cataloging the lives of enslaved Africans and their descendants. Enslaved.org, developed and maintained by MSU researchers, links data collections from multiple universities, archives, museums and family history centers. The award is for a third phase of Enslaved.org, the first and second phases in 2018 and 2020 were also funded by the Mellon Foundation. The third phase of funding will run through March 2023 and will expand the reach of the project by refining infrastructure; driving sustainability; strengthening a commitment to the inclusion of underrepresented voices in humanities scholarship; and continuing partnerships with scholars, heritage and cultural organizations and the public.

Our continued success in meeting our value proposition of high-quality programs with access to qualified students demands that we continue to provide high quality, collaborative, flexible, technology enabled and expanded academic and instructional spaces. These teaching and learning environments need to support emerging pedagogies including those that support curriculum revisions, student-centered, collaborative learning, and self-guided learning. The learning environments coupled with

the changing modalities and curriculums provide opportunities for research on and leadership in instructional methods and foster innovation through a technology-rich environment.

The approach to teaching has become more interactive across all disciplines, and the use of instructional technology has changed significantly what faculty and students accomplish in classrooms, teaching labs, and informal learning environments. All areas of research, instruction, and outreach incorporate technology and the underlying infrastructure that makes them possible. There is active promotion and use of technology-enabled teaching/learning models for on-campus and off-campus students, as well as an initiative to provide facilities that support evolving pedagogies including student-centered, collaborative, and self-guided learning. Over 100 university classrooms have been renovated to support active learning principles and emerging technology that are necessary to facilitate the exchange of ideas and collaborative interactions that are essential to engaged learning and facilitating student success. Quality support services, such as libraries, technology integration, specialized labs, field stations, clinics, informal learning areas, and state-of-the-art equipment also need to be sustained at a level commensurate with support of nationally competitive research and scholarship efforts that are consistent with instructional goals. The convergence of these factors calls for increased investment in the facilities and equipment that support these developments. It also calls for the creation of new learning environments that support the significant increase in STEM student credit hours and our commitment to educate, train, and graduate more students in STEM, as well as provide more opportunities for informal and self-guided learning. The STEM Teaching and Learning Facility that broke ground in August 2018 begins, in a more significant way, to address this need.

As a result of these many factors, MSU has examined the capital assets necessary to support academic programs and identified needs that involve renovation, additions, new construction, comprehensive renewal, reprogramming of selected facilities, and renewal of major subsystems in other facilities.

The institution's assessment of existing facilities shows that the infrastructure components of many campus buildings have aged significantly. Despite ongoing maintenance and repair, which in most cases has extended the expected usable life of components well beyond the industry standard, many buildings are now at a point where they require significant investment or may need to be replaced.<sup>3</sup>

The demands placed upon building systems by updated building codes and more sophisticated programs, many of which are equipment and ventilation-intensive, have resulted in facilities that act as a barrier rather than a support to program success. For example, higher environmental protection and safety standards place pressure on day-to-day maintenance and in some cases exceed the capacity of particular systems.

The proliferation and advancements in technology across disciplines requires updating of data resources and distribution systems. The configuration of older building spaces limits the efficient use of the areas available to programs and can hinder collaboration

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<sup>3</sup> See Appendix C: Map of Campus Buildings by Age.

and interactions, which is increasingly important in today's learning, research, and work environments. Increasingly complicated and environmentally sensitive equipment places higher demands on power for operating and climate control for proper functioning.

In summary, renovations and new construction are necessary to provide capacity, improve quality, and align infrastructure and programmatic needs for both instruction and research. This is especially true when current facilities are either too costly to renovate compared to the benefits realized and/or inadequate in the amount of space provided.

The needs for existing facilities include repairing and replacing internal building systems, such as electrical, plumbing, mechanical, and structural renewal; reworking interiors to increase the utilization and functionality of the space; and attending to the building envelope in order to maintain the integrity of the building. In some cases, the improvements are needed for only selected aspects of a facility; in others, total renovation and/or replacement of the building is warranted.

As the university embarks on a new Master Planning Effort in 2022 to update the current Campus Land Use Master Plan, building space needs will be carefully evaluated to support MSU's new strategic plan and the Strategic Academic Implementation Plan. The strategic plan includes several goals that will impact space and facility needs, for example, increases in research expenditures, increases in multidisciplinary research projects, increases in online courses, increases in student support services, and increased staff to support faculty, staff, and students in multiple areas including mental health and human resources. The Master Planning Effort will provide updates to the current plan estimates of a 10 percent increase in building space over the next 20 years, in which space growth was based on a planned increase in the number of faculty and increase in funded scientific research, new academic programs, increased enrollments, selective and qualitative changes in academic teaching programs, the enhancement of common facilities that enrich campus life and the sense of community, and the consolidation and upgrading of operational support facilities.

### **III. Staffing and Enrollment**

For 2021, fall enrollment at Michigan State University totaled 49,659. These numbers represent careful and deliberate enrollment management in an effort to maintain academic quality and to continue to provide the optimal classroom and laboratory environments for all students. 74% percent of the overall students at MSU are Michigan residents, representing 82 of 83 counties in the state; 80% percent of the undergraduate students are Michigan residents. Over the last five years the median entering class high school grade point average has remained in the 3.74 to 3.80 range.

A summary of enrollments for fall 2021 by college and level can be found in Appendix D. Based on Michigan demographic data, enrollment management practices at the University, and current faculty/staff and physical infrastructure resources, enrollment patterns over the next five years are projected to maintain a positive trend.

While the University currently offers bachelor's or bachelor's completion programs and master's programs off campus and intends to increase the number and diversity of learners we serve through an online learning strategy that provides wider access through targeted programs, it is important to note that the vast majority of students utilize the facilities of MSU's East Lansing campus to complete their degree programs. The University will continue to expand opportunities to offer instruction that complements more traditional academic programs, but it is expected that the majority of enrolled students will continue to utilize the main campus.

The full-time equivalent faculty and academic preliminary staff count for fall 2021 is approximately 5,300. Of that total, a significant percentage is engaged in instruction, with the rest distributed across research, public service, academic and student support services, and other institutional support areas.

As of Fall 2020 (2021 data not available at time of posting), current average class size for lower division undergraduate classes is approximately 47 students. The average class size is approximately 34 for upper division undergraduate classes and 15 for graduate classes. The most recent calculation of the student/faculty ratio is 16:1, which is consistent with the Big 10 public average.

#### **IV. Facilities Assessment**

In addition to attracting and retaining high-quality faculty, staff, and students, MSU recognizes that its physical infrastructure requires ongoing evaluation, maintenance, and renovation in a manner that is consistent with the high quality of its personnel and programs. As one of MSU's most important assets, the built environment supports the institution's academic mission of teaching and learning, research and innovation, and outreach and engagement, creates a sense of place for the campus and surrounding communities, and supports the successful performance of students, faculty, and staff.

Perceptions of the built environment are a significant component in the overall campus experience.

- The physical infrastructure of Michigan State University broadly encompasses buildings; the utility generation and distribution system; the campus grounds, including the natural and built landscape, sidewalks, roadways, and paved parking; and the electronic network and security systems.
- The campus grounds, including the natural and built landscape, are a principal aspect of the campus infrastructure. The main East Lansing campus approximates 5,200 acres, or eight and a half square miles. The developed campus approximates 2,000 acres, and the experimental research farm area approximates 2,700 acres with the remaining supporting auxiliary activities. Across the state, off-campus MSU land approximates 21,000 acres for a total of 26,000 supporting the range of functions of the university.

Yet, despite this rich land area, the master planning process recognizes that land resources are finite and should be conserved for future generations. As a result, the Campus Land Use Master Plan adopted an approach of compact campus



development. While allowing for some horizontal expansion across the campus, this approach protects the capacity and contiguity of the farm areas and uses a strategy of carefully conceived “infill” on the developed campus.

- The developed campus is recognized as one of the nation’s most beautiful campuses. This is particularly true of the North Campus “Circle Area” where the University first developed. The open space quality of this area, the Red Cedar River corridor, and the Sanford and Baker woodlots is very highly regarded and reinforces the social and intellectual vitality of the campus. Currently, the campus arboretum has over 973 different taxa, represented by more than 22,522 individual trees, and innumerable shrubs and vines, which serve as a vast collection for research, teaching, and demonstration, as well as to provide landscape value.

The developed landscape has an estimated replacement value exceeding \$391 million.

- There is also an extensive transportation system of approximately 82 lane miles of university-owned roadways with a replacement value of \$46.6 million.

Currently, the condition of the roads is estimated to be 1 percent poor; 18 percent fair; 23 percent good; and 58 percent excellent. A significant emphasis is put on improving safety for vehicles, pedestrians, bicyclists, and other motorized transport as streets are rebuilt.

- The University owns eight bridges on campus; three are for pedestrians only, three are for both vehicles and pedestrians, and two are for trains. The bridges have a replacement value of \$21.4 million. One bridge is in fair condition, four are in good condition, and three are in excellent condition.
- By MSU Board of Trustees policy, the parking system of approximately 28,500 spaces for students, faculty, staff, and visitors is self-supporting and has a replacement value of approximately \$285 million: \$135 million for seven parking structures and \$150 million for surface parking. One parking structure is in poor-to-fair condition, two are in good condition, and four are in excellent condition. The condition of the approximately 28,500 surface parking spaces breaks down to 7 percent in poor condition, 30 percent fair condition, 25 percent good condition and 38 percent excellent condition.
- There are 125 miles of walkways valued at \$48.9 million.
- As a continuation of the planning process, the All-University Traffic and Transportation Committee addresses the issues related to parking access, the associated cost implications, and ways to increase use of mass transit and non-motorized transportation. MSU continues its partnership with the Capital Area Transport Authority to provide service for on-campus and surrounding area routes, a collaboration that began over twenty years ago.
- Main campus inter-building communications is comprised of an underground fiber optic distribution system that supports network data, VoIP telephone, contact center, cable television, cellular, two-way radio dispatch, and other specialized services. The fiber optic system interconnects 236 unique structures on campus.

Wireless equipment provides connections for additional structures in the south-campus farm district; however, planning is under way to replace this legacy service with direct fiber optic connections. This effort will also include well water pump facilities and other critical infrastructure equipment and will bring the total unique structures with high-capacity underground fiber optic connections to 297.

In addition to the fiber optic distribution system, each building has internal cabling infrastructure and equipment with approximately 75 percent in need of significant infrastructure and equipment upgrades to keep up with operational demands. WiFi service is provided by over 13,000 wireless access points. Approximately 58 percent of main campus buildings have full WiFi coverage, 22 percent have partial WiFi coverage and 20 percent have little or no Wi-Fi coverage. All residence halls have WiFi service in student rooms, cafeterias and related gathering places.

The estimated replacement value of campus data network infrastructure is over \$82 million and annual maintenance costs exceed \$10 million.

Off-campus sites in the Lansing metropolitan area are connected to the MSU data network via a 45-mile fiber optic ring operated by Zayo Enterprise Networks. Facilities across the state, those outside of Lansing, are connected via Merit Network, Inc., or other local service providers.

External data network connectivity from the main East Lansing campus is provided via redundant links to the commodity Internet and to the research focused Internet2 network via Merit Network, Inc.

Two-way radio services are being transitioned from a stand-alone system to the State of Michigan MPSCS hosted two-way radio system.

- Cellular infrastructure from all four national cellular carriers is installed on a myriad of main campus building rooftops and other structures. This carrier-owned equipment provides enhanced service coverage and capacity for the public and university employees alike, including during large campus events.
- Michigan State University is comprised of over 24.7 million gross square feet of building space in 564 structures, including both general-fund and self-supporting facilities. The replacement cost of the buildings is calculated at \$5.65 billion. University general-fund buildings account for approximately 14.0 million square feet of space representing \$3.81 billion in replacement cost, and Residential and Hospitality Services and other self-supporting facilities account for approximately 10.5 million square feet and the remaining \$1.84 billion.

Facility condition assessments, including the utility distribution system, are updated on an ongoing basis using input from university maintenance and custodial staff, users of the buildings, and external consultants. College and program units also provide programmatic facility reviews and forward needs through the annual budget and planning process.

Building capital renewal needs are identified on many campuses utilizing the “industry-expected useful life” of the various significant building components. At MSU, this approach substantially overstates needs, since the effective

maintenance program typically results in building components lasting much longer than the industry standard.

MSU manages and forecasts major maintenance needs through its capital renewal program. The program prioritizes facility needs that address life safety, accessibility, asset performance, resource efficiency, and renewal of critical building systems. This process considers the age of major building components, adjusted to account for each component's maintenance history and current condition based on field observations. In addition, a Facility Condition Assessment is currently underway, and is currently 43% complete. The utility generation and distribution systems are also major components of the campus infrastructure. The generation system includes the T. B. Simon Plant, a modern gas-fired cogeneration power plant with an interconnection to the national electrical power grid that serves the campus energy needs. This utility generation approach coupled with the stoppage of coal use in 2017 are key contributors to our decrease in greenhouse gas emissions. The replacement value of this facility is \$325.6 million.

At present, forthcoming state and federal regulatory changes are being evaluated for their impact on power plant systems. The distribution system includes approximately 70 miles of water lines, approximately 27 miles of steam lines in tunnels, approximately 3.5 miles of direct buried steam lines, of approximately 168 miles electrical conduit and cable, approximately 112 miles of communication cable and fiber, approximately 154 miles of storm and sanitary sewers, and more than 7 miles of chilled water distribution. The replacement value of the utility system is approximately \$342.5 million. While we have made significant investment to update the north campus steam and electric utility systems, the south campus systems have deteriorated and need repairs to provide reliable service, and meet the service demands of the overall campus community. Improvement needs over the next five-year period are calculated at approximately \$127.8 million; and power plant modernization at approximately \$90.4 million.

In 2012, Michigan State University's Energy Transition Plan (ETP) was adopted by the Board of Trustees. The ETP was developed to address growing campus energy needs within a framework that encouraged sustainable transition alongside changing technologies and regulations. To ensure that this plan continues to serve these needs and is appropriately facilitating progress, it is reviewed every five years.

- As a commitment towards this sustainable model, the university had its last firing of coal as a fuel source in spring of 2016. Progress on the energy transition plan includes reduced greenhouse gas emissions by over 36 percent since 2010. Upon completion of the solar carport arrays 11.2 percent of campus power came from renewable sources. In February 2020 the MSU Board of Trustees authorized the installation of a 20-megawatt solar array, adding to the portfolio of renewable energy. The array will be located on 100 acres just south of MSU's main campus and will triple MSU's use of renewable energy.

- MSU is committed to being good stewards of our resources by reducing consumption and greenhouse gas (GHG) emissions and increasing recycling. The commitment to recycling is supported by the MSU Surplus Store and Recycling Center. Due to the efforts of the MSU Surplus Store and Recycling Center, the amount of waste on campus has declined even as the Spartan community and campus grows. Since the MSU recycling services began in 1990, MSU has decreased its yearly landfill totals by 55%. The college and program units provide programmatic facility reviews and forward space needs, including alteration and improvement requests, and major capital planning needs through the annual budget and planning process. This process identifies the high-priority programmatic needs of the campus through an annual, systematic approach.

Because of the dynamic nature of academic and academic-support programs, the planning horizon for these requests is typically five years. The types of projects forwarded through this process include, for example, the comprehensive renovation of a research lab to support current research foci and sophisticated research equipment and modifications to office and dry research space for improved efficiency and program functionality. This process also helps inform the broader capital needs by identifying programmatic areas that would benefit from new construction or major renovations.

Based on the most recent planning cycle, approximately 23.0 million is needed in fiscal year 2022 to address high priority, selected programmatic improvements. It is anticipated that this magnitude of annual funding need will continue through fiscal year 2027 and beyond, given the limited resources, age of the physical plant, strategic plan goals for growth in research over the next 10 years, and changes in curriculum and evolution of teaching and learning methods and student learning experiences.

This also enables the University to coordinate projects and assemble the work scope in a way that reduces overall project costs by coupling programmatic alteration needs with infrastructure improvements and the removal of maintenance items. As a result, limited building improvement funds are expended more effectively.

- A primary component of the teaching and learning environment is the University's instructional space. The University maintains approximately 330 centrally scheduled classrooms and lecture halls, and over 700 departmentally assigned instructional spaces. These spaces range from centrally scheduled classrooms that can be utilized by any discipline to more specialized spaces, such as teaching laboratories with fume hoods and wet-bench space. As part of the University's main campus facilities, the instructional space accounts for approximately 2 million assignable square feet.

For the 2020 academic year, most courses transitioned to virtual or hybrid modalities, making 2020 utilization rates not representative of typical utilization at MSU. Given that, fall semester 2019 utilization data is provided here. For fall semester 2019, utilization of these instructional spaces by scheduled instructional

periods ranges as high as 76 percent of the available hours, and averages 64 percent across all rooms for centrally scheduled classrooms, excluding events. The seat utilization ranges as high as 70 percent of the available capacity and averages 61 percent across all rooms. One-time events, such as help sessions, department and student organization meetings, on average increases utilization by 10 percent.

Departmentally scheduled class laboratory spaces that are scheduled regularly for courses averages 33 percent across all rooms and disciplines and ranges as high as 46 percent of the available hours. This utilization does not include prep or clean-up time, open lab time for tutoring, or student research use. The seat utilization ranges as high as 84 percent of the available capacity and averages 40 percent across all rooms and disciplines. The level of utilization is indicative of the highly specialized nature of these room types.

Currently, approximately 40 percent of the instructional space is in fair condition and 10 percent in poor condition, with the remaining in good to excellent condition. Rooms in need of upgrade require either comprehensive or selected renovation, and may include replacement of furniture, ceiling, and lighting, painting; upgrade of power and data; and replacement of lab benches and fume hoods. Rooms requiring upgrades are identified through a multiyear improvement plan that is informed by on-site reviews of each room, input from users, and analysis of room utilization, as well as the academic program planning process. In addition to these needs, the investments in instructional space must incorporate the shift to more learner-centric environments; curriculum revision, the continuous evolution of technology and its role in teaching and learning; variations in pedagogy and delivery methods such as hybrid, flipped, self-guided, and engaged and active learning

The quality of these rooms is essential to the teaching and learning process. These rooms are intended to support a range of learning methods from lecture to active learning environments; curricular and co-curricular activities; and self-guided learning. While the university continues to make significant improvements, further investment is necessary in order to keep pace with the changes in learning methods, to continue to add value, and remain competitive in our recruitment and retention of high-quality students and faculty and increase participation at both the undergraduate and graduate levels. To address these needs, it is estimated that \$60M over 5 years, or \$12 million annually, would make a substantial improvement in the condition of the existing university instructional environment through renovation and or replacement and improve alignment with changes in curriculum and learning methods.

- University properties beyond the East Lansing campus cover approximately 21,000 acres and contribute to the built environment with 14 AgBioResearch research centers across the state (the Kellogg Biological Station and Saginaw Valley Research and Extension Center are examples). Other agricultural field research locations include the South Campus Farms teaching and research centers. Sites supporting other programs include the BioEconomy Research and Development Center in Holland; conference facilities, such as Tollgate Education

Center in Novi, the Management Education Center in Troy, and WaWaSum in Grayling; Hidden Lake Gardens in Tipton; and the Secchia Center and Grand Rapids Research Center in Grand Rapids. The replacement value for the facilities located at these sites is calculated at more than \$370 million.

At nearly all the research facilities, there is a continuing need to upgrade existing research space to meet current technological, regulatory, and operational requirements of researchers and funding organizations. Research maintenance items consist of both wet and dry lab upgrades and equipment replacement, while conference facilities require continual improvements and expansion as they relate to extension and outreach. General maintenance and infrastructure improvements include exterior repair/replacement, technology and security upgrades, environmental enhancements directed at storm water and process water management, energy efficiencies, regulatory requirements and mechanical upgrades that include electrical, plumbing, and heating, ventilation, and air conditioning (HVAC). Other facility repairs include well and septic systems that require continual maintenance and periodic repair of roadways and parking areas. With more than 265 buildings located at various off-campus research, teaching, and extension facilities, the items listed above are placed on a 5 to 10-year maintenance schedule, valued at approximately \$1.6M per year.

While the University has obtained facility improvement funds by issuing bonds, the University's general revenues secure these debt instruments, and the facilities are not encumbered. The exceptions to this are the completed Chemistry Building renovations; Biomedical and Physical Sciences Building; Diagnostic Center for Population and Animal Health (now named the Veterinary Diagnostic Laboratory) laboratory building; the Bio Engineering Facility, and the STEM Teaching and Learning Facility. These facilities were funded in part with bonds issued by the Michigan Department of Treasury, State Building Authority (SBA) and secured by mortgages on the facilities.

## **V. Implementation**

Michigan State University's approach to capital planning employs a continuous process that integrates academic, support, human resources, fiscal, and facility infrastructure planning. Institutional participation in the planning process ensures that consideration is given to relevant issues and that decisions reflect the fundamental mission and direction of the University.

Capital needs are guided and informed by the Strategic Plans, the University's Capital Planning Framework, Campus Land Use Plan, and planning activities that occur within major components of the institution at regular cycles throughout the year. These components include the annual academic program planning and review, administrative support planning and review, capital renewal, technology, utility systems, energy, and sustainability planning, as well as planning for transportation (roads and sidewalks), parking, and open space. Within this context, budgetary and fiscal analyses at the local, state, and federal levels are considered.

Within each component of planning, several more detailed issues are reviewed and examined relative to their impact on facilities over the short- and long-term. One approach used for this more detailed planning is the Campus Infrastructure Planning Work Group. Bringing together a comprehensive cross section of University constituents, the group evaluates infrastructure projects on several dimensions to ensure thoroughness of planning, conformance with master planning principles adopted by the MSU Board of Trustees, and impact across the University.

As a matter of operating philosophy and practice, facility planning encompasses the following issues:

- Renovations, as well as maintenance of existing campus facilities, and new construction are focused to support programs that are central to the academic mission of the University.
- A fundamental guiding principle is that planning is holistic and comprehensive. In addition to capital renewal of existing facilities, academic program needs are considered, and facility adaptation is planned accordingly. A premium is placed on reuse of existing facilities, on conservation of open space, energy conservation, and on health, safety, security, and regulatory requirements. Barrier-free modifications are given priority and needs related to technology are incorporated. Where appropriate, fixed building equipment, particularly for laboratories and instructional spaces, is included in the plans.
- New construction, additions and renovation of existing facilities are planned so a project's financial investment actively reflects the life cycle of the facility in relation to the needs of the program, while providing flexibility in the structure to accommodate potential changes over the longer term. Through the least life cycle cost analysis, facilities are positioned to be responsive to immediate programmatic needs, as well as longer-term adaptation needs brought about by changes in programs, advances in technology, and related issues.
- The least life cycle cost analysis also enables project development to focus on designs that reduce the ongoing maintenance cost of facilities. Within this context, MSU's high-quality construction standards intentionally create plans and assemble materials that "design out" as much near and long-term maintenance as possible.

In summary, the anticipated expenses of a facility over its life cycle are carefully considered in relation to the initial investment in design and materials.

Through facility-planning activities, Michigan State University recognizes that campus programmatic and facility capital renewal issues are significant and constantly changing. As a result, needs exist simultaneously in three major areas:

1. Renovations and Additions
2. New Construction
3. Major Systems Maintenance and Utilities

Many more needs exist than can be addressed at any one time. However, within this context and informed by the planning processes described above, the “Greenhouses - Renovation of Existing and Addition - Research Expansion and Learning” is the institution’s Capital Outlay project request, as noted in Section I of the following table<sup>4</sup>. Other projects included in Section I of the table reflect the institutions anticipated capital project needs during the upcoming 5-year planning framework. Projects listed in Section II are currently in active planning or in process, with funding primarily from institutional resources.

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<sup>4</sup> See Appendix G for the State Fiscal Year 2023 Capital Outlay Project Request – “Greenhouses – Renovation of Existing and Addition – Research Expansion and Learning.”



**Capital Planning and Major Maintenance SFY23-28  
Planning Timeframe: One to Five Years**

<b>Section I: MSU Capital Outlay SFY23 5-Year Planning</b>	
	FY22 Est. (mil.)
<b>Capital Outlay Priority – Renovation and Addition</b>	
• Greenhouses - Renovation of Existing and Addition - Research Expansion and Learning	\$23.0
<b>MSU 5-Year Capital Planning (Alphabetical Order)</b>	
<b>Renovations and Additions</b>	
• Aquatic Species Core Facility - Renovation and/or Addition Research Support and Expansion	\$25.0-\$30.0
• Barrier-Free Accessibility Projects - Single Occupant/ADA Restrooms - High Priority Buildings	\$4.0-\$5.0
• Bioeconomy - Plant and Environmental Science Facilities	
○ Plant and Environmental Sciences - Research, Teaching and Learning - New Construction (Ph. 1)	\$130.0-\$140.0
○ Plant and Environmental Sciences - Renovate Existing Plant Biology Building Research, Teaching and Learning (Ph. 2)	\$76.0-\$95.0
• Biomedical Frontier	
○ Biomedical Animal Resources - Provision for Large Animal (\$19.4M - \$26.0M)	
▪ Housing and Surgery	\$12.4 - \$18.0
▪ Imaging (NIH grant recently awarded)	\$7.0 - \$8.0
○ Clinical Center A-Wing – Renovate for Research Expansion	\$71.4 - \$82.3
○ Clinical Center B-Wing – Renovate for Research Expansion & Learning	\$16.5 - \$21.9
○ Research Laboratory Renovation – Various (STEM and ISTB Related Backfill)	\$16.5 - \$19.7
• BSL-3 - Research Expansion Multi-Species Flexible Housing/Procedure Space (Ph. 2)	\$10.5 - \$11.5
• Doug Meijer Medical Innovation Building - 5th Floor Dry Research Fit-out	\$3.5-\$4.5
• Engineering and Computational Sciences	
○ Engineering - New Construction (Ph. 1) - Research Support and Expansion	\$180.0-\$200.0
○ Engineering - Renovations - Research and Learning (Ph. 2 - New Construction Related Backfill)	\$10.0 - \$12.0
• Football Building - Renovation and Additions - Program Support	\$40.0 - \$50.0
• Grand Rapids Research Center (GRRC) 5th Floor Lab Fit-out	\$8.4
• Healthy Campus – Recreation, Fitness, Sport	
○ Intramural Facilities - New Construction, Additions and/or Renovations	\$200.00
• Learning Spaces	
○ Learning Space Improvements – Annual Investment for Updates and Improvements (5-Year need, \$12.0 annually)	\$60.0
○ Library Improvements - Special Collections - Renovate Space on Third Floor	\$5.0-\$6.0
• Life Science Building (A & B) HVAC replacement and related (phased approach)	\$70.0 - \$80.0
• MSU Museum - Infrastructure Improvements - Accreditation	\$11.0-\$13.0
• Music Building – Renovation of Existing for Improved Program Support	\$10.3 - \$36.6

• Old Botany – Comprehensive Renovation	\$11.3 - \$11.6
• Student Services Building - Renovate for Student Support - First Floor Career Services Area	\$2.0 - \$3.0
• 600 Crescent Road - Modifications to 1st and 2nd floors for IT Services space consolidation	\$1.1

**New Construction - New Building**

• Chemical Waste Facility 1 - Study - New Waste Facility	\$32.9
• Dairy Facility - Research and Teaching and Learning - Accreditation - New Construction	\$40.0 - \$50.0
• Henry Ford Health Systems - New Construction	TBD
• Health Education Building - Teaching and Learning and Academic Support - Renovations and/or New Construction	\$135.0-\$155.0
• Transportation Services and Mobility Research Center	\$21.9 - \$24.1

**Major Systems Maintenance & Utilities (Alphabetical Order)**

• Capital Renewal (5-Year need, \$35.0 annually)	\$175.0
• Farm Lane Infrastructure and Mobility Upgrades including Bridge Replacement	
◦ Bridge Replacement and Adjacent Approaches (Ph. 1)	\$15.2
◦ North of bridge to Auditorium Road (Ph. 2)	\$21.4 - \$26.6
◦ South of bridge to Wilson Road (Ph. 3)	
• Utilities (5-year) – Power Plant Modernization	
◦ Battery Energy Storage System	\$10.0-\$15.0
◦ Electrical Centrifugal Chillers – 8,400 tons	\$29.0-\$36.0
◦ Shared Natural Gas Pipeline	\$80.0-\$100.0

**Section II: Projects in Active Planning or In Process/Funding from Other Resources**

**Projects Authorized by the Board of Trustees for Construction (Arranged Alphabetically)**

• 20MW Solar Array Installation (material change to the landscape and long-term lease)	\$2.3
• Administration Building – Renovations to the Third Floor (selected area)	\$3.8
• Biochemistry - Replace Power Service - Capital Renewal	\$1.9
• Chemistry - Renovation to Rooms 45 & 46	\$1.3
• Chemistry - Renovation to Rooms 417, 419, 422, 423, 424 & 424A	\$1.7 - \$2.1
• FRIB – High Rigidity Spectrometer and Isotope Harvesting Experimental Vault	\$24.5
• FRIB – Renovations to First Floor Lobby and Restrooms & Control Room	\$4.6
• Giltner 45-46 Basement Aquatic Lab	\$3.4
• Greenhouse Improvements - Drainage, Environmental Controls, Lighting	\$4.0
• Grand Rapids Innovation Park - Radiopharmacy - College of Human Medicine (part of P3 new construction project)	\$15.0
• Golf Course - Short Game Practice Area	\$0.9
• Hannah Administration - Masonry and Roof Repairs	\$1.9

• ISTB - Elemental Health Institute and QBEAM Core Facility	\$1.3
• Munn Ice Arena – Expansion	\$26.7
• Swine Teaching and Research Center Addition - (Footprint Change)	\$1.0
• Utilities – Power Plant Modernization	
○ Medium Pressure Steam Boiler	\$17.8
○ Reciprocating Internal Combustion Engines (RICE)	\$47.0
• Wells Hall – Replace Induction Units in Building Sections C and D (16-17 Major Maint.)	\$6.0
• William A. Demmer Engineering Center	\$4.0
• Veterinary Medical Center - HVAC replacement and Programmatic Renovations	\$11.3
<b>Projects Authorized for Planning (In Design, Arranged Alphabetically)</b>	
• African American and African Studies - Renovation of Space - New Department	\$1.8
• Intramural Fields - Construct fields at Services Road	\$14.0
• Hidden Lake Gardens - Observation Tower and Tree Canopy Walk (on hold - pending fundraising)	\$2.2
• Library – West Wing HVAC Zone Level Upgrade	\$1.8
• Kellogg Biological Station - Bird Sanctuary Renovation	\$2.5 – 3.5
• Multicultural Center - New Construction or Addition and/or Renovation	\$33.0
• Owen Graduate Hall – Visiting Scholars Housing Project (on hold - pending funding)	\$1.5 – 2.0
• Packaging Building - Addition and Renovations - Teaching and Learning, Research	\$8.0 - \$10.0
• Spartan Stadium - North Lower Bowl Restoration (on hold)	\$1.9
• Steam Distribution - Various Structural Repairs to Vaults and Tunnels	\$1.6
• Utilities - Power Plant Modernization	
○ Reverse Osmosis System	\$1.0
○ Replace U4 Cyclone Refractory	\$1.0 – 1.5

Addressing the above projects is extremely important, not only to the effectiveness of the academic programs but also to the operational efficiency of the institution. Finally, funding these projects is consistent with the University's commitment to responsible stewardship of critical state resources. It will also ensure that the capital infrastructure is available to carry out our commitment to intellectual leadership in developing new knowledge and to conveying and applying that knowledge to students and the public in practical ways.

## **VI. Capital Outlay Planning<sup>5</sup>**

The capital planning priorities support programs that have strong national reputations, expanding research bases, and high enrollment demand that will sustain the university and its contributions to Michigan. Funding of these requests will provide economic development in the state, now and in the long term.

### **Renovations and additions**

Renovations and/or additions address extensive programmatic and maintenance improvements required by buildings previously funded by the state. They are necessary to reconfigure and or expand space in order to support the work of the programs housed in those facilities; create core/shared research support facilities and modern learning spaces; and in some instances, adaptive re-use or modernization of aging buildings including alignment with current codes and provisions for accessibility.

Major renovations and/or additions include the plant sciences-bioeconomy, biological and biomedical sciences, music and learning facilities.

### **Major systems replacement**

In view of the extensive facility needs it faces, MSU has drawn upon an increasing amount of internal university resources to address the most critical facility maintenance and programmatic requirements. Self-funding these capital improvements is not sustainable without negative impacts on other programs.

The university seeks funding for more targeted and specific building systems maintenance and utilities. Examples of systems in need of repair or replacement include roofing, windows, electrical, mechanical, chiller, refrigeration, steam, fire, security, and barrier-free access.

## **VII. Conclusion**

Michigan State University's programmatic strategy is premised on the foundation of empowering excellence, advancing equity, and expanding impact. MSU routinely receives more than \$600 million in sponsored awards annually, focused in areas such as food systems; plant sciences; health sciences; computational sciences, and

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<sup>5</sup> See Appendix G for the State Fiscal Year 2023 Capital Outlay Project Request – "Greenhouses - Renovation of Existing and Addition - Research Expansion and Learning"

population and the environment, including food, water, and energy. Additionally, MSU's programmatic investments seek to improve technology and teaching, prioritize multidisciplinary study, the narrowing of graduation gaps, and fostering a healthier campus.

More than 90 percent of MSU's graduates were employed or continuing their education within nine months of graduation. Of 2020 graduates with employment, approximately 65 percent remained in Michigan, with an additional 14 percent employed in other regional states.

Michigan State University has an annual economic impact of more than \$5.85 billion and seeks to instill an entrepreneurial and high-performance mindset in its students, faculty, and staff.

MSU is deeply engaged in the cities of Flint, Detroit, and Grand Rapids, working collaboratively to provide expertise and a network of resources in education, food, water, health, and sustainability. MSU Extension's presence extends to all 83 Michigan counties, availing all Michigan residents to the resources and expertise they need to advance the state and its economy. Agribusiness is Michigan's second largest industry, and the MSU AgBioResearch and MSU Extension contribute to Michigan's economy with significant research, educational programs, and a community presence to boost economic development and growth related to agriculture and natural resources, community vitality, entrepreneurship, and career preparation for young people.

Implementation of the strategic plan will focus investment in areas of excellence — established and emerging — that address global challenges; meet pressing needs expressed by communities in Michigan, across the nation and around the world; advance equity and ethics; and improve the human condition. We will prioritize innovation aligned with our values. We will pursue investments in cross-cutting, collaborative, multidisciplinary and partnered solutions because we believe in the power of synergistic, transdisciplinary approaches. We will engage with stakeholders in a manner that is meaningful and demonstrates respect, responsiveness, inclusiveness and partnership. By 2030, we envision a Michigan State University that has significantly expanded opportunity and advanced equity, elevated its excellence in ways that attract vital talent and support, and has a vibrant, caring community.

## Appendices

**Appendix A: Mission Statement**

**Appendix B: Campus Land Use Master Plan Update 2017**

**Appendix C: Buildings by Age**

**Appendix D: Student Enrollments – Fall Semester 2021**

**Appendix E: Building Condition Assessment**

**Appendix F: Utilities**

**Appendix G: SFY2023 Capital Outlay Request**

## Fiscal Year 2023 Budget Information

5-Year Capital Plan

Submitted By:

Fall 2021

# Appendix A: Mission Statement

Fiscal Year 2023  
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE  
UNIVERSITY

# MSU Mission Statement

*The following statement was approved by the Board of Trustees on April 18, 2008*

Michigan State University, a member of the Association of American Universities and one of the top 100 research universities in the world, was founded in 1855. We are an inclusive, academic community known for our traditionally strong academic disciplines and professional programs, and our liberal arts foundation. Our cross- and interdisciplinary enterprises connect the sciences, humanities, and professions in practical, sustainable, and innovative ways to address society's rapidly changing needs.

As a public, research-intensive, land-grant university, funded in part by the State of Michigan, our mission is to advance knowledge and transform lives by:

- providing outstanding undergraduate, graduate, and professional education to promising, qualified students in order to prepare them to contribute fully to society as globally engaged citizen leaders
- conducting research of the highest caliber that seeks to answer questions and create solutions in order to expand human understanding and make a positive difference, both locally and globally
- advancing outreach, engagement, and economic development activities that are innovative, research-driven, and lead to a better quality of life for individuals and communities, at home and around the world



Fall 2021

# **Appendix B: Campus Land Use Master Plan**

**Update February 2017**

**Fiscal Year 2023  
Budget Information**

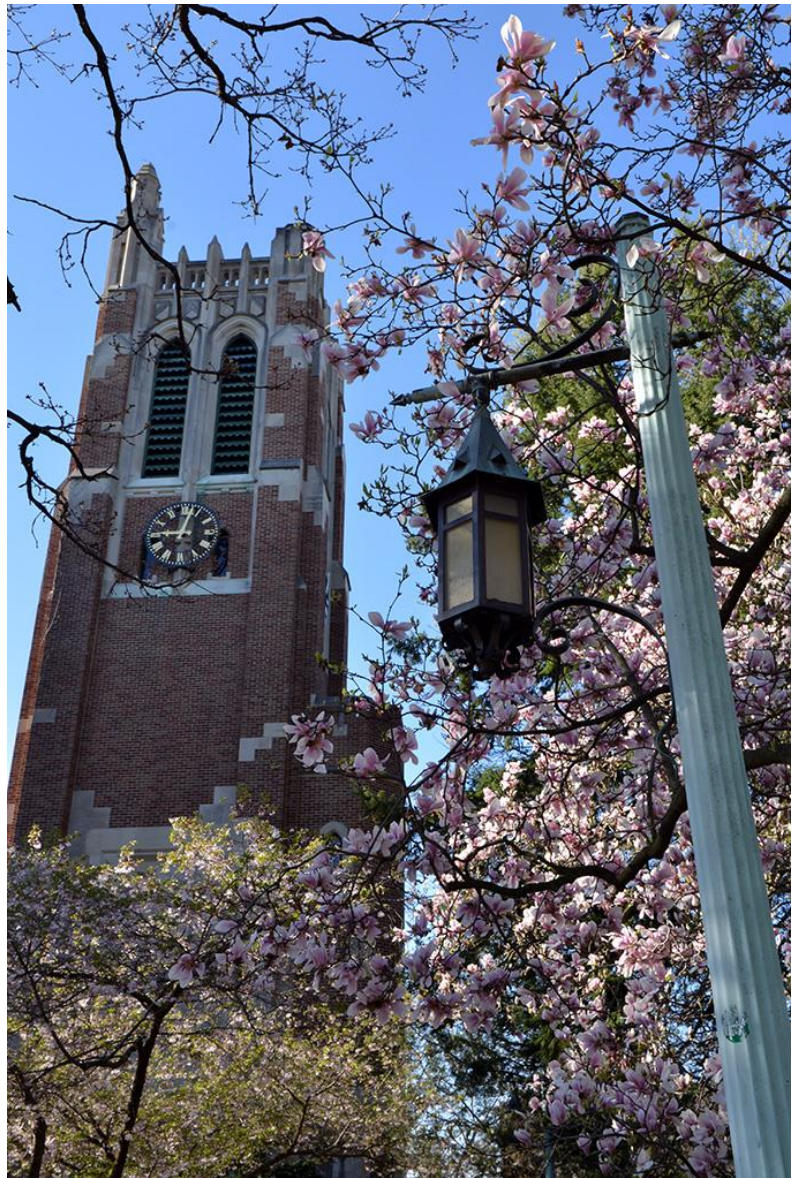
5-Year Capital Plan

Submitted By:

**MICHIGAN STATE  
UNIVERSITY**

# Michigan State University

## Campus Land Use Master Plan: Update 2017



February 2017

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## **PREFACE**

### **PURPOSE OF THE CAMPUS LAND USE MASTER PLAN**

The Campus Land Use Master Plan provides a flexible framework for guiding the physical organization of the Michigan State University (MSU) campus. The plan includes overarching campus planning principles, specific system recommendations, and the University Zoning Ordinance. The plan is updated every five years to provide University administration with a current and relevant decision-making tool in concert with additional planning documents that include but are not limited to:

- Mobility Plan (under development)
- Five-Year Plan and Capital Outlay Request
- Capital Renewal (deferred maintenance) Priorities
- Residential and Hospitality Services Strategic Plan
- Utility and Infrastructure Plans (water, steam, electric, gas, storm water)
- Power Plant Master Plans
- Storm Water Permit
- Barrier Free Accessibility Plan
- Energy Conservation Plan
- Well Head Protection Plan

Given the size and complexity of the campus's physical composition, coordinating the land use plan with a mobility plan will facilitate the University's ability to achieve its mission within a culture of high performance. Together, the land use and mobility plans will enable the connections, collaboration, and conversations required to drive academic success and research innovation. To this end, President Simon has directed the Executive Vice President for Administrative Services to lead the effort in developing a mobility plan.

### **SIGNIFICANT ACCOMPLISHMENTS SINCE THE 2011 UPDATE**

Over the past five years, the Campus Land Use Master Plan: Update 2011 informed the implementation of the following major projects.

- Major building projects completed or under construction include: NSCL/FRIB (various projects), Brody Neighborhood (various projects), Bott College of Nursing Education, Case Hall Addition and Renovation, Shaw Hall Addition and Renovation, Old College Field (various projects), Wells Hall Addition, Molecular Plant Science, Landon Hall Addition and Renovation, Endocrine Research, Spartan Stadium North End Zone Addition, MSU Performing Arts and Teaching Lab, Parking Ramp 7, Bio Engineering Research, Breslin Center Upgrades and Hall of History, Intercollegiate Golf Facility, Poultry-Laying Hen Research, Sheep Lambing and Research, and 1855 Place.
- Close adherence to the University Zoning Ordinance, with only 5 projects requiring a zoning variance.
- Completion of the RHS Dining Services Master Plan.
- Major enhancements to the campus open space system including removal of parking to create open space adjacent to Shaw Hall and the Munn Field artificial turf field.

- Receipt of a Silver Bicycle Friendly University Award from the League of American Bicyclists. Today more than 68% of campus roads have bike lanes. The campus has six do-it-yourself fix-it stations in the residential neighborhoods and two secure bicycle storage facilities with fix-it stations (Grand River and Communication Arts Garages) and one secure storage facility within the FRIB complex. Nearly 60% of the MSU River Trail (dedicated bicycle and pedestrian trail) has been constructed from Harrison Road to Farm Lane.
- Completed the four-year West and East Circle Drive infrastructure enhancement project that improved non-motorized and motorized circulation within the North Academic District.
- Completed the Chestnut Road reconstruction from Shaw Lane north to Red Cedar Road.
- Reconfigured the Bogue Street and Shaw Lane intersection, removing the last vehicular traffic circle on campus along with closing the Bogue Street segment between Shaw Lane and Wilson Road to accommodate the FRIB project.
- Completion and full operation of the Capital Gateway Multimodal Transit Center operated by CATA.

# CAMPUS PLANNING PRINCIPLES

## INTRODUCTION

The University is committed to a comprehensive and continuous land use planning process that results in a flexible framework to guide future decision making. The University will consider the use of resources from environmental, regulatory, operational, economic, historic, and cultural perspectives in support of its teaching/learning, research, and outreach mission.

The following planning principles will guide future planning for, and development on, the Michigan State University campus. The principles are organized in the following categories: General Principles, Land Use and Facilities, Environmental Sustainability, Open Space, Parking, Circulation, and Utility Infrastructure.

## GENERAL PRINCIPLES

- Arrange campus buildings, open space, circulation and utility systems to:
  - establish positive interactions among academic, research, outreach, cultural, and operational activities;
  - protect and strengthen the campus as a living-learning resource integral to the University’s mission;
  - protect and enhance campus beauty;
  - enhance environmental stewardship;
  - minimize energy impacts and increase/retain energy efficiencies; and
  - optimize safety and facilitate risk management.

## PLANNING PRINCIPLES RELATED TO LAND USE AND FACILITIES

- Organize the campus in logical districts of compatible land uses.
- Implement compact campus development to achieve the following benefits:
  - preserve and protect existing natural areas and systems to support teaching and research;
  - conserve land and maximize land productivity;
  - protect contiguous agricultural teaching and research land;
  - encourage social interactions and vitality;
  - encourage collaboration, partnering, and interdisciplinary connections;
  - reinforce ties between research and undergraduate teaching;
  - control utility, transportation, parking, and infrastructure costs;
  - enhance functional efficiencies;
  - maximize efficient energy use; and,
  - minimize utility distribution extensions, which are inefficient and costly to maintain.
- Provide intramural recreation fields in locations that balance accessibility for both on- and off-campus participants.

- Protect and enhance campus open space, providing an appropriate balance (qualitative and quantitative) to the built environment.
- Protect the land south of Mount Hope Road from development to support AgBio Research and the College of Agriculture and Natural Resources’ teaching, research, and outreach mission.
- Protect existing and future drinking water well locations in the Agricultural District in accordance with the Well Head Protection Plan.
- Favor reuse, renovation, and repurposing of existing buildings after carefully assessing programmatic alignment, functionality, long-term capital renewal (deferred maintenance), historic significance, location, energy efficiency, and replacement costs.
- Organize the arrangement and design of campus buildings and exterior spaces to encourage human interaction and to foster a sense of shared community among the University’s diverse population. This may include, for example, incorporating “transitional spaces” outside of classrooms for pre- and post-class collaboration and “blended spaces” where food service, study space, and general meeting resources coexist.
- Design new buildings and renovations to be architecturally compatible with the best features of existing adjacent buildings and to be harmonious with their contextual surroundings.
- Maximize flexibility in the design of new and renovated space to accommodate changing needs and functions over time.
- Recognize historically significant aspects of the campus and the heritage of the campus as a park and as a living and learning laboratory.
- Acknowledge that the campus is part of the larger surrounding community. Build compatible land use relationships and circulation patterns.
- Consolidate support service facilities into the Services District as defined by the University Zoning Ordinance.
- Organize land uses, facilities, and infrastructure to encourage physical activity.

## **PLANNING PRINCIPLES RELATED TO ENVIRONMENTAL SUSTAINABILITY**

- Minimize environmental impacts and maximize resource conservation through prudent and compact land use, protecting sensitive environmental systems, and incorporating low-impact development guidelines.
- Minimize negative impacts to the water quality of the Red Cedar River Watershed; incorporate Best Management Practices for storm water.

- Acknowledge the intrinsic value of biodiversity and enhance natural system integrity by creating, restoring, and maintaining large-block natural areas and improving their interconnections.
- Provide a suite of transportation options that maximize the movement of people and minimize the movement of cars, thus reducing congestion, vehicle miles traveled, and greenhouse gas emissions.
- Continuously pursue building and utility systems that encourage renewable resource use and that decrease waste and hazardous materials.
- Recognize land use issues associated with climate vulnerability including storm water management, flooding, snow removal, temperature extremes, and storm intensity.

### **PLANNING PRINCIPLES RELATED TO OPEN SPACE**

- Protect and extend the park-like character of the historic circle campus in order to reinforce and enhance the University's distinctive physical identity.
- Enhance the landscape quality south of the Red Cedar River.
- Promote efficient land use that protects existing, and creates new, green space.
- Protect, maintain, and develop the campus as an arboretum to support the University's teaching/learning, research, and outreach mission.
- Provide opportunities for academic and social interaction.
- Provide a variety of open spaces that accommodate the full range of outdoor activity, for example, large athletic fields to intimate spaces for personal reflection and meditation.
- Preserve and protect existing natural areas and enhance their interconnectivity.
- Integrate public art appropriate to surrounding context (excluding Natural Areas).

### **PLANNING PRINCIPLES RELATED TO PARKING**

- Safely and efficiently meet the parking needs of faculty, staff, students, and visitors.
- Integrate parking facilities into the campus setting in an aesthetically pleasing manner consistent with its park-like setting.
- Utilize a variety of parking resources including surface lots, decks, and parking garages; emphasize parking on the campus perimeter.
- Provide conveniently located barrier-free spaces across campus.



- Reclaim surface lots for green space and future building sites when appropriate.
- Relocate parking that contributes to unsafe traffic, bicycle, and pedestrian conditions.
- Minimize the loss of open space for small inefficient surface parking lots.
- Connect the campus transit system to major parking facilities.

## **PLANNING PRINCIPLES RELATED TO CIRCULATION**

- Emphasize personal safety in the circulation system’s planning and design.
- Design all roads as complete streets (designed and operated to enable safe, attractive, and comfortable access and travel for all legal users).
- Provide a safe, efficient, and effective transportation network that enhances the overall quality of life on the campus.
- Incorporate traffic-calming measures where appropriate.
- Plan and design for the following circulation priorities:
  - pedestrians first;
  - bicycles and other forms of non-motorized transportation second;
  - mass transit and service vehicles third; and,
  - private vehicles last.
- Design for the safety of persons with disabilities in accordance with the Americans with Disability Act.
- Reduce private vehicular traffic in academic and residential districts.
- Effectively integrate with the regional transportation system.
- Establish a coordinated bicycle system including bike lanes within roadways, dedicated pathways and/or shared-use pathways, and convenient and appropriately sized storage facilities where appropriate.
- Enable an effective and efficient mass transit system including developing residential neighborhood transit centers to gain transit efficiencies.

## **PLANNING PRINCIPLES RELATED TO UTILITY INFRASTRUCTURE**

- Develop campus buildings and infrastructure to foster energy conservation.
- Use centralized utility systems wherever feasible to maximize production efficiencies and to minimize life-cycle operational costs.

- Establish consolidated distribution corridors that co-locate utilities and accommodate maintenance with minimal campus disruptions.
- Provide adequate protection and security for critical system components including electric, steam, chilled water, potable water, existing and future water wells, fiber, and natural gas.
- Provide redundancy for steam, electric, water, and communication utilities.
- Enable resource conservation and management through appropriate system design and controls.
- Prepare for developing technologies and their integration into the campus infrastructure.
- Implement practices, install systems, and develop procedures that prolong the capacity of the power plant, increase reliability, protect health and wellness, reduce greenhouse gas emissions, while managing affordability.

# LAND USE RECOMMENDATIONS

## PROGRAMS AND FACILITIES

### Academic and Planning Imperatives

The University's Bolder by Design strategic initiative employs six imperatives to guide the institution's teaching/learning, research, and outreach mission. The campus's physical organization directly and indirectly supports these imperatives.

- Enhancing the student experience
- Enriching community, economic, and family life
- Expanding international reach
- Increasing research opportunities
- Strengthening stewardship
- Advancing a culture of high performance

The Campus Land Use Master Plan recognizes that land utilization must be optimized to support the academic mission; that extensive infrastructure systems are expensive to maintain; and that land conservation, especially in the research farms area, is mission critical. As a result, the plan centers on these smart growth principles:

- Establishing a compact campus composition
- Providing a variety of transportation choices
- Preserving open space, farmland, and critical environmental areas
- Developing a mix of land uses
- Creating a walkable community

### Facilities Planning Principles

The University continually examines the capital assets necessary to support academic programs and physical needs that involve new construction, comprehensive renewal, renovation, reprogramming of selected facilities, and renewal of major subsystems in other facilities. The assessment of existing facilities shows that the infrastructure components of many campus buildings have aged significantly. Despite ongoing maintenance and repair that extends the expected usable life of components well beyond industry standards, many buildings are now at a point where they require either significant investment or replacement.

Space planning seeks to support student success, growth of the research enterprise, infrastructure stewardship, and operational efficiencies by:

- aligning space resources with academic framework;
- allocating and utilizing space strategically;
- supporting a range of teaching and research methodologies;
- leveraging emerging technology;
- effecting operational efficiencies and cost effectiveness;
- anticipating evolving teaching and research environments;
- forecasting changes in demand and aging infrastructure;
- providing accessibility based on universal design and inclusion; and
- assessing strategic property acquisitions.

## **Projected Facility Needs**

Michigan State University, through the Office of Planning and Budgets, employs a continuous capital planning process that integrates academic, support, fiscal, and physical planning. Institutional participation in the planning process ensures that consideration is given to relevant issues and that decisions support the University's direction and mission.

Following a very detailed and carefully conceived planning process, it was estimated that the University will need a 10 percent increase in building space over the next 20 years. The growth in space is driven by a planned increase in the number of faculty and the anticipated increase in funded scientific research, selective and qualitative changes in academic teaching programs; enhancement of common facilities that enrich campus life and community; and consolidation and upgrading of operational support facilities.

Capital needs are informed by the Campus Land Use Master Plan and planning activities that occur within major components of the institution at regular cycles throughout the year. These components include the annual academic program planning and review, administrative support planning and review, deferred capital renewal, technology, utility systems, energy and sustainability planning, as well as planning for motorized and non-motorized circulation and open space. In this context, budgetary and fiscal analyses at the local, state, and federal levels are taken into account.

Within each component of planning, a number of more detailed issues are reviewed and examined relative to their impact on facilities over the short and long term. One approach used for this more detailed planning is the Campus Infrastructure Planning Work Group. Bringing together a comprehensive cross section of University constituents, the group evaluates major construction projects on a number of dimensions to ensure conformity with the Campus Land Use Master Plan's planning principles, physical recommendations, and the University Zoning Ordinance as adopted by the Board of Trustees.

As a matter of operating philosophy and practice, facility planning encompasses the following issues:

- Renovations, as well as maintenance of existing campus facilities and new construction, are focused to support programs that are central to the University's academic mission.
- A fundamental guiding principle is that planning is holistic and comprehensive. In addition to capital renewal of existing facilities, academic program needs are considered and facility adaptation is planned accordingly. A premium is placed on reuse of existing facilities, on conservation of open space, energy conservation, and on health, safety, security, and regulatory requirements. Barrier-free modifications are given priority, and needs related to technology are considered. Where appropriate, fixed building equipment, particularly for laboratories and classrooms, is included in the plans.
- New construction and renovation of existing facilities are planned so a project's financial investment actively reflects the life cycle of the facility in relation to the needs of the program, while providing flexibility in the structure to accommodate

potential changes over the longer term. Through the “least life cycle cost analysis,” facilities are positioned to be responsive to immediate programmatic needs, as well as longer-term adaptation needs brought about by changes in programs, advances in technology, and related issues.

- The least life cycle cost analysis also enables project development to focus on designs that reduce the ongoing maintenance cost of facilities. Within this context, MSU’s high-quality construction standards intentionally create plans and assemble materials that “design out” as much near and long-term maintenance as possible. In summary, the anticipated expenses of a facility over its life cycle are carefully considered in relation to the initial investment in design and materials. Project decisions made within the context of MSU’s construction standards may, in some cases, be viewed as more expensive initially but, in practice, actually reduce the total cost of ownership.

### **Future Building Opportunities**

Future building opportunities are depicted on two graphics. The first entitled Building Framework, illustrates future opportunities that do not require major demolition of existing facilities. The second graphic, entitled Major Redevelopment Opportunities, explores additional development parcels that will require careful assessment of existing facilities relative to highest and best land use, program relocation, deferred maintenance needs, and facility replacement costs. Both graphics employ the smart growth strategy of carefully conceived building “infill” to maximize land use capacity through greater building density.

The plans illustrate where future buildings can be assimilated into the campus context while reinforcing the Campus Planning Principles and University Zoning Ordinance. As such, the plans do not dictate when and where growth will occur, rather they identify development opportunities that can be evaluated to address specific programmatic needs when a project is identified and funding secured.

Each numbered site is measured and a potential building gross square foot yield is estimated by incorporating zoning allowances and important contextual features. Where development opportunity land areas are too large, and architectural speculation is not definable, a floor area ratio planning metric is assigned to estimate future building square footage.

Based on this assessment, the following quantifies future building opportunities for the campus lands north of Mount Hope Road. The estimated net potential represents future building opportunities less any existing building demolition. The campus has historically added, on average, approximately 2.0 million gross square feet (MGSF) every decade. At that rate, the net opportunities support nearly 58 years of future growth assuming each site is developed to its optimal capacity and all redevelopment zones are strategically implemented.

The following identifies future development potential based on opportunities that do not require significant redevelopment or removal of existing facilities.

<b>Zoning Designation</b>	<b>Estimated Gross Potential</b>	<b>Estimated Net Potential</b>
North Academic District	405,350 GSF	405,350 GSF
Central Academic District	1,832,615 GSF	1,832,615 GSF
South Academic District	2,457,686 GSF	2,457,686 GSF
Mixed Use District	4,538,950 GSF	3,733,890 GSF
Athletic/Recreation District	429,800 GSF	429,800 GSF
Service District	835,100 GSF	824,235 GSF
Residential District East	130,000 GSF	130,000 GSF
<b>Total Opportunity (w/o redevelopment)</b>	<b>10,638,715 GSF</b>	<b>9,813,576 GSF</b>

Adding in all redevelopment opportunities, the estimated future development potential increases as noted below.

<b>Zoning Designation</b>	<b>Estimated Gross Potential</b>	<b>Estimated Net Potential</b>
North Academic District	845,350 GSF	532,340 GSF
Central Academic District	3,560,115 GSF	3,169,583 GSF
South Academic District	2,457,686 GSF	2,457,686 GSF
Mixed Use District	4,538,950 GSF	3,733,890 GSF
Athletic/Recreation District	524,300 GSF	524,300 GSF
Service District	901,850 GSF	873,143 GSF
Residential District East	642,750 GSF	231,582 GSF
<b>Total Opportunity (with redevelopment)</b>	<b>13,480,215 GSF</b>	<b>11,522,524 GSF</b>

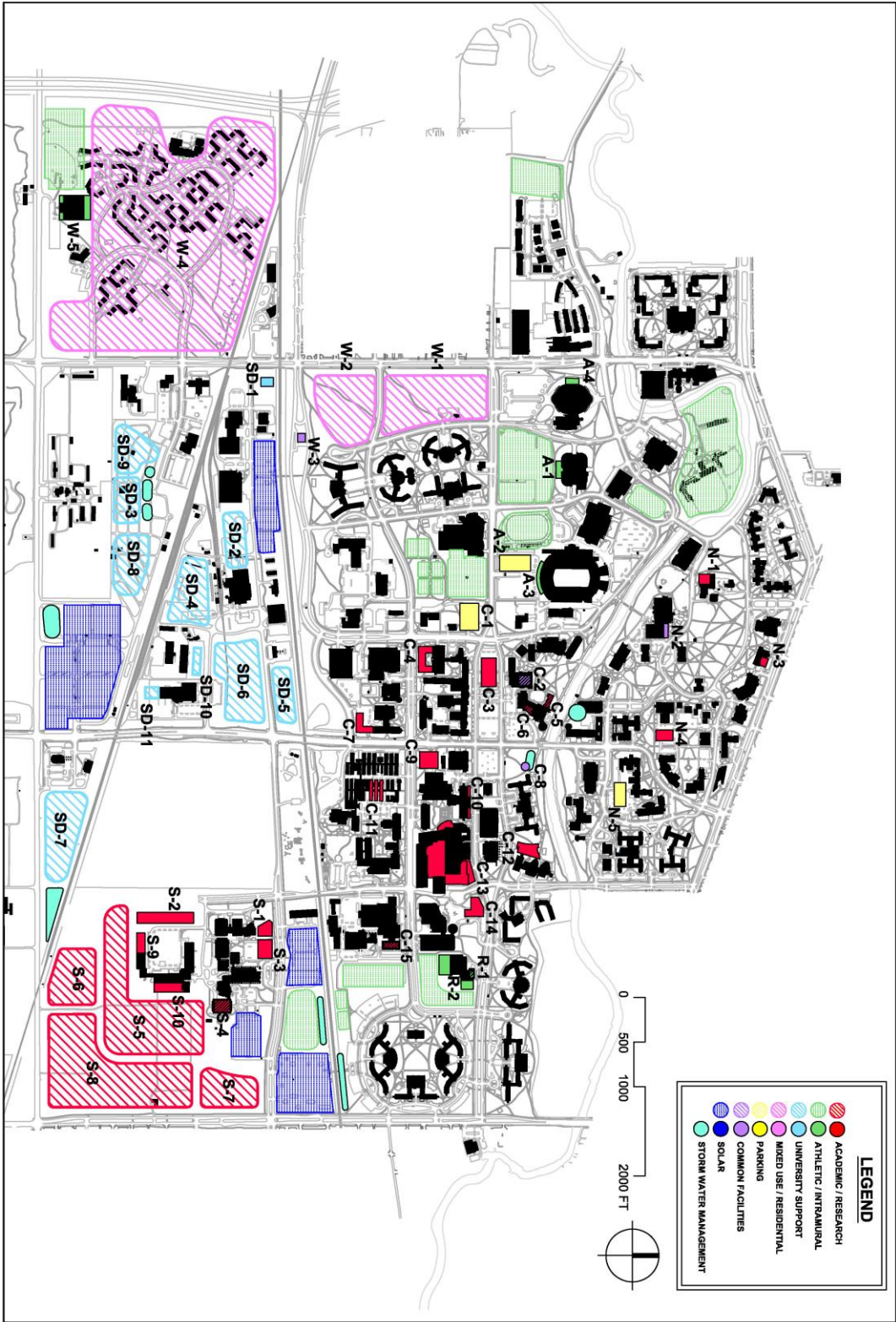
## **STRATEGIC LAND ACQUISITION**

The University continually assesses land adjacent to the campus for acquisition to meet academic and research needs. The existing USDA Avian Disease and Oncology Lab at Harrison and Mount Hope Roads is a land acquisition priority due to its strategic location within the contiguous campus boundary. The University has communicated its intent to reacquire this parcel to congressional representatives and will communicate with the United States Department of Agriculture when a formal decision to relocate the facility is announced.

## **100-YEAR FLOODPLAIN AND STORM WATER MANAGEMENT**

Campus land is reserved to provide future storm water management facilities that will address municipal storm water regulations under the Clean Water Act. Individual building projects are evaluated by the University Engineer and a technical work group to assess its ability to meet current storm water management regulations on site. If a project cannot meet its requirements on site, due to existing development constraints or other unique project attributes, then the University has the option of utilizing a sub watershed facility in another location on campus per Michigan Department of Environmental Quality agreements.

Two important Campus Land Use Master Plan recommendations will help reduce the impact on the Red Cedar River. First, the removal/relocation of Parking Ramp #2 (Auditorium Road) will convert a sizeable amount of land back to its function as floodplain. Second, the removal and relocation of approximately 1,000 surface parking spaces in the Central Academic District will remove an existing land use that has negative impacts both in terms of storm water quantity and quality.

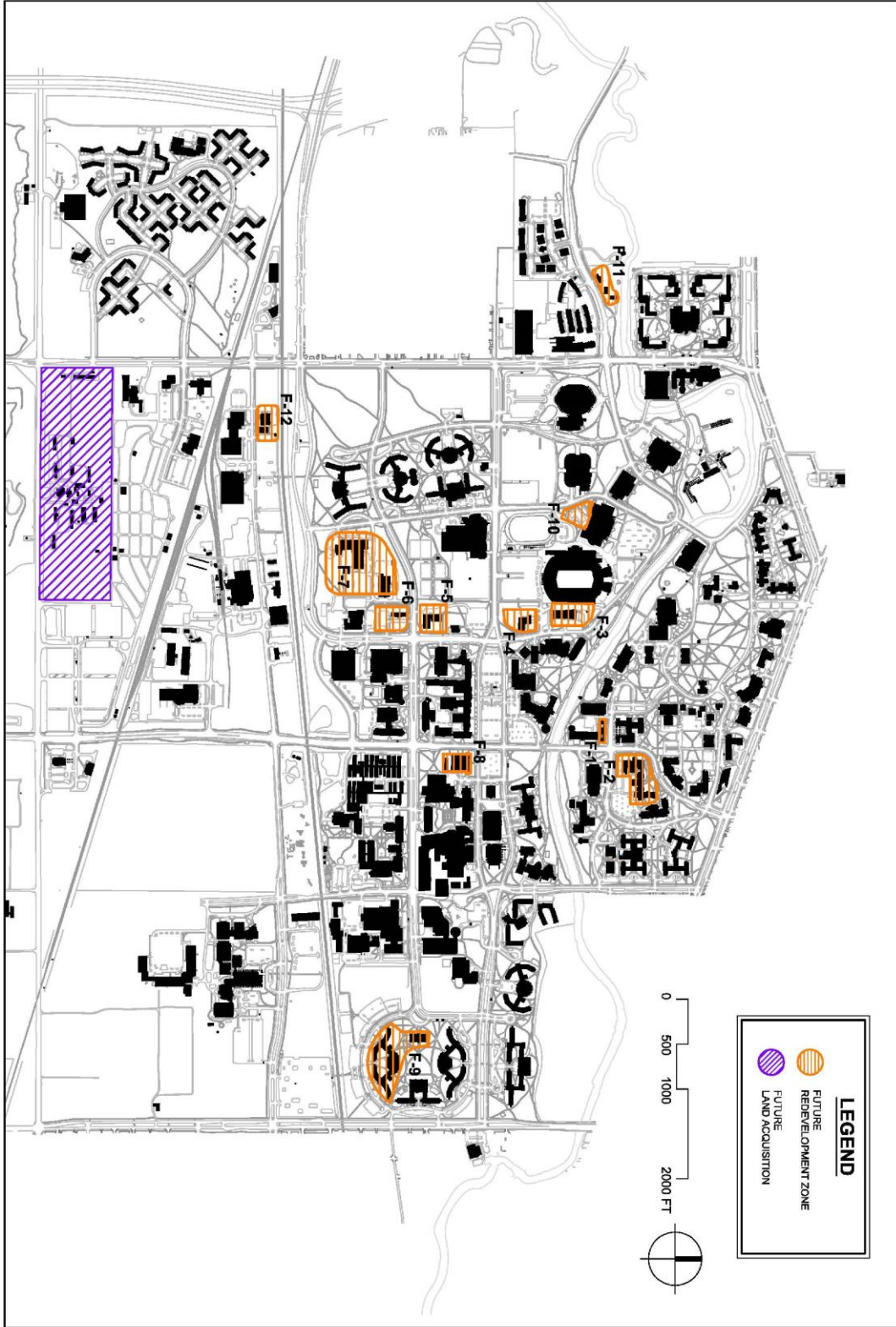


LAND	CAPITAL PROJECT NO.
ARCH	
BLDG	
CIVIL	
ELEC	
MECH	
PLUMB	
SCAFF	
STRUCT	
TELECOM	
TRAVEL	
VEHICLE	
WATER	
WASTE	
WIND	

## BUILDING FRAMEWORK

**MICHIGAN STATE UNIVERSITY** Infrastructure Planning and Facilities





	
TITLE PROJECT NO. DATE BY CHECKED BY APPROVED BY DATE	CAPITAL PROJECT NO. 1041

**MAJOR REDEVELOPMENT OPPORTUNITIES**

**MICHIGAN STATE UNIVERSITY** | Infrastructure Planning and Facilities

District	#	Project	Estimated Envelope	Proposed Envelope Utilization (%)	Potential Footprint	Footprint Demolition	Proposed Height	Potential GSF	GSF Demolition	GSF Net New	Notes
<b>NORTH ACADEMIC DISTRICT</b>											
N	1	College of Music Addition	14,200	0.75	10,650		4	53,250		53,250	Restrict buildings from Adams Field
N	2	Library Addition	8,400		8,400		4	42,000		42,000	
N	3	Human Ecology Expansion	7,700		7,700		4	38,500		38,500	
N	4	New Academic Building	22,000	0.8	17,600		4	88,000		88,000	
N	5	Parking Garage	34,000	0.9	30,600		6	183,600		183,600	750 spaces approx.
F	1	Bessey Hall Office Wing Redevelopment	20,000		20,000	-20,000	4	100,000	-60,000	40,000	Demolish Bessey Hall north wing
F	2	New Academic Building	170,000	0.4	68,000	-55,974	4	340,000	-253,010	86,990	Demolish Giltner Hall
		District Subtotal			162,950			845,350		532,340	
<b>CENTRAL ACADEMIC DISTRICT</b>											
C	1	Parking Garage	63,000	0.9	56,700		6	340,200		340,200	1100 spaces approx.
C	2	International Center Vert. Expansion	10,000		10,000		1	10,000		10,000	
C	3	New Academic Building	53,000	0.75	39,750		6	278,250		278,250	
C	4	Engineering Addition	34,000	0.75	25,500		6	178,500		178,500	
C	5	Erickson Office Vertical Expansion	8,800		8,800		2	17,600		17,600	
C	6	Erickson Front Vertical Expansion	7,000		7,000		2	14,000		14,000	
C	7	Natural Resources Addition	24,000	0.9	21,600		6	151,200		151,200	
C	8	Special Feature	6,000		6,000		1	6,000		6,000	Possible amphitheater/stage
C	9	New Academic Building	38,000	0.75	28,500		6	199,500		199,500	
C	10	Chemistry Additions (East & West)	7,500		7,500		6	52,500		52,500	
C	11	Greenhouse Expansion	28,000		28,000		1	28,000		28,000	
C	12	Business College Graduate Pavilion	24,000		24,000		4	96,000		96,000	Per LMN program
C	13	FRIB Expansion	123,037		123,037		2	261,385		261,385	Per B. Bull
C	14	New Academic Building	32,000	0.75	24,000		6	168,000		168,000	
C	15	Veterinary Oncology Vert. Expansion	17,500	0.9	15,750		2	31,500		31,500	
F	3	New Redevelopment Zone	107,000	0.25	26,750	-22,922	1	275,000	-70,035	204,965	Demolish Central Service, per HOK study
F	4	Shaw Power Plant Redevelopment	80,000	0.25	20,000	-13,234	6	140,000	-40,661	99,339	Repurpose or demolish existing plant
F	5	New Academic Building	87,000	0.25	21,750	-18,634	6	152,250	-47,013	105,237	Demolish existing UPLA building
F	6	New Academic Building	93,000	0.25	23,250	-6,700	6	162,750	-19,896	142,854	Demolish Oyer Speech and Hearing
F	7	New Academic Zone	482,000	0.25	120,500	-88,371	6	723,000	-131,298	591,702	Demo IPF and LS
F	8	New Academic Building	61,000	0.75	45,750	-47,352	6	274,500	-81,629	192,871	Demolish Farrall Hall and Storage Building
		District Subtotal			684,137			3,560,115		3,169,583	
<b>SOUTH ACADEMIC DISTRICT</b>											
S	1	Life Science Addition	23,000	0.9	20,700		6	144,900		144,900	
S	2	New Academic Building	76,000	0.75	57,000		2	171,000		171,000	Assume two-story or high-bay massing
S	3	New Academic Building	33,000	0.75	24,750		6	173,250		173,250	
S	4	Radiology Vertical Expansion	30,000		30,000		1	30,000		30,000	
S	5	New Academic Zone	912,000	0.75	228,000		1	684,000		684,000	Assume FAR @ 0.75 with surface parking
S	6	New Academic Zone	300,000	0.75	75,000		1	225,000		225,000	Assume FAR @ 0.75 with surface parking
S	7	New Academic Zone	234,000	0.75	58,500		1	175,500		175,500	Assume FAR @ 0.75 with surface parking
S	8	New Academic Zone	1,085,000	0.75	271,250	-3,724	1	813,750	-9,214	804,536	Assume FAR @ 0.75, remove misc. structures
S	9	Automotive Research Addition	21,000		18,900		1	18,900		18,900	No basement
S	10	Fraunhofer Addition	34,000	0.9	30,600		1	30,600		30,600	No basement
		District Subtotal			814,700			2,466,900		2,457,686	
<b>RESIDENTIAL DISTRICT EAST</b>											
R	1	IM East Vertical Expansion	4,000		4,000		1	4,000		4,000	
R	2	IM East Additions	42,000	0.75	31,500		3	126,000		126,000	
F	9	Fee Hall Redevelopment	293,000	0.25	73,250	-94,055	6	512,750	-411,168	101,582	Demo Conrad and Fee Hall
		District Subtotal			108,750			642,750		231,582	
<b>MIXED USE DISTRICT</b>											
W	1	New Mixed use	618,000	0.75	tdb		1	463,500		463,500	Assume FAR @ 0.75 with surface parking
W	2	New Mixed use	447,000	0.75	tdb		1	335,250		335,250	Assume FAR @ 0.75 with surface parking
W	3	Visitor Center Expansion	8,000	0.9	7,200		1	7,200		7,200	No basement
W	4	New Mixed Use	4,940,000	0.75	tdb	-396,132	1	3,705,000	-793,857	2,911,143	Assume FAR @ 0.75, demo apts.
W	5	Tennis Center Addition	28,000		28,000		1	28,000		28,000	No basement
F	11	Demolition Zone	63,000	0.5	0	-8,149	0	0	-11,203	-11,203	Flood plain limitations, no basement
		District Subtotal			35,200			4,538,950		3,733,890	
<b>ATHLETIC AND RECREATION DISTRICT</b>											
A	1	Munn Addition	25,000		25,000		2	50,000		50,000	Per athletic's program
A	2	Parking Garage	62,000	0.9	55,800		6	334,800		334,800	1,000 spaces approx.
A	3	South Stadium Addition	35,000		35,000		1	35,000		35,000	Per athletic's program
A	4	Breslin Addition	10,000		10,000		1	10,000		10,000	
F	10	IM West Expansion/Renovation	63,000	0.75	47,250		2	94,500		94,500	Expansion of IM West
		District Subtotal			173,050			524,300		524,300	
<b>SERVICE DISTRICT</b>											
SD	1	New Support Building	14,000	0.85	11,900		4	59,500		59,500	
SD	2	Simon Power Plant Addition	138,000	0.75	103,500		1	103,500		103,500	
SD	3	Future Development Zone	142,000	0.35	49,700	-4,620	1	49,700	-4,872	44,828	Assume FAR @ 0.35, demo misc. structures
SD	4	Future Development Zone	260,000	0.35	91,000		1	91,000		91,000	Assume FAR @ 0.35
SD	5	Future Development Zone	125,000	0.35	43,750		1	43,750		43,750	Assume FAR @ 0.35
SD	6	Future Development Zone	396,000	0.35	138,600		1	138,600		138,600	Assume FAR @ 0.35
SD	7	Future Development Zone	350,000	0.35	122,500		1	122,500		122,500	Assume FAR @ 0.35
SD	8	Future Development Zone	232,000	0.35	81,200	-4,778	1	81,200	-4,786	76,414	Assume FAR @ 0.35, demo misc. structures
SD	9	Data Center	181,000	0.35	63,350	-1,207	1	63,350	-1,207	62,143	Assume FAR @ 0.35, demo misc. structures
SD	10	Future Development Zone	24,000	0.75	18,000		4	72,000		72,000	
SD	11	Recycling Center Addition	10,000		10,000		1	10,000		10,000	
F	12	New Academic Zone	89,000	0.75	66,750	-17,792	1	66,750	-17,842	48,908	Assume FAR @ 0.75, demolition of housing office
		District Subtotal			800,250			901,850		873,143	
		<b>TOTAL GSF</b>			<b>2,779,037</b>			<b>13,480,215</b>		<b>11,522,524</b>	

Key:

Academic / Research
Athletic / Intramural
University Support
Mixed Use / Residential
Parking
Common Facilities
Solar
Stormwater Management
Future Redevelopment Opportunities

Potential building GSF includes above ground stories as indicated plus basement unless indicated.





## **OPEN SPACE AND LANDSCAPE**

### **THE CAMPUS AS AN ARBORETUM**

In 1980, President John A. Hannah remarked, “*Long ago it was planned that the campus should be an outdoor laboratory, with all the variety of trees, shrubs, and woody plants that could be made to grow in Michigan, labeled and tagged not only for students in botany and silviculture and landscape architecture, but for all students and faculty and people in the community.*”

President Hannah was reflecting on Professor William Beal’s 1872 proposal for a campus arboretum. Professor Beal hoped this would lead to a more formalized campus tree planting program. At the time, trees were grown in an arboretum located between what are today, Mary Mayo and Campbell Halls; from there they were transplanted across campus. Professor Beal conducted the first inventory of campus trees in the 1880’s and began the labeling program identifying trees by common name, scientific name, family, and geographic origin, a program which continues today (Telewski 2010). As envisioned by Professor Beal, the campus arboretum serves as a valuable resource for teaching, research, and outreach.

The MSU campus is renowned and beloved by students, faculty, staff, alumni, and visitors. As such, detailed recommendations are required to protect and enhance its open space and landscape aesthetic while maintaining an appropriate balance with the evolving built environment.

The Campus Land Use Master Plan provides a unifying vision for the campus open space and landscape aesthetic. The plan directs stewardship and preservation of the historic campus park and guides future enhancement of the built environment, including the campus as an arboretum for teaching, research, and public outreach.

### **PROTECTED GREEN SPACE**

Based on a detailed classification for the open space system, the following areas are deemed sensitive to development and are subject to protection from any new building footprint or material change to the campus landscape under the definitions and regulations of the University Zoning Ordinance.

*Component 1* areas identify and protect landscape areas that have an ecological or historic aspect. *Component 2* areas identify and protect green space that provides a unique programmatic or research land use.

### **DISTRICT CHARACTERISTICS AND PLANNING GUIDELINES**

#### **Historic and Historic Contributing**

The park-like setting that students, alumni, and visitors endear is directly influenced by the historic campus landscape(s). The West Circle Drive area from Grand River Avenue to the Red Cedar River and from the Beal Entrance to the Lab Row building group is the site of the

original built campus founded in 1855. The prairie-style landscape and informal grouping of buildings provides a picturesque campus park, unique among American college campuses. The trees and undulating lawns within the West Circle Drive area were recognized by O.C. Simonds as “sacred space” (circa 1905). The historic landscape shall be protected from future development and enhanced through landscape stewardship.

### **Park-Like Academic**

The academic districts of campus, comprised of a diverse collection of trees and shrubs, lend themselves to supporting teaching, research, and student life activities.

The Prairie School patterning of “sun openings” is prevalent in the North Academic District. This concept consists of creating alternating areas of deep shade and sunlit lawns that are reminiscent of the indigenous savannah that once covered much of the northern Midwest. The trees and undulating lawns within the Circle Campus area were recognized by O.C. Simonds as “sacred space” (circa 1905) and remain so today.

The extensive roadway network and large building massing within the Central Academic District creates an intensive built aesthetic that requires substantial landscape interventions to mitigate for human comfort. Much of what a pedestrian perceives is strongly influenced by the adjacent roadways and architectural design. Therefore, a strong streetscape and front-yard landscape is essential to mitigate these elements and to properly transition the landscape scale from the roadway to the building entrances. Special focus should be on safety and providing a pleasant experience and sense of scale along pedestrian walkways.

The South Academic District is defined by large architectural structures that collectively do not provide a sense of place or a pleasant relationship with the pedestrian realm. This requires that the landscape mitigate for this poor composition; creating a comfortable pedestrian environment. The landscape needs to be strengthened to better unify the visual aesthetic and to provide places for social interaction, academic collaboration, and personal health/relaxation.

### **Park-Like Residential**

Approximately 17,500 students call the University’s seven residential neighborhoods home. The landscape design for the neighborhoods must address a wide variety of issues including: scale transition, screening of service functions, providing room for informal recreation, and more intimate areas for relaxation and mental restoration. Transitioning the scale from large roadway spaces to more intimate building entrances is important in the front yards. Recreational amenities and areas for personal relaxation are appropriate in the back yards.

### **Park-Like Service**

The Campus Land Use Master Plan strategizes consolidating support services south of the Canadian Northern railroad tracks. The landscape should reinforce this area as a vital part of the overall campus, while acknowledging its purpose and functionality.

## **Athletic and Recreation**

Intercollegiate athletics and intramural recreation activities require a landscape capable of handling large volumes of people, heavy foot traffic, and various activities that can stress the landscape (e.g., event parking on intramural fields). While the venues themselves require a very utilitarian design, this must be balanced with the fact that they are also gateways for thousands of visitors each year, and as such, must present a high quality aesthetic that properly represents the University along with mitigating for each venue's architectural scale.

## **River Corridor**

The Red Cedar River is an iconic campus element that is a core attribute of the campus park. It is an active natural system that is constantly impacting the campus landscape. A large collection of ash trees inhabit the river corridor and with the ongoing destruction by the Emerald Ash Borer, most of these will not survive. The University needs to invest in the river corridor from a historic, cultural, aesthetic, and environmental perspective.

## **Signature Landscapes**

Signature landscapes are focal points throughout the campus. They vary in size and purpose; are associated with a heightened design aesthetic; utilize high-quality materials; are often associated with public art, fountains, or historic features; include irrigation; and, demand elevated maintenance standards and practices. They are important for encouraging community interaction and can be considered as eddies within the larger campus park wherein people can slow down and enjoy a more intimate sense of scale. Signature landscapes require either priority or elite maintenance levels.

## **Gardens and Arboreta**

These areas are delineated and overseen by a curator or established administrative group. They are actively designed, planted, and managed - not naturalized. A primary goal for the use of these areas is education and research with elite maintenance required to sustain the integrity of the plantings and collections.

## **Natural Areas**

The natural areas are designated by Board of Trustee action and are overseen by the Campus Natural Areas Committee. They are classified into three categories of protection and academic use based on their overall quality and their potential for sustained use. They serve as protected examples of Michigan's native landscape and wildlife.

## **Conservation and Demonstration**

Conservation and demonstration areas are built landscapes for the purpose of storm water management, education, and research. They are actively designed, planted, and managed, requiring a moderate amount of maintenance to ensure integrity of the plantings and operation of the storm water management features.

## **Campus Entrances**

Campus Entrances (vehicular and pedestrian) provide an opportunity to strengthen the University's image and reinforce its reputation for excellence. High quality landscape design and maintenance practices (elite and priority) are required. Consistent signage and a homogeneous landscape treatment are desirable for assisting visitor wayfinding and the efficient movement of goods and services.

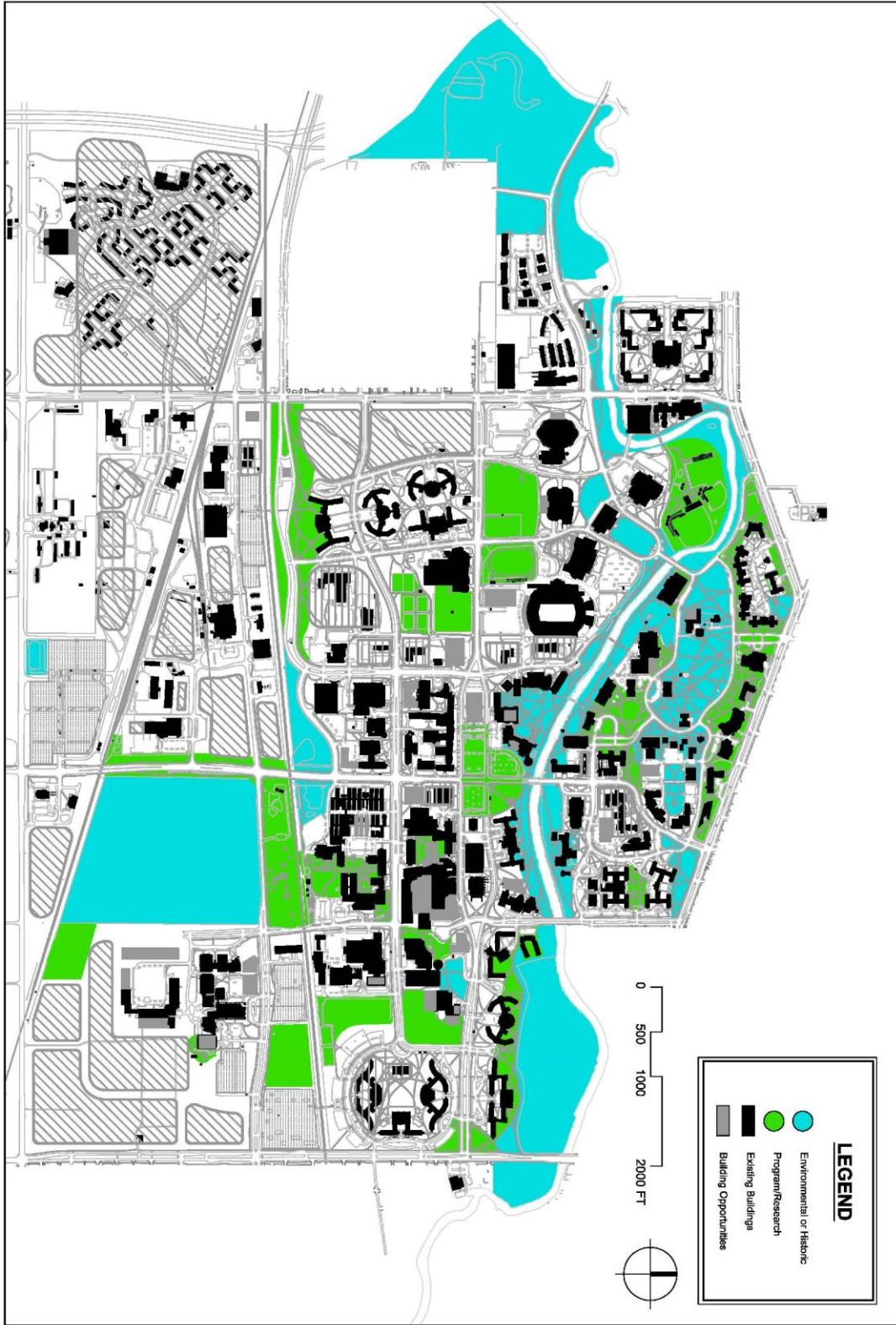
## **Streetscapes**

The campus roadway system provides approximately 18 miles of opportunity to establish a quality image for the University. The streetscape (the landscape setting adjacent to the road) must address numerous design issues, including safety, image, environmental sustainability, and wayfinding all within what is often a harsh growing condition.









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SCALE	AS SHOWN
DESIGNER	

**PROTECTED GREEN SPACE**

**MICHIGAN STATE UNIVERSITY** Infrastructure Planning and Facilities



## **MOTORIZED CIRCULATION FRAMEWORK**

### **NEAR-TERM PRIORITIES**

The following motorized projects and initiatives are anticipated in the near term (five- to ten-year planning horizon).

- Develop a comprehensive mobility plan that addresses the movement of people to, from, and around campus.
- Extend Wilson Road to Hagadorn Road with the goal of improving safety by reducing traffic within the East Residential District, relocating parking adjacent to Fee Hall, and providing a signalized intersection to aid pedestrians crossing Hagadorn Road.
- Remove Parking Ramp #2 when engineering analysis directs and restore the river floodplain. Address parking replacement consistent with the mobility plan (under development) and planning principles guiding more parking on the campus periphery.

### **LONGER-TERM OPPORTUNITIES**

The following projects should be considered in long-range planning to address various motorized circulation issues.

- Redesign the Farm Lane and Grand River intersection including a new traffic signal at East Circle Drive to improve operational efficiency and safety.
- Reconstruct the section of Farm Lane between North and South Shaw Lane to provide appropriate vehicular turning movements and bike lanes.
- Extend Bogue Street through the South Academic District as a two-lane roadway with center-turn lane as required.
- Redesign the Bogue Street and Service Road intersection, removing the awkward transition from the boulevard cross section.
- Extend East Crescent Road through the former Agriculture Exposition site.
- Reconfigure Red Cedar Road to provide greater distance from the Kalamazoo and Beal Streets intersection.
- Close the segment of North Shaw Lane between Red Cedar and Science Roads to private automobile traffic, change South Shaw Lane into a two-way street, and relocate surface parking.

## **NON-MOTORIZED CIRCULATION**

### **NEAR-TERM PRIORITIES**

The following non-motorized projects and initiatives are anticipated in the near term (five- to ten-year planning horizon).

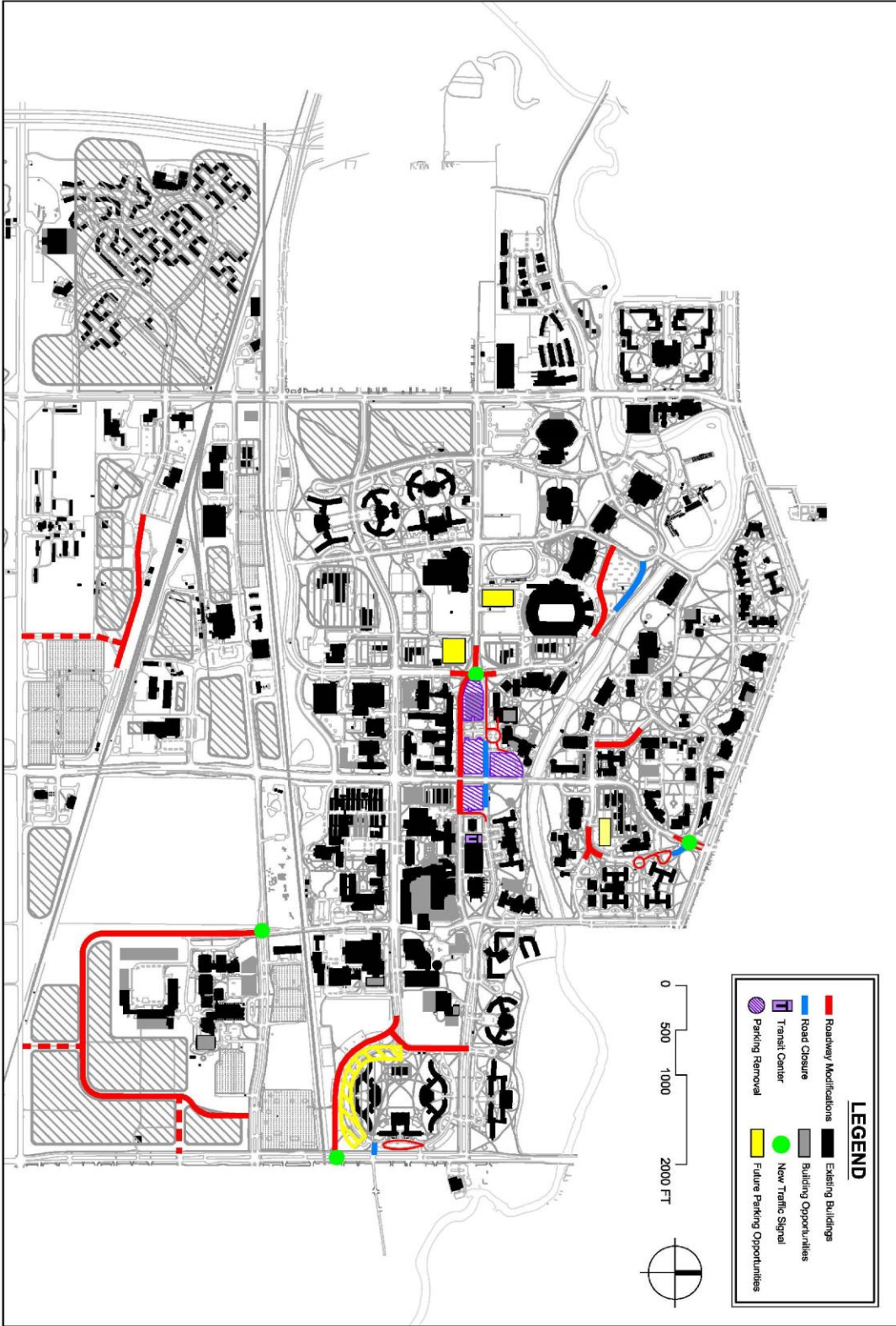
- Continue to design all roadways as complete streets in accordance with State of Michigan Public Acts 134 and 135 of 2010 wherein all roadways are to be planned and designed to meet the needs of all legal users.
- Continue to meet the needs of persons with disabilities working through the Accessibility Committee that includes IPF, FPSM, RCPD, RHS, and athletics.
- Continue bringing crosswalk pathway ramps up to ADA standards (e.g., maximum slopes, truncated domes).
- Provide infrastructure to support a suite of transportation options that discourage single-occupancy vehicle trips to, from, and around campus (e.g., CATA Clean Commute and Zipcar car-sharing programs) in alignment with the mobility plan.
- Fund and construct the final segments of the MSU River Trail.
- Enhance and expand bicycle parking within the academic and residential districts with a goal to accommodate 30% of the resident population.

## **LONGER-TERM OPPORTUNITIES**

The following projects should be considered in long-range planning to address various non-motorized circulation issues.

- Study and implement site improvements at the southwest corner of Chestnut Road and Shaw Lane to curtail existing J-walking and to enhance pedestrian safety.
- Convert dirt-worn paths to permanent walkways.
- Continue working with the City of Lansing, City of East Lansing, and Meridian Township on interconnecting campus and municipal trail systems.
- Construct an accessible route from Bessey Hall under the Farm Lane Bridge to Auditorium Field.
- Continue working with the City of East Lansing on reconstructing the Bogue Street bridge over the river and incorporating the MSU River Trail along the river and east of Van Hoosen Hall.
- Develop a system of sidewalk shared-use pathways along major bicycle travel routes not adjacent to roadways.
- Establish a pedestrian and bicycle pathway along with the North Shaw Lane road closure between Red Cedar Road and Science Drive.
- Consider protected bike lanes where enhanced safety is required.

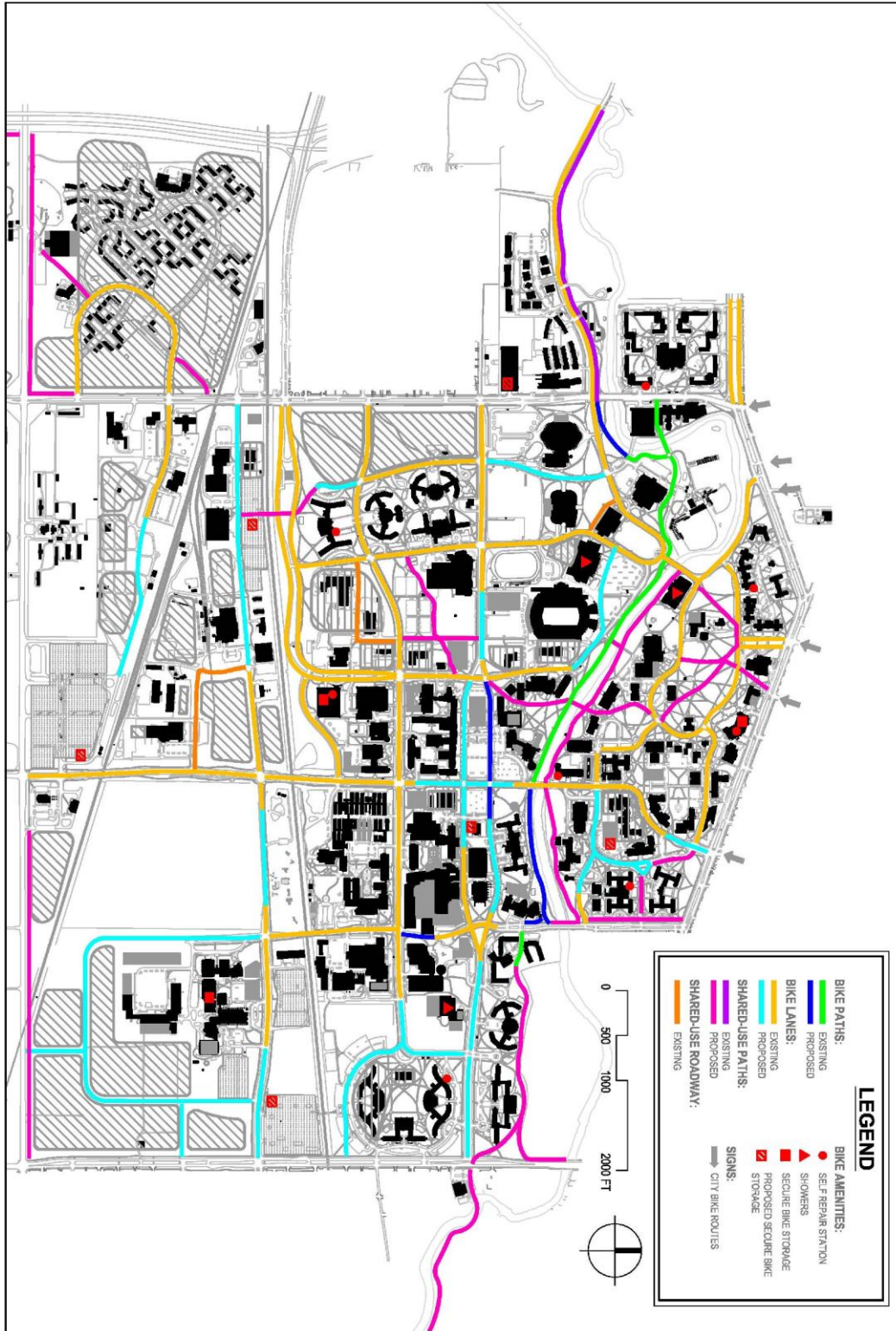




	
DATE	2/18/2011
SCALE	AS SHOWN
DESIGNED BY	INFRASTRUCTURE PLANNING AND FACILITIES
CHECKED BY	INFRASTRUCTURE PLANNING AND FACILITIES
APPROVED BY	INFRASTRUCTURE PLANNING AND FACILITIES
PROJECT NO.	1041

**MOTORIZED  
CIRCULATION FRAMEWORK**

**MICHIGAN STATE UNIVERSITY** Infrastructure Planning and Facilities



**LEGEND**

**BIKE PATHS:**  
 EXISTING (Green line)  
 PROPOSED (Blue line)

**BIKE LANES:**  
 EXISTING (Yellow line)  
 PROPOSED (Orange line)

**SHARED-USE PATHS:**  
 EXISTING (Purple line)  
 PROPOSED (Pink line)

**SHARED-USE ROADWAY:**  
 EXISTING (Light blue line)  
 PROPOSED (Dark blue line)

**BIKE AMENITIES:**  
 SELF REPAIR STATION (Red circle)  
 SHOWERS (Red triangle)  
 SECURE BIKE STORAGE (Red square)  
 PROPOSED SECURE BIKE STORAGE (Red square with checkmark)

**SIGNS:**  
 CITY BIKE ROUTES (Arrow)

 <p>1 OF 1</p>	<p><b>NON - MOTORIZED CIRCULATION FRAMEWORK</b></p>	<p><b>MICHIGAN STATE UNIVERSITY</b>   Infrastructure Planning and Facilities</p>
	<p>CAPITAL PROJECT NO. _____</p> <p>DATE _____</p> <p>BY _____</p> <p>FOR _____</p> <p>SCALE _____</p> <p>REVISIONS _____</p>	

# MICHIGAN STATE UNIVERSITY ZONING ORDINANCE

## CERTIFICATION

I HEREBY CERTIFY that the following Act to Codify Regulations Affecting Campus Planning, Designating Land Area Uses, Establishing a Campus Land Use Master Plan, and Providing for the Administration Thereof, for the Benefit and Protection of the Property of the Board of Trustees of Michigan State University, was passed by the Board of Trustees at a meeting duly called and held at East Lansing, Michigan, on the seventeenth day of February, 2017, at which a quorum was present and voted.

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Bill Beekman, Vice President and Secretary of the Board of Trustees

Dated: April 19, 1968

Revision Date: February 17, 2017

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AN ACT TO CODIFY REGULATIONS AFFECTING CAMPUS PLANNING, DESIGNATING LAND AREA USES, ESTABLISHING A MASTER PLAN, AND PROVIDING FOR THE ADMINISTRATION THEREOF, FOR THE BENEFIT AND PROTECTION OF THE PROPERTY OF THE BOARD OF TRUSTEES OF MICHIGAN STATE UNIVERSITY, PURSUANT TO AUTHORITY CONFERRED BY THE CONSTITUTION AND STATUTES OF THE STATE OF MICHIGAN.

#### **1.00 - STATEMENT OF PURPOSE**

- 1.1 The Board of Trustees of Michigan State University believes that regulations are essential to preserve the campus environment of spaciousness and landscape beauty, promote order and unity, and minimize congestion on the property governed by the Board, and to provide guidelines affecting the improvement thereof, the Board hereby adopts the following provisions:

#### **2.00 - EFFECTIVENESS OF ORDINANCE**

- 2.1 This ordinance became effective at 12:01 a.m. September 1, 1968. This Ordinance is coordinated with and becomes an integral part of the Campus Land Use Master Plan and all updates.

#### **3.00 – AUTHORITY OF BOARD OF TRUSTEES**

- 3.1 This ordinance is enacted by the Board of Trustees of Michigan State University pursuant to, and in accordance with, the authority and responsibility of said Board contained in the Constitution of the State of Michigan and Public Acts relating thereto.

#### **4.00 – DEFINITIONS**

- 4.1 The term “institution” pertains specifically to Michigan State University at East Lansing, Michigan.
- 4.2 The term “academic use” encompasses any building or portion thereof that is used for the teaching of classes, research facilities and administrative and operational facilities, or any similar function and use for the educational and research purposes of the institution.
- 4.3 The term “building” refers to principal-use and accessory structures, and all attached architectural elements including stairs, areaways, ramps, and retaining walls that are integral to the design and function of the building.
- 4.4 The term “accessory building” includes a subordinate building or portion of a main building, located within the same block or district, which is secondary in nature to the principal use.
- 4.5 The term “accessory use” refers to a use that is subordinate to the principal use within the same block or district, comprising purposes secondary in nature to those of the principal use.
- 4.6 The term “ground area of a block” includes all land from the centerline of adjacent streets and roads or abutting use area established by description on the Zoning District Map. Such lines may be established by curb lines, section lines, institution property lines, other property lines, or those lines as shown and described on the Zoning District Map which is a part of this ordinance.
- 4.7 The term “curb line” is defined by the back of curb on either side of a road that is used for the general movement of motor vehicles, and encompasses those existing or extended, but does not include the curb line of parking bays, bus turnouts or similar variations. If no curb exists, the location of a proposed curb will be considered as the curb line. All setbacks are measured from the back of curb.
- 4.8 The term “nearest roadway” means that road which lies nearest any side of a building that is used for the general movement of motor vehicles, and does not include service drives or related variations thereof.

- 4.9 The term “non-conforming use” includes any building or land occupied and used at the time of the original adoption of this zoning ordinance which use does not conform with the use regulations established therefore.
- 4.10 The term “coverage” refers to the amount of ground area covered by buildings within a specified block of land defined by the adjacent roadway centerlines.
- 4.11 The term “protected green space” includes any land area essentially kept in an open lawn, wooded or landscaped condition, that is free of parking and buildings, and reserved for the general use and enjoyment by students, faculty, staff, alumni, and the general public. Protected green space areas may include recreation fields, walkways, bicycle paths, bicycle parking, bridges, sculpture, pavilions, amphitheaters and other related structures that are compatible with the purpose of these areas.
- 4.12 The term “service use” refers to any building or land area that is primarily involved with utility services and functions, and other accessory uses essential to the operation of the institution.
- 4.13 The terms “story” and “story height” refer to that portion of a building that is included between the surface of any floor and the surface of the next floor above it.
- 4.14 The term “setback” refers to the dimension between a building and the adjacent roadway curb line.
- 4.15 The terms “footprint” and “footprint change” refers to existing buildings or the modification of any existing building’s footprint.
- 4.16 The term “material change to the campus landscape” refers to all new buildings. It also refers to new constructed site features deemed of significant impact to the campus landscape by the Zoning Administrator.

**5.00 - GENERAL REGULATIONS**

- 5.1 Footprint Change: The modification of any existing building footprint requires BOT review.
- 5.2 Material Change to the Campus Landscape: All new buildings require BOT review. Any non-building project that has a significant impact on the campus landscape, and not already covered by the BOT project authorization process, will be identified by the Zoning Administrator and referred to the Vice President and Secretary of the Board of Trustees for clarification regarding the need for BOT action.
- 5.3 Districts Established: In order to regulate and restrict the location of buildings and other structures erected or altered for specified uses, the campus is hereby divided into the following Zoning Districts:
 

AC-N	North Academic District
AC-C	Central Academic District
AC-S	South Academic District
R	Residential District
AR	Athletic and Recreation District
SE	Service District
N	Natural Areas District
AG	Agricultural and Natural Resources District
MU-N	North Mixed Use District
MU-S	South Mixed Use District
- 5.4 Area Boundaries: The boundaries of Zoning Districts are established on the Zoning District Map attached hereunto and made a part hereof, and all notations, references, and other descriptions contained thereon are made a part of this ordinance.
- 5.5 Compliance: Except as herein provided, no land shall be used, and no building shall be erected, converted, enlarged, reconstructed, or substantially altered, which does not comply with the district regulations established by this ordinance for the district in which the building or land is located.

- 5.6 Essential Utility Services: Structures required in conjunction with the distribution and maintenance of essential utility services may be permitted in any location when approved by the Zoning Administrator (refer to Section 7.0 Administration), who shall submit a determination of necessity to the Vice President and Secretary of the Board of Trustees for clarification regarding the need for BOT action.
- 5.7 Except as provided herein, no buildings, roads or parking spaces shall be located in the Protected Green Space areas designated within the Zoning Districts as shown on the Protected Green Space map. The design of all elements proposed within the protected areas shall be approved by the Zoning Administrator. Such elements include walkways, bridges, sculpture, pavilions, amphitheaters, bicycle storage, essential utility services, storm water management features, and modifications to pre-existing disallowed elements such as parking lots, roads, and service drives. Expansion of existing buildings that abut Protected Green Space areas requires approval from the Zoning Administrator and shall be allowed only when other alternatives are proven to be unreasonable and when the expansion will only cause a minor change in the character of the Protected Green Space.

## **6.00 - DISTRICT REGULATIONS**

- 6.1 “AC” Academic Districts: The following provisions shall apply to the Academic Districts AC-N, AC-C, and AC-S:
- 6.1.1 Permitted Uses: Permitted Uses for the AC Districts shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the AC Districts unless otherwise provided for in this ordinance:
- 6.1.1.1 Principal Uses and Buildings:
- Teaching facilities, including classrooms, lecture halls, instructional laboratories, and similar facilities used for general educational purposes.
  - Research laboratories, general student facilities other than student housing, faculty offices, public/private business incubators, and facilities for administrative and operational functions.
- 6.1.1.2 Accessory Uses and Buildings:
- Surface parking and parking garages.
  - Uses and structures necessary for the operation of the principal uses and buildings.
  - Recreation fields and buildings.
  - Solar or wind power generation and storage.
- 6.1.2 Building Height Requirements:
- 6.1.2.1 All buildings shall be limited to six stories of occupied space plus any required rooftop equipment in Districts AC-C and AC-S, and to four stories of occupied space plus any required rooftop equipment in AC-N.
- 6.1.2.2 Teaching facilities shall be located in the lowest floors possible, and not above the fourth floor of any building.
- 6.1.2.3 Parking garages shall be limited to six parking levels above and including the ground level.

- 6.1.2.4 Accessory buildings shall be no higher than necessary to accommodate the proposed use, and under no circumstances shall exceed the height of principal uses in the district.
- 6.1.3 Set Back Requirements: All buildings shall be set back a minimum of 40 feet from the nearest curb line of the nearest roadway.
- 6.1.4 Building Coverage:
- 6.1.4.1 Buildings shall not cover more than 30% of the ground area of any given block within the AC District unless otherwise specified herein.
- 6.1.4.2 Buildings shall not cover more than 35% of the ground area of any given block within the specific area defined by Red Cedar Road to the west, the CN Railroad to the south, the Residential District to the east, and South Shaw Lane to the north unless otherwise specified herein.
- 6.1.4.3 Buildings shall not cover more than 42% of the ground area for the block of land defined by South Shaw Lane to the north, Farm Lane to the west, Wilson Road to the south, and the Residential District to the east.
- 6.2 “R” Residential District: The following provisions shall apply to the Residential District:
- 6.2.1 Permitted Uses: Permitted Uses for the “R” District shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the R District unless otherwise provided for in this ordinance:
- 6.2.1.1 Principal Uses and Buildings:
- Residence halls and facilities used to provide associated services, such as food services, and health and wellness.
  - Multiple unit dwellings.
  - Primary schools, daycare centers, playgrounds, and other outdoor recreation facilities.
- 6.2.1.2 Accessory Uses and Buildings:
- Limited academic uses.
  - Limited retail, recreation, and commercial uses to serve residents.
  - Other uses necessary to the operation of the principal uses and buildings.
  - Surface parking and parking garages.
- 6.2.2 Building Height Requirements:
- 6.2.2.1 Residence Halls: Height shall be limited to six stories plus any required rooftop equipment.
- 6.2.2.2 Accessory Uses and Buildings: Height shall be limited to three stories.
- 6.2.2.3 Parking garages shall be limited to six levels above and including the ground level.
- 6.2.3 Set Back Requirements: All buildings shall have a set back of a minimum distance of 50 feet from the nearest curb line of the nearest roadway.

- 6.2.4 Building Coverage: Buildings shall not cover more than 20% of the ground area within any given block in the “R” Districts.
- 6.3 “AR” Athletic and Recreation District: The following provision shall apply to the Athletic and Recreation District:
- 6.3.1 Permitted Uses: Permitted Uses for the “AR” District shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the AR District unless otherwise provided for in this ordinance:
- 6.3.1.1 Principal Uses and Buildings:
- Facilities related to recreational, intramural, and sporting events.
- 6.3.1.2 Accessory Uses and Buildings:
- Other uses and buildings necessary to the operation of the principal uses and buildings.
  - Surface parking and parking garages.
- 6.3.2 Building Height Requirements:
- 6.3.2.1 All buildings shall be limited to four stories in height or to the height necessary to accommodate the particular sport function and design.
- 6.3.2.2 Parking garages shall be limited to six levels above and including the ground level.
- 6.3.3 Set Back Requirements:
- 6.3.3.1 All recreation, intramural, or sport fields and courts shall have a set back of a minimum distance of 50 feet from the nearest curb line of the nearest roadway.
- 6.3.3.2 All buildings shall have a set back of a minimum distance of 65 feet from the nearest curb line of the nearest roadway.
- 6.3.4 Building Coverage: Buildings shall not cover more than 25% of the ground area within any given block in the “AR” District.
- 6.4 “SE” Service District: The following provisions shall apply to the Service District:
- 6.4.1 Permitted Uses: Permitted Uses for the “SE” District shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the SE District unless otherwise provided for in this ordinance:
- 6.4.1.1 Principal Uses and Buildings:
- Power plants, including solar or wind energy generation and storage.
  - Maintenance centers.
  - Water storage and treatment facilities.
  - Institutional stores.
  - Storage facilities.

- Recycling facilities.
- Office buildings.

6.4.1.2 Accessory Uses and Buildings:

- Other uses and buildings necessary or similar to the principal uses and buildings pertinent to the operation of the institution.
- Surface parking.

6.4.2 Building Height Requirements: All buildings shall be limited to six stories in height. The only exceptions allowed will be power plant chimneys, water storage, and similar accessory uses.

6.4.3 Set Back Requirements: All buildings shall have a set back of a minimum distance of 50 feet from the nearest curb line of the nearest roadway or from the edge of the pavement where curbs do not exist.

6.4.4 Building Coverage: Buildings shall not cover more than 30% of the ground area within any given block of the “SE” District.

6.5 “N” Natural Areas District: The following provisions shall apply to the Natural Areas District:

6.5.1 Permitted Uses: Permitted Uses for the “N” District shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the N District unless otherwise provided for in this ordinance:

6.5.1.1 Principal Uses:

- Permitted uses include observation, nature study, teaching, research and demonstration in Category I, II, and III Natural Areas as defined by the Campus Natural Areas Committee and shown on the most recent version of the MSU Campus Natural Areas Map and Zoning District Map.

6.5.2 Special Provisions: The Natural Areas District shall remain undeveloped. No buildings, roads, improved walks, utility, or other structures and alterations are permitted in the Natural Areas District.

6.6 “AG” Agricultural and Natural Resources District: The following provisions shall apply to the Agriculture and Natural Resources District:

6.6.1 Permitted Uses: Permitted Uses for the “AG” District shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the AG District unless otherwise provided for in this ordinance:

6.6.1.1 Principal Uses and Buildings:

- Program-related single-family dwellings.
- Agricultural and natural resources research, teaching, and outreach facilities for plants and animals.
- Farm areas for experimentation, teaching, outreach, and cultivation or production of plants and animals for institutional use.
- Associated agricultural facilities not operated by the institution.

6.6.1.2 Accessory Uses and Buildings:

- Other uses and buildings that are necessary to the operation of the principal uses and buildings, such as silos, wells, and pumping stations. Potable water storage and treatment, and maintenance facilities shall be allowed.
- Surface parking.
- Solar or wind energy generation and storage.

6.6.2 Building Height Requirements: All buildings shall be limited to a height of two stories, with the exception of silos and similar structures that are necessarily of greater height.

6.6.3 Set Back Requirements: All buildings shall be set back a minimum distance of 100 feet from the centerline of the nearest public roadway.

6.7 “MU” Mixed Use Districts: The following provisions shall apply to the two independent mixed-use districts, MU-N and MU-S:

6.7.1 Permitted Uses: Permitted uses for the MU Districts shall include the following Principal and Accessory Uses. All uses not listed are not permitted in the MU Districts unless otherwise provided for in this ordinance:

6.7.1.1 Principal Uses and Buildings MU-N:

- Teaching facilities, including classrooms, lecture halls, instructional laboratories, general student facilities, and similar facilities used for general educational purposes.
- Research laboratories.
- Public/private business incubators.
- Student and visiting faculty housing.
- Faculty and administrative offices.
- Health and wellness facilities.
- Academic support.
- Auxiliary retail services.

6.7.1.2 Principal Uses and Buildings MU-S

- Research laboratories.
- Public/private business incubators.
- Student, faculty, and alumni retirement housing.
- Administrative offices.
- Health and wellness facilities.
- Auxiliary retail services.

6.7.1.3 Accessory Uses and Buildings:

- Surface parking and parking garages.
- Uses and structures that are necessary to the operation of the principal uses and buildings.
- Athletic/recreation fields and buildings.
- Solar or wind energy generation and storage.

6.7.2 Building Height Requirements:

- 6.7.2.1 All buildings in the MU-N District shall be limited to six stories of occupied space plus any required rooftop equipment. Buildings within the MU-S District that incorporate parking, office space, and housing space are limited to eight stories of occupied space plus any required rooftop equipment.
- 6.7.2.2 Teaching facilities shall be located in the lowest floors possible, and not above the fourth floor of any building.
- 6.7.2.3 Parking garages shall be limited to six parking levels above and including the ground level.
- 6.7.2.4 Accessory buildings shall be no higher than necessary to accommodate the proposed use and under no circumstances shall exceed the height of the principal use buildings in the district.

6.7.3 Set Back Requirements: All buildings shall be set back a minimum of 40 feet from the nearest curb line of the nearest roadway.

6.7.4 Building Coverage: Buildings shall not cover more than 30% of the ground area of any given block within the MU-N District and 35% of the ground area of any given block within the MU-S District.

6.8 Non-Conforming Uses and Buildings:

6.8.1 Non-conforming uses: The use of any land area existing at the time of the adoption of this ordinance, or any amendment to it, may be continued although such use does not conform to the provisions thereof.

6.8.2 Non-conforming buildings: The use of any building existing at the time of the adoption of this ordinance, or any amendment to it, may be continued although such use does not conform to the provisions thereof. Such non-conforming use may be extended throughout a building.

**7.00 - ADMINISTRATION**

7.1 The Campus Planner shall serve in the role of Zoning Administrator and shall be responsible for the administration of this ordinance, the District Map, the Protected Green Space map, and the Campus Land Use Master Plan, all as hereafter amended and modified.

7.1.1 The Campus Planner is specifically granted authority to:

7.1.1.1 Assure that University projects are in compliance with the University Zoning Ordinance and Campus Land Use Master Plan, including Campus Planning Principles.

7.1.1.2 Approve the extension, reduction, revision, or interpretation of a zoning district or building coverage block boundary.

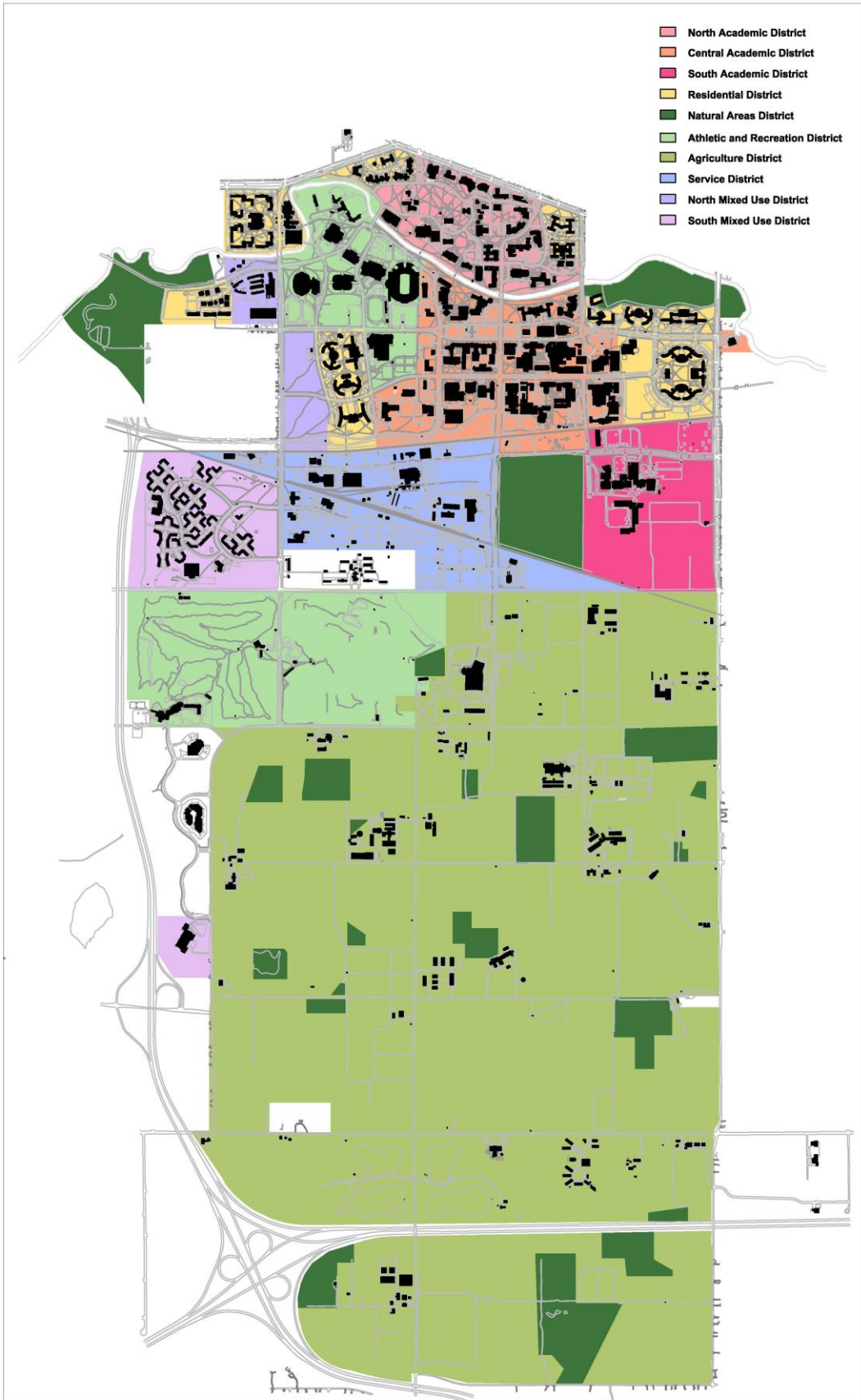


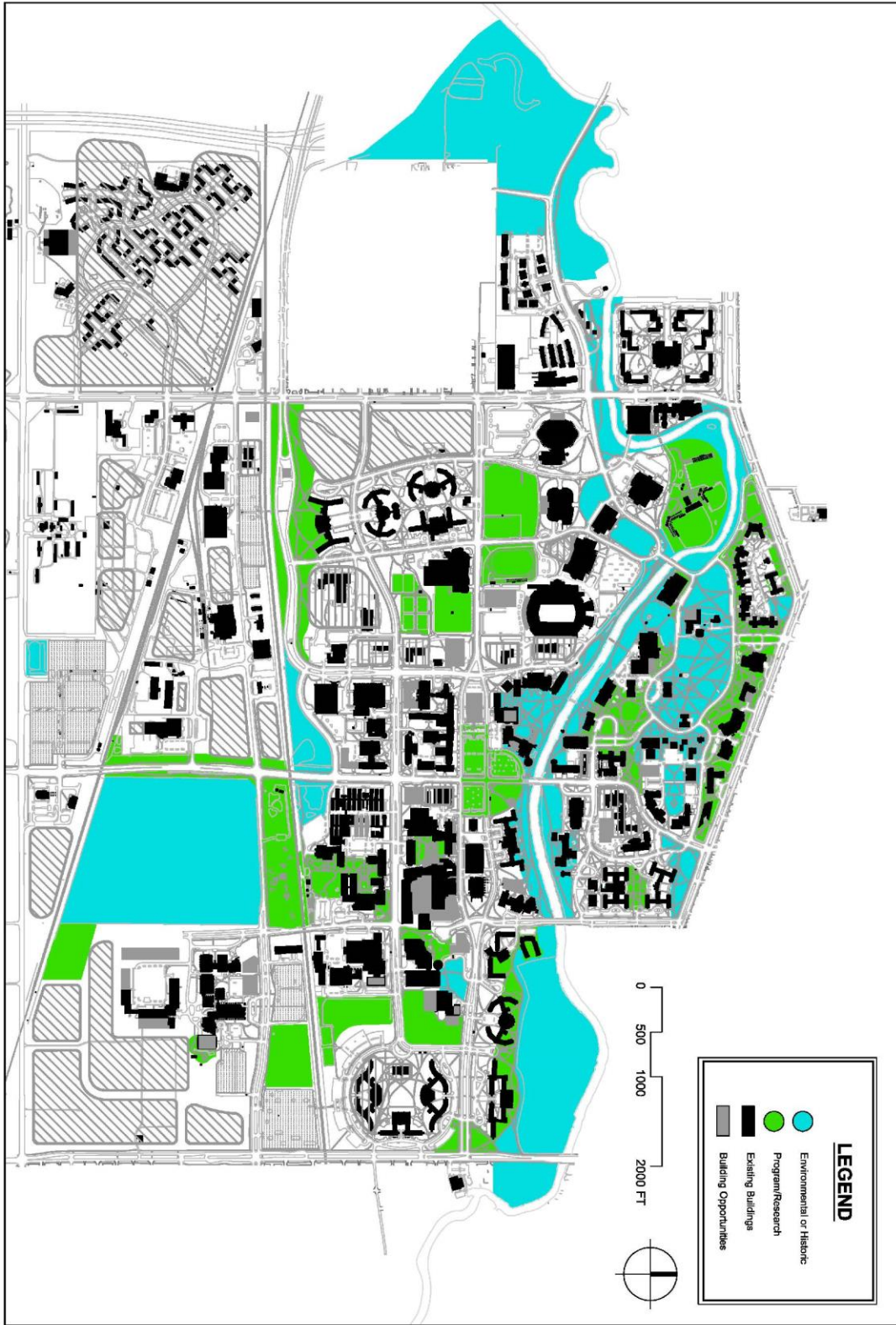
- 7.1.1.3 Approve the reconstruction of a non-conforming building that has been destroyed or partially destroyed.
- 7.1.1.4 Approve the erection and use of a building or the use of land in any location for an essential utility service, or allow for the enlargement, extension or relocation of these existing uses.
- 7.1.1.5 Interpret the provisions of this ordinance where the street layout actually on the ground varies from the street layout as shown on the Zoning District Map.
- 7.1.1.6 Determine whether the use of a planned building is permitted in the district in which it is to be erected, and whether the planned building will cause the ground area covered by the buildings to exceed the maximum percentage allowed within the block in which it is to be erected.
- 7.1.1.7 Approve the design of all building and site features, modifications, and improvements within Protected Green Space areas when a variance has been authorized.
- 7.1.1.8 Refer any specific request for a variance to the Vice President and Secretary of the Board of Trustees for clarification regarding the need for BOT action.

## **8.00 - AMENDMENTS**

8.1 This ordinance may be amended through approval by the Board of Trustees.

End





CAPITAL PROJ. NO.	
LAND	
ANNO-	
REC'D	
CNCL	
ISS.	
DATE	11/18/11
SCALE	AS SHOWN
DESIGNER	

**PROTECTED GREEN SPACE**

**MICHIGAN STATE UNIVERSITY** Infrastructure Planning and Facilities

Fall 2021

# Appendix C: Buildings by Age

Fiscal Year 2023  
Budget Information

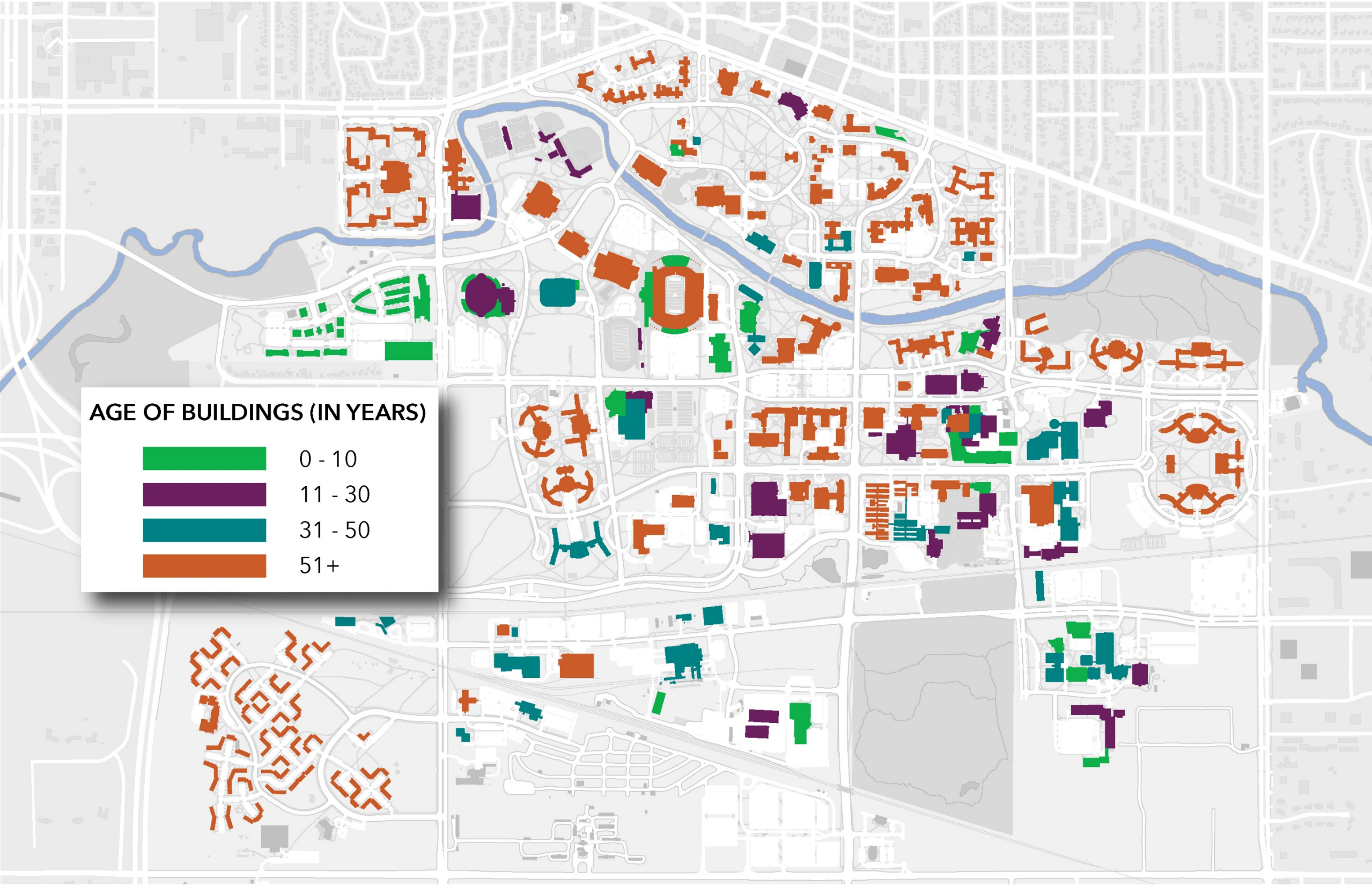
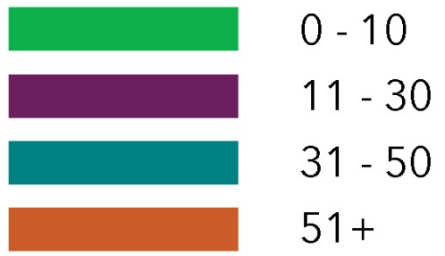
5-Year Capital Plan

Submitted By:

MICHIGAN STATE  
UNIVERSITY



**AGE OF BUILDINGS (IN YEARS)**



Fall 2021

# **Appendix D: Student Enrollments Fall Semester 2021**

**Fiscal Year 2023  
Budget Information**

5-Year Capital Plan

Submitted By:

**MICHIGAN STATE  
UNIVERSITY**

# Fall Semester 2021 Enrollment Report



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# Preface

- This report provides historical enrollment related data for the latest term.
- Official enrollment counts for the Fall semester are taken at the quarter of the term.
- Residency in this report is by citizenship and geographic origin at the time of admission.
- MSU and the MSU College of Law fully integrated as of Fall 2020<sup>^</sup>. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

<sup>^</sup> Note: See <https://msutoday.msu.edu/news/2020/college-of-law-completes-full-integration>.

# Total University Enrollment Trend

<b>Term</b>	<b>MSU</b>
<b>Fall 2011</b>	<b>48,933</b>
<b>Fall 2012</b>	<b>49,928</b>
<b>Fall 2013</b>	<b>50,335</b>
<b>Fall 2014</b>	<b>50,977</b>
<b>Fall 2015</b>	<b>51,428</b>
<b>Fall 2016</b>	<b>51,195</b>
<b>Fall 2017</b>	<b>50,871</b>
<b>Fall 2018</b>	<b>51,127</b>
<b>Fall 2019</b>	<b>50,578</b>
<b>Fall 2020*</b>	<b>49,695</b>
<b>Fall 2021</b>	<b>49,659</b>

# First Time Undergraduate Apps, Admits and Enrollments

Type	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Applications**	28,416	30,340	31,479	33,211	35,303	37,480	36,143	33,129	44,321	45,426	50,629
Admits	20,728	21,340	21,610	21,950	23,400	24,641	25,860	25,733	31,522	34,663	42,150
Enrollments***	7,782	8,154	7,842	7,842	7,929	7,911	8,066	8,395	8,527	8,192	9,028
Entering Class****	7,824	8,201	7,887	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065
Admit Ratio	72.9%	70.3%	68.6%	66.1%	66.3%	65.7%	71.5%	77.7%	71.1%	76.3%	83.3%
Yield	37.5%	38.2%	36.3%	35.7%	33.9%	32.1%	31.2%	32.6%	27.1%	23.6%	21.4%

\*\* Note: Applications beginning in 2019 reflect first time use of the Common App (see <https://www.commonapp.org>).

\*\*\* Note: Enrollments are First Time in the Fall semester.

\*\*\*\*Note: Entering Class are First Time in the Fall semester plus those that began in the preceding Summer session.

# Honors College Fall Semester Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
<b>New Honors</b>	483	531	528	610	648	667	641	724	678	606	678
<b>% of Entering Class</b>	6.2%	6.5%	6.7%	7.7%	8.1%	8.4%	7.9%	8.6%	7.9%	7.4%	7.5%
<b>Total Honors</b>	2,723	2,793	2,912	3,174	3,639	3,686	3,757	4,002	3,947	4,230	4,363
<b>% of Undergraduate</b>	7.4%	7.5%	7.7%	8.2%	9.3%	9.4%	9.6%	10.2%	10.1%	11.0%	11.5%
<b>New Academic Scholars**</b>	155	166	186	198	199	186	94	148	176	159	147
<b>% of Entering Class</b>	2.0%	2.0%	2.4%	2.5%	2.5%	2.3%	1.2%	1.8%	2.1%	1.9%	1.6%
<b>Entering Class</b>	7,824	8,201	7,887	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065
<b>Undergraduate***</b>	36,675	37,454	37,988	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,090

\*\* Note: The criteria for inclusion in the Academic Scholars Program was changed in 2017 resulting in a short-term decrease in the number of new members.

\*\*\* Note: Data includes only degree-seeking Bachelor's students.

# Entering Class by Race/Ethnicity

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Hispanic/Latinx (of any race)	286	290	304	355	373	341	399	480	515	525	600
Two or more races	213	199	213	256	238	266	252	276	317	324	326
African American/Black	558	511	590	608	656	619	634	699	610	601	571
Asian	308	335	380	369	417	451	451	560	608	685	810
Hawaiian/Pacific Islander	6	8	3	9	3	7	4	3	3	3	7
American Indian/Alaska Native	14	12	13	16	18	16	11	14	14	17	14
<b>Total Students of color</b>	<b>1,385</b>	<b>1,355</b>	<b>1,503</b>	<b>1,613</b>	<b>1,705</b>	<b>1,700</b>	<b>1,751</b>	<b>2,032</b>	<b>2,067</b>	<b>2,155</b>	<b>2,328</b>
Other/Unknown/Blank	73	89	58	42	42	40	32	41	170	175	368
White	5,341	5,509	5,022	5,043	5,204	5,130	5,344	5,655	5,677	5,524	5,945
<b>Domestic Total</b>	<b>6,799</b>	<b>6,953</b>	<b>6,583</b>	<b>6,698</b>	<b>6,951</b>	<b>6,870</b>	<b>7,127</b>	<b>7,728</b>	<b>7,914</b>	<b>7,854</b>	<b>8,641</b>
International	1,025	1,248	1,304	1,185	1,016	1,080	981	714	656	374	424
<b>Total</b>	<b>7,824</b>	<b>8,201</b>	<b>7,887</b>	<b>7,883</b>	<b>7,967</b>	<b>7,950</b>	<b>8,108</b>	<b>8,442</b>	<b>8,570</b>	<b>8,228</b>	<b>9,065</b>
<b>PERCENT BY DOMESTIC</b>											
Total Students of Color	20.4%	19.5%	22.8%	24.1%	24.5%	24.7%	24.6%	26.3%	26.1%	27.4%	26.9%
Other/Unknown/Blank	1.1%	1.3%	0.9%	0.6%	0.6%	0.6%	0.4%	0.5%	2.1%	2.2%	4.3%
White	78.6%	79.2%	76.3%	75.3%	74.9%	74.7%	75.0%	73.2%	71.7%	70.3%	68.8%
<b>PERCENT BY TOTAL</b>											
Total Students of Color	17.7%	16.5%	19.1%	20.5%	21.4%	21.4%	21.6%	24.1%	24.1%	26.2%	25.7%
Other/Unknown/Blank	0.9%	1.1%	0.7%	0.5%	0.5%	0.5%	0.4%	0.5%	2.0%	2.1%	4.1%
White	68.3%	67.2%	63.7%	64.0%	65.3%	64.5%	65.9%	67.0%	66.2%	67.1%	65.6%
International	13.1%	15.2%	16.5%	15.0%	12.8%	13.6%	12.1%	8.5%	7.7%	4.5%	4.7%

# Entering Class\*\* Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Female	4,104	4,236	4,082	4,148	4,265	4,179	4,195	4,415	4,428	4,453	4,852
% of Total	52.5%	51.7%	51.8%	52.6%	53.5%	52.6%	51.7%	52.3%	51.7%	54.1%	53.5%
Michigan	5,914	5,990	5,622	5,593	5,742	5,526	5,859	6,508	6,435	6,528	6,952
% of Total	75.6%	73.0%	71.3%	71.0%	72.1%	69.5%	72.3%	77.1%	75.1%	79.3%	76.7%
U.S. Non-Mich	885	963	961	1,105	1,209	1,344	1,268	1,220	1,479	1,326	1,689
% of Total	11.3%	11.7%	12.2%	14.0%	15.2%	16.9%	15.6%	14.5%	17.3%	16.1%	18.6%
International	1,025	1,248	1,304	1,185	1,016	1,080	981	714	656	374	424
% of Total	13.1%	15.2%	16.5%	15.0%	12.8%	13.6%	12.1%	8.5%	7.7%	4.5%	4.7%
Entering Class Total	7,824	8,201	7,887	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065

\*\* Note: Entering Class are First Time in the Fall semester plus those that began in the preceding Summer session.

# Transfer Students Source of Enrollments

Institution Type	2011	2012	2013	2014**	2015	2016	2017	2018	2019	2020*	2021
Two Year Institutions	948	907	995	1,109	1,135	1,118	1,085	1,050	849	796	864
% of Total	61.8%	62.6%	65.8%	66.5%	68.0%	68.2%	65.0%	66.0%	67.1%	63.5%	67.7%
Four Year Institutions	587	542	518	559	535	522	584	540	417	457	412
% of Total	38.2%	37.4%	34.2%	33.5%	32.0%	31.8%	35.0%	34.0%	32.9%	36.5%	32.3%
<b>Total</b>	<b>1,535</b>	<b>1,449</b>	<b>1,513</b>	<b>1,668</b>	<b>1,670</b>	<b>1,640</b>	<b>1,669</b>	<b>1,590</b>	<b>1,266</b>	<b>1,253</b>	<b>1,276</b>

\*\* Note: Beginning Fall, 2014, the methodology for counting transfer students changed to better align with IPEDS federal reporting. New transfer student headcounts will now include Fall semester plus the preceding Summer session.

# Entering Undergraduate\*\* Enrollment\*\*

Group	2011	2012	2013	2014***	2015	2016	2017	2018	2019	2020*	2021
Female	4,802	4,941	4,811	4,925	5,083	4,980	5,016	5,131	5,025	5,085	5,486
% of Total	51.3%	51.2%	51.2%	51.6%	52.7%	51.9%	51.3%	51.1%	51.1%	53.6%	53.1%
Michigan	7,298	7,277	6,941	7,088	7,274	7,035	7,364	7,988	7,596	7,693	8,104
% of Total	78.0%	75.4%	73.8%	74.2%	75.5%	73.4%	75.3%	79.6%	77.2%	81.1%	78.4%
U.S. Non-Mich	922	999	1,016	1,171	1,286	1,414	1,335	1,301	1,557	1,388	1,796
% of Total	9.9%	10.4%	10.8%	12.3%	13.3%	14.7%	13.7%	13.0%	15.8%	14.6%	17.4%
International	1,139	1,374	1,443	1,292	1,077	1,141	1,078	743	683	400	441
% of Total	12.2%	14.2%	15.4%	13.5%	11.2%	11.9%	11.0%	7.4%	6.9%	4.2%	4.3%
Total	9,359	9,650	9,400	9,551	9,637	9,590	9,777	10,032	9,836	9,481	10,341

\*\* Note: Entering Undergraduates include the Entering Class (Summer and First-Time Fall) and Transfers.

\*\*\* Note: Beginning Fall, 2014, the methodology for counting transfer students changed to better align with IPEDS federal reporting. New transfer student headcounts will now include Fall semester plus the preceding Summer session.



# Undergraduate Enrollment by Race/Ethnicity

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Hispanic/Latinx (of any race)	1,245	1,319	1,357	1,475	1,573	1,629	1,704	1,888	2,009	2,166	2,352
Two or more races	691	777	904	1,032	1,075	1,155	1,203	1,268	1,302	1,393	1,417
African American/Black	2,612	2,514	2,538	2,594	2,700	2,724	2,841	2,930	2,905	2,947	2,802
Asian	1,539	1,551	1,606	1,679	1,816	1,946	2,040	2,237	2,386	2,577	2,818
Hawaiian/Pacific Islander	24	26	22	31	30	36	32	32	27	19	23
American Indian/Alaska Native	131	100	83	80	87	88	75	71	71	75	67
<b>Total Students of color</b>	<b>6,242</b>	<b>6,287</b>	<b>6,510</b>	<b>6,891</b>	<b>7,281</b>	<b>7,578</b>	<b>7,895</b>	<b>8,426</b>	<b>8,700</b>	<b>9,177</b>	<b>9,479</b>
Other/Unknown/Blank	520	476	418	382	363	330	284	266	373	479	797
White	26,282	26,437	26,262	26,207	26,231	26,169	26,201	26,714	26,502	26,179	26,078
<b>Domestic Total</b>	<b>33,044</b>	<b>33,200</b>	<b>33,190</b>	<b>33,480</b>	<b>33,875</b>	<b>34,077</b>	<b>34,380</b>	<b>35,406</b>	<b>35,575</b>	<b>35,835</b>	<b>36,354</b>
International	3,631	4,254	4,798	5,306	5,268	5,008	4,616	4,017	3,601	2,656	2,220
<b>Total</b>	<b>36,675</b>	<b>37,454</b>	<b>37,988</b>	<b>38,786</b>	<b>39,143</b>	<b>39,085</b>	<b>38,996</b>	<b>39,423</b>	<b>39,176</b>	<b>38,491</b>	<b>38,574</b>
<b>PERCENT BY DOMESTIC</b>											
Total Students of Color	18.9%	18.9%	19.6%	20.6%	21.5%	22.2%	23.0%	23.8%	24.5%	25.6%	26.1%
Other/Unknown/Blank	1.6%	1.4%	1.3%	1.1%	1.1%	1.0%	0.8%	0.8%	1.0%	1.3%	2.2%
White	79.5%	79.6%	79.1%	78.3%	77.4%	76.8%	76.2%	75.5%	74.5%	73.1%	71.7%
<b>PERCENT BY TOTAL</b>											
Total Students of Color	17.0%	16.8%	17.1%	17.8%	18.6%	19.4%	20.2%	21.4%	22.2%	23.8%	24.6%
Other/Unknown/Blank	1.4%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	0.7%	1.0%	1.2%	2.1%
White	71.7%	70.6%	69.1%	67.6%	67.0%	67.0%	67.2%	67.8%	67.6%	68.0%	67.6%
International	9.9%	11.4%	12.6%	13.7%	13.5%	12.8%	11.8%	10.2%	9.2%	6.9%	5.8%

# Undergraduate Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
<b>Female</b>	18,695	18,763	19,064	19,468	19,728	19,778	19,704	19,985	19,824	19,760	19,906
<b>% of Total</b>	51.0%	50.1%	50.2%	50.2%	50.4%	50.6%	50.5%	50.7%	50.6%	51.3%	51.6%
<b>Michigan</b>	29,966	30,053	29,864	29,768	29,751	29,509	29,546	30,521	30,464	30,799	30,786
<b>% of Total</b>	81.7%	80.2%	78.6%	76.7%	76.0%	75.5%	75.8%	77.4%	77.8%	80.0%	79.8%
<b>U.S. Non-Mich</b>	3,080	3,147	3,326	3,712	4,124	4,568	4,834	4,885	5,111	5,036	5,568
<b>% of Total</b>	8.4%	8.4%	8.8%	9.6%	10.5%	11.7%	12.4%	12.4%	13.0%	13.1%	14.4%
<b>International</b>	3,631	4,254	4,798	5,306	5,268	5,008	4,616	4,017	3,601	2,656	2,220
<b>% of Total</b>	9.9%	11.4%	12.6%	13.7%	13.5%	12.8%	11.8%	10.2%	9.2%	6.9%	5.8%
<b>Total</b>	36,675	37,454	37,988	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,574

# New Graduate\*\* Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Female	997	1,032	980	945	978	976	1,005	954	1,010	1,019	1,017
% of Total	55.5%	55.9%	55.1%	54.1%	54.9%	55.3%	54.2%	56.1%	54.7%	56.5%	55.4%
Michigan	835	820	779	755	742	748	772	705	846	919	879
% of Total	46.4%	44.4%	43.8%	43.2%	41.6%	42.4%	41.7%	41.4%	45.8%	51.0%	47.9%
U.S. Non-Mich	483	498	452	540	579	550	603	582	581	607	551
% of Total	26.9%	27.0%	25.4%	30.9%	32.5%	31.1%	32.5%	34.2%	31.4%	33.7%	30.0%
International	480	529	546	451	461	468	478	414	421	277	406
% of Total	26.7%	28.6%	30.7%	25.8%	25.9%	26.5%	25.8%	24.3%	22.8%	15.4%	22.1%
Total	1,798	1,847	1,777	1,746	1,782	1,766	1,853	1,701	1,848	1,803	1,836

\*\* Note: Data includes only new degree-seeking Master's and PhD students.

# New Graduate Professional Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
<b>Female</b>	<b>502</b>	<b>478</b>	<b>461</b>	<b>458</b>	<b>478</b>	<b>470</b>	<b>479</b>	<b>472</b>	<b>486</b>	<b>447</b>	<b>498</b>
<b>% of Total</b>	<b>51.4%</b>	<b>49.8%</b>	<b>50.6%</b>	<b>51.2%</b>	<b>52.5%</b>	<b>53.5%</b>	<b>56.0%</b>	<b>57.6%</b>	<b>57.5%</b>	<b>56.3%</b>	<b>59.1%</b>
<b>Michigan</b>	<b>672</b>	<b>664</b>	<b>669</b>	<b>660</b>	<b>617</b>	<b>627</b>	<b>600</b>	<b>591</b>	<b>613</b>	<b>590</b>	<b>537</b>
<b>% of Total</b>	<b>68.9%</b>	<b>69.2%</b>	<b>73.4%</b>	<b>73.8%</b>	<b>67.7%</b>	<b>71.3%</b>	<b>70.1%</b>	<b>72.1%</b>	<b>72.5%</b>	<b>74.3%</b>	<b>63.8%</b>
<b>U.S. Non-Mich</b>	<b>258</b>	<b>247</b>	<b>204</b>	<b>184</b>	<b>241</b>	<b>214</b>	<b>217</b>	<b>198</b>	<b>211</b>	<b>188</b>	<b>278</b>
<b>% of Total</b>	<b>26.4%</b>	<b>25.8%</b>	<b>22.4%</b>	<b>20.6%</b>	<b>26.5%</b>	<b>24.3%</b>	<b>25.4%</b>	<b>24.1%</b>	<b>25.0%</b>	<b>23.7%</b>	<b>33.0%</b>
<b>International</b>	<b>46</b>	<b>48</b>	<b>38</b>	<b>50</b>	<b>53</b>	<b>38</b>	<b>39</b>	<b>31</b>	<b>21</b>	<b>16</b>	<b>27</b>
<b>% of Total</b>	<b>4.7%</b>	<b>5.0%</b>	<b>4.2%</b>	<b>5.6%</b>	<b>5.8%</b>	<b>4.3%</b>	<b>4.6%</b>	<b>3.8%</b>	<b>2.5%</b>	<b>2.0%</b>	<b>3.2%</b>
<b>Total</b>	<b>976</b>	<b>959</b>	<b>911</b>	<b>894</b>	<b>911</b>	<b>879</b>	<b>856</b>	<b>820</b>	<b>845</b>	<b>794</b>	<b>842</b>

# Graduate\*\* Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
<b>Female</b>	5,089	5,143	5,067	4,968	5,027	4,970	4,836	4,780	4,670	4,610	4,560
<b>% of Total</b>	56.6%	56.9%	57.0%	56.4%	56.2%	56.5%	56.0%	56.4%	57.0%	56.9%	57.3%
<b>Michigan</b>	4,577	4,473	4,300	4,119	4,026	3,858	3,766	3,577	3,498	3,561	3,506
<b>% of Total</b>	50.9%	49.5%	48.4%	46.7%	45.0%	43.9%	43.6%	42.2%	42.7%	43.9%	44.1%
<b>U.S. Non-Mich</b>	2,131	2,213	2,226	2,400	2,652	2,730	2,710	2,743	2,712	2,759	2,652
<b>% of Total</b>	23.7%	24.5%	25.1%	27.2%	29.7%	31.1%	31.4%	32.3%	33.1%	34.0%	33.3%
<b>International</b>	2,289	2,351	2,359	2,294	2,260	2,203	2,156	2,161	1,984	1,787	1,798
<b>% of Total</b>	25.4%	26.0%	26.6%	26.0%	25.3%	25.1%	25.0%	25.5%	24.2%	22.0%	22.6%
<b>Total</b>	8,997	9,037	8,885	8,813	8,938	8,791	8,632	8,481	8,194	8,107	7,956

\*\*Note: Data includes students at all graduate levels, degree and non-degree-seeking.

# Graduate Professional Enrollment

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Female	1,688	1,768	1,755	1,733	1,750	1,728	1,741	1,774	1,811	1,775	1,827
% of Total	51.8%	51.4%	50.7%	51.3%	52.3%	52.1%	53.7%	55.0%	56.5%	57.3%	58.4%
Michigan	2,375	2,488	2,546	2,537	2,482	2,460	2,364	2,356	2,360	2,300	2,231
% of Total	72.8%	72.4%	73.5%	75.1%	74.2%	74.1%	72.9%	73.1%	73.6%	74.3%	71.3%
U.S. Non-Mich	794	830	792	691	703	709	729	727	728	700	810
% of Total	24.3%	24.1%	22.9%	20.5%	21.0%	21.4%	22.5%	22.6%	22.7%	22.6%	25.9%
International	92	119	124	150	162	150	150	140	120	97	88
% of Total	2.8%	3.5%	3.6%	4.4%	4.8%	4.5%	4.6%	4.3%	3.7%	3.1%	2.8%
Total	3,261	3,437	3,462	3,378	3,347	3,319	3,243	3,223	3,208	3,097	3,129

# Total Enrollment by Race/Ethnicity

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
Hispanic/Latinx (of any race)	1,646	1,724	1,766	1,918	2,077	2,117	2,216	2,432	2,564	2,783	2,985
Two or more races	871	960	1,097	1,253	1,310	1,384	1,455	1,514	1,561	1,662	1,682
African American/Black	3,202	3,115	3,165	3,259	3,394	3,397	3,468	3,548	3,527	3,572	3,438
Asian	2,114	2,120	2,196	2,251	2,366	2,517	2,607	2,855	3,020	3,244	3,538
Hawaiian/Pacific Islander	32	34	26	47	47	58	55	52	42	28	28
American Indian/Alaska Native	196	153	149	144	129	136	123	116	125	125	113
<b>Total Students of color</b>	<b>8,061</b>	<b>8,106</b>	<b>8,399</b>	<b>8,872</b>	<b>9,323</b>	<b>9,609</b>	<b>9,924</b>	<b>10,517</b>	<b>10,839</b>	<b>11,414</b>	<b>11,784</b>
Other/Unknown/Blank	901	881	772	692	665	626	587	551	620	690	1,010
White	33,959	34,217	33,883	33,663	33,750	33,599	33,438	33,741	33,414	33,051	32,759
<b>Domestic Total</b>	<b>42,921</b>	<b>43,204</b>	<b>43,054</b>	<b>43,227</b>	<b>43,738</b>	<b>43,834</b>	<b>43,949</b>	<b>44,809</b>	<b>44,873</b>	<b>45,155</b>	<b>45,553</b>
International	6,012	6,724	7,281	7,750	7,690	7,361	6,922	6,318	5,705	4,540	4,106
<b>Total</b>	<b>48,933</b>	<b>49,928</b>	<b>50,335</b>	<b>50,977</b>	<b>51,428</b>	<b>51,195</b>	<b>50,871</b>	<b>51,127</b>	<b>50,578</b>	<b>49,695</b>	<b>49,659</b>
<b>PERCENT BY DOMESTIC</b>											
Total Students of Color	18.8%	18.8%	19.5%	20.5%	21.3%	21.9%	22.6%	23.5%	24.2%	25.3%	25.9%
Other/Unknown/Blank	2.1%	2.0%	1.8%	1.6%	1.5%	1.4%	1.3%	1.2%	1.4%	1.5%	2.2%
White	79.1%	79.2%	78.7%	77.9%	77.2%	76.7%	76.1%	75.3%	74.5%	73.2%	71.9%
<b>PERCENT BY TOTAL</b>											
Total Students of Color	16.5%	16.2%	16.7%	17.4%	18.1%	18.8%	19.5%	20.6%	21.4%	23.0%	23.7%
Other/Unknown/Blank	1.8%	1.8%	1.5%	1.4%	1.3%	1.2%	1.2%	1.1%	1.2%	1.4%	2.0%
White	69.4%	68.5%	67.3%	66.0%	65.6%	65.6%	65.7%	66.0%	66.1%	66.5%	66.0%
International	12.3%	13.5%	14.5%	15.2%	15.0%	14.4%	13.6%	12.4%	11.3%	9.1%	8.3%

# Enrollment by Student Level

Level	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021
<b>Undergraduate</b>	36,675	37,454	37,988	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,574
% of Total	74.9%	75.0%	75.5%	76.1%	76.1%	76.3%	76.7%	77.1%	77.5%	77.5%	77.7%
<b>Graduate</b>	8,997	9,037	8,885	8,813	8,938	8,791	8,632	8,481	8,194	8,107	7,956
% of Total	18.4%	18.1%	17.7%	17.3%	17.4%	17.2%	17.0%	16.6%	16.2%	16.3%	16.0%
<b>Graduate Professional</b>	3,261	3,437	3,462	3,378	3,347	3,319	3,243	3,223	3,208	3,097	3,129
% of Total	6.7%	6.9%	6.9%	6.6%	6.5%	6.5%	6.4%	6.3%	6.3%	6.2%	6.3%
<b>Total</b>	48,933	49,928	50,335	50,977	51,428	51,195	50,871	51,127	50,578	49,695	49,659



# Enrollment by College

College	Fall 2021 Headcount	Rank
Broad College of Business	7,521	1
Social Science	6,886	2
Engineering	6,612	3
Natural Science	6,394	4
Agriculture & Natural Resources	3,918	5
Communication Arts and Sciences	3,531	6
Education	3,045	7
Lyman Briggs College	1,941	8
Arts and Letters	1,622	9
Osteopathic Medicine	1,380	10
James Madison College	1,152	11
Nursing	1,322	12
Veterinary Medicine	1,026	13
Human Medicine	944	14
MSU College of Law	746	15
Music	553	16
Residential College in Arts & Humanities	163	17

\*\*Note: Not included above are students in Neighborhood Student Success Collaborative (545) and Lifelong Education (358).

Fall 2021

# **Appendix E: Building Condition Assessment**

**Fiscal Year 2023  
Budget Information**

5-Year Capital Plan

Submitted By:

**MICHIGAN STATE  
UNIVERSITY**

MSU Capital Renewal Maintenance by Building FY2022-2027 (Including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
1407 S HARRISON	0128	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$310,000
1407 S HARRISON	0128	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY REPAIRS AND CAULKING	\$110,000
					<b>\$420,000</b>

ABRAMS PLANETARIUM	0165	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC #1	\$790,000
ABRAMS PLANETARIUM	0165	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROLS	\$150,000
					<b>\$940,000</b>

ALUMNI CHAPEL	0030	2025	BUILDING SYSTEMS	ALUMNI CHAPEL - REPLACE ORIGINAL STEAM WATER HEATER	\$60,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR WATERPROOFING AND MASONRY RESTORATION	\$100,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING ENVELOPE	STAINED GLASS WINDOW REPAIR AND PROTECTION	\$40,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPLACEMENT/RESTORATION, BUILT-UP ROOFING, SLATE REPAIR, COPPER REPAIRS, ROOFS 2 AND 3	\$40,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LIGHTING PANELS IN BASEMENT STORAGE ROOM, REPLACE OLD INCANDESCENT FIXTURES	\$20,000
					<b>\$260,000</b>

ANGELL UNIV SERVICES	0133	2023	BUILDING SYSTEMS	REPLACE UNIVERSITY SERVICES ATS	\$20,000
ANGELL UNIV SERVICES	0133	2024	BUILDING SYSTEMS	SECURITY & EMERGENCY SYSTEMS/ TIME CLOCKS - FIRE ALARM	\$130,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE EXTERIOR DOOR HARDWARE AND SELECTED INTERIOR DOORS.	\$40,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	\$40,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$1,140,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$230,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS	\$70,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMPS	\$70,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MECHANICAL CHILLER	\$340,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE VAV SYSTEM	\$240,000
					<b>\$2,320,000</b>

ANTHONY HALL	0132	2022	BUILDING SYSTEMS	CHILLER AND COOLING TOWER REPLACEMENT - #1 ABC955	\$2,180,000
ANTHONY HALL	0132	2026	BUILDING SYSTEMS	COOLING TOWER (DAIRY)	\$350,000
ANTHONY HALL	0132	2026	BUILDING SYSTEMS	COOLING TOWER (PROCESS)	\$310,000
ANTHONY HALL	0132	2026	BUILDING SYSTEMS	REPLACE ABSORBERS AND COOLING TOWERS	\$2,080,000
ANTHONY HALL	0132	2027	BUILDING SYSTEMS	COOLING TOWERS	\$390,000
ANTHONY HALL	0132	2027	BUILDING SYSTEMS	COOLING TOWERS	\$390,000
ANTHONY HALL	0132	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$310,000
ANTHONY HALL	0132	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 3	\$310,000
ANTHONY HALL	0132	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 4	\$310,000
ANTHONY HALL	0132	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 5	\$310,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	\$2,470,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$340,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FAUCETS AND TRIM, URINAL FLUSH VALVES AND TOILET FLUSH VALVES	\$40,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ANTHONY ATS	\$20,000
					<b>\$9,810,000</b>

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
AUDITORIUM	0031	2022	BUILDING ENVELOPE	REPLACE ROOF #15	\$50,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STAGE LIFT ELEVATOR	\$1,080,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	AUDITORIUM ROOFTOP UNIT	\$220,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER HEATER	\$70,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM - LAVATORY FAUCETS AND TRIM, TOILET SEATS AND	\$40,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROLS	\$200,000
					<b>\$1,660,000</b>

BAKER HALL	0182	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY REPAIRS AND CAULKING	\$60,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIR TREADS IN BAKER HALL	\$70,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAVATORY FAUCETS AND TRIM, TOILET FLUSH VALVES, URINAL FLUSH VALVES, AND TOILET SEATS	\$50,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER SHUT OFF VALVES AND WATER METER WHERE WATER ENTERS BUILDING	\$30,000
					<b>\$210,000</b>

BERKEY HALL	0002	2025	BUILDING SYSTEMS	REPLACE CONTROL CABINET 4 (MEC)	\$40,000
BERKEY HALL	0002	2025	BUILDING SYSTEMS	REPLACE CONTROL CABINET 5 (MEC)	\$40,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR WOOD DOORS	\$150,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MECHANICAL CHILLER AND CONDENSER	\$440,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BRANCH CIRCUIT WIRING W/ CLOTH INSULATION	\$30,000
					<b>\$700,000</b>

BESSEY HALL	0079	2022	BUILDING ENVELOPE	RENEW/REPLACE GLASS, CURTAIN WALL, STANDARD	\$7,170,000
BESSEY HALL	0079	2022	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$3,640,000
BESSEY HALL	0079	2023	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$20,000
BESSEY HALL	0079	2023	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$20,000
BESSEY HALL	0079	2023	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$20,000
BESSEY HALL	0079	2024	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
BESSEY HALL	0079	2024	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
BESSEY HALL	0079	2024	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$20,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE CHILLER - STEAM ABSORPTION	\$620,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PNEUMATIC	\$60,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$470,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$30,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$500,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$20,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$50,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$50,000
BESSEY HALL	0079	2024	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$60,000
BESSEY HALL	0079	2025	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$40,000
BESSEY HALL	0079	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$80,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
BESSEY HALL	0079	2026	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
BESSEY HALL	0079	2026	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$630,000
BESSEY HALL	0079	2027	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
BESSEY HALL	0079	2027	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	\$90,000
BESSEY HALL	0079	2027	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	\$90,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - ATTACHED ACOUSTICAL TILE	\$280,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$130,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$120,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM LAVATORY FAUCETS AND TRIM, TOILET FLUSH VALVES,	\$110,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$830,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$20,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - CLASSROOM	\$2,170,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$20,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	\$1,350,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$130,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$340,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$180,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	\$90,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - CLASSROOM	\$560,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - CLASSROOM	\$760,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - CLASSROOM	\$1,330,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$20,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$50,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - CLASSROOM	\$2,850,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$80,000
BESSEY HALL	0079	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN/PAINT EXTERIOR WALL SURFACES	\$30,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$160,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	EXTERIOR STAIR AND RAILING UPGRADES	\$20,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR	\$80,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	IMPROVE RESTROOM ACCESSIBILITY	\$30,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$70,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$90,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL AIR-COOLED CHILLER	\$580,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$1,080,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$260,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$60,000
BESSEY HALL	0079	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT -HVAC & PLUMBING SYSTEMS	\$150,000

**\$27,880,000**

BIOCHEMISTRY	0168	2024	BUILDING SYSTEMS	REPLACE DUAL SYSTEM ELEVATOR 1 & 2	\$1,000,000
BIOCHEMISTRY	0168	2025	BUILDING SYSTEMS	REPLACE DOMESTIC WATER BOOSTER PUMP DUPLEX, VFD DRIVE	\$70,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR PAINTING	\$20,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTEROR ALUMINUM DOORS AND HARDWARE	\$40,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR AREAS.	\$30,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BOOSTER COILS, VAV AND VALVES THAT SERVE ANIMAL ROOMS	\$20,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	COOLING TOWERS - CT3	\$3,250,000

**\$4,430,000**

BIOMEDICAL PHYSICAL SCIENCES	0160	2022	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	\$40,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2022	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	\$40,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE AHU 5	\$170,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE BPS ATS	\$20,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FAUCETS, FLUSH VALVES AND TOILET SEATS	\$70,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FIBERGLASS WATERLESS URINALS	\$40,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE WATER SOFTENER MINERAL IN WATER SOFTENERS	\$40,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2026	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$500,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2026	BUILDING SYSTEMS	REPLACE ELEVATOR 2	\$500,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2026	BUILDING SYSTEMS	REPLACE ELEVATOR 3	\$500,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2026	BUILDING SYSTEMS	REPLACE ELEVATOR 4	\$500,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2027	BUILDING SYSTEMS	REAPLCE 3 PUMPS IN SUB BASEMENT. 1 FOR FLOOR DRAINS, 2 FOR DRAIN TILES, 3 " TRASH PUMPS 5HP	\$40,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2027	BUILDING SYSTEMS	REPLACE 1250 TON CHILLER #1 AND COOLING TOWER IN B-235	\$2,460,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2027	BUILDING SYSTEMS	REPLACE 1250 TON CHILLER #2 AND COOLING TOWER.	\$2,460,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2027	BUILDING SYSTEMS	REPLACE 1250 TON CHILLER #3 AND COOLING TOWER	\$2,460,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2027	BUILDING SYSTEMS	REPLACE PROCESS CHILLER SERVING THE ANIMAL AREA	\$260,000
BIOMEDICAL PHYSICAL SCIENCES	0160	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 CHILLED WATER PUMPS FOR CAR ANIMAL AREA	\$110,000
BIOMEDICAL PHYSICAL SCIENCES	0160	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR AREAS.	\$30,000

**\$10,240,000**

BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$170,000
BRESLIN STUDENT EVENTS CENTER	0069	2023	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$1,520,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, INTERIOR	\$90,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$280,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE FAN - AXIAL, RETURN	\$30,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE FIRE PUMP - ELECTRIC, 750 GPM, 4" ID	\$80,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$40,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$40,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$10,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$70,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	RENEW/REPLACE WALK-IN REFRIGERATOR OR FREEZER STRUCTURE	\$190,000
BRESLIN STUDENT EVENTS CENTER	0069	2025	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$40,000
BRESLIN STUDENT EVENTS CENTER	0069	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM	\$970,000
BRESLIN STUDENT EVENTS CENTER	0069	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$10,000
BRESLIN STUDENT EVENTS CENTER	0069	2027	BUILDING SYSTEMS	RENEW/REPLACE HOOD, KITCHEN, COMMERCIAL WITH FIRE SUPPRESSION	\$50,000
BRESLIN STUDENT EVENTS CENTER	0069	2027	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$80,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$30,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$80,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$160,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$40,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COOLING TOWER	\$500,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DAYLIGHT DIMMING LIGHTING CONTROL	\$70,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS	\$40,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$1,280,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE SPRINKLER SYSTEM - DRY	\$890,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GENERATOR - DIESEL	\$300,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER SUMP PUMP -SUBMERSIBLE PUMP	\$10,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$130,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, KITCHEN, COMMERCIAL WITH FIRE SUPPRESSION	\$40,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - GYMNASIUM	\$140,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - GYMNASIUM	\$1,440,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$490,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, COUNTER	\$10,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$50,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	\$30,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$130,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SPA FILTER, AVG	\$10,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$50,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER TANK	\$50,000
BRESLIN STUDENT EVENTS CENTER	0069A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ELEVATOR INSTALLATION	\$540,000
BRESLIN STUDENT EVENTS CENTER	0069A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ACCESSIBILITY UPGRADES FOR RESTROOMS Z5 AND Z6	\$20,000
BRESLIN STUDENT EVENTS CENTER	0069A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	WATER FOUNTAIN UPGRADES	\$70,000
BRESLIN STUDENT EVENTS CENTER	0069A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$280,000
					<b>\$10,620,000</b>
BROAD ART MUSEUM	0228	2027	BUILDING SYSTEMS	REPLACE WATER SOFTENER	\$70,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
					\$70,000
BUSINESS COLLEGE	0080	2022	BUILDING INTERIOR	RUBBER TREADS - STAIRS RENEWAL	\$30,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	AIR COMPRESSOR - AC-1 AND AC-2 RENEWAL	\$40,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	CHILLED WATER DISTRIBUTION PIPING RENEWAL	\$800,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	CUSTODIAL/UTILITY SINKS - FLOOR RENEWAL	\$30,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	PERIMETER HEAT SYSTEM - HYDRONIC FIN TUBE RENEWAL	\$1,780,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	PRIMARY CHILLED WATER PUMPS - CHW P1 AND P2	\$120,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	REPLACE CHILLER	\$200,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	SANITARY WASTE RENEWAL	\$470,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	WATER COOLERS - WALL-MOUNTED SINGLE-HEIGHT RENEWAL	\$20,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	WATER DIST COMPLETE RENEWAL	\$570,000
BUSINESS COLLEGE	0080	2023	BUILDING SYSTEMS	SUMP PUMP - SANITARY SUMP PUMP 1 & 2 RENEWAL	\$40,000
BUSINESS COLLEGE	0080	2024	BUILDING INTERIOR	CARPETING - TILE RENEWAL	\$410,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	DISTRIBUTION EQUIPMENT - PANELBOARDS, TRANSFORMERS AND FEEDERS - 480V & 208/120V RENEWAL	\$1,490,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	ELEVATOR - 5	\$440,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	HOT WATER HEATING PUMPS - HWC-1B & 2B RENEWAL	\$70,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	HYDRAULIC PASSENGER ELEV #4 RENEWAL	\$340,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	LIGHTING - INTERIOR - FLUORESCENT FIXTURES RENEWAL	\$830,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	LIGHTING - INTERIOR - INCANDESCENT FIXTURES RENEWAL	\$30,000
BUSINESS COLLEGE	0080	2025	BUILDING SYSTEMS	MAIN ELECTRICAL SERVICE - 800A 480V RENEWAL	\$210,000
BUSINESS COLLEGE	0080	2025	BUILDING SYSTEMS	REPLACE TOILET FLUSH VALVES, TOILET SEATS, AND LAV FAUCETS IN PUBLIC RESTROOMS	\$50,000
BUSINESS COLLEGE	0080	2026	BUILDING SYSTEMS	BRANCH WIRING - EQUIPMENT & DEVICES RENEWAL	\$930,000
BUSINESS COLLEGE	0080	2027	BUILDING SYSTEMS	REPLACE DOMESTIC STEAM WATER HEATER IN MR-N1	\$70,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE LANDING FLOORING AND TREADS AND RISERS IN TWO (2) STAIRWELLS	\$50,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	BUSINESS COLLEGE NORTH- REPLACE EXISTING FIRE ALARM SYSTEM	\$2,010,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS	\$80,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SECOND OF TWO DOMESTIC STEAM WATER HEATERS IN MR-N1	\$70,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER AND ISOLATION VALVES IN MR-N1	\$30,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINALS IN MENS PUBLIC RESTROOMS	\$30,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	AUXILLARY EQUIPMENT RENEWAL	\$60,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-1 RENEWAL	\$50,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-2 RENEWAL	\$50,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	PNEUMATIC CONTROLS RENEWAL	\$900,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RECEIVER - 4	\$50,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	STEAM CONDENSATE RETURN - CONDENSATE RECEIVER RENEWAL	\$60,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	STEAM PIPING RENEWAL	\$100,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	WATER HEATER (STEAM) - 3 RENEWAL	\$70,000
					\$12,580,000



MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$430,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$60,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$250,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	\$60,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$60,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2024	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$160,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - WATER-COOLED	\$90,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	RENEW/REPLACE GENERATOR - NATURAL GAS OR GASOLINE	\$150,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$90,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2027	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, FIRE-RATED	\$70,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2027	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, NON-RATED	\$430,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2027	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2027	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - LABORATORY, WET	\$1,370,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2027	BUILDING SYSTEMS	RENEW/REPLACE REVERSE OSMOSIS SYSTEM	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$80,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$280,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GREENHOUSE - LAMINATED GLASS	\$3,680,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	\$1,510,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	\$510,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR - OVERHEAD, INTERIOR	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, INTERIOR	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$350,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$130,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$80,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$540,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - LABORATORY, WET	\$400,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET	\$2,180,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ENVIRONMENTAL CHAMBER MECHANICAL SYSTEM	\$160,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ENVIRONMENTAL CHAMBER STRUCTURE	\$140,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$110,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$260,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$200,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$150,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LABORATORY	\$230,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY	\$120,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$800,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	\$6,980,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$1,440,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LOAD INTERRUPTER ALLOCATION	\$140,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MAIN SWITCHBOARD W/BREAKERS	\$780,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR INCOMING PWR CONNECT	\$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR METERING AND INSTRUMENT SYSTEMS	\$180,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$950,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$40,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - LABORATORY, WET	\$3,540,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY	\$250,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER TANK	\$40,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	EXTERIOR MASONRY WALL RENEWAL	\$60,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	GREENHOUSES 47, 49, AND 51 WEST RAILING INSTALLATIONS	\$40,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	WATER FOUNTAIN ACCESSIBILITY UPGRADES	\$50,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR DOOR ACCESSIBILITY UPGRADES	\$280,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	CIPS EAST AND WEST STAIR RAILING UPGRADES	\$40,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	UNISEX RESTROOM INSTALLATIONS	\$90,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$1,300,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$270,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	IMPROVE EGRESS PATHWAY ILLUMINATION	\$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$110,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$150,000
					<b>\$32,390,000</b>

CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY AND CAULKING REPAIRS	\$50,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOFING #1, 2, 3, 4	\$200,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR PAINTING - REPAINT HALLWAYS AND HIGH USE ROOMS	\$60,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING INTERIOR	CENTRAL SCHOOL REPLACE VCT FLOORING THROUGHOUT BUILDING	\$310,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING SYSTEMS	CENTRAL SCHOOLS BOILER 1, 2 AND 3 REPLACEMENT	\$220,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$310,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL TOILET FLUSH VALVES, LAVATORY FAUCETS AND TRIM, KITCHEN SINK FAUCETS	\$30,000
					<b>\$1,180,000</b>

CENTRAL SERVICES	0060	2025	BUILDING SYSTEMS	REPLACE FIRE ALARM SYSTEM AND ADD SMOKE DETECTION	\$340,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE OLD WINDOWS WITH ALUMINUM FRAMED, INSULATED GLASS.	\$280,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING INTERIOR	RESTROOM PARTITIONS - OLD STEEL TYPE NEED TO BE REPLACED	\$20,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	\$310,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL OLD LIGHTING PANELS	\$210,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AND UPGRADE ELECTRICAL DISTRIBUTION AND LIGHTING PANELS	\$310,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ROOF TOP AIR CONDITIONING UNIT FOR ROOMS 115 AND 116	\$60,000
					<b>\$1,530,000</b>

CHEMICAL WASTE FACILITY 2	0475B	2022	BUILDING SYSTEMS	WASTE PIPING	\$100,000
CHEMICAL WASTE FACILITY 2	0475B	2025	BUILDING SYSTEMS	WATER PIPING	\$60,000
					<b>\$160,000</b>

CHEMISTRY	0163	2022	BUILDING SYSTEMS	REPLACE CHEMISTRY ATS	\$20,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING ENVELOPE	MASONRY AND CAULKING RESTORATION IN CHEM HALL	\$580,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 3	\$60,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	CHEMISTRY - OVERLOADED PANELS	\$30,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL NEW LIGHTING PANELS (12)	\$80,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE DI-ELECTRIC UNIONS AND REPLACE WITH BRASS UNIONS OR WATER WAYS - 4TH AND 5TH FLOORS.	\$30,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHEMISTRY HVAC-1	\$1,090,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHEMISTRY HVAC-2	\$1,090,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TOILET FLUSH VAVLES, LAVATORY FAUCETS AND TRIM, AND TOILET SEATS.	\$40,000
					<b>\$3,020,000</b>

CLINICAL CENTER-ANIMAL	0202	2024	BUILDING SYSTEMS	UPGRADE 3 DDC PANEL SERVING ULAR AREA	\$70,000
CLINICAL CENTER-ANIMAL	0202	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ANIMAL ROOM WET VACUUM SYSTEM	\$50,000
					<b>\$120,000</b>

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
CLINICAL CENTER-CLINIC	0200	2022	BUILDING ENVELOPE	ROOF REPLACEMENT/RESTORATION ON WINGS A, B, C	\$1,900,000
CLINICAL CENTER-CLINIC	0200	2024	BUILDING SYSTEMS	REPLACE DRY COOLER 1	\$30,000
CLINICAL CENTER-CLINIC	0200	2024	BUILDING SYSTEMS	REPLACE DRY COOLER 2	\$30,000
CLINICAL CENTER-CLINIC	0200	2027	BUILDING SYSTEMS	REPLACE 380 KW NATURAL GAS EMERGENCY GENERATOR	\$500,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXISTING METAL SIDING ON ENTIRE COMPLEX	\$4,920,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE EXTERIOR OVERHANG AND CEILING AT NORTH ENTRANCE	\$210,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILE AND GRID IN ENTIRE BUILDING	\$1,110,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$440,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$40,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACEMENT OF CHILLED WATER PUMPS	\$110,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE PCB TRANSFORMERS AND ELECTRICAL DISTRIBUTION	\$1,780,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM SERVICE TO INSIDE OF BUILDING	\$170,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINAL FLUSH VALAVES, TOILET FLUSH VALVES, AND TOILET SEATS IN PUBLIC RESTROOMS	\$30,000
					<b>\$11,270,000</b>

CLINICAL CENTER-OFFICE/LAB	0201	2026	BUILDING ENVELOPE	REPLACE EXTERIOR ENTRY DOORS AND HARDWARE AT THE CLINICAL CENTER (CLINIC AND OFFICE WINGS)	\$110,000
CLINICAL CENTER-OFFICE/LAB	0201	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILE IN ENTIRE OFFICE WING	\$70,000
CLINICAL CENTER-OFFICE/LAB	0201	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE FLOOR TILE AND WALL BASE IN CORRIDORS OF OFFICE WING	\$100,000
					<b>\$280,000</b>

COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR - BD	\$40,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE COMM ARTS ATS	\$20,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	\$20,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 17 AIR HANDLING UNITS AND ASSOCIATED FANS, PLUS 255 VAV BOXES	\$3,600,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL NEW DISTRIBUTION PANELS (6)	\$190,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER METER AND ASSOCIATED SHUT OFF VALVES.	\$30,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ONE CONDENSER PUMP	\$80,000
					<b>\$3,980,000</b>

COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	\$110,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	\$110,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	\$110,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 30 TON DRY COOLER & 2 PUMPS THAT SERVE FOR HEAT REJECTION ON THE CONDENSER LOOP FOR RM 204	\$40,000
COMPUTER CENTER	0035	2023	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	\$110,000
COMPUTER CENTER	0035	2023	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	\$110,000
COMPUTER CENTER	0035	2023	BUILDING SYSTEMS	REPLACE 30 TON DRY COOLER AND 2 PUMPS THAT SERVE FOR HEAT REJECTION ON THE CONDENSER LOOP FOR RM 204	\$40,000
COMPUTER CENTER	0035	2024	BUILDING SYSTEMS	REPLACE 30 TON DRY COOLER AND 2 PUMPS THAT SERVE FOR HEAT REJECTION ON CONDENSER LOOP FOR RM 204	\$40,000
COMPUTER CENTER	0035	2027	BUILDING SYSTEMS	REPLACE 8 TON WATER COOLED A/C SYSTEM	\$90,000
COMPUTER CENTER	0035	2027	BUILDING SYSTEMS	REPLACE 8 TON WATER COOLED LIEBERT A/C SYSTEM	\$90,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - REPLACE BUILDING WINDOWS AND GLASS BLOCK.	\$780,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 13 BRANCH CIRCUIT PANELS	\$100,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL HOT AND COLD WATER SHUT OFF VALVES AND RE-INSULATE.	\$100,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	COMPUTER CENTER - REPLACE FIRE ALARM SYSTEM	\$440,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	\$40,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	SUBSTATIONS/TRANSFORMERS - 13.2 KV	\$740,000

**\$3,050,000**

CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONRAD HALL ATS	\$20,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BOOSTER COIL VALVES	\$160,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OLD LIGHTING PANELS	\$40,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	CONRAD HALL - UPRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$120,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER - CH1	\$260,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER SHUTOFF VALVES AND WATER METER WHERE WATER COMES INTO THE BUILDING.	\$30,000

**\$630,000**

COOK-SEEVERS HALL	0020	2025	BUILDING SYSTEMS	REPLACE FLUSH VALVES, TOILET SEATS, LAVATORY FAUCETS, & WATER COOLERS IN PUBLIC RESTROOMS.	\$30,000
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**\$30,000**

COWLES HOUSE	0009	2025	BUILDING ENVELOPE	REPLACE OR REPAIR ROOFS 3,4,5,6,7 AND 9.	\$190,000
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**\$190,000**

DEMONSTRATION HALL	0057	2023	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$150,000
DEMONSTRATION HALL	0057	2024	BUILDING ENVELOPE	REPLACE DEMONSTRATION HALL ROOF - AREA 4	\$330,000
DEMONSTRATION HALL	0057	2024	BUILDING ENVELOPE	REPLACE DEMONSTRATION HALL ROOF - AREA 6	\$370,000
DEMONSTRATION HALL	0057	2024	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$20,000
DEMONSTRATION HALL	0057	2025	BUILDING INTERIOR	RENEW/REPLACE SEATING, FIXED, FOLDING, STANDARD	\$140,000
DEMONSTRATION HALL	0057	2025	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/ HP COOL, ELEC HEAT	\$10,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$50,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, SECURITY, EXTERIOR	\$40,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$10,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, POWER-ASSIST	\$30,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	\$70,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$900,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE LOADING DOCK SEAL	\$10,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - PANEL, ALUMINUM OR GALVANIZED, CORRUGATED	\$1,080,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED	\$60,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - ATTACHED ACOUSTICAL TILE	\$20,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, NON-RATED	\$60,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$90,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$50,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$100,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$150,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - GYMNASIUM	\$930,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRINKING FOUNTAIN, DUAL-LEVEL	\$10,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - AXIAL, SUPPLY	\$40,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$40,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$30,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS	\$10,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$160,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - GYMNASIUM	\$700,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - GYMNASIUM	\$1,120,000
DEMONSTRATION HALL	0057	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	EXTERIOR MASONRY WALL RENEWAL	\$170,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	GYMNASIUM ACCESSIBILITY UPGRADES	\$50,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR DOOR ACCESSIBILITY UPGRADES	\$130,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR STAIR RAILING UPGRADES	\$80,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL CHILLED WATER GENERATION EQUIPMENT	\$610,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	HVAC SYSTEM INSTALLATION	\$4,370,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$1,580,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR	\$190,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE ALARM SYSTEM UPGRADE	\$380,000
DEMONSTRATION HALL	0057	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$50,000

**\$14,400,000**

ENG RESEARCH COMPLEX	0203A	2026	BUILDING SYSTEMS	REPLACE EXHAUST FAN 5	\$50,000
ENG RESEARCH COMPLEX	0203A	2026	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 5	\$180,000
ENG RESEARCH COMPLEX	0203A	2026	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 6	\$170,000
ENG RESEARCH COMPLEX	0203A	2027	BUILDING SYSTEMS	REPLACE DOMESTIC STEAM WATER HEATER IN MR- B105 PENTHOUSE	\$70,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ENGINEERING RESEARCH COMPLEX ATS	\$20,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	\$920,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$650,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER METER AND ISOLATION VALVES IN MR-B105	\$30,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	A AND C WING EXHAUST FANS REPLACEMENT	\$1,080,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLERS SERVING A, B, & C WINGS	\$1,840,000

**\$5,010,000**

ENGINEERING	0081	2023	BUILDING ENVELOPE	REPLACE WINDOWS - MANY FOGGED	\$630,000
ENGINEERING	0081	2024	BUILDING INTERIOR	ACT CEILING - OLDER RENEWAL	\$420,000
ENGINEERING	0081	2024	BUILDING INTERIOR	CARPETING - OLDER RENEWAL	\$170,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - 0081-LABAIR-06, 0081-LABAIR-05 RENEWAL	\$120,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - CONTROL AIR - 3548 RENEWAL	\$40,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - CONTROL AIR - PH4500 RENEWAL	\$40,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - LAB AIR - PH4500 RENEWAL	\$60,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	CABINET UNIT HEATERS RENEWAL	\$30,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	DOMESTIC HOT WATER SYSTEM RENEWAL	\$130,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	UPGRADE FIRE ALARM SYSTEM	\$4,280,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR DOORS - REPLACE ALL EXTERIOR DOORS, HARDWARE AND FRAMES -	\$230,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING ENVELOPE	REPAIR CONCRETE AND BRICK SCREENWALLS	\$90,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE FAILED GLASS UNITS	\$130,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE OLD METAL PAN CEILINGS AND LIGHTING IN STAIRWELLS OF OLD ENGINEERING WING	\$30,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	COMPLETE OVERHAUL OF OLD FREIGHT ELEVATOR, CONVERT TO PASSENGER ELEVATOR	\$550,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ENGINEERING ATS	\$20,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$1,060,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MOTOR CONTROL CENTERS	\$60,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ORIGINAL STEAM WATER HEATER IN MECH RM MR-21	\$70,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACEMENT OF CONDENSATE RECEIVER LOCATED IN THE BASEMENT HALLWAY	\$80,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$4,840,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DUPLEX 5HP CONTROL AIR COMPRESSORS ON 120 GALLON TANK AND AIR DRYER	\$30,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAVATORY FAUCETS AND TRIM, TOILET FLUSH VALVES AND SEATS, AND URINALS IN ORIGINAL BUILDING	\$50,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$3,090,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$1,070,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DUPLEX CONTROL AIR COMPRESSORS, AIR DRYER AND AIR BOARD LOCATED IN PENTHOUSE RM #500	\$30,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER COILS IN HVAC FANS	\$260,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAVATORY FAUCETS AND TRIM, URINAL AND TOILET FLUSH VALVES AND TOILET SEATS	\$30,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM WATER HEATER IN MR-B510	\$70,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$1,470,000
					<b>\$19,180,000</b>

ERICKSON HALL	0144	2022	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$10,000
ERICKSON HALL	0144	2022	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
ERICKSON HALL	0144	2022	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$20,000
ERICKSON HALL	0144	2023	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
ERICKSON HALL	0144	2025	BUILDING INTERIOR	RENEW/REPLACE DOOR, SLIDING SYSTEM, INTERIOR	\$140,000
ERICKSON HALL	0144	2025	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$10,000
ERICKSON HALL	0144	2025	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$1,380,000
ERICKSON HALL	0144	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
ERICKSON HALL	0144	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$1,270,000
ERICKSON HALL	0144	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$140,000
ERICKSON HALL	0144	2027	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$20,000
ERICKSON HALL	0144	2027	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$40,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILT-UP OR PRECAST CONCRETE PANELS - PAINT	\$10,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$10,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$1,330,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 1 PUMP	\$20,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$90,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$1,060,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$40,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$1,920,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$3,950,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$170,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS	\$40,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$850,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$80,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$210,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$110,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$740,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$9,130,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$2,490,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$20,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$70,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$1,060,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
ERICKSON HALL	0144	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN EXTERIOR WALL SURFACES	\$20,000
ERICKSON HALL	0144	NOT TIME BASED - CORRECTIVE ACTION	SITE WORK	SITE PEDESTRIAN PAVING RENEWAL	\$30,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$170,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR	\$100,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$80,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$170,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$2,200,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$420,000
ERICKSON HALL	0144	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL	\$220,000
					<b>\$29,920,000</b>

EUSTACE-COLE HALL	0015	2024	BUILDING SYSTEMS	REPLACE CHILLER - 1	\$210,000
EUSTACE-COLE HALL	0015	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	\$140,000
EUSTACE-COLE HALL	0015	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$300,000



**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
					<b>\$650,000</b>
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE STEEL WINDOWS WITH NEW INSULATED WINDOWS	\$560,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING INTERIOR	UPGRADE FIRE DOORS TO STAIRWELLS WITH NEW DOORS AND HARDWARE	\$20,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOOR/ FRAME/ HARDWARE REPLACEMENTS IN BASEMENT LEVEL	\$50,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LIGHTING AND POWER DISTRIBUTION PANELS	\$60,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OBSOLETE FIXTURES AND BRANCH CIRCUIT WIRING	\$660,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	FARRALL HALL - INSTALL NEW ELECTRICAL MAIN STEAM VALVE	\$50,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	\$40,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL ADDITIONAL FAN TO EXHAUST AIR FROM MECH RM #4	\$40,000
					<b>\$1,480,000</b>
FEE HALL	0327	DEFERRED RENEWAL	BUILDING ENVELOPE	FEE HALL STUDY - WINDOW REPLACEMENT AND MASONRY RESTORATION	\$110,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING INTERIOR	FLOOR COVERING - REPLACE OR REPAIR IN STAIRWELLS	\$260,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILINGS AND LIGHTING	\$330,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FEE HALL ATS	\$20,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE SPRAY-ON FIREPROOFING IN MR-E15 AND MR-B2 AND REINSULATE	\$210,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TOILET AND URINAL FLUSH VALVES, FAUCETS, TRAPS, DRAINS IN PUBLIC RESTROOMS	\$60,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	FEE HALL- UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$260,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM BOOSTER COILS	\$540,000
					<b>\$1,790,000</b>
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR	\$20,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #4	\$20,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	\$120,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE THE CONDENSATES RETURN DUPLEX UNIT IN THE BASEMENT MECH ROOM	\$50,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TWO ELECTRIC DOMESTIC WATER HEATERS	\$20,000
					<b>\$230,000</b>
FOOD SAFETY TOXICOLOGY	0186	2022	BUILDING SYSTEMS	PUMPS	\$400,000
FOOD SAFETY TOXICOLOGY	0186	2022	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR (DUPLEX 5HP), MR B21	\$30,000
FOOD SAFETY TOXICOLOGY	0186	2022	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FIXTURES	\$30,000
FOOD SAFETY TOXICOLOGY	0186	2023	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT 3	\$170,000
FOOD SAFETY TOXICOLOGY	0186	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$310,000
FOOD SAFETY TOXICOLOGY	0186	2027	BUILDING SYSTEMS	REPLACE ELEVATOR 2	\$310,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR AREAS.	\$30,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$3,670,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER	\$70,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FOOD SAFTEY TOX ATS	\$20,000
					<b>\$5,040,000</b>
FOOD SCIENCE	0179	2024	BUILDING SYSTEMS	REPLACE COOLING TOWER 01	\$220,000
FOOD SCIENCE	0179	2024	BUILDING SYSTEMS	REPLACE COOLING TOWER 02	\$220,000
FOOD SCIENCE	0179	2025	BUILDING SYSTEMS	REPLACE BOOSTER COILS THAT SERVE ANIMAL ROOMS	\$30,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
FOOD SCIENCE	0179	2025	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER THAT SERVES ANIMAL ROOMS	\$40,000
FOOD SCIENCE	0179	2025	BUILDING SYSTEMS	REPLACE HOT WATER HEATING PUMPS THAT SERVES ANIMAL ROOMS	\$80,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE INTERIOR LAMINATE CLAD OFFICE DOORS & HARDWARE AS NECESSARY	\$340,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR AREAS.	\$30,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 DISTRIBUTION AND POWER PANELS IN ULAR AREA	\$30,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAB FIXTURE PLUMBING TRIM AND TRAPS	\$630,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	FOOD SCIENCE- UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$250,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS FOR THE ANIMAL AREA	\$40,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER AND ISOLATION VALVES	\$30,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FLUSH VALVES, TOILET SEATS, LAV FAUCETS ANDS TRIM	\$30,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-3	\$850,000

\$2,820,000

FRIB	0164	2024	BUILDING SYSTEMS	REPLACE COOLING TOWER RM 176 & COOLED CONDENSER RM 244	\$60,000
FRIB	0164	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR PAINTING	\$20,000
FRIB	0164	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE / COAT ROOFS #23, 24	\$110,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$450,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	\$270,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	\$30,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	\$2,810,000

\$3,750,000

GEOGRAPHY	0176	2026	BUILDING SYSTEMS	REPLACE MECHANICAL COOLING TOWER	\$480,000
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	GEOGRAPHY - REPLACE DOMESTIC WATER HEATER	\$80,000
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OBSOLETE MOTOR STARTERS AND DISCONNECTS	\$40,000
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MAIN DOMESTIC COLD WATER SHUT OFF VALVES AND WATER METER.	\$30,000
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE FIRE ALARM PANEL	\$240,000

\$870,000

GILTNER HALL	0028	2022	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
GILTNER HALL	0028	2022	BUILDING SYSTEMS	RENEW/REPLACE VACUUM PUMP - ROTARY VANE	\$70,000
GILTNER HALL	0028	2023	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$10,000
GILTNER HALL	0028	2023	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$20,000
GILTNER HALL	0028	2023	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	\$40,000
GILTNER HALL	0028	2024	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$80,000
GILTNER HALL	0028	2024	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - WOOD PANEL, ECONOMY	\$10,000
GILTNER HALL	0028	2024	BUILDING SYSTEMS	UPGRADE 3 DDC PANELS SERVING ULAR AREA	\$90,000
GILTNER HALL	0028	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$60,000
GILTNER HALL	0028	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
GILTNER HALL	0028	2026	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$1,030,000
GILTNER HALL	0028	2026	BUILDING SYSTEMS	RENEW/REPLACE GENERATOR - NATURAL GAS OR GASOLINE	\$170,000
GILTNER HALL	0028	2026	BUILDING SYSTEMS	RENEW/REPLACE REVERSE OSMOSIS SYSTEM	\$20,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
GILTNER HALL	0028	2026	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$20,000
GILTNER HALL	0028	2027	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR SURFACE FINISH - APPLIED, STANDARD	\$10,000
GILTNER HALL	0028	2027	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	\$800,000
GILTNER HALL	0028	2027	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
GILTNER HALL	0028	2027	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - LABORATORY, WET	\$8,290,000
GILTNER HALL	0028	2027	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$50,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$4,060,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	\$50,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$50,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$730,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COMPUTER ROOM AC UNIT - REFRIGERANT, EXCL. HEAT REJECTION	\$60,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - LABORATORY, WET	\$790,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET	\$4,310,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$810,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - TRACTION - LOW RISE 2-8 FLOORS	\$1,290,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ENVIRONMENTAL CHAMBER MECHANICAL SYSTEM	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$150,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$1,340,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$120,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$3,910,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MAIN SWITCHBOARD W/BREAKERS	\$400,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	\$70,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REVERSE OSMOSIS SYSTEM	\$120,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$60,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - LABORATORY, WET	\$10,570,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY	\$190,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WALK-IN REFRIGERATOR OR FREEZER STRUCTURE	\$210,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$110,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$30,000
GILTNER HALL	0028	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN EXTERIOR WALL SURFACES	\$50,000
GILTNER HALL	0028	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	ADD ROLLED OR BLOWN IN ATTIC INSULATION	\$160,000
GILTNER HALL	0028	NOT TIME BASED - CORRECTIVE ACTION	BUILDING SYSTEMS	LABORATORY WOOD CASEWORK RESTORATION	\$40,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$580,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$240,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$110,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$140,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL CHILLED WATER GENERATION EQUIPMENT	\$970,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	HVAC SYSTEM INSTALLATION	\$23,210,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$2,850,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$540,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$230,000
GILTNER HALL	0028	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$2,120,000
					<b>\$71,750,000</b>

HANNAH ADMINISTRATION	0067	2022	BUILDING ENVELOPE	RENEW/REPLACE GLASS, CURTAIN WALL, STANDARD	\$8,760,000
HANNAH ADMINISTRATION	0067	2022	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$2,250,000
HANNAH ADMINISTRATION	0067	2022	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$90,000
HANNAH ADMINISTRATION	0067	2022	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 4-PLY, COAL TAR PITCH - R30	\$440,000
HANNAH ADMINISTRATION	0067	2022	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
HANNAH ADMINISTRATION	0067	2022	BUILDING SYSTEMS	REPLACE 2 BASE MT. SUMP PUMPS (GORMAN RUPP) IN MR B1	\$30,000
HANNAH ADMINISTRATION	0067	2023	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
HANNAH ADMINISTRATION	0067	2023	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR BREAKER - FME Adjustable	\$50,000
HANNAH ADMINISTRATION	0067	2024	BUILDING SYSTEMS	RENEW/REPLACE SWGR TIEBREAK SELECTOR, FME, AUTOMATIC	\$60,000
HANNAH ADMINISTRATION	0067	2025	BUILDING SYSTEMS	RENEW/REPLACE COMPUTER ROOM AC UNIT - REFRIGERANT, EXCL. HEAT REJECTION	\$410,000
HANNAH ADMINISTRATION	0067	2025	BUILDING SYSTEMS	REPLACE CHILLER #1 AND COOLING TOWER - CT1	\$2,340,000
HANNAH ADMINISTRATION	0067	2025	BUILDING SYSTEMS	REPLACE CHILLER #2 AND COOLING TOWER - CT 2	\$2,340,000
HANNAH ADMINISTRATION	0067	2026	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$40,000
HANNAH ADMINISTRATION	0067	2026	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - METAL OR SPECIALTY TILE	\$780,000
HANNAH ADMINISTRATION	0067	2026	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$580,000
HANNAH ADMINISTRATION	0067	2026	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
HANNAH ADMINISTRATION	0067	2027	BUILDING SYSTEMS	RENEW/REPLACE CHILLER - WATER-COOLED CENTRIFUGAL OR SCREW	\$120,000
HANNAH ADMINISTRATION	0067	2027	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
HANNAH ADMINISTRATION	0067	2027	BUILDING SYSTEMS	REPLACE 2 SECONDARY CHILLED WATER PUMPS. B&G HSC 6X8X125 (900 GPM, 40'HD, 20HP, VFD DRIVE)	\$70,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE WINDOWS AND ENTRY DOORS	\$2,800,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$350,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILINGS, LIGHTING, AND INSTALL HVAC DISTRIBUTION	\$1,890,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE LANDING FLOORING AND TREADS AND RISERS IN STAIRWELL	\$80,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$80,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HANNAH ADMIN ATS	\$20,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CEILING AND ADD NEW DUCT WORK - ROOMS 50 & 60	\$330,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	COMPLETE REPLACEMENT OF SPECIAL ELEVATOR	\$360,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	ADMINISTRATION-UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$250,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-7 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 15 TON CHILLER	\$180,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 20 TON CHILLER	\$340,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-1 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-2 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-3 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-4 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-5 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-6 - UNIT IS BEYOND LIFE EXPECTANCY	\$300,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL NEW AHU SERVING 4TH FLOOR PRESIDENT'S SUITE	\$540,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$980,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$20,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$70,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BOLLARD LIGHTING	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$90,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PNEUMATIC	\$140,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$80,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$40,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$1,490,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$3,070,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$150,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, GALV	\$20,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$230,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS	\$40,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$940,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FM200 OR INERGEN FIRE SUPPRESSION	\$320,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$40,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$20,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HUMIDIFIER, STEAM INJECTION	\$40,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$160,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$90,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$7,880,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$1,590,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LOAD INTERRUPTER ALLOCATION	\$470,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MAIN SWITCHBOARD W/BREAKERS	\$610,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR BREAKER - FME Adjustable	\$330,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$160,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$140,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 480/277V	\$120,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$90,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/HP COOL, ELEC HEAT	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$210,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$40,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$920,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWGR TIEBREAK SELECTOR, FME, AUTOMATIC	\$60,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, ELECTRIC	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$100,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$40,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$200,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR	\$120,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$110,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAIN	\$120,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$30,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$2,520,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$270,000
HANNAH ADMINISTRATION	0067	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$280,000
					<b>\$52,600,000</b>
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING AND LIGHTING IN BUILDINGS CORRIDORS	\$90,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE SELECTED HALLWAY ROOM DOORS AND HARDWARE AS NECESSARY (APPROXIMATELY 40)	\$80,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HUMAN ECOLOGY ATS	\$20,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING SYSTEMS	HUMAN ECOLOGY - ELEVATOR 1 REPLACEMENT	\$440,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING SYSTEMS	HUMAN ECOLOGY - BUILDING STEAM VALVE	\$30,000
					<b>\$660,000</b>

IM SPORTS-CIRCLE	0051	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
IM SPORTS-CIRCLE	0051	2022	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR SURFACE FINISH - APPLIED, STANDARD	\$10,000
IM SPORTS-CIRCLE	0051	2023	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - ATTACHED ACOUSTICAL TILE	\$90,000
IM SPORTS-CIRCLE	0051	2023	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$50,000
IM SPORTS-CIRCLE	0051	2023	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$60,000
IM SPORTS-CIRCLE	0051	2023	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - TILE, CERAMIC / STONE, STANDARD	\$120,000
IM SPORTS-CIRCLE	0051	2023	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$10,000
IM SPORTS-CIRCLE	0051	2023	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
IM SPORTS-CIRCLE	0051	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$40,000
IM SPORTS-CIRCLE	0051	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$20,000
IM SPORTS-CIRCLE	0051	2024	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$30,000
IM SPORTS-CIRCLE	0051	2025	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	\$140,000
IM SPORTS-CIRCLE	0051	2025	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$10,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE COMPUTER ROOM AC UNIT - REFRIGERANT, EXCL. HEAT REJECTION	\$150,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE EVAPORATOR UNIT, NO HEAT	\$10,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$30,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/ HP COOL, ELEC HEAT	\$120,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$10,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$140,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$60,000
IM SPORTS-CIRCLE	0051	2025	BUILDING SYSTEMS	RENEW/REPLACE WATER TANK	\$10,000
IM SPORTS-CIRCLE	0051	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$410,000
IM SPORTS-CIRCLE	0051	2026	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$10,000
IM SPORTS-CIRCLE	0051	2026	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$10,000
IM SPORTS-CIRCLE	0051	2026	BUILDING SYSTEMS	RENEW/REPLACE POOL CIRCULATION PUMP - ELECTRIC	\$70,000
IM SPORTS-CIRCLE	0051	2026	BUILDING SYSTEMS	RENEW/REPLACE POOL FILTER, SAND / DE ALL EXCEPT SPA	\$30,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$2,090,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$410,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILE OR GLASS BLOCK CLEAN, GROUT, AND REPAIR	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$310,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - METAL OR SPECIALTY TILE	\$360,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, FIRE-RATED	\$390,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, NON-RATED	\$220,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, INTERIOR	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$30,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$130,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$80,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$60,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - TILE, CERAMIC / STONE, STANDARD	\$150,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$40,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$620,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - GYMNASIUM	\$1,580,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$60,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - GYMNASIUM	\$810,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - GYMNASIUM	\$1,640,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EVAPORATOR UNIT, NO HEAT	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$140,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS	\$40,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$650,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$30,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - GYMNASIUM	\$190,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - GYMNASIUM	\$100,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM	\$650,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - GYMNASIUM	\$7,140,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - GYMNASIUM	\$1,410,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LOAD INTERRUPTER ALLOCATION	\$140,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR ENCLOSURE VERT STACK SECT	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR INCOMING PWR CONNECT	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR METERING AND INSTRUMENT SYSTEMS	\$120,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$10,000



**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$30,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RECREATIONAL POOL WATER TREATMENT SYSTEM	\$20,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$150,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - GYMNASIUM	\$1,900,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$10,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY	\$180,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN EXTERIOR WALLS	\$30,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - CORRECTIVE ACTION	BUILDING INTERIOR	REPLACE DAMAGED RESTROOM PARTITIONS	\$30,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$20,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	ADD WALL-MOUNTED HANDRAILS	\$30,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	ARCHITECTURAL OCCUPANCY ANALYSIS	\$20,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INSTALL RATED INTERIOR DOORS	\$20,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE DOOR HARDWARE AND SIGNAGE	\$150,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INSTALL RAILINGS AT ACCESSIBLE ENTRY RAMP	\$30,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$70,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	IMPROVE RESTROOM & LOCKER ROOM ACCESSIBILITY	\$60,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$80,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOMS	\$90,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$20,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$2,450,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$330,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$130,000
IM SPORTS-CIRCLE	0051	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$270,000

**\$27,970,000**

IM SPORTS-EAST	0175	2023	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$750,000
IM SPORTS-EAST	0175	2023	BUILDING SYSTEMS	RENEW/REPLACE FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY	\$10,000
IM SPORTS-EAST	0175	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$20,000
IM SPORTS-EAST	0175	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$10,000
IM SPORTS-EAST	0175	2025	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$80,000
IM SPORTS-EAST	0175	2025	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$20,000
IM SPORTS-EAST	0175	2027	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$20,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$300,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GENERATOR - NATURAL GAS OR GASOLINE	\$90,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$20,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$20,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - GYMNASIUM	\$90,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - GYMNASIUM	\$50,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM	\$300,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$20,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$20,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 208 OR 240 V	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$70,000
IM SPORTS-EAST	0175	NOT TIME BASED - CORRECTIVE ACTION	SITE WORK	SITE VEHICULAR PAVING RENEWAL	\$30,000
IM SPORTS-EAST	0175	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$40,000
IM SPORTS-EAST	0175	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$30,000
IM SPORTS-EAST	0175	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIRS	\$30,000
IM SPORTS-EAST	0175	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$30,000
IM SPORTS-EAST	0175	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$370,000
IM SPORTS-EAST	0175	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$160,000

**\$3,050,000**

IM SPORTS-WEST	0151	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	\$50,000
IM SPORTS-WEST	0151	2023	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$490,000
IM SPORTS-WEST	0151	2023	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$30,000
IM SPORTS-WEST	0151	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - ATHLETIC, RUBBER, TILE OR ROLL	\$200,000
IM SPORTS-WEST	0151	2024	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$30,000
IM SPORTS-WEST	0151	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$70,000
IM SPORTS-WEST	0151	2025	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$70,000
IM SPORTS-WEST	0151	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
IM SPORTS-WEST	0151	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$20,000
IM SPORTS-WEST	0151	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM	\$860,000
IM SPORTS-WEST	0151	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - WAREHOUSE	\$30,000
IM SPORTS-WEST	0151	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$100,000
IM SPORTS-WEST	0151	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$40,000
IM SPORTS-WEST	0151	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$60,000
IM SPORTS-WEST	0151	2026	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$4,600,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
IM SPORTS-WEST	0151	2026	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$590,000
IM SPORTS-WEST	0151	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$80,000
IM SPORTS-WEST	0151	2027	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 4-PLY, COAL TAR PITCH - R30	\$160,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$40,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$130,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - WALL COVERING, ROLL	\$40,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$330,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$20,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - GYMNASIUM	\$2,090,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - WAREHOUSE	\$80,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - GYMNASIUM	\$1,070,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - WAREHOUSE	\$20,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$70,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$20,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$70,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER SUMP PUMP - SUBMERSIBLE PUMP	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - GYMNASIUM	\$250,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - WAREHOUSE	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - GYMNASIUM	\$130,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - WAREHOUSE	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - GYMNASIUM	\$9,460,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - WAREHOUSE	\$140,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - GYMNASIUM	\$1,370,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE POOL CIRCULATION PUMP - ELECTRIC	\$70,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE POOL FILTER, SAND / DE ALL EXCEPT SPA	\$30,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/ HP COOL, ELEC HEAT	\$80,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RECREATIONAL POOL WATER TREATMENT SYSTEM	\$20,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - GYMNASIUM	\$2,520,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - WAREHOUSE	\$50,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	IMPROVE BUILDING ENTRY ACCESSIBILITY	\$70,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	CONSTRUCT RAMP AT LEVEL CHANGE IN ROOM 16C	\$20,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	ARCHITECTURAL OCCUPANCY ANALYSIS	\$20,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$110,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	EXTERIOR TERRACE STAIR UPGRADES	\$30,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	TERRACE GUARDRAIL UPGRADES	\$30,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$170,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	IMPROVE LOCKER ROOM ACCESSIBILITY	\$20,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$60,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$120,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$3,150,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD EXTERIOR LIGHTING ON ROOF	\$20,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$470,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$60,000
IM SPORTS-WEST	0151	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$360,000

**\$30,430,000**

INFRASTRUCTURE PLANNING AND FACILITIES	0167	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, POWER-ASSIST	\$30,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$120,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2023	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2023	BUILDING ENVELOPE	RENEW/REPLACE DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	\$20,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2023	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - SHOPS / TRADES, DRY LABORATORY	\$510,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2023	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - SHOPS / TRADES, DRY LABORATORY	\$90,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, GANG	\$20,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2025	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$30,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2025	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2025	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$510,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - SHOPS / TRADES	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2025	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2026	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$20,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER, GANG PEDESTAL, STAINLESS STEEL	\$30,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2026	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$80,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2027	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, SECURITY, INTERIOR	\$100,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2027	BUILDING SYSTEMS	RENEW/REPLACE DRINKING FOUNTAIN, DUAL-LEVEL	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	2027	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, SECURITY, EXTERIOR	\$40,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$60,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE LOADING DOCK SEAL	\$20,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$800,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, UNBALLASTED	\$30,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$20,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$90,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$440,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - UTILITY	\$110,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$60,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 1 PUMP	\$20,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRINKING FOUNTAIN, DUAL-LEVEL	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - SHOPS / TRADES, DRY LABORATORY	\$380,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - SHOPS / TRADES, DRY LABORATORY	\$800,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$130,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEATING SYSTEM, STEAM OR HYDRONIC	\$870,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - SHOPS / TRADES	\$30,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - SHOPS / TRADES, DRY LABORATORY	\$300,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - SHOPS / TRADES, DRY LABORATORY	\$640,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	SE CONCRETE DOCK REPAIR AND RECAULKING ALLOWANCE	\$40,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	EXTERIOR MASONRY WALL RENEWAL	\$70,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	WATER FOUNTAIN ACCESSIBILITY UPGRADES	\$30,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR STAIR RAILING UPGRADES	\$20,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	RETROFIT FREIGHT HOISTWAY TO PASSENGER ELEVATOR SYSTEM	\$250,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ACCESSIBILITY UPGRADES FOR LOCKER ROOMS 33 & 34	\$40,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$1,250,000
INFRASTRUCTURE PLANNING AND FACILITIES	0167	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR	\$150,000

\$8,760,000

INTERNATIONAL CENTER	0169	2022	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILT-UP OR PRECAST CONCRETE PANELS - PAINT	\$10,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE DOCK LEVELER	\$20,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$470,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$450,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$150,000
INTERNATIONAL CENTER	0169	2022	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$60,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
INTERNATIONAL CENTER	0169	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$260,000
INTERNATIONAL CENTER	0169	2023	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$20,000
INTERNATIONAL CENTER	0169	2023	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
INTERNATIONAL CENTER	0169	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$50,000
INTERNATIONAL CENTER	0169	2024	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
INTERNATIONAL CENTER	0169	2024	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$650,000
INTERNATIONAL CENTER	0169	2024	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$660,000
INTERNATIONAL CENTER	0169	2025	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$620,000
INTERNATIONAL CENTER	0169	2025	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$10,000
INTERNATIONAL CENTER	0169	2026	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
INTERNATIONAL CENTER	0169	2026	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$130,000
INTERNATIONAL CENTER	0169	2026	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$70,000
INTERNATIONAL CENTER	0169	2027	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000
INTERNATIONAL CENTER	0169	2027	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$10,000
INTERNATIONAL CENTER	0169	2027	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$20,000
INTERNATIONAL CENTER	0169	2027	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
INTERNATIONAL CENTER	0169	2027	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - WALL COVERING, ROLL	\$50,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$570,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$950,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$1,960,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$810,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY	\$20,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$40,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS	\$40,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$740,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$60,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$5,070,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$1,490,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$30,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
INTERNATIONAL CENTER	0169	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$70,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - CORRECTIVE ACTION	SITE WORK	SITE VEHICULAR PAVING RENEWAL	\$30,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$120,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$50,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$30,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$30,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$940,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$270,000
INTERNATIONAL CENTER	0169	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT	\$70,000
					<b>\$17,370,000</b>

JENISON FIELD HOUSE	0056	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
JENISON FIELD HOUSE	0056	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$60,000
JENISON FIELD HOUSE	0056	2025	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$10,000
JENISON FIELD HOUSE	0056	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$10,000
JENISON FIELD HOUSE	0056	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$20,000
JENISON FIELD HOUSE	0056	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$10,000
JENISON FIELD HOUSE	0056	2026	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$700,000
JENISON FIELD HOUSE	0056	2026	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$40,000
JENISON FIELD HOUSE	0056	2026	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$10,000
JENISON FIELD HOUSE	0056	2026	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$810,000
JENISON FIELD HOUSE	0056	2027	BUILDING SYSTEMS	RENEW/REPLACE DRINKING FOUNTAIN, DUAL-LEVEL	\$30,000
JENISON FIELD HOUSE	0056	2027	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, COUNTER	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HARDWOOD CUSTOM	\$50,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$60,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, SECURITY, EXTERIOR	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, POWER-ASSIST	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - PANEL, ALUMINUM OR GALVANIZED, CORRUGATED	\$560,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILE OR GLASS BLOCK CLEAN, GROUT, AND REPAIR	\$90,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, NON-RATED	\$100,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, INTERIOR	\$40,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$170,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$80,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$160,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$40,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$180,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$30,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$190,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - GYMNASIUM	\$810,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - WAREHOUSE	\$250,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - GYMNASIUM	\$290,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - WAREHOUSE	\$100,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - GYMNASIUM	\$590,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - WAREHOUSE	\$730,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$20,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$40,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$30,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS	\$20,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$1,100,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - GYMNASIUM	\$50,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - WAREHOUSE	\$20,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM	\$330,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - WAREHOUSE	\$90,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - GYMNASIUM	\$410,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - WAREHOUSE	\$700,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$20,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$20,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$50,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE POOL CIRCULATION PUMP - ELECTRIC	\$50,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE POOL FILTER, SAND / DE ALL EXCEPT SPA	\$60,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$30,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RECREATIONAL POOL WATER TREATMENT SYSTEM	\$40,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$60,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SPA FILTER, AVG	\$10,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - GYMNASIUM	\$970,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - WAREHOUSE	\$140,000
JENISON FIELD HOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$50,000
JENISON FIELD HOUSE	0056	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	SELECTIVE MASONRY REPOINTING ALLOWANCE	\$110,000
JENISON FIELD HOUSE	0056	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR STAIR RAILING UPGRADES	\$210,000
JENISON FIELD HOUSE	0056	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	EXTEND FIRE SPRINKLER SYSTEM	\$1,510,000
JENISON FIELD HOUSE	0056	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR	\$240,000

\$12,990,000

KEDZIE HALL	0029	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$30,000
KEDZIE HALL	0029	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$20,000
KEDZIE HALL	0029	2022	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
KEDZIE HALL	0029	2022	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000



MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
KEDZIE HALL	0029	2022	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
KEDZIE HALL	0029	2022	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
KEDZIE HALL	0029	2022	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$10,000
KEDZIE HALL	0029	2022	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$20,000
KEDZIE HALL	0029	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$30,000
KEDZIE HALL	0029	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$40,000
KEDZIE HALL	0029	2024	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$40,000
KEDZIE HALL	0029	2024	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$1,810,000
KEDZIE HALL	0029	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$60,000
KEDZIE HALL	0029	2026	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$850,000
KEDZIE HALL	0029	2027	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - WALL COVERING, ROLL	\$10,000
KEDZIE HALL	0029	2027	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$30,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$20,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$30,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$20,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$410,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$410,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$10,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$130,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - WALL COVERING, ROLL	\$10,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$30,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$20,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$20,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$20,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$1,400,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$2,870,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$880,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$40,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LOAD INTERRUPTER ALLOCATION	\$140,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MAIN SWITCHBOARD W/BREAKERS	\$210,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR BREAKER - FME Adjustable	\$260,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR ENCLOSURE VERT STACK SECT	\$30,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR INCOMING PWR CONNECT	\$20,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR METERING AND INSTRUMENT SYSTEMS	\$120,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, KITCHEN	\$10,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$860,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWGR TIEBREAK SELECTOR, FME, MANUAL	\$30,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY	\$260,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$20,000
KEDZIE HALL	0029	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	SOUTH ENTRY STAIR RESTORATION	\$30,000
KEDZIE HALL	0029	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN/PAINT EXTERIOR WALL SURFACES	\$50,000
KEDZIE HALL	0029	NOT TIME BASED - CORRECTIVE ACTION	BUILDING SYSTEMS	LABORATORY WOOD CASEWORK RESTORATION	\$60,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE	\$330,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$190,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$140,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$170,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	HVAC SYSTEM INSTALLATION	\$8,200,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$1,400,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$310,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$170,000
KEDZIE HALL	0029	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$180,000
					<b>\$22,570,000</b>

KRESGE ART	0150	2022	BUILDING SYSTEMS	INSTALL DUPLEX CONTROL AIR COMPRESSOR	\$30,000
KRESGE ART	0150	2022	BUILDING SYSTEMS	REPLACE CHILLER	\$360,000
KRESGE ART	0150	2022	BUILDING SYSTEMS	REPLACE DRY COOLER	\$310,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE CURTAIN WALL/WINDOWS	\$6,070,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE BALCONY DOORS AND HARDWARE ON SOUTH SIDE OF BLDG	\$130,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR - ED	\$50,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING SYSTEMS	ABATE PLASTER/SPRAY-ON FIREPROOFING	\$950,000
					<b>\$7,900,000</b>

KRESGE ART-SCULPTURE STUDIO	0150A	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR ALUMINUM DOORS AND HARDWARE IN (2) LOCATIONS	\$30,000
					<b>\$30,000</b>

LANDSCAPE SERVICES	0158	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$40,000
					<b>\$40,000</b>

LIBRARY	0049	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$90,000
LIBRARY	0049	2023	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
LIBRARY	0049	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$10,000
LIBRARY	0049	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	\$20,000
LIBRARY	0049	2025	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
LIBRARY	0049	2025	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$20,000
LIBRARY	0049	2025	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$140,000
LIBRARY	0049	2025	BUILDING SYSTEMS	RENEW/REPLACE GENERATOR - NATURAL GAS OR GASOLINE	\$90,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
LIBRARY	0049	2025	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 208 OR 240 V	\$20,000
LIBRARY	0049	2026	BUILDING SYSTEMS	RENEW/REPLACE COMPUTER ROOM AC UNIT - CHILLED WATER	\$60,000
LIBRARY	0049	2026	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$30,000
LIBRARY	0049	2027	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$40,000
LIBRARY	0049	2027	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - LIBRARY	\$810,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$20,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$20,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILT-UP OR PRECAST CONCRETE PANELS - PAINT	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	\$50,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$1,750,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - WALL COVERING, ROLL	\$40,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$50,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$1,970,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$20,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$40,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 1 PUMP	\$120,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$50,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PNEUMATIC	\$270,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - LIBRARY	\$1,540,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$60,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - LIBRARY	\$1,530,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - LIBRARY	\$4,680,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - TRACTION - LOW RISE 2-8 FLOORS	\$1,780,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$30,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$230,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$1,450,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FM200 OR INERGEN FIRE SUPPRESSION	\$1,370,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$20,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$180,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HUMIDIFIER, STEAM INJECTION	\$50,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LIBRARY	\$560,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - LIBRARY	\$290,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LIBRARY	\$1,930,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - LIBRARY	\$19,340,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LIBRARY	\$6,300,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$70,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$160,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - LIBRARY	\$2,480,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$70,000
LIBRARY	0049	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	EXTERIOR ROOF COPING JOINT REPAIR	\$40,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	IMPROVE BUILDING ENTRY ACCESSIBILITY	\$50,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$100,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$130,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR	\$200,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	IMPROVE RESTROOM ACCESSIBILITY - WEST WING	\$80,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOMS - EAST WING	\$110,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAIN	\$140,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$30,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$5,760,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$980,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$750,000
LIBRARY	0049	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$810,000

**\$59,240,000**

LIFE SCIENCE	0183	2022	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - TRACTION - LOW RISE 2-8 FLOORS	\$450,000
LIFE SCIENCE	0183	2022	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	\$60,000
LIFE SCIENCE	0183	2022	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	\$30,000
LIFE SCIENCE	0183	2024	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
LIFE SCIENCE	0183	2024	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$20,000
LIFE SCIENCE	0183	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$700,000
LIFE SCIENCE	0183	2024	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$990,000
LIFE SCIENCE	0183	2024	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	\$60,000
LIFE SCIENCE	0183	2024	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	\$30,000
LIFE SCIENCE	0183	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$10,000
LIFE SCIENCE	0183	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	\$30,000
LIFE SCIENCE	0183	2025	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$50,000
LIFE SCIENCE	0183	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$50,000
LIFE SCIENCE	0183	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$30,000
LIFE SCIENCE	0183	2025	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$40,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
LIFE SCIENCE	0183	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$310,000
LIFE SCIENCE	0183	2026	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - TILE, CERAMIC / STONE, STANDARD	\$380,000
LIFE SCIENCE	0183	2026	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
LIFE SCIENCE	0183	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$100,000
LIFE SCIENCE	0183	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$480,000
LIFE SCIENCE	0183	2027	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$130,000
LIFE SCIENCE	0183	2027	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$20,000
LIFE SCIENCE	0183	2027	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$100,000
LIFE SCIENCE	0183	2027	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	\$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR DOOR OR WINDOW APPLIED FINISH	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR TRIM APPLIED FINISH	\$40,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$510,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$4,650,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 4-PLY, COAL TAR PITCH - R30	\$1,290,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, STUCCO OR CONCRETE RESTORE	\$550,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILT-UP OR PRECAST CONCRETE PANELS - RESTORE NATURAL FINISH	\$110,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	\$7,920,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - ATTACHED ACOUSTICAL TILE	\$470,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR - OVERHEAD, INTERIOR	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$180,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	\$240,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$180,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TERRAZZO RESURFACE	\$480,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$130,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$100,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$1,040,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$90,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - LABORATORY, WET	\$940,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET	\$5,150,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$290,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$950,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE PUMP - ELECTRIC, 500 GPM, 3" ID	\$60,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER SUMP PUMP -SUBMERSIBLE PUMP	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$100,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$590,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LABORATORY	\$540,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY	\$280,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$1,870,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	\$16,520,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$2,650,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR BREAKER - FME Adjustable	\$1,410,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR ENCLOSURE VERT STACK SECT	\$190,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR INCOMING PWR CONNECT	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR METERING AND INSTRUMENT SYSTEMS	\$120,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - EMERGENCY EYEWASH	\$60,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - EMERGENCY SHOWER	\$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$60,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, KITCHEN	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$80,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$280,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	\$90,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - LABORATORY, WET	\$8,360,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWGR TIEBREAK SELECTOR, FME, MANUAL	\$60,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY	\$370,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WALK-IN REFRIGERATOR OR FREEZER STRUCTURE	\$410,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$220,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WHEELCHAIR LIFT, VERTICAL, AVERAGE	\$70,000
LIFE SCIENCE	0183	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	INSTALL ROOF DRAINAGE FREEZE PROTECTION	\$40,000
LIFE SCIENCE	0183	NOT TIME BASED - CORRECTIVE ACTION	SUBSTRUCTURE	STORMWATER MANAGEMENT AND WATERPROOFING UPGRADES	\$840,000
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR AMENITY ACCESSIBILITY UPGRADES	\$80,000
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR DOOR ACCESSIBILITY UPGRADES	\$590,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	AUDITORIUM ACCESSIBILITY UPGRADES	\$130,000
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR STAIR AND RAILING UPGRADES	\$190,000
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	CONSTRUCT UNISEX RESTROOM	\$190,000
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$220,000
LIFE SCIENCE	0183	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$640,000

**\$67,150,000**

LINTON HALL	0014	2025	BUILDING SYSTEMS	ELEVATOR - 1	\$440,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING ENVELOPE	LINTON HALL BUILDING ENVELOPE RENEWAL	\$3,060,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPLACE SELECTED INTERIOR DOORS AND HARDWARE	\$50,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	\$60,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LINTON ATS	\$20,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LINTON LIGHTING FIXTURES	\$20,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL WATER PIPING IN BUILDING.	\$1,040,000

**\$4,690,000**

MANLY MILES	0154	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALL WINDOWS	\$1,520,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALUMINUM ENTRANCE DOORS, FRAMES, GLAZING AND HARDWARE	\$30,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING INTERIOR	STAIRWELL TREADS AND LIGHTING FLOORING REPLACEMENT	\$30,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING INTERIOR	INSTALL NEW SUSPENDED CEILINGS AND LIGHTING IN BLDG	\$550,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING INTERIOR	MANLY MILES FEASIBILITY STUDY	\$30,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE ALL ASBESTOS CONTAMINATED CEILING PLASTER AND SPRAY ON FIRE RETARDANT ABOVE IN BLDG	\$680,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$440,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	\$170,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	\$40,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FAN COIL UNITS	\$3,090,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SPLIT CHILLER SYSTEM	\$330,000

**\$6,910,000**

MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MBI ATS - 1	\$20,000
MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MBI ATS - 2	\$20,000
MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MBI ATS - 3	\$20,000
MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MBI ATS - 4	\$20,000
MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MBI ATS - 6	\$20,000
MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OPTO 22 BUILDING AUTOMATION SYSTEM PHASE 1	\$430,000
MICH BIOTECH INSTITUTE	0940	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OPTO 22 BUILDING AUTOMATION SYSTEM PHASE 2	\$450,000

**\$980,000**

MORRILL HALL OF AGRICULTURE	0022	2022	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$70,000
MORRILL HALL OF AGRICULTURE	0022	2022	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$320,000
MORRILL HALL OF AGRICULTURE	0022	2022	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$60,000
MORRILL HALL OF AGRICULTURE	0022	2023	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$50,000
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PRESSURE	\$140,000
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$80,000
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$1,670,000
MORRILL HALL OF AGRICULTURE	0022	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$10,000
MORRILL HALL OF AGRICULTURE	0022	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$10,000
MORRILL HALL OF AGRICULTURE	0022	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$20,000
MORRILL HALL OF AGRICULTURE	0022	2026	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$150,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$30,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$20,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, POWER-ASSIST	\$50,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$40,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR SURFACE FINISH - APPLIED, STANDARD	\$20,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR TRIM APPLIED FINISH	\$60,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$830,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, UNBALLASTED	\$20,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$70,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, FIRE-RATED	\$1,510,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$1,120,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$70,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$50,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$40,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$740,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$20,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$530,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$50,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$100,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$710,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER SUMP PUMP - SUBMERSIBLE PUMP	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$40,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$20,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$130,000



**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, KITCHEN	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$20,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$30,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$530,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER - INDOOR, GAS, SUSPENDED	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$20,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	EXTERIOR CUT STONE AND BRICK REPOINTING ALLOWANCE	\$130,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	WEST METAL CORNICE REPAIR AND REFINISH	\$140,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	WEST BUILDING ENTRY RAILING UPGRADES	\$60,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ROOFTOP STRUCTURE REMOVAL ALLOWANCE	\$90,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	WEST WING INTERIOR DOOR HARDWARE AND SIGNAGE UPGRADES	\$360,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	WEST SW AND NW STAIR TOWER RAILING UPGRADES	\$60,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	CONSTRUCT UNISEX RESTROOMS	\$220,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	HVAC SYSTEM INSTALLATION	\$3,710,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$1,630,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$370,000
MORRILL HALL OF AGRICULTURE	0022	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$100,000
					<b>\$16,810,000</b>

MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	AIR COMPRESSOR - AC-1 AND AC-2 RENEWAL	\$50,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	COMPUTER ROOM COOLING - DX - SPLIT ASC-1 RENEWAL	\$40,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	CONDENSING UNIT - DX - MOOT COURT ROOM 475 RENEWAL	\$40,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	DDC SYSTEM RENEWAL	\$1,470,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-1 (HW HEATING SYSTEM) RENEWAL	\$150,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-2 (HW HEATING SYSTEM) RENEWAL	\$150,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-3 (HW HEATING SYSTEM) RENEWAL	\$30,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	KITCHEN EQUIPMENT - BAKERY CASE 628H RENEWAL	\$20,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	KITCHEN EQUIPMENT - REACH-IN COOLER #1, #2, #6 RENEWAL	\$30,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	KITCHEN EQUIPMENT - REACH-IN COOLER #3, #4, #5 RENEWAL	\$30,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	PERIMETER HEAT SYSTEM - HYDRONIC FIN TUBE RENEWAL	\$3,780,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	PRESSURE BOOSTER PUMP - DUPLEX 7.5 HP RENEWAL	\$110,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	RETURN AIR FAN - RF-1 RENEWAL	\$70,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	RETURN AIR FAN - RF-2 RENEWAL	\$70,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	RETURN AIR FAN - RF-3 RENEWAL	\$60,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	RETURN AIR FAN - RF-4 RENEWAL	\$90,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	RETURN AIR FAN - RF-5 RENEWAL	\$60,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	SELF-CONTAINED PACKAGE AC UNIT - ACCU RENEWAL	\$20,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	SELF-CONTAINED PACKAGE AC UNIT - ACCU-1 RENEWAL	\$20,000
MSU COLLEGE OF LAW	0083	2022	BUILDING SYSTEMS	WATER COOLERS - WALL-MOUNTED DUAL-HEIGHT RENEWAL	\$30,000
MSU COLLEGE OF LAW	0083	2023	BUILDING INTERIOR	ACCESS OFFICE FLOORING SYSTEM RENEWAL	\$2,570,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	CENTRAL AHU - AHU-1 RENEWAL	\$210,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	CENTRAL AHU - AHU-2 RENEWAL	\$230,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	CENTRAL AHU - AHU-3 RENEWAL	\$210,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	CENTRAL AHU - AHU-4 RENEWAL	\$300,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	CENTRAL AHU - AHU-5 RENEWAL	\$200,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	CHILLED WATER PUMPS - TCHWP P-1 & P-2 RENEWAL	\$190,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	EXHAUST SYSTEM - EF-1 RENEWAL	\$20,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	EXHAUST SYSTEM - EF-2 RENEWAL	\$30,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	FIXED CASEWORK - AVERAGE RENEWAL	\$210,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	HOT WATER HEATING PUMPS - HWH P-1 & P-2 RENEWAL	\$130,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	RESTROOM ACCESSORIES - MULTI-USE RENEWAL	\$80,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	RETURN DUCT AIRWORK RENEWAL	\$1,920,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	STEAM CONDENSATE RETURN - CONDENSATE RECEIVER - 1 RENEWAL	\$30,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	UNIT HEATERS - HOT WATER RENEWAL	\$90,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	VAV SYSTEM W/DUCTWORK DISTRIBUTION - AHU-1 - FLOOR 1 RENEWAL	\$1,400,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	VAV SYSTEM W/DUCTWORK DISTRIBUTION - AHU-2 - FLOOR 2 RENEWAL	\$1,430,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	VAV SYSTEM W/DUCTWORK DISTRIBUTION - AHU-3 - FLOOR 3 RENEWAL	\$1,480,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	VAV SYSTEM W/DUCTWORK DISTRIBUTION - AHU-4 - FLOOR 4 RENEWAL	\$1,560,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	VAV SYSTEM W/DUCTWORK DISTRIBUTION - AHU-5 - BASEMENT RENEWAL	\$1,630,000
MSU COLLEGE OF LAW	0083	2023	BUILDING SYSTEMS	WET SPRINKLER SYSTEM - LIGHT HAZARD RENEWAL	\$2,360,000
MSU COLLEGE OF LAW	0083	2024	BUILDING ENVELOPE	SKYLIGHTS - DOME TYPES RENEWAL	\$300,000
MSU COLLEGE OF LAW	0083	2024	BUILDING INTERIOR	VCT RENEWAL	\$50,000
MSU COLLEGE OF LAW	0083	2024	BUILDING SYSTEMS	EXIT SIGNS RENEWAL	\$270,000
MSU COLLEGE OF LAW	0083	2024	BUILDING SYSTEMS	FIRE ALARM SYSTEM - CONTROL PANEL RENEWAL	\$100,000
MSU COLLEGE OF LAW	0083	2024	BUILDING SYSTEMS	FIRE ALARM SYSTEM - END DEVICES RENEWAL	\$1,340,000
MSU COLLEGE OF LAW	0083	2024	BUILDING SYSTEMS	FIRE PUMP - ELECTRIC 100 HP RENEWAL	\$80,000
MSU COLLEGE OF LAW	0083	2025	BUILDING SYSTEMS	LIGHTING DIMMERS - LECTURE HALLS RENEWAL	\$250,000
MSU COLLEGE OF LAW	0083	2026	BUILDING INTERIOR	VINYL TREADS - STAIRS RENEWAL	\$50,000
MSU COLLEGE OF LAW	0083	2026	BUILDING SYSTEMS	SECURITY SYSTEM - CARD ACCESS SYSTEM RENEWAL	\$170,000
MSU COLLEGE OF LAW	0083	2026	BUILDING SYSTEMS	SECURITY SYSTEM - CCTV RENEWAL	\$20,000
MSU COLLEGE OF LAW	0083	2027	BUILDING INTERIOR	ACT SYSTEM - STANDARD RENEWAL	\$2,080,000
MSU COLLEGE OF LAW	0083	2027	BUILDING INTERIOR	CERAMIC TILE - RESTROOMS RENEWAL	\$50,000
MSU COLLEGE OF LAW	0083	2027	BUILDING INTERIOR	CERAMIC TILE RENEWAL	\$60,000
MSU COLLEGE OF LAW	0083	2027	BUILDING INTERIOR	METAL PLANK CEILING SYSTEM RENEWAL	\$120,000
MSU COLLEGE OF LAW	0083	2027	BUILDING SYSTEMS	CHILLED WATER DISTRIBUTION PIPING RENEWAL	\$1,700,000
MSU COLLEGE OF LAW	0083	2027	BUILDING SYSTEMS	DUMBWAITER - LAW LIBRARY - ELEV 4 RENEWAL	\$90,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MSU COLLEGE OF LAW	0083	2027	BUILDING SYSTEMS	FITTINGS - SIGNAGE (ROOM NUMBERING AND IDENTIFICATION) RENEWAL	\$40,000
MSU COLLEGE OF LAW	0083	2027	BUILDING SYSTEMS	HEATING HOT WATER DISTRIBUTION PIPING RENEWAL	\$3,150,000
MSU COLLEGE OF LAW	0083	2027	BUILDING SYSTEMS	LAN SYSTEM RENEWAL	\$1,470,000
MSU COLLEGE OF LAW	0083	2027	BUILDING SYSTEMS	MULTIMEDIA PROJECTION SYSTEM RENEWAL	\$320,000
MSU COLLEGE OF LAW	0083	DEFERRED RENEWAL	BUILDING INTERIOR	CARPETING - BROADLOOM RENEWAL	\$920,000
MSU COLLEGE OF LAW	0083	DEFERRED RENEWAL	BUILDING INTERIOR	CARPETING - TILE RENEWAL	\$870,000
MSU COLLEGE OF LAW	0083	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DETECTION AND NOTIFICATION DEVICES INSUFFICIENT	\$30,000
MSU COLLEGE OF LAW	0083	DEFERRED RENEWAL	BUILDING SYSTEMS	WATER HEATER - STEAM - OWH-1 RENEWAL	\$60,000

**\$36,190,000**

MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER - 2	\$90,000
MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER - 3	\$90,000
MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE HOT WATER HEATER - 1	\$50,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSER WATER PUMP - 1	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSER WATER PUMP - 2	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSER WATER PUMP - 3	\$20,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER - 1	\$90,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 1	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 4	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 5	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 5	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 6	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE VF - 1	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 1	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 2	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 3	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 4	\$40,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN PUMP - 10	\$20,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN PUMP - 11	\$20,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 5	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 6	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 7	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 8	\$30,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE POTABLE WATER BOOSTER PUMP - 9	\$20,000

**\$960,000**

MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM DOMESTIC WATER RECLAIM PUMP 1	\$30,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM 2	\$30,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM PUMP 1	\$30,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM PUMP 2	\$30,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM SYSTEM	\$30,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE WATER SOFTENER 1	\$50,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE WATER SOFTENER 1	\$50,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE WATER SOFTENER 1	\$50,000
MSU SURPLUS AND RECYCLING	0223	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER	\$50,000
					<b>\$350,000</b>

MUNN ICE ARENA	0059	2023	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$30,000
MUNN ICE ARENA	0059	2024	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$60,000
MUNN ICE ARENA	0059	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - ATHLETIC, RUBBER, TILE OR ROLL	\$70,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - GYMNASIUM	\$610,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - GYMNASIUM	\$1,230,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - GYMNASIUM	\$10,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR ENCLOSURE VERT STACK SECT	\$30,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR INCOMING PWR CONNECT	\$20,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR METERING AND INSTRUMENT SYSTEMS	\$120,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - GYMNASIUM	\$1,430,000
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	RENEW/REPLACE SWGR TIEBREAK SELECTOR, FME, MANUAL	\$30,000
MUNN ICE ARENA	0059	2025	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$940,000
MUNN ICE ARENA	0059	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
MUNN ICE ARENA	0059	2026	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, FIRE-RATED	\$390,000
MUNN ICE ARENA	0059	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$120,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$120,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$50,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR - OVERHEAD, INTERIOR	\$10,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$60,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$150,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$20,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$120,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$1,100,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$40,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PRESSURE	\$30,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DEHUMIDIFIER SYSTEM, DESICCANT WHEEL	\$270,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRINKING FOUNTAIN, DUAL-LEVEL	\$10,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$10,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - AXIAL, SUPPLY	\$60,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY	\$20,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$40,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - GYMNASIUM	\$140,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM	\$470,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - GYMNASIUM	\$5,160,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - GYMNASIUM	\$800,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LOAD INTERRUPTER ALLOCATION	\$140,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$20,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY	\$190,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$220,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER TANK	\$40,000
MUNN ICE ARENA	0059	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN AND REPAIR EXTERIOR CONCRETE WALL	\$130,000
MUNN ICE ARENA	0059	NOT TIME BASED - CORRECTIVE ACTION	BUILDING INTERIOR	REWORK ZAMBONI SERVICE CORRIDOR HW3 FLOOR SLAB	\$50,000
MUNN ICE ARENA	0059	NOT TIME BASED - CORRECTIVE ACTION	SITE WORK	SELECTIVE CONCRETE SIDEWALK REPAIR ALLOWANCE	\$60,000
MUNN ICE ARENA	0059	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	EAST, WEST, NORTH ENTRY AIRLOCK CONSTRUCTION ALLOWANCE	\$1,270,000
MUNN ICE ARENA	0059	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR DOOR ACCESSIBILITY UPGRADES	\$100,000
MUNN ICE ARENA	0059	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	RECONFIGURE PUBLIC LOCKER AND SHOWER AREAS	\$5,000,000
MUNN ICE ARENA	0059	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$110,000
MUNN ICE ARENA	0059	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$30,000
					<b>\$21,190,000</b>

MUSEUM	0013	2023	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	\$10,000
MUSEUM	0013	2025	BUILDING SYSTEMS	RENEW/REPLACE COMMERCIAL KITCHEN EQUIPMENT ESTIMATE BY SQUARE FOOT	\$30,000
MUSEUM	0013	2025	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$300,000
MUSEUM	0013	2025	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$20,000
MUSEUM	0013	2025	BUILDING SYSTEMS	RENEW/REPLACE PACKAGE HVAC UNIT, DX, GAS OR ELECTRIC HEAT, SINGLE-ZONE	\$30,000
MUSEUM	0013	2025	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$300,000
MUSEUM	0013	2026	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, UNBALLASTED	\$60,000
MUSEUM	0013	2026	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$110,000
MUSEUM	0013	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$10,000
MUSEUM	0013	2026	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$40,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$180,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, CUSTOM	\$30,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, STEEL - STANDARD	\$1,890,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - TILE, CONCRETE	\$340,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, FIRE-RATED	\$130,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, NON-RATED	\$90,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, INTERIOR	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$20,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR, SLIDING SYSTEM, INTERIOR	\$20,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$110,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$20,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$70,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$20,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$190,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE PREM	\$20,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$20,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$30,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$310,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE SPRINKLER SYSTEM - DRY	\$110,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER SUMP PUMP - SUBMERSIBLE PUMP	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$30,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, KITCHEN, COMMERCIAL WITH FIRE SUPPRESSION	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$110,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$670,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/HP COOL, ELEC HEAT	\$200,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
MUSEUM	0013	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	ADD ROLLED OR BLOWN IN ATTIC INSULATION	\$20,000
MUSEUM	0013	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	ASBESTOS CONCRETE ROOF TILE ABATEMENT	\$80,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$80,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	EXTERIOR STAIR AND RAILING UPGRADES	\$40,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$90,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAIN AND CONSTRUCT ALCOVES	\$40,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$110,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$20,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL AIR-COOLED CHILLER	\$250,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	HVAC SYSTEM INSTALLATION	\$2,720,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$950,000
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$120,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MUSEUM	0013	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$30,000

\$10,510,000

MUSIC BUILDING	0011	2022	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
MUSIC BUILDING	0011	2022	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$30,000
MUSIC BUILDING	0011	2023	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$30,000
MUSIC BUILDING	0011	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$10,000
MUSIC BUILDING	0011	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$30,000
MUSIC BUILDING	0011	2024	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$10,000
MUSIC BUILDING	0011	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$20,000
MUSIC BUILDING	0011	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
MUSIC BUILDING	0011	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$10,000
MUSIC BUILDING	0011	2025	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$10,000
MUSIC BUILDING	0011	2025	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 3-PLY, SBS MODIFIED BITUMEN, MOP	\$80,000
MUSIC BUILDING	0011	2025	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 4-PLY, COAL TAR PITCH - R30	\$340,000
MUSIC BUILDING	0011	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$10,000
MUSIC BUILDING	0011	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$220,000
MUSIC BUILDING	0011	2025	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$30,000
MUSIC BUILDING	0011	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	\$80,000
MUSIC BUILDING	0011	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	\$40,000
MUSIC BUILDING	0011	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$10,000
MUSIC BUILDING	0011	2027	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$10,000
MUSIC BUILDING	0011	2027	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$170,000
MUSIC BUILDING	0011	2027	BUILDING SYSTEMS	RENEW/REPLACE EVAPORATOR UNIT, NO HEAT	\$20,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR STAIR TREAD AND LANDING FINISH	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR SURFACE FINISH - APPLIED, STANDARD	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$270,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE INSULATION, ATTIC, ROLLED OR BLOWN-IN	\$30,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - ATTACHED ACOUSTICAL TILE	\$80,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TERRAZZO RESURFACE	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$80,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$190,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$110,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$30,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DAYLIGHT DIMMING LIGHTING CONTROL	\$20,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - CLASSROOM	\$520,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	\$1,520,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$320,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EVAPORATOR UNIT, NO HEAT	\$20,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY	\$10,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$40,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$20,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - CLASSROOM	\$3,420,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - CLASSROOM	\$700,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$30,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/ HP COOL, ELEC HEAT	\$110,000
MUSIC BUILDING	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
MUSIC BUILDING	0011	NOT TIME BASED - CORRECTIVE ACTION	BUILDING INTERIOR	FIXED SEATING REPAIRS	\$30,000
MUSIC BUILDING	0011	NOT TIME BASED - CORRECTIVE ACTION	SPECIAL CONSTRUCTION	ABATE ASBESTOS ROOFING	\$70,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$170,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR RAILINGS AND ATTIC GUARDRAILS	\$110,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$30,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAIN	\$80,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$150,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$60,000
MUSIC BUILDING	0011	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$60,000

**\$9,570,000**

MUSIC PRACTICE	0021	2024	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
MUSIC PRACTICE	0021	2025	BUILDING INTERIOR	RENEW/REPLACE DOOR AND FRAME, INTERIOR, FIRE-RATED	\$10,000
MUSIC PRACTICE	0021	2025	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$40,000
MUSIC PRACTICE	0021	2026	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$130,000
MUSIC PRACTICE	0021	2027	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$310,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$20,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$10,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$10,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$10,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$50,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$250,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$320,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$650,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$20,000



**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$40,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$20,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$40,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$20,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$1,670,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$400,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$30,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$30,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$200,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNINTERRUPTIBLE POWER SUPPLY	\$80,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$230,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR RAILINGS	\$80,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAIN	\$70,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOMS	\$140,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$540,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$70,000
MUSIC PRACTICE	0021	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$60,000
					<b>\$5,590,000</b>

NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS/ JAMBS/ AND HARDWARE (6-OHD) (16 ENTRY)	\$190,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE DAMAGED/OUTDATED CEILING TILE AND LIGHTING	\$230,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE NATURAL RESOURCES ATS	\$20,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	NATURAL RESOURCES - REPLACE 2 DOMESTIC HOT WATER HEATERS	\$140,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER 1	\$80,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER	\$40,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM PLUMBING FIXTURES	\$30,000
					<b>\$730,000</b>

NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING INTERIOR	FLOOR COVERING - REPLACE DETERIORATED FLOOR TILE	\$340,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPAIR DOORS AND HARDWARE, BASEMENT THROUGH 4TH FLOOR	\$120,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER HEATER IN EAST BASEMENT MR	\$80,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	NATURAL SCIENCE - REPLACE ELEVATOR 2	\$310,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 1	\$220,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 2	\$210,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 3	\$220,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 4	\$250,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 BASEMT SUMP PUMPS IN AIR PLENUMS E & W	\$60,000
					<b>\$1,810,000</b>

OLD BOTANY	0017	2022	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$10,000
OLD BOTANY	0017	2025	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$10,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR STAIR TREAD AND LANDING FINISH	\$20,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR SURFACE FINISH - APPLIED, STANDARD	\$20,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$230,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, INTERIOR	\$10,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$20,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$10,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$20,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS	\$10,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$80,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$10,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$180,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE OCCUPANCY SENSING AND TIMER LIGHTING CONTROL	\$30,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/ HP COOL, ELEC HEAT	\$170,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$40,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	EXTERIOR STAIR AND RAILING UPGRADES	\$50,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL ELEVATOR	\$440,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$30,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$90,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$20,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	HVAC SYSTEM INSTALLATION	\$730,000
OLD BOTANY	0017	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$30,000

**\$2,280,000**

OLD HORTICULTURE	0025	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE ELECTRICAL DISTRIBUTION SYSTEM FROM AIR PLENUM	\$290,000
OLD HORTICULTURE	0025	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER	\$200,000
OLD HORTICULTURE	0025	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$350,000

**\$840,000**

OLDS HALL	0047	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE FIRE ESCAPE EXTERIOR DOORS, FRAMES AND HARDWARE (9)	\$70,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #1, 2 AND 3	\$260,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	BASEMENT CRAWL SPACE-REMOVE ALL ASBESTOS PIPE INSULATIONS & REINSULATE WITH NON-ASBESTOS INSULATIONS	\$30,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL NEW HEATING/VENTILATING UNIT TO SERVE ENTIRE BUILDING,	\$8,540,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$180,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ROOF TOP AIR CONDITIONING UNIT #1	\$70,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL DOMESTIC HOT AND COLD WATER PIPING INSIDE THE BUILDING,	\$1,300,000

**\$10,450,000**

OYER SPEECH AND HEARING	0089	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OYER ATS	\$20,000
OYER SPEECH AND HEARING	0089	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ORIGINAL STEAM REDUCING STATION	\$50,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
OYER SPEECH AND HEARING	0089	DEFERRED RENEWAL	BUILDING SYSTEMS	OYER- UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$380,000

\$450,000

PACKAGING	0177	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE APPROXIMATELY (23) INTERIOR BIRCH VENEER DOORS AND HARDWARE	\$40,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CORRIDOR FLOOR TILE IN ORIGINAL BUILDING	\$50,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PACKAGING ATS	\$20,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	RESIZE AND REPLACE CONTROL AIR COMPRESSORS IN THE BASEMENT MECHANICAL ROOM	\$30,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	PACKAGING- UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$130,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC #1 & 3	\$1,120,000

\$1,390,000

PAVILION AG LIVESTOCK	0212	2023	BUILDING SYSTEMS	HVAC VAV CONVERSION	\$600,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE VARIOUS HOLLOW METAL AND OVERHEAD DOORS WHERE DAMAGED	\$30,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY REPAIRS AND CAULKING	\$60,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR PAINTING WALL AREAS WHERE NEEDED	\$80,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM PLUMBING FIXTURES	\$40,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER	\$250,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FIRE SUPPRESSION PIPING	\$460,000

\$1,520,000

PLANT AND SOIL SCIENCE	0086	2027	BUILDING SYSTEMS	REPLACE EMERGENCY GENERATOR-1	\$50,000
PLANT AND SOIL SCIENCE	0086	2027	BUILDING SYSTEMS	REPLACE EMERGENCY GENERATOR-2	\$50,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING ENVELOPE	REMOVE DOUBLE STRENGTH GLASS IN ROOF AND REPLACE WITH POLYCARBONATE.	\$100,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PLANT SOIL SCIENCE ATS	\$20,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 1 (MPS)	\$450,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HYDRAULIC ELEVATOR	\$540,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	\$7,280,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 5 SUPPLY FANS, 4 PLENUM EXHAUST FANS.....,	\$3,460,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$2,320,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PLUMBING FIXTURES	\$50,000

\$14,320,000

PLANT BIOLOGY	0178	2022	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$90,000
PLANT BIOLOGY	0178	2023	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$20,000
PLANT BIOLOGY	0178	2023	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
PLANT BIOLOGY	0178	2023	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$10,000
PLANT BIOLOGY	0178	2023	BUILDING SYSTEMS	RENEW/REPLACE COMMERCIAL KITCHEN EQUIPMENT ESTIMATE BY SQUARE FOOT	\$60,000
PLANT BIOLOGY	0178	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$140,000
PLANT BIOLOGY	0178	2024	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$40,000
PLANT BIOLOGY	0178	2025	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	\$170,000
PLANT BIOLOGY	0178	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$30,000
PLANT BIOLOGY	0178	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$10,000
PLANT BIOLOGY	0178	2025	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$1,250,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
PLANT BIOLOGY	0178	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
PLANT BIOLOGY	0178	2025	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$330,000
PLANT BIOLOGY	0178	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$1,970,000
PLANT BIOLOGY	0178	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	\$17,340,000
PLANT BIOLOGY	0178	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$10,000
PLANT BIOLOGY	0178	2025	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$40,000
PLANT BIOLOGY	0178	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$50,000
PLANT BIOLOGY	0178	2026	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$30,000
PLANT BIOLOGY	0178	2026	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$60,000
PLANT BIOLOGY	0178	2026	BUILDING ENVELOPE	RENEW/REPLACE GLASS, CURTAIN WALL, STANDARD	\$3,760,000
PLANT BIOLOGY	0178	2026	BUILDING SYSTEMS	RENEW/REPLACE COOLING TOWER	\$130,000
PLANT BIOLOGY	0178	2026	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - LABORATORY, WET	\$5,420,000
PLANT BIOLOGY	0178	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, KITCHEN	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, PANEL JOINT RESTORATION	\$50,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$420,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$80,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	ADD A REDUNDANT HOT WATER HEAT PUMP SO THAT WORK CAN BE PERFORMED ON THE EXISTING PUMP.	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DETERIORATED PENTHOUSE DUCT INSULATION	\$110,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	MOVE AND RE-PIPE HWHT BOOSTER COILS THAT ARE LOCATED IN THE HERBARIUM.	\$80,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$320,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$30,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$840,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$40,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CHILLER - WATER-COOLED CENTRIFUGAL OR SCREW	\$700,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE PREM	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR POLE ARM FIXTURE STD	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COMPUTER ROOM AC UNIT - CHILLED WATER	\$80,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 1 PUMP	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$190,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PNEUMATIC	\$260,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DOCK LEVELER	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DOMESTIC WATER BOOSTER SYSTEM	\$160,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - LABORATORY, WET	\$780,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET	\$4,250,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ENVIRONMENTAL CHAMBER MECHANICAL SYSTEM	\$60,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ENVIRONMENTAL CHAMBER STRUCTURE	\$50,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$30,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - AXIAL, RETURN	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$40,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY	\$10,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$30,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE PUMP - ELECTRIC, 500 GPM, 3" ID	\$60,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$860,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$1,750,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HOOD, KITCHEN, COMMERCIAL WITH FIRE SUPPRESSION	\$190,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LABORATORY	\$560,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY	\$290,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$2,840,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$2,380,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$80,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$410,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	\$90,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	\$190,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	\$210,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REVERSE OSMOSIS SYSTEM	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - LABORATORY, WET	\$6,910,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$20,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VACUUM PUMP - H2O SEAL	\$100,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$50,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WALK-IN REFRIGERATOR OR FREEZER STRUCTURE	\$1,460,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$220,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER TANK	\$210,000
PLANT BIOLOGY	0178	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN EXTERIOR WALL SURFACES	\$30,000
PLANT BIOLOGY	0178	NOT TIME BASED - CORRECTIVE ACTION	BUILDING SYSTEMS	REPLACE CHEMICAL RESIN LAB COUNTER AND SINK	\$40,000
PLANT BIOLOGY	0178	NOT TIME BASED - CORRECTIVE ACTION	SITE WORK	SITE VEHICULAR PAVING RENEWAL	\$40,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$60,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INSTALL HANDRAILS ALONG CORRIDOR RAMPS	\$30,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$400,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR RAILINGS	\$90,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	IMPROVE SHOWER ACCESSIBILITY IN MEN'S RESTROOM	\$20,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$90,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$140,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$60,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$2,440,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$400,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$250,000
PLANT BIOLOGY	0178	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$260,000
					<b>\$63,030,000</b>

PLANT SCIENCE GREENHOUSE-EAST	0098C	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPLACE SOME INTERIOR GREENHOUSE DOORS.	\$20,000
PLANT SCIENCE GREENHOUSE-EAST	0098C	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$190,000
PLANT SCIENCE GREENHOUSE-EAST	0098C	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	\$190,000
					<b>\$400,000</b>

PLANT SCIENCE GREENHOUSE-SUPPORT	0094	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EAVES TROUGHS AND REPAIR ROOF #1	\$20,000
					<b>\$20,000</b>

PLANT SCIENCE GREENHOUSE-WEST	0093	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 160 SIDEWALL EXHAUST FANS	\$680,000
					<b>\$680,000</b>

PSYCHOLOGY	0027	2022	BUILDING SYSTEMS	REPLACE CHILLER	\$200,000
PSYCHOLOGY	0027	2022	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$500,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP 3	\$40,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP 4	\$40,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER 1	\$80,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER 2	\$80,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE EXHAUST FAN 1	\$30,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HOT WATER PUMP 1	\$30,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HOT WATER PUMP 2	\$30,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 1	\$320,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 2	\$320,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 3	\$180,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 4	\$170,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE STEAM FIRED HOT WATER HEATER 1	\$90,000
PSYCHOLOGY	0027	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PSYCHOLOGY ATS	\$20,000
PSYCHOLOGY	0027	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER AND SHUT OFF VALVES	\$30,000
PSYCHOLOGY	0027	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ORIGINAL TOILETS, FLUSH VALVES, URINALS, & URINAL FLUSH VALVES	\$60,000
PSYCHOLOGY	0027	DEFERRED RENEWAL	BUILDING SYSTEMS	PSYCHOLOGY - UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	\$130,000
					<b>\$2,350,000</b>

PUBLIC SAFETY	0087	2026	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP 1	\$30,000
PUBLIC SAFETY	0087	2026	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP 2	\$30,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR ENTRANCE DOORS/ FRAMES/ HARDWARE	\$90,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS	\$20,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING INTERIOR	PAINT MAIN LOBBY AND HALLWAYS	\$50,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC SAFETY ATS	\$20,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$300,000

**\$540,000**

RADIOLOGY	0214	2022	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, TILT-UP OR PRECAST CONCRETE PANELS - PAINT	\$10,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, PNEUMATIC	\$70,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$40,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - TRACTION - LOW RISE 2-8 FLOORS	\$450,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$30,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$10,000
RADIOLOGY	0214	2024	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
RADIOLOGY	0214	2026	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$10,000
RADIOLOGY	0214	2027	BUILDING SYSTEMS	RENEW/REPLACE COMPUTER ROOM AC UNIT - REFRIGERANT, EXCL. HEAT REJECTION	\$340,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$20,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, DIAPHRAGM	\$10,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$360,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$50,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$740,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$30,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNINTERRUPTIBLE POWER SUPPLY	\$50,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$40,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$10,000
RADIOLOGY	0214	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$30,000
RADIOLOGY	0214	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$20,000
RADIOLOGY	0214	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$140,000

**\$2,570,000**

RADIOLOGY GREENHOUSE	0214A	2022	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER - INDOOR, GAS, SUSPENDED	\$10,000
RADIOLOGY GREENHOUSE	0214A	2026	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
RADIOLOGY GREENHOUSE	0214A	2026	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - WAREHOUSE	\$10,000
RADIOLOGY GREENHOUSE	0214A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$10,000

**\$40,000**

RADIOLOGY STORAGE SHED	0214B	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - WAREHOUSE	\$10,000
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**\$10,000**

REGIONAL CHILLED WATER PLANT	0189	2022	BUILDING SYSTEMS	REPLACE FAN BLADES ON COOLING TOWERS 5 & 6	\$30,000
REGIONAL CHILLED WATER PLANT	0189	2023	BUILDING SYSTEMS	REPLACE 1250 TON CHILLER #8 AND COOLING TOWER	\$2,340,000
REGIONAL CHILLED WATER PLANT	0189	2023	BUILDING SYSTEMS	REPLACE FAN BLADES ON COOLING TOWERS 1 & 2	\$30,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING ENVELOPE	GENERAL MASONRY & CAULKING RESTORATION OF ENTIRE BUILDING	\$180,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR DOOR REPLACEMENT (2) ENTRY DOORS & (2) OVERHEAD DOORS	\$30,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #2	\$110,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE RCW PLANT ATS	\$20,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$30,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLER #10 AND COOLING TOWER	\$2,370,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM POWERED CONDENSATE PUMPS SERVING NORTH CHILLERS	\$510,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLER #9 AND COOLING TOWER	\$2,340,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION FOR PORTABLE GENERATOR TO RUN ABSORBER AND CIRCULATING PUMPS FOR ULAR BUILDINGS.	\$200,000

**\$8,190,000**

SPARTAN CHILD DEVELOPMENT	0217	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC RENEWAL	TBD
SPARTAN CHILD DEVELOPMENT	0217	2027	BUILDING SYSTEMS	REPLACE BATHROOM LAVATORY FAUCETS AND COUNTER TOP SINK FAUCETS	\$30,000

**\$30,000**

STUDENT SERVICES	0142	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$480,000
STUDENT SERVICES	0142	2023	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$670,000
STUDENT SERVICES	0142	2024	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
STUDENT SERVICES	0142	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$20,000
STUDENT SERVICES	0142	2025	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$890,000
STUDENT SERVICES	0142	2025	BUILDING SYSTEMS	RENEW/REPLACE PTAC, DX/ HP COOL, ELEC HEAT	\$20,000
STUDENT SERVICES	0142	2026	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
STUDENT SERVICES	0142	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$140,000
STUDENT SERVICES	0142	2027	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$60,000
STUDENT SERVICES	0142	2027	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - TRACTION - LOW RISE 2-8 FLOORS	\$890,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE EXTERIOR WALL FINISH - APPLIED, STANDARD	\$10,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - ATTACHED ACOUSTICAL TILE	\$160,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$120,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$390,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$20,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$60,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$650,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$1,070,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$2,200,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$30,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$110,000



**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER LIFT STATION	\$30,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$150,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HUMIDIFIER, STEAM INJECTION	\$20,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$5,650,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$1,280,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$170,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$30,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$130,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$660,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 208 OR 240 V	\$10,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$20,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$120,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING ENVELOPE	ADD ROPE PINTLES TO SUPPORT WORKER FALL PROTECTION	\$30,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$180,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR RAILINGS	\$60,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOM	\$60,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAIN	\$80,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	BACKFLOW PREVENTER INSTALLATION	\$30,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM INSTALLATION	\$1,820,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$250,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$90,000
STUDENT SERVICES	0142	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$200,000

**\$19,150,000**

TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE MAIN ENTRANCE EXTERIOR DOOR AND VESTIBULE DOOR AND HARDWARE	\$30,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ORIGINAL HOLLOW METAL EXTERIOR DOORS AND HARDWARE	\$60,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ORIGINAL OVERHEAD DOORS ON BLDG EXTERIOR	\$140,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOFS 9, 12, 13, 14, 17	\$160,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #17,16	\$80,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #2	\$80,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING SYSTEMS	ELEVATOR - 2	\$700,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING SYSTEMS	POWER PLANT CONVERT EXTERIOR LIGHTING TO LED	\$30,000

**\$1,280,000**

UNIV RESEARCH CONTAINMENT	0211	2022	BUILDING SYSTEMS	REPLACE EAST LOW PRESSURE BOILER	\$340,000
UNIV RESEARCH CONTAINMENT	0211	2022	BUILDING SYSTEMS	REPLACE HIGH PRESSURE BOILER	\$270,000
UNIV RESEARCH CONTAINMENT	0211	2022	BUILDING SYSTEMS	REPLACE WEST LOW PRESSURE BOILER	\$340,000
UNIV RESEARCH CONTAINMENT	0211	2025	BUILDING SYSTEMS	REPLACE WATER SOFTNER THAT SERVES BOILER	\$30,000
UNIV RESEARCH CONTAINMENT	0211	2026	BUILDING SYSTEMS	REPLACE (2) MECHANICAL CHILLERS 220 TONS EACH	\$440,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOFING - FM ROOFS #1, 2, 3, AND 4	\$300,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING INTERIOR	PAINT INTERIOR WALLS, DOORS AND FRAMES, AND RECOAT FLOORS IN ULAR AREA	\$30,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SHEET METAL PANS IN HVAC 3 AND HVAC 5	\$50,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AHU 1, 2, 3, 4, 5, 6, EXHAUST FANS 1, 2, 7, AND 8.	\$1,500,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ENERGY RECLAIM PUMPS (2)	\$100,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT EXCHANGERS	\$70,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEATING PUMPS	\$80,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SUMP PUMPS	\$60,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS	\$360,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EXISTING HEAT EXCHANGER AND ADD A SECOND HEAT EXCHANGER FOR FULL REDUNDANCY	\$310,000
					<b>\$4,280,000</b>

UNIVERSITY SERVICES	0088	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE UNIVERSITY SERVICES ATS	\$20,000
					<b>\$20,000</b>

URBAN PLANNING LANDSCAPE ARCH-IMC	0082	DEFERRED RENEWAL	BUILDING INTERIOR	REST ROOM PARTITIONS - REPLACE TOILET PARTITIONS.	\$20,000
URBAN PLANNING LANDSCAPE ARCH-IMC	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	URBAN PLANNING LANDSCAPE - REPLACE FIRE ALARM SYSTEM	\$260,000
URBAN PLANNING LANDSCAPE ARCH-IMC	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMPS 1 AND 2, INCLUDING CHECK, BALANCING AND ISOLATION VALVES	\$40,000
URBAN PLANNING LANDSCAPE ARCH-IMC	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	\$50,000
URBAN PLANNING LANDSCAPE ARCH-IMC	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC STUDY ON URBAN PLANNING	\$100,000
					<b>\$470,000</b>

VETERINARY DIAGNOSTIC LABORATORY	0215	2022	BUILDING SYSTEMS	REPLACE FILTER MEDIA IN THE IRON FILTER TANKS FOR DOMESTIC COLD WATER IN MR-032	\$50,000
VETERINARY DIAGNOSTIC LABORATORY	0215	2025	BUILDING SYSTEMS	REPLACE DEAERATOR AND FEED PUMPS FOR BOILER SYSTEM	\$1,020,000
VETERINARY DIAGNOSTIC LABORATORY	0215	2025	BUILDING SYSTEMS	REPLACE EAST HIGH PRESSURE BOILER	\$1,020,000
VETERINARY DIAGNOSTIC LABORATORY	0215	2025	BUILDING SYSTEMS	REPLACE WEST HIGH PRESSURE BOILER	\$1,020,000
VETERINARY DIAGNOSTIC LABORATORY	0215	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM DOMESTIC WATER HEATER LOCATED IN PENTHOUSE	\$70,000
VETERINARY DIAGNOSTIC LABORATORY	0215	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER SOFTENER MINERAL IN 2 DOMESTIC WATER SOFTENER TANKS IN MR-032	\$50,000
VETERINARY DIAGNOSTIC LABORATORY	0215	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE CONTROLS IN VDL TRAILER-1	\$40,000
					<b>\$3,270,000</b>

VETERINARY MEDICAL CENTER	0170	2022	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$3,750,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$10,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	\$40,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	\$60,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$50,000
VETERINARY MEDICAL CENTER	0170	2023	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS	\$20,000
VETERINARY MEDICAL CENTER	0170	2023	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
VETERINARY MEDICAL CENTER	0170	2023	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$1,160,000
VETERINARY MEDICAL CENTER	0170	2023	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$50,000
VETERINARY MEDICAL CENTER	0170	2024	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$100,000
VETERINARY MEDICAL CENTER	0170	2024	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$1,880,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD COIL DOOR, PADS	\$20,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, POWER-ASSIST	\$90,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, BALLASTED	\$3,120,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	RENEW/REPLACE ROOF - 1-PLY, UNBALLASTED	\$330,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	\$2,440,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$270,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL RESILIENT, TILE OR ROLL	\$410,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$30,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$20,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$20,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$20,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - LABORATORY, WET	\$6,570,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS	\$40,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS	\$40,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$100,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$860,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$820,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$610,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, KITCHEN	\$60,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE POWER INVERTER, DC TO AC	\$10,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$10,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$20,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	\$490,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING INTERIOR	RENEW/REPLACE FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	\$130,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$10,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$2,870,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE FAN - AXIAL, RETURN	\$250,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY	\$10,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE FIRE PUMP - ELECTRIC, 500 GPM, 3" ID	\$60,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE HOOD, FUME	\$20,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$70,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SHOWER VALVE AND HEAD	\$20,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$10,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANKLESS	\$80,000
VETERINARY MEDICAL CENTER	0170	2026	BUILDING SYSTEMS	RENEW/REPLACE WALK-IN REFRIGERATOR OR FREEZER STRUCTURE	\$220,000
VETERINARY MEDICAL CENTER	0170	2027	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
VETERINARY MEDICAL CENTER	0170	2027	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$10,000
VETERINARY MEDICAL CENTER	0170	2027	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$10,000
VETERINARY MEDICAL CENTER	0170	2027	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$50,000
VETERINARY MEDICAL CENTER	0170	2027	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$60,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$30,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, SECURITY, EXTERIOR	\$120,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$760,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	\$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, SIDING, METAL CORRUGATED, V-BEAM, OR RIBBED	\$220,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	\$2,630,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	\$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE DOOR PANIC HARDWARE, INTERIOR	\$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$440,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$580,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$100,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR - MEDICAL/LABORATORY PCKG	\$80,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$90,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$4,700,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$260,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$270,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DOMESTIC WATER BOOSTER SYSTEM	\$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE DUST COLLECTION SYSTEM	\$40,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - LABORATORY, WET	\$940,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET	\$5,160,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$1,250,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EVAPORATOR UNIT, NO HEAT	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK - STL PT	\$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - AXIAL, RETURN	\$80,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - PROPELLER WITH LOUVER	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$270,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE PUMP - ELECTRIC, 500 GPM, 3" ID	\$60,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GENERATOR - NATURAL GAS OR GASOLINE	\$130,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HUMIDIFIER, STEAM INJECTION	\$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LABORATORY	\$1,130,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY	\$850,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	\$1,660,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	\$16,570,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	\$5,250,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LOAD INTERRUPTER ALLOCATION	\$270,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MAIN SWITCHBOARD W/BREAKERS	\$750,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR BREAKER - FME Adjustable	\$770,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR ENCLOSURE VERT STACK SECT	\$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR INCOMING PWR CONNECT	\$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MC SWGR METERING AND INSTRUMENT SYSTEMS	\$300,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$4,190,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 208/120V	\$40,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PANELBOARD, 3 PH, 480/277V	\$90,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, KITCHEN	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	\$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PRESSURE REDUCING VALVE, STEAM SYSTEM	\$130,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$390,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	\$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	\$40,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	\$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE REVERSE OSMOSIS SYSTEM	\$10,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - LABORATORY, WET	\$8,380,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SWITCH - AUTO TRANSFER, 480 V	\$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$90,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - SHELL & TUBE	\$210,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER SOFTENER	\$170,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	SELECTIVE EXTERIOR MASONRY WALL REFURBISHING	\$210,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - CORRECTIVE ACTION	SITE WORK	SITE PEDESTRIAN PAVING RENEWAL ALLOWANCE	\$40,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	AUDITORIUM G150 ACCESSIBILITY UPGRADES	\$30,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	CORRIDOR WATER FOUNTAIN ACCESSIBILITY UPGRADES	\$60,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR DOOR HARDWARE ACCESSIBILITY UPGRADES	\$420,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	INTERIOR STAIR TOWER AND CORRIDOR RAILING UPGRADES	\$110,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	SELECT RESTROOM/LOCKER ROOM ACCESSIBILITY UPGRADES	\$80,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	CONSTRUCT UNISEX RESTROOM	\$140,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$1,050,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$60,000
VETERINARY MEDICAL CENTER	0170	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$820,000

\$90,640,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
VETERINARY MEDICAL CENTER-EQUINE	0170A	2022	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$220,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING ENVELOPE	RENEW/REPLACE ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED	\$20,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$30,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$60,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	RENEW/REPLACE BOILER - GAS	\$120,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - LAVATORY, WALL HUNG	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - URINAL	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	RENEW/REPLACE PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2025	BUILDING INTERIOR	RENEW/REPLACE CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2026	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2026	BUILDING SYSTEMS	RENEW/REPLACE FAN - CENTRIFUGAL ROOF EXHAUST	\$70,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2026	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - COMMERCIAL, GAS	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	\$20,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$20,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 3-PLY, SBS MODIFIED BITUMEN, MOP	\$40,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE WALL, EXTERIOR, SIDING, METAL CORRUGATED, V-BEAM, OR RIBBED	\$70,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$30,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$60,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS	\$30,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$190,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FURNACE, OUTDOOR, NATURAL GAS	\$40,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - MEDICAL CLINIC	\$20,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - MEDICAL CLINIC	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - MEDICAL CLINIC	\$50,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$20,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	\$270,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$140,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE PUMP - ELECTRIC	\$20,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER - INDOOR, GAS, SUSPENDED	\$30,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$230,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$10,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE WATER HEATER - COMMERCIAL, GAS	\$20,000

**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
VETERINARY MEDICAL CENTER-EQUINE	0170A	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	EAST WING DOOR HARDWARE UPGRADES	\$30,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSOR/DIMMING LIGHTING CONTROLS	\$100,000

\$2,100,000

VETERINARY MEDICAL CENTER-PEGASUS	0170B	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2022	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$20,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2023	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2023	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$50,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2024	BUILDING INTERIOR	RENEW/REPLACE WALL FINISH - APPLIED, STANDARD	\$120,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	\$120,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL SHEET, STANDARD	\$20,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$40,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT DECO LIGHTING	\$20,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - MEDICAL CLINIC	\$40,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	\$140,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$40,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, SECURITY, EXTERIOR	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$20,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE CONDENSER - REFRIGERANT, AIR-COOLED	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EVAPORATOR UNIT, NO HEAT	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - MEDICAL CLINIC	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - MAJOR INSTRUMENTATION - MEDICAL CLINIC	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER - INDOOR, GAS, SUSPENDED	\$10,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$30,000

\$740,000

WELLS HALL	0078	2022	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$420,000
WELLS HALL	0078	2022	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$70,000
WELLS HALL	0078	2022	BUILDING SYSTEMS	RENEW/REPLACE DUCTLESS DX SPLIT SYSTEM	\$20,000
WELLS HALL	0078	2023	BUILDING INTERIOR	RENEW/REPLACE FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL	\$50,000
WELLS HALL	0078	2023	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$30,000
WELLS HALL	0078	2024	BUILDING INTERIOR	RENEW/REPLACE INTERIOR STAIR TREAD AND LANDING FINISH	\$20,000
WELLS HALL	0078	2024	BUILDING SYSTEMS	RENEW/REPLACE CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	\$80,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	\$110,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE DOOR PANIC HARDWARE, EXTERIOR	\$100,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE GLASS, STOREFRONT	\$5,190,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$3,450,000
WELLS HALL	0078	2025	BUILDING ENVELOPE	RENEW/REPLACE ROOF - BITUMINOUS, 3-PLY, SBS MODIFIED BITUMEN, MOP	\$60,000
WELLS HALL	0078	2025	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$260,000

MSU Capital Renewal by Building (FY2022-2027 including Deferred)

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
WELLS HALL	0078	2026	BUILDING SYSTEMS	RENEW/REPLACE ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS	\$350,000
WELLS HALL	0078	2026	BUILDING SYSTEMS	RENEW/REPLACE RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING	\$10,000
WELLS HALL	0078	2026	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
WELLS HALL	0078	2026	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$310,000
WELLS HALL	0078	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - CARPET, TILE OR ROLL, STANDARD	\$60,000
WELLS HALL	0078	2027	BUILDING INTERIOR	RENEW/REPLACE FLOORING - VINYL COMPOSITION TILE, STANDARD	\$400,000
WELLS HALL	0078	2027	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - CLASSROOM	\$850,000
WELLS HALL	0078	2027	BUILDING SYSTEMS	RENEW/REPLACE DRAIN PIPING SYSTEM - OFFICE	\$690,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING ENVELOPE	RENEW/REPLACE GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	\$110,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR COMPRESSOR SYSTEM - HVAC CONTROLS	\$30,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR DRYER, REFRIGERATED	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE AIR HANDLING UNIT - INDOOR	\$1,160,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE BACKFLOW PREVENTER	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE COM EXTERIOR BLDG MT HI FLOOD LIGHTING	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - CLASSROOM	\$370,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL BRANCH WIRING - OFFICE	\$780,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	\$1,060,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE ELECTRICAL DISTRIBUTION NETWORK - OFFICE	\$1,600,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE EXPANSION TANK, STL PT	\$20,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FAN - UTILITY SET	\$120,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS	\$40,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE FIRE ALARM SYSTEM - DEVICES	\$820,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE GREYWATER SUMP PUMP - SUBMERSIBLE PUMP	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER	\$170,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - CLASSROOM	\$200,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE	\$350,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - CLASSROOM	\$2,390,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE HVAC DISTRIBUTION NETWORKS - OFFICE	\$4,030,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - CLASSROOM	\$470,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE LIGHTING SYSTEM, INTERIOR - OFFICE	\$1,460,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE MOTOR CONTROL CENTER VERTICAL SECTION, 600V	\$570,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SEWAGE LIFT STATION	\$30,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - CLASSROOM	\$1,120,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE SUPPLY PIPING SYSTEM - OFFICE	\$690,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE UNIT HEATER, STEAM/HYDRONIC STD	\$10,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	RENEW/REPLACE VARIABLE FREQUENCY DRIVE	\$40,000



**MSU Capital Renewal by Building (FY2022-2027 including Deferred)**

Building Name	Building	Proposed Work Plan Year	Type	Description (Title)	Estimated Cost (Includes Inflation)
WELLS HALL	0078	NOT TIME BASED - CORRECTIVE ACTION	BUILDING ENVELOPE	CLEAN EXTERIOR WALL SURFACES	\$20,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	REPLACE INTERIOR DOOR HARDWARE AND SIGNAGE	\$560,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	BUILDING INTERIOR	UPGRADE INTERIOR STAIR AND RAILING	\$170,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	ADD ALL-GENDER RESTROOMS	\$140,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	REPLACE DRINKING FOUNTAINS	\$220,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	FIRE SPRINKLER SYSTEM EXTENSION	\$1,660,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	BUILDING SYSTEMS	INSTALL OCCUPANCY SENSORS	\$420,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	\$290,000
WELLS HALL	0078	NOT TIME BASED - PLANT ADAPTION	SPECIAL CONSTRUCTION	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	\$490,000

**\$34,230,000**

WHARTON	0085	2024	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR (SAYLOR BEALL 707 5HP, 200 GALLON TANK)	\$40,000
WHARTON	0085	2026	BUILDING SYSTEMS	REPLACE CONDENSATE RECEIVER #1 IN WHARTON BASEMENT	\$100,000
WHARTON	0085	2026	BUILDING SYSTEMS	REPLACE CONDENSATE RECEIVER #3 IN WHARTON BASEMENT	\$50,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY RESTORATION AND EXTERIOR WATERPROOFING	\$210,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS, FRAMES, HARDWARE (DOOR ID #988)	\$130,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILE IN OFFICES, PUBLIC AREAS, BATHS AND HALLWAYS, AS NECESSARY.	\$140,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR PAINTING - THROUGHOUT THE ENTIRE BUILDING.	\$190,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WHARTON ATS	\$20,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	\$310,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	\$310,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 3	\$450,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 3 DISTRIBUTION PANELS	\$130,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FUSIBLE SWITCH TO BREAKERS OR NEW SWITCHES	\$80,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINAL FLUSH VALVES, TOILET FLUSH VALVES AND TOILET SEATS	\$30,000

**\$2,190,000**

WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE (3) ENTRANCES, DOORS, FRAMES, AND HARDWARE	\$30,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALL WINDOWS AND EXTERIOR DOORS	\$430,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY AND CAULKING RESTORATION	\$30,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOFS 1 AND 2	\$50,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	\$50,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CAST IRON RADIATORS WITH CONVECTORS AND SELF CONTAINED VALVES.	\$40,000

**\$630,000**

Fall 2021

# **Appendix F: Utility System Distribution**

**Fiscal Year 2023  
Budget Information**

5-Year Capital Plan

Submitted By:

**MICHIGAN STATE  
UNIVERSITY**

**MSU Capital Renewal Utilities FY22-27 (Including Deferred)**

Building Name	Bldg	Work Plan Year	Description (Title)	Estimated Cost
ELECTRICAL DISTRIBUTION	9573	DEFERRED RENEWAL	REPLACE CONTACTORS, CONTROL SYSTEMS, WIRE AND LIGHT FIXTURES IN STEAM TUNNELS AND VAULTS	\$180,000
ELECTRICAL DISTRIBUTION	9573	2022	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	\$2,670,000
ELECTRICAL DISTRIBUTION	9573	2023	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	\$2,670,000
ELECTRICAL DISTRIBUTION	9573	2024	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	\$2,670,000
ELECTRICAL DISTRIBUTION	9573	2025	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	\$2,670,000
ELECTRICAL DISTRIBUTION	9573	2025	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	\$2,670,000
ELECTRICAL DISTRIBUTION	9573	2026	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	\$2,670,000
ELECTRICAL DISTRIBUTION	9573	2026	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS (ELE CABLE 1.4 MIL, STL CABLE 0.6 MIL)	\$2,670,000
				<b>\$18,870,000</b>

SEWER DISTRIBUTION	9572	2023	REPAIR FAILING SANITARY MAINS PHASE 4 OF 5	\$670,000
SEWER DISTRIBUTION	9572	2024	REPAIR FAILING SANITARY MAINS PHASE 5 OF 5	\$670,000
				<b>\$1,340,000</b>

STEAM DISTRIBUTION	9570	2023	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	\$2,670,000
STEAM DISTRIBUTION	9570	2023	STEAM DISTRIBUTION INSTALL SECOND 18" CR LINE FROM PWR PLT TO VLT 206	\$2,290,000
STEAM DISTRIBUTION	9570	2024	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	\$2,670,000
STEAM DISTRIBUTION	9570	2025	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	\$2,670,000
STEAM DISTRIBUTION	9570	2025	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	\$1,760,000
STEAM DISTRIBUTION	9570	2026	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	\$2,670,000
				<b>\$14,730,000</b>

STREET LIGHT DISTRIBUTION	9574	DEFERRED RENEWAL	REPLACE AGED ROADWAY POLES AND LIGHT BASES	\$60,000
STREET LIGHT DISTRIBUTION	9574	2023	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 6 OF 10	\$390,000
STREET LIGHT DISTRIBUTION	9574	2024	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 7 OF 10	\$390,000
STREET LIGHT DISTRIBUTION	9574	2025	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 8 OF 10	\$390,000
STREET LIGHT DISTRIBUTION	9574	2026	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 9 OF 10	\$390,000
STREET LIGHT DISTRIBUTION	9574	2027	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 10 OF 10	\$390,000
				<b>\$2,010,000</b>

TB SIMON POWER PLANT	0065	2022	POWER & WATER - REPLACE MAIN STEAM CROSS CONNECT VALVES PHASE 1 OF 2	\$50,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - CHIMNEY REPAIRS	\$510,000
TB SIMON POWER PLANT	0065	2022	SANITARY DRAIN & FOUNDATION REPAIRS	\$500,000
TB SIMON POWER PLANT	0065	2023	DISTRIBUTION SYSTEM METER REPAIRS	\$160,000
TB SIMON POWER PLANT	0065	2023	P&W - CONVERT U4 BOILER TO ELIMINATE CIRCULATING BED OR REPLACE CYCLONE REFRACTORY	\$1,000,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - INSTALL VACUUM PUMPS FOR U3/U4 TURBINE	\$110,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - PLANT MODS TO RETIRE U1&2	\$300,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - PLANT STABILIZATION AND LOAD SHEDDING	\$770,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - REPLACE MAIN STEAM CROSS CONNECT VALVES PHASE 2 OF 2	\$650,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - REPLACE U3 STG STEAM PATH	\$2,040,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - RETIRE/REPLACE U1/2/3 COOLING TOWER	\$300,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - TURBINE OVERHAUL	\$620,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - U4 BAGHOUSE REFURBISHMENT	\$260,000
TB SIMON POWER PLANT	0065	2023	REPLACE FOUR PLANT REACTORS WITH 2000 AMP UNITS	\$1,130,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - CONVERT TO MOTOR OPERATED VALVES FOR FEEDWATER PUMPS	\$210,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	\$80,000

**MSU Capital Renewal Utilities (FY2022-2027 including Deferred)**

Building Name	Bldg	Work Plan Year	Description (Title)	Estimated Cost
TB SIMON POWER PLANT	0065	2023	POWER & WATER - REMOVE MILLS ON NO. 3	\$160,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - INSTALL NEW WELL/WELL HOUSE	\$670,000
TB SIMON POWER PLANT	0065	2024	DISTRIBUTION SYSTEM METER REPAIRS	\$160,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - ADD ATTEMPERATION CAPABILITY PER UNIT	\$510,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - AUTOMATE VALVES	\$360,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - REPLACE CAUSTIC DAY TANK	\$60,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - TURBINE OVERHAUL	\$620,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - 7TH FLOOR STAIRWELL EMERGENCY EGRESS LIGHTING	\$110,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	\$80,000
TB SIMON POWER PLANT	0065	2025	DISTRIBUTION SYSTEM METER REPAIRS	\$160,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - AUTOMATE BLOWDOWN OF U6	\$360,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - AUTOMATE U6 ATTEMPERATOR BACK-UP SUPPLY VALVE	\$160,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - BLOWDOWN ON FIRST FLOOR/FOR U4 BOILER	\$260,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - BUILT PLATFORM FOR U5 TURBINE EXTRACTIONS TEAM COMMON ISO VALVE	\$60,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - COMMISSION U6 HRSG FEEDWATER PREHEATER SECTION	\$160,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - INSTALL PLATFORM AND LIGHTING UNDERNEATH ATTEMPERATOR	\$110,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - POWERHOUSE FOUNDATION SUBSIDENCE	\$260,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - RELOCATE CONTROLLERS FOR ASH PIT SUMP AND U5 BLOWDOWN RECEIVER PUMPS	\$110,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - TURBINE OVERHAUL	\$620,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - D/A WATER SHUTOFF TO PREVENT WATER HAMMER	\$510,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	\$80,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - STRAINER FOR EAST TOWER	\$60,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - INSTALL NEW WELL/WELL HOUSE	\$670,000

\$15,000,000

WATER DISTRIBUTION	9571	DEFERRED RENEWAL	WATER DISTRIBUTION - REPLACE DETERIORATING CAST IRON DISTRIBUTION MAINS	\$2,000,000
WATER DISTRIBUTION	9571	2022	WATER DISTRIBUTION - REPLACE DETERIORATING CAST IRON DISTRIBUTION MAINS	\$3,330,000
WATER DISTRIBUTION	9571	2023	DOMESTIC WATER - REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS AND MISC REPAIRS	\$3,330,000
WATER DISTRIBUTION	9571	2023	LEADED HYDRANT REPLACEMENT PHASE 3 OF 3	\$110,000
WATER DISTRIBUTION	9571	2024	DOMESTIC WATER - MISC. REPAIRS AND REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS	\$3,330,000
WATER DISTRIBUTION	9571	2025	DOMESTIC WATER - REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS	\$3,330,000
WATER DISTRIBUTION	9571	2025	WATER DISTRIBUTION - REPLACE DETERIORATED CAST IRON DISTRIBUTION MAINS	\$2,000,000
WATER DISTRIBUTION	9571	2025	WATER DISTRIBUTION - REPLACE DETERIORATING CAST IRON DISTRIBUTION MAINS	\$2,670,000
WATER DISTRIBUTION	9571	2026	DOMESTIC WATER - REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS	\$3,330,000

\$23,430,000

Fall 2021

# **Appendix G: SFY2023 Capital Outlay Request**

**Fiscal Year 2023  
Budget Information**

5-Year Capital Request Planning and  
Capital Outlay Request

Submitted By:

**MICHIGAN STATE  
UNIVERSITY**



such facilities were primarily for winter plant rearing, have the environmental controls necessary for experimental breeding to develop new resilient crop varieties. MSU last added new research greenhouses in 2002, and two-thirds of the greenhouse facilities were built between 1955 and 1978. No greenhouse space is currently available on campus with the environmental controls and sensors for growing plants in defined environments that is necessary for research on resilience in agronomic crops. This lack of critical research (greenhouse) infrastructure limits the research that can be conducted and thus limits extramural funding potential of current faculty and reduces our ability to recruit and retain top plant scientists.

The current infrastructure and capacity of the greenhouses limit the university's ability to meet the needs of the Michigan Agricultural Community, to conduct critical research, and provide high quality plant science teaching facilities.

Renovation and expansion of the Plant Science Greenhouse range is critical to MSU maintaining and building on its strength and status as a world leader in plant science research. New and updated state-of-the-art plant science research facilities will allow MSU to have a major impact on Michigan agriculture and feeding the world in the 21<sup>st</sup> century. The outcome of this investment will enable Michigan State University to retain the very best faculty and students and expand world-leading research in crop yield improvement and resistance to a variety of stresses including pests, drought, floods, and low nutrient levels.

## **Scope of the Project**

Many of the greenhouse facilities at Michigan State University have reached the end of their useful life and are not configured for modern plant science research. These greenhouses are not constructed for, nor do they contain the environmental systems and controls necessary for year-round use, much less climate change research. They also do not have the instrumentation and internet connectivity necessary to control and monitor complex experiments.

This project will consist of selected renovations coupled with construction of additional greenhouses to provide sufficient capacity and high quality, functional and efficient greenhouse space by modernization and expansion of the Plant Sciences Greenhouse range through a combination of renovations, replacements, and additions. The updated greenhouses will have state-of-the-art environmental controls, LED lighting that consumes less energy and produce less heat and will be configured to automatically modulate internal temperature and supplemental lighting in response to external climate conditions. The new and renovated greenhouse facilities will have the ability to conduct controlled, replicated experiments, regardless of the season, and under a variety of growth, environmental and stress conditions. This greenhouse space will be located at the existing greenhouse range adjacent to other plant science research facilities. Preliminary planning anticipates that the scope of the project will be comprised of renovations and additions of approximately 175,000 gross square feet.

*Please provide detailed, yet appropriately concise responses to the following questions that will enhance our understanding of the requested project:*

### **1. How does the project support Michigan's talent enhancement, job creation and economic growth initiatives on a local, regional and/or statewide basis?**

Agriculture is the second largest contributor to the Michigan economy with over \$104 billion in

revenue attributed annually to food and agriculture. Total employment in the food and agriculture sector in Michigan is over 800,000 or about 17% of the state's employment. Michigan is also home to over 47,000 farms. The diversity of agricultural commodities (over 300) produced in Michigan ranks second in the nation behind California, and research on all commodity groups is conducted in the greenhouse facilities. Plant sciences research at Michigan State University contributes greatly to the success of these industries and is highly valued by a wide range of stakeholders. These strong, industry relevant research programs are a key component supporting growth and sustainability of the agricultural economy in the state.

Ongoing research efforts in the plant sciences at MSU are also supported in part by MSU AgBioResearch and through long standing state supported research programs such as Project GREEN. Project GREEN provides a vehicle for applied research tied to the most pressing problems confronting the plant based agricultural industries in the state. There are currently forty-four commodity/industry groups in the state of Michigan that are active partners in Project GREEN and many of the projects supported by this program require greenhouse space. Total economic output of more than \$2.5 billion over the past two decades has been attributed to this program, further supporting a highly tangible impact of plant science research in the state of Michigan. However, current infrastructure for plant science research, more specifically greenhouse capacity and quality, limits the ability of MSU to concurrently meet the immediate needs of the Michigan agricultural community and conduct fundamental research in areas such as plant resilience, pest management, and innovative management systems to address challenges of the future.

Michigan State University is also an institutional partner in the U.S. Department of Energy (DOE) sponsored Great Lakes Bioenergy Research Center (GLBRC). Several MSU faculty members are involved with the GLBRC conducting research focused on converting plants to biofuels and bioproducts that are economically viable and environmentally sustainable. Since its inception in 2007, the GLBRC has received over \$375 million in DOE funding with approximately 40% coming to MSU.

The completion of this project will support high-priority academic functions and initiatives important to citizens of Michigan, who will continue to benefit from the teaching, research, and outreach. Investment will permit the University to continue to attract and retain quality faculty and students, increase participation at both the undergraduate and graduate levels, prepare students for careers in fields of agri-based science, and attract/increase federal, corporate and commodity group research dollars. In addition, research capacity would increase in areas critical to improving Michigan's economy, such as innovative research in agronomic crop resilience to maximize productivity of crops in response to a growing world population.

## **2. How does the project enhance the core academic, development of critical skill degrees, and/or research mission of the institution?**

As a leader in plant science, MSU must maintain the highest level of research quality. Current MSU greenhouse space is functionally limiting and does not reflect our commitment to state-of-the-art research, or the quality of the plant science programs, its faculty and students. Thus, the greenhouse facilities do not support the type of quantitative and qualitative plant research, nor allow the level of precision and scale needed to meet current and future societal needs as defined in requests for proposals from the National Science Foundation, United States Department of Agriculture, Department of Energy, and other funding agencies.



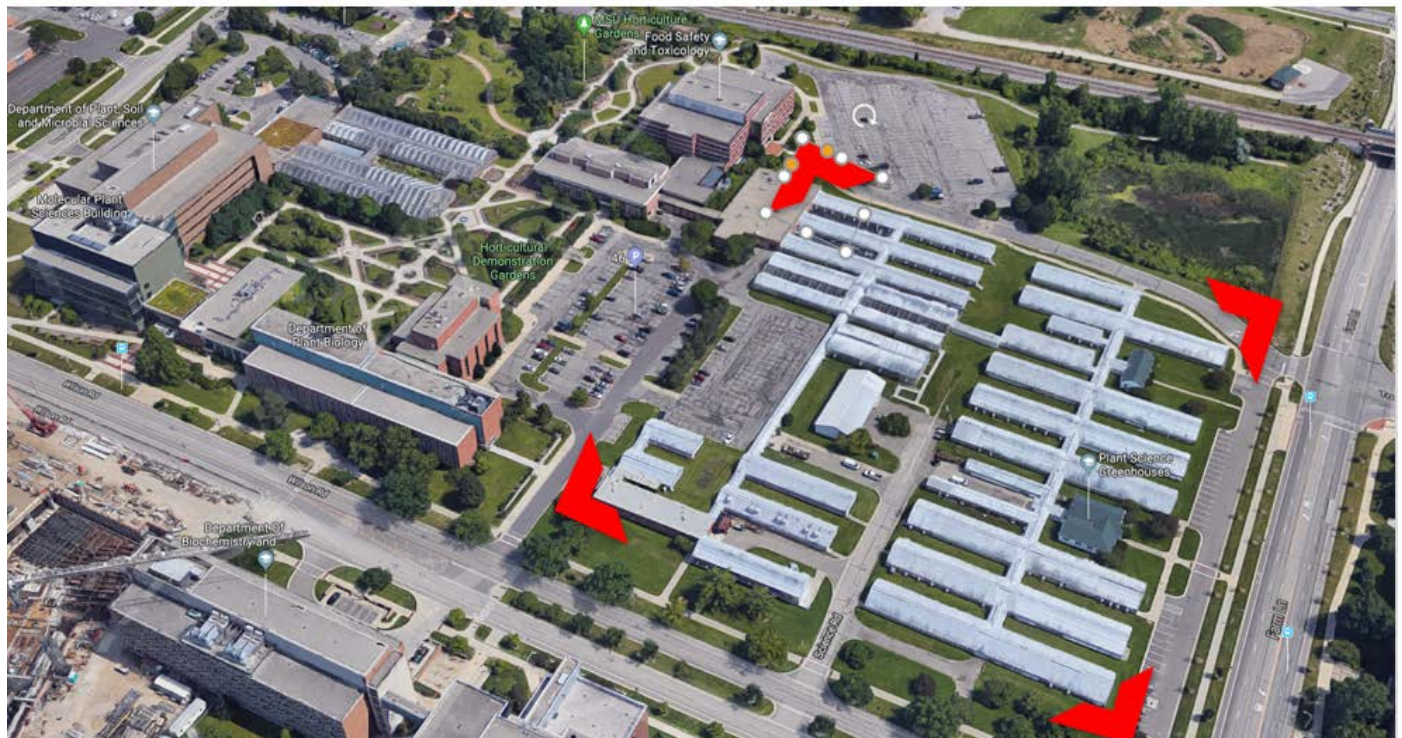
The greenhouse facilities are critical to advancing MSU's leadership in the plant sciences. Currently there are over 150 Plant Science faculty in nine departments and three colleges including seven faculty having been elected to the National Academy of Sciences. The greenhouses currently serve 72 faculty researchers and 600 users including 450 students involved in approximately 260 grants from federal agencies, over \$30M in research funding annually, including the Great Lakes Bioenergy Research Center (which has attracted ~\$160M since 2007). Improved facilities will expand research and funding opportunities for current researchers now restricted to laboratory settings, accelerating the translation of new discoveries.

Renovations of the existing greenhouses, coupled with the addition of new state-of-the-art greenhouses with modern environmental control capacity, are necessary to provide increased research capacity and quality in this strategic area of the MSU research mission, support the shift of fundamental plant sciences from small scale model plant systems to agronomic crops, and address aging infrastructure. The current greenhouse infrastructure limits the university's ability to (a.) meet the needs of the Michigan agricultural community, the region, and the world, (b.) conduct critical research, and (c.) provide student learning in modern facilities that reflect real world experiences. To maintain and build on our strength in Plant Sciences, upgraded and expanded greenhouses are essential. Our future success is dependent on maintaining and expanding the overall quality and functionality of our experimental plant rearing facilities.

**3. Is the requested project focused on a single, stand-alone facility? If no, please explain.**

The requested project is focused on renovating existing greenhouse facilities encompassing approximately 150,000 gross square feet and additions up to 25,000 gross square feet all of which will be situated within or adjacent to the existing greenhouse range.

**Plant Science Greenhouse Range**



**4. How does the project support investment in or adaptive re-purposing of existing facilities and infrastructure?**

The project is a combination of renovations and additions at the existing greenhouse range. The greenhouse range is located in the Plant Science Neighborhood and includes the majority of plant science teaching and research facilities. The selected renovations will return existing greenhouses to higher functional use, leverage the site location of the existing greenhouse range, connect additions for improved functional use, and to the extent possible, will utilize existing utility infrastructure resources already in place on campus. This includes campus steam distribution, water, sewer, power, and networking.

**5. Does the project address or mitigate any current health/safety deficiencies relative to existing facilities? If yes, please explain**

Most of the research greenhouses were constructed over forty years ago. While there have been selected upgrades over time, these structures and their associated facilities and utilities have limitations commensurate with their age. The selected renovations and additions will address obsolescence of infrastructure, and programmatic requirements, and bring spaces into compliance with current codes and necessary remediation, e.g., abate asbestos and other safety issues.

**6. How does the institution measure utilization of its existing facilities, and how does it compare relative to established benchmarks for education facilities? How does the project help to improve the utilization of existing space and infrastructure, or conversely how does current utilization support the need for additional space and infrastructure?**

Michigan State University engages in a multi-faceted and comprehensive process for measuring utilization of its existing facilities. The University began a space metrics initiative in 2009 for quantitatively measuring the productivity and utilization of research and academic office space. The metrics include research expenditures per net square feet of research space, and office space; as well as net square feet of space per full-time equivalent employee (FTE). Since the inception of the space metrics initiative, the university has realized a greater than 30% improvement in productivity and utilization of research space in terms of research expenditures per square foot. In addition to tracking utilization performance through internal metrics, the university periodically conducts benchmarking of its space metrics and overall space inventory with peer institutions of the Big Ten, using data from the National Science Foundation Science and Engineering Survey, and space survey data from the Higher Education Facilities Management Alliance. The university also uses the State of Michigan Academic Space Guidelines for planning new space and evaluating utilization.

In January 2019, changes in management of greenhouse space were initiated to promote better management and utilization of existing greenhouse space. 1) A faculty greenhouse users committee was formed with representation from the six departments significantly engaged in plant science research, with administrative oversight provided from College of Agriculture and Natural Resources, College of Natural Sciences and MSU AgBioResearch. 2) Greenhouse space assignments are now handled centrally by the greenhouse director and user's committee rather than at departmental level to promote more efficient use of existing space. 3) Greenhouse usage fees were implemented in January 2020 and have further incentivized efficient use of existing space and provides additional revenue beyond annual base personnel and operating budget provided from the above administrative units. This additional revenue

can be used to make small-scale improvements linked to aging greenhouse infrastructure.

**7. How does the institution intend to integrate sustainable design principles to enhance the efficiency and operations of the facility?**

Michigan State University's design guidelines and construction standards require that all new buildings and major renovation projects are designed to qualify for at least LEED Silver Certified as defined by the most current version of the United States Green Building Council LEED design requirements. The university evaluates functional requirements and seeks opportunities for efficiency and productivity improvements in its space design and allocation; and utilizes the least life cycle cost analysis to inform the design, equipment, and material selection, thereby minimizing the cost of operations and maintenance.

The scope of the Greenhouses Renovation and Expansion project includes several components that will significantly improve the energy efficiency of the current greenhouse range by replacing antiquated materials and infrastructure with new glazing systems, LED lighting, which reduces both energy use and heat production, addition of modern environmental control systems and upgraded plumbing and electrical. Further by renovating a significant portion of the existing greenhouses prior investments in the infrastructure are leveraged, proximity and physical connections to other adjacent buildings that house plant science programs is maintained, and when completed growth chamber space will become available for allocation to meet other programmatic needs.

**8. Are match resources currently available for the project? If yes, what is the source of the match resources? If no, identify the intended source and the estimated timeline for securing said resources?**

Michigan State University commits resources in the amount of \$5.750 million (25%) of the \$23 million estimated project cost. The university match will be from MSU capital and/or bonding paid for from general fund revenue.

**9. If authorized for construction, the state typically provides a maximum of 75% of the total cost for university projects and 50% of the total cost for community college projects. Does the institution intend to commit additional resources that would reduce the state share from the amounts indicated? If so, by what amount?**

The total estimated cost of the project is \$23 million. Michigan State University commits \$5.75 million or 25% of its resources to assist with bringing this project to fruition, and respectfully requests State Capital Outlay funding in the amount of \$17.25 million or 75%.

Due to the deteriorating condition of the greenhouses Michigan State University recently moved forward with an additional investment of \$4.0 million of internal resources to address the most critical infrastructure needs necessary to keep the greenhouses operational pending the requested State of Michigan Capital Outlay support. This current scope of work will remain intact upon implementation of this \$23.0 million capital outlay project, resulting in an overall investment by the university of \$9.75 million in the Plant Science Greenhouse range (\$4.0 million in process plus \$5.75 million as the 25% match for the Capital Outlay request).

**Will the completed project increase operating costs to the institution? If yes, please provide an estimated cost (annually, and over a five-year period) and indicate whether the institution has identified available funds to support the additional cost.**

Building operating costs for utilities, custodial, and maintenance for additional capacity of greenhouse space is estimated at approximately \$135,000 annually, or \$675,000 over a 5-year period, based on current dollars and the anticipated increase in square footage. However, operating costs associated with additional greenhouses will be significantly offset by gains in energy efficiency provided by the comprehensive renovations including installation of LED lighting and environmental controls in the existing greenhouses. Any additional operating costs would be funded by budgeted general fund revenues.

**10. What impact, if any, will the project have on tuition costs?**

This project will not have any direct impact on tuition costs.

**11. If this project is not authorized, what are the impacts to the institution and its students?**

If this project is not funded, the University's internationally recognized programs in research and education in plant sciences will continue to be disadvantaged. The condition, capacity, and design of the existing facilities no longer supports the programs located within them and will not allow for new research or industry relevant teaching. The aging greenhouses have already negatively affected the quality of the University's teaching, research, and outreach efforts as well as our ability to attract and retain quality faculty and students. MSU lost two of our most prominent senior plant scientists in the last 18 months, one a Howard Hugh's Medical Institute Plant Science scholar, due in part to our aging greenhouse infrastructure. MSU's ability to continue to recruit new faculty in plant resilience, an area of excellence targeted for new positions in the university's recently completed strategic plan, will be negatively affected without timely updates to our greenhouse facility. Further, this puts at risk our leadership position in plant sciences, competitiveness for external grants, and the significant contributions to the economic and intellectual capital throughout the state of Michigan and extending globally.

**12. What alternatives to this project were considered? Why is the requested project preferable to those alternatives?**

The University, through its annual planning process, evaluates space and facility needs on a recurring basis. This process, coupled with the campus land use master plan, has resulted in a careful review and placement of the projects on this current capital outlay submission. As stewards of State of Michigan resources, the University has identified renovations and additions for selected high-priority academic and support needs consistent with the mission of the University and service to the state of Michigan.

Renovations coupled with building additional capacity within and adjacent to the existing greenhouse range is more economically and programmatically viable, and more sustainable than full demolition and all new construction. This strategy was validated as part of the university Strategic Research Space Framework study completed in 2018, conducted with CO Architects. In 2019, the university completed a comprehensive feasibility study of the Plant Science Greenhouses. Rough Brothers Inc. (now Prospiant) conducted the study that provided further analysis and confirmation of the renovation and addition strategy,