Fall 2020

Fiscal Year 2022 Budget Information

5-Year Capital Plan

Submitted by:

MICHIGAN STATE UNIVERSITY

MICHIGAN STATE
UNIVERSITY

October 30, 2020

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

Dear Mr. Kolb,

In accordance with the State Budget Office instructions, an update of Michigan State University's Five-Year Capital Plan is posted at the following institutional website: https://opb.msu.edu/info-insight.html. The Five-Year Capital Planning document follows from your instructions and the academic direction of the university.

In as much as the State of Michigan and Michigan State University have and continue to face hardships created by the pandemic, the SFY2022 Five-Year Capital Plan is primarily a continuation of the SFY2021 submission with a few exceptions including a Multicultural Center and renovations for the African American and African Studies Department. The Greenhouses – Renovation of Existing and Addition – Research Expansion and Learning continue as a high priority.

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 renovation and addition of 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 at MSU just over a year ago the university has filled a number of key leadership positions including the Provost and Executive Vice President for Academic Affairs, the Executive Vice President for Administration, the Vice President and Chief Diversity Officer, a newly created position, as well as an upcoming national search for a Senior Vice President and Chief Financial Officer. In addition to filling these leadership positions the university is and will be embarking on a number of university strategic planning efforts that will create the framework, guiding principles and strategies for the next 5 – 10 plus years. These strategic planning efforts include a new MSU Strategic Plan, a Diversity, Equity, and Inclusion Plan, Relationship Violence and Sexual Misconduct Plan , and a new Academic Plan. These strategic plans will provide the foundation and framework for the development of an updated MSU Comprehensive Land Use and Capital Plan.

Lastly, the STEM Teaching and Learning Facility that was authorized as part of Public Act 207 of 2018, is on schedule for completion Spring 2021. The building has many compelling stories from intentional curricular planning and re-envisioning the student experience for STEM gateway courses, to the transformation of a former power plant and the use of mass timber construction that reflects our commitment to sustainability. The project reflects innovation both programmatically, and in its design and construction. We sincerely appreciate the state's partnership with this project and look forward to its opening next year.

We remain committed to Michigan businesses, students, and families, and continue to be a critical partner in advancing Michigan's economic development.

Sincerely,

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

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Fiscal Year 2022 Budget Information
5-Year Capital Plan
Table of Contents

Fiscal Year 2022 Budget Information
Michigan State University
Five-year Capital Plan

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 following *Capital Planning Principles* are guided by the *Core Values* of the university: Quality, Inclusiveness, and Connectivity and the six imperatives of the *Bolder by Design* strategic framework: Enhance the Student Experience; Enrich Community, Economic, and Family Life; Expand International Reach; Increase Research Opportunities; Strengthen Stewardship; and Advance our Culture of High Performance.

Guiding Principles and Overarching Goals

- *Create an Environment that Supports Research, Innovation, and Scholarship* – MSU continues to ensure that research programs grow, providing an impetus for economic development and graduate education while creating a culture of innovation and creativity that advances the University's international competitiveness. Intention-based research is central to MSU's mission. Thus, MSU must provide state-of-the-art facilities and infrastructure that will help attract and retain top-quality faculty and researchers and provide the necessary tools to continue to be competitive now and well into the future.

- *Create an Environment that Supports Teaching, Learning and Student Success* – MSU 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. MSU provides increasingly diverse learning experiences that blend the theoretical with the practical. The educational experience is focused on preparing "T-shaped" graduates who are prepared not just for their first job, but for a lifelong career. The approach to teaching has become more interactive across all disciplines. There is active promotion and use of technology-enabled teaching/learning models as well as an initiative to provide facilities that support evolving pedagogies including student-centered and collaborative learning.
- *Create an Environment that Supports Safety, Security, and Health and Wellness* – MSU will advance its commitment to fostering a healthier, more diverse and inclusive community by developing and sustaining a campus environment that encourages and cultivates health, wellness, and resilience among its students, staff, and faculty.
- *Create an Environment that Supports Stewardship, Sustainability, and a High Performing Culture* – 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 time. Emphasis is placed on strategic allocation of space to meet program objectives, inclusive design, accessibility, integration of technology, and energy conservation. Attention is given to creating places that are welcoming, inspiring, promote the exchange of ideas, and enhance the Spartan Experience.

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.[1]

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 34 featured in the top 25 nationally, including ten rated number one.

In 2005, at the launch of our 150th Anniversary, we made a commitment to be recognized worldwide as the leading land-grant research university in the nation. This commitment was framed in our Boldness by Design strategy. Beginning in 2012, we refined and expanded this framework to refresh our strategic vision, now articulated as Bolder by Design. At the heart of Bolder by Design are the original five imperatives of Boldness by Design, plus a sixth one that reflects the urgency and acceleration demanded by today's higher education environment to maintain a culture of high performance. This sixth imperative applies to every area of our mission providing high-impact, high-value results, experiences, and services. Together, we will focus and excel in:

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

In addition, we continuously re-affirm our commitment to the land-grant movement through: **access** to a quality post-secondary education; **inclusion,** not only of diverse populations, but of practical, applied knowledge with the classics throughout the curriculum; and **connectivity** with society to disseminate knowledge widely to meet the needs of individuals, communities and the world at large.

MSU's full impact is often immeasurable but can be quantified in one sense with an annual economic impact of more than $5.8 billion. That economic impact was recognized by a study released this year by Business Leaders for Michigan. The study concludes that the specific entrepreneurship and development work being done at Michigan's University Research Corridor (URC) institutions, including Michigan State University, will be essential to Michigan's emergence from this year's pandemic-induced recession. The study analyzed achievements of the major research universities in three key areas: talent, innovation, and location to determine that Michigan's URC institutions

[1] See https://trustees.msu.edu/about/mission.html

deliver powerful economic assets that will be key during this time of unprecedented change and opportunity.

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 21st 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 emphasizing biology and food/food-chain; 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 2018 were $715 million, rising from $695 million in 2017. To enhance these efforts and maintain its position as a world-class research university, in 2014 MSU committed to hiring approximately 100 additional faculty members over the five-year period with 85 hired to date. These faculty are being hired in some of the highest demand disciplines and research areas to help accelerate finding solutions to the world's "Grand Challenges" in areas including: computation (aka "Big Data"), advanced engineering, cybersecurity, genomics, plant sciences, antibiotic resistance, and precision medicine.

Our value proposition is to make high-quality education accessible to qualified students, ensuring access and investing in Michigan's future. This fall, MSU enrolled 30,799 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 all 83 counties in Michigan, all 50 states in the United States, and 120 countries. 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 22 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 administers in excess of $700 million in financial aid annually, with more than 65 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. Despite financial challenges for the university this year, MSU increased student financial aid by four percent this year.

MSU is committed to creating a national model for student success with particular emphasis on closing the opportunity gaps for lower-income, first-generation, and underrepresented minority student populations.

Additionally, we remain focused on helping students reduce the time to and cost of their degree. The Go Green Go 15 initiative is one way we are tackling these challenges, seeking to create higher rates of credit momentum (i.e., enrolling in 15 credits per semester) among our students that strongly correlates to higher levels of student academic success. The percent of first-semester students attempting 15 or more credits increased from 28% to more than 50% since the launch of the campaign. This initiative is simply the latest in a comprehensive set of projects under the university's Student

Success Collaborative focused on delivering high quality educational experiences for all students. To reinforce the momentum of our programs and our students' success, the university implemented it's first-ever two-year budget for academic years 2018-19 and 2019-20. This two-year budget included a tuition freeze for all resident undergraduates. In Spring 2020, it was announced that the tuition freeze would continue for a third year (FY 2020-2021). MSU has also adopted a flat-rate tuition structure beginning with the 2019-20 academic year, a structure that incentivizes students to complete their degrees in four years and, thereby, keeping expenses as low as possible.

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 soft 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.

To ensure MSU remains at the forefront of innovation, the Hub for Innovation in Learning and Technology (The Hub), launched in 2015, creates and accelerates new ways to collaborate, learn, research, and deliver instruction. Ongoing projects include launching a cohort-based, interdisciplinary learning experience for first year students, linking math, arts and humanities, social science, and biological courses in a themed sequence to create a common intellectual experience for students; development of quantitative literacy courses; moving to a proactive student advising environment; and the launch of a Learning Analytics Group to use quantitative and qualitative methods to examine MSU's policies, practices and norms that may undermine student success. Additionally, MSU continues to enhance its offerings to students interested in entrepreneurship. 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 its' Entrepreneur-in-Residence Program. MSU's position as an entrepreneurship and innovation hub earned global accolades by the 2018 Global Consortium of Entrepreneurship Centers, earning its prize for Outstanding Contributions to Venture Creation, surpassing nationally recognized entrepreneurship centers.

Our collective efforts aimed at enhancing the student experience has resulted in MSU's graduation increasing to a record high of 81% in 2019. Additionally, more than 90% of MSU graduates are employed or continuing their education within nine months of graduation. Further, MSU's efforts have been recognized nationally. MSU is ranked 55th by Money Magazine based upon the combination of educational quality, affordability, and alumni success, placing us 6th among Big Ten Universities and ahead of such institutions as Cornell, Columbia, Dartmouth, and Georgetown.

MSU fulfills the mission of the Morrill Act in the 21st century by taking the best of Michigan to the world and bringing the best of the world to Michigan. Thinking globally has always been a priority at MSU. MSU is recognized as a top 100 global university, helping 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 twelfth in the nation for study abroad participation and ranks twentieth in the country for international student enrollment. MSU's international student population contributes more than $340 million to the Greater Lansing economy. More than 1,400 faculty members are involved in international research, teaching, and service projects and programs, and MSU maintains partnerships with more than 325 international institutions in 80 countries. We continue to expand our reach around the globe through:

- The Alliance for African Partnership is developing a collaborative and cross-disciplinary platform for addressing today's global challenges. The Alliance 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, this alliance builds off MSU's longstanding work in Africa and will serve 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 institution manages its resources effectively to ensure it continues to provide an education that allows graduates to take on leadership roles in the 21st century and be a successful "citizen scholar."

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, exceeding last year's 44,321 during the initial use of the Common App. MSU's total enrollment for fall 2020 is 49,695, down -1.7% from last year, faring better than the national average -3.0% decline 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 and reflects a steady increase over the past five years.
- MSU welcomed 8,228 undergraduate students, 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 PhD students and 794 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, 47 Goldwater Scholars, 16 Churchill Scholars, 18 Marshall Scholars, 16 Truman Scholars, 12 Udall Scholars, 7 Hollings Scholars, 4 Gates Scholars, 4 Mitchell Scholars, and 9 Presidential Fellows.

Michigan State 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 14th among public universities for undergraduate business programs according to *U.S. News & World Report*. Eight MSU graduate programs: African history, elementary education, secondary education, rehabilitation counseling, curriculum and instruction, industrial/organizational psychology, nuclear physics, and supply chain/logistics are ranked #1 nationally by *U.S. News & World*

Report. In its 2020 ranking for online graduate programs, U.S. News & World Report ranked three of Michigan State University's participating online graduate programs in the top 20 and four specific disciplinary areas in the top 10.

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 imposes a one percent funding reduction annually on all units to encourage operating efficiency and create resources to invest in new initiatives. MSU is actively monitoring the impact that the COVID-19 pandemic has had on its operations and adjusts its operational planning as conditions change. As an initial step towards mitigating the financial impacts of the pandemic, MSU's FY21 operating budget included a three percent reduction to operating units, the application of one-time resources from deferred and delayed capital projects and institutional reserves, as well as temporary salary and benefits concessions from faculty and staff. 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. Major initiatives supported through strategic investments include: reforming the developmental and gateway mathematics courses at MSU; restructuring and reforming MSU's new student orientation program; and replacement of MSU's decades old, home-grown student information system for student records, while also launching a new co-curricular record system. These reforms will impact thousands of students yearly. Further investments include: expansion of our medical colleges' programs, including developing deeper ties in Flint, Grand Rapids, and metro Detroit along with creating the new MSU Health Care entity, which can now partner with area hospitals and health systems; creation of two new academic departments – the Department of African American and African Studies, and the Department of Orthopedics; integration of the College of Law into the university; and creation of the Prevention, Outreach and Education Department, and opening of the Sexual Assault Healthcare Program center – two recommendations from MSU's Relationship Violence and Sexual Misconduct Expert Advisory Workgroup.

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. Intention-based research is central to MSU's mission and to building a mid-Michigan "talent center" as is providing learning opportunities that take place in and outside of the classroom and employ progressive pedagogy. 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 remaining 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 new Interdisciplinary Science and Technology Building opened in September of 2019. Construction began on the project in August 2017. 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, will allow the new facility to play an integral role in MSU's development of a neighborhood of scientific research in the biomedical and biological sciences.

- In Summer of 2020, construction was completed on renovations to approximately 24,000 square feet of space at Wonders Hall. The renovations provide undergraduate instructional space that supports teaching and learning experiences both in and out of class. The "Toolbox" for the College of Engineering Residential Experience (CoRE) includes spaces where ideas can be generated and fabricated in a hands-on approach to learning. The renovations also provide opportunities for experimental teaching and learning as curriculum and pedagogy continue to evolve.
- In August of 2018, MSU broke ground on a new STEM Teaching and Learning Facility. The facility will include modern teaching laboratories that incorporate active learning principles and foster cross-disciplinary teaching and learning, as well as support developing and evolving changes in related curriculum and its delivery. The project is part of the Strategic Academic Development Initiative – a framework to continue investments supporting student success, aligning with state and national priorities to graduate more students in STEM-related fields. The facility is funded in part through the state capital outlay appropriation, which awarded $29.9 million for construction costs.
- In conjunction with the STEM Teaching and Learning Facility, MSU also commenced the renovation of the former Shaw Lane Power Plant. The power plant will serve as the central core of the complex bookended by the STEM facility on its north and south facades. The renovations will return a building to active use and functionally provide a shared commons area with the STEM facility. It will also include a student help center for multiple disciplines, student studio space for self-guided and hands-on learning, as well as a new home for MSU's HUB for Innovation in Learning and Technology. The former Shaw Lane Power Plant also includes an addition that will house two large format learning spaces that will support curriculum revision, emerging teaching and learning methods, and improve the overall university learning environment.
- Demonstrating the breadth of programs and people at Michigan State are two significant facilities projects in our professional programs. 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 covers 100,000 square feet and 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 recently awarded the Project Leadership Award from the Construction Owners Association of America (COAA) and has received LEED

Gold Certification. In 2018 we broke ground on the 37,000-square-foot Billman Music Pavilion that increased the total facility space by more than 40 percent. The last major addition to the Music Building was in 1956. This new Pavilion was completed in the Fall of 2020 and 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 facility is currently expected to open by early 2022.
- Construction of the first building of the MSU Detroit Partnership for Food, Learning and Innovation, at the site of the former Houghton Elementary School in the Riverdale neighborhood, was completed in February 2020, and progress on the outdoor space development was made over the summer . Urban-focused research areas envisioned for the center include soil sampling and pollution cleanup, pest and crop disease management, forestry, innovative growing systems and community food systems development. The center enhances efforts to open opportunities for urban agriculture entrepreneurship and offer new partnerships for community and youth development. Although this is the university's first urban-based center focused on food research, MSU Extension offers educational opportunities at 14 other AgBioResearch centers throughout the state as well as at numerous locations in every Michigan county. The new center is the fourth MSU Extension office in Detroit.
- The University has 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. Construction began in Fall of 2019 and was completed in the summer of 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. Anticipated outcomes of the collaboration include research, testing and commercialization of new therapies and devices. A gift from Doug Meijer and the Meijer Foundation will fund the establishment of a radiopharmacy that will serve as the foundation for a new

Molecular Imaging and Translational Theranostics program. This program will provide groundbreaking, world-class research leading to transformative health care related to oncology, neuroscience, and mental health.

In 2020 MSU was named one of the fastest rising research universities in the U.S. MSU was ranked 5th 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). 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 and is more than 94% complete, 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 $77 million. 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 youth and families.

- MSU, along with the University of Michigan and Wayne State University, is receiving $9 million through 2021, as part of a new statewide center dedicated to understanding the treatment of Alzheimer's disease and related dementia, with funding coming from the U.S. National Institutes of Health.

- MSU and the University of Wisconsin-Madison continue to partner in the Great Lakes Bioenergy Research Center. 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 $267 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.
- Michigan State University was awarded a four-year, $2.5 million grant in 2019 from The Andrew W. Mellon Foundation to support further development in the research and teaching of less commonly taught languages (LCTLs), with an emphasis on Indigenous languages. The multi-university initiative seeks to transform the way LCTLs are taught by leveraging cutting-edge research and advances in instructional technology with the aim of creating sustainable and effective models of instruction.
- An MSU researcher 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 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. The project encourages 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 will not see coming.
- A multi-disciplinary team of Michigan State University scholars has been awarded $3.2 million 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.
- The Michigan State University Construction Management program in the School of Planning, Design and Construction received a $1.2 million grant from the National Science Foundation to develop a research model of intelligent social network interventions. The research project will create a model to offer a practical system to equip individuals and organizations with the means to facilitate multi-team coordination and project effectiveness.
- Michigan State University researchers received $2 million in grant funds to develop computing-integrated teaching for K-12 classrooms. Two separate grants will fund the research. One project will help special education teacher candidates learn computational thinking and computing tools to help them bring computer science to their students. The other project develops teacher capacity to incorporate computation thinking into middle school social studies, English and art classrooms.

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 development of the "T-shaped" scholar, curriculum revisions, student-centered, collaborative learning, and self-guided learning. The learning environments coupled with the changing pedagogies 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 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.[2]

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 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, renovation and additions 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.

[2] See Appendix C: Map of Campus Buildings by Age.

Following a very detailed and carefully conceived master planning process, it was estimated that the University would 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 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 2020, fall enrollment at Michigan State University totaled 49,695. 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 every county in the state; 80% percent of the undergraduate students are Michigan residents.

A summary of enrollments for fall 2020 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 remain stable.

While the University currently offers bachelor's or bachelor's completion programs and master's programs off campus and the Virtual University continues to increase access to programs through web-supported and entirely web-based courses, 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 staff count for fall 2020 is approximately 5,390. 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. To enhance these efforts and maintain its position as a world-class research university, in 2014 MSU committed to hiring approximately 100 additional faculty members over the five-year period of 2015-2020, with 85 hired to date.

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 seeking 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, research, and outreach, creates a sense of place for the campus and surrounding communities, and facilitates 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.

  To better understand and plan for the campus capital infrastructure, a Geographic Information System (GIS) is utilized. This spatial and tabular database tool brings together, in a logical framework, data that record a description of the capital infrastructure. The GIS continues to evolve and increase in sophistication. At present, data such as condition, use, special planning characteristics, and other related information support ongoing assessment, cross-unit planning, and more effective allocation of limited dollars to institutional priorities.

- 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.

  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 960 different taxa, represented by more than 21,345 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 $381 million.

- There is also an extensive transportation system of approximately 82 lane miles of university-owned roadways with a replacement value of $45 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 million. One bridge is in fair condition, four are in good condition, and three are in excellent condition.

- There are 125 miles of walkways valued at $47.8 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 first began in 1998 and that now provide free on-campus transportation for all students, faculty, and staff. In early 2017, the Executive Vice President for Administration initiated a mobility planning effort that is working to develop a robust campus mobility plan that connects current initiatives, engages stakeholders, builds on the Campus Land Use Master Plan, and provides the framework to improve campus mobility for all. This mobility master plan aims to position MSU to take a leadership role in giving the State of Michigan economy an edge in the global competition for transportation solutions.
- 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 and is currently undergoing a hardware refresh. While planning was under way to replace this legacy service with direct fiber optic connections, funding was not approved and this project is on hold 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 12,000 wireless access points. Approximately 50 percent of main campus buildings have full WiFi coverage, 30 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 were transitioned from a stand-alone system to the State of Michigan MPSCS hosted two-way radio system this year.

- 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's campus comprises approximately 24.5 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 $5.29 billion. University general-fund buildings account for approximately 13.8 million square feet of space representing $3.50 billion in replacement cost, and Residential and Hospitality Services and other self-supporting facilities account for approximately 10.7 million square feet and the remaining $1.79 billion.

  Facility condition appraisals, including the utility distribution system, are updated on an ongoing basis using input from University maintenance and custodial staff, as well as the users of the buildings. College and program units also provide programmatic facility reviews and forward needs through the annual program planning and review 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. The five-year major maintenance facility needs (apart from the utility distribution system) for general-fund facilities is approximately $570 million[3], or an average of $114 million per year.
- 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 approximately $311 million.

[3] See Appendix E for capital renewal needs.

At present, forthcoming state and federal regulatory changes are being evaluated for their impact on power plant systems. The distribution system includes approximately 74 miles of water lines, approximately 27 miles of steam lines in tunnels, approximately 3 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 $334 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 $124.7 million; and power plant modernization at approximately $90 million.

- MSU has a long history of demonstrated energy conservation. Since the energy crisis of the 1970's the university has continued to reduce consumption using a central building energy management system, combined heat and power energy generation with an underground utility micro-grid on the main campus, and enhanced construction standards which incorporate the United States Green Building Council Leadership in Energy and Environmental Design requirements for sustainability. In 2017, MSU entered into a power purchase agreement to purchase the electricity generated by a 10.5-megawattsolar array constructed as carports over five parking lots on campus. This photovoltaic array was completed and commissioned in December 2017. In recognition of this effort the U.S. Environmental Protection Agency awarded MSU with a 2018 Green Power Leadership award. 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.

  In April of 2012 the MSU Board of Trustees adopted the Energy Transition Plan setting goals to reduce greenhouse gas emissions 30 percent by 2015 and increase renewable energy 15 percent by 2015. The long-range energy strategy approved by the MSU Board of Trustees will help prepare the University to be a responsible global citizen and become a model community of economic sustainability. 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 34 percent since 2010 and uses 30 percent less heating units (BTU) per person than it did in 2006. Upon completion of the solar carport arrays 11.3 percent of campus power came from renewable sources.

  As part of its environmental stewardship, the university participates in the Department of Energy's (DOE) Better Buildings Challenge (BBC), which is an initiative to reduce energy consumption in commercial buildings across the nation. The university has achieved the goal to reduce energy consumption by 20 percent in 20 million square feet of facilities by the year 2020. As part of this

commitment, MSU along with the other Better Building partners, publish their goals and yearly progress updates on the DOE's Better Buildings website. To date, through a comprehensive approach to energy efficiency and conservation, the university has reduced campus-wide energy use intensity by approximately 22 percent (weather adjusted).

A ten-year plan to retro-commission 115 major campus buildings in approximately 16 million square feet of space was completed at the end of FY2018. The scope of work for building analysis included mechanical system retro-commissioning and whole building energy audits. The program was successful in identifying and facilitating the approval of over $20M in energy conservation measures resulting thus far in a greater than 20% reduction in utilities (steam and electricity) across the fleet of buildings included in the analysis. Further, the program was instrumental in the development of a campus-wide steam trap management program whereby device failures were improved from a 20 percent rate of failure to less than 3% over a 6-year period across a steam trap population of 14,000 devices. Collectively, this work has driven an avoidance of over $7M in utility costs based on fuel-only rates. Additionally, in preparation for the future, and through leveraging our existing HVAC building control system, an analytics-based fault detection and diagnostics (FDD) software platform has been connected to 20 campus facilities for the real-time identification and monetization of maintenance and energy related mechanical system issues. Through an alignment of focused re-commissioning and FDD technology, a robust foundation to ongoing commissioning has been laid to retain the significant reduction in energy consumption across campus.

All major buildings on campus have smart electrical metering for viewing real time data at http://energydashboard.msu.edu. In addition, an interactive energy dashboard is available in the lobby of Emmons Hall and Brody Hall to raise student awareness of consumption. On-line access to monthly and annual reports on energy consumption and waste/recycling efforts by building are also available.[4] Access to this data is part of the University's effort to educate the campus community about its consumption and encourage conservation.

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 that has facility capacity to support a comprehensive recycling program and will allow the university to expand recycling collection to all occupied buildings on campus.

- 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 program planning and review process. This process identifies the high-priority programmatic needs of the campus through an annual, systematic approach.

[4] See http://energydashboard.msu.edu/

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 $14 million is needed in fiscal year 2020 to address high priority, selected programmatic improvements. It is anticipated that this magnitude of annual funding need will continue through fiscal year 2026 and beyond, given the limited resources, age of the physical plant, growth in research, 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 320 centrally scheduled classrooms and lecture halls, and approximately 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 1 million assignable square feet.

  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 62 percent across all rooms. One-time events, such as help sessions, department and student organization meetings, on average typically increases utilization by over 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 more than 21,000 acres and contribute to the built environment with 15 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 facilities for engineering research in Okemos; 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 in excess of $360 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 $1.5M 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; 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 informed by 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, deferred 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" remains a high priority and was last year's capital project request. 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.

Capital Planning and Major Maintenance SFY22
Planning Timeframe: One to Five Years

Section I: MSU Capital Outlay SFY22 5-Year Planning	
	FY20 Est. (mil.)
Capital Outlay Priority – Renovation and Addition	
• Greenhouses - Renovation of Existing and Addition - Research Expansion and Learning	$ 22.0
MSU 5-Year Capital Planning (Alphabetical Order) **Renovations and Additions**	
• African American and African Studies - Renovation of Space - New Department	TBD
• Biomedical Frontier	
○ Biomedical Animal Resources – Provision for Large Animal ($16.5M – 23.0M)	
▪ Housing and Surgery	$ 11.9 – 17.3
▪ Imaging	$ 4.6 – 5.7
○ Clinical Center A-Wing – Renovate for Research Expansion	$ 68.3 – 78.8
○ Clinical Center B-Wing – Renovate for Research Expansion & Learning	$ 15.8 – 21.0
○ Research Laboratory Renovation – Various (STEM and ISTB Related Backfill)	$ 15.8 – 18.9
• BSL-3 - Research Expansion Multi-Species Flexible Housing/Procedure Space (Ph. 2)	$ 10.0 – 11.0
• Detroit Initiative - MSU Places of Learning	TBD
• Engineering - New Construction/Addition/Renovation	TBD
• Large Animal - Teaching and Learning Support	TBD
• Learning Spaces	
○ Learning Space Improvements – Annual Investment for Updates and Improvements (5-Year need, $12.0 annually)	$ 60.0
○ Library Improvements – Learning and Collections Support	$ 5.3 – 8.4
• Life Science Building (A & B) HVAC replacement and related (phased approach)	TBD
• Multicultural Center	TBD
• Music Building – Renovation of Existing for Improved Program Support	$ 9.9 – 35.0
• Old Botany – Comprehensive Renovation	$ 10.0 – 11.1
• Plant Biology Building – Comprehensive Renovation	$126.0 – 136.5
• Single Occupant/ADA Restrooms - High Priority Buildings	TBD
• 600 Crescent Road - Modifications to 1st and 2nd floors for IT Services space consolidation	TBD
• Student Services Building – Renovate for Student Support	$ 9.2 – 37.3
New Construction - New Building	
• MSU Health Care - Medical Services Building	TBD
• Transportation Services and Mobility Research Center	$ 21.0 – 23.1
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	$ 36.8 – 42.0
• Utilities (5-year) – Power Plant Modernization	
○ Battery Energy Storage System	TBD
○ Electrical Centrifugal Chillers – 8,400 tons	TBD

Section II: Projects in Active Planning or In Process/Funding from Other Resources		
Projects Authorized by the Board of Trustees for Construction (Arranged Alphabetically)		
• Administration Building – Renovations to the Third Floor (selected area)	$	3.8
• Biochemistry - Replace Power Service - Capital Renewal	$	1.3 – 1.4
• Biochemistry - Upgrade PCB Transformers and Electrical Equipment	$	1.6
• Business College Complex - Eppley: HVAC Capital Renewal and Undergraduate Advising Consolidation - 1st, 2nd, and 4th Floor Renovations	$	11.0
• Duffy Daugherty - SAAC – Alterations to Skandalaris Football Offices and the Demmer Family Hall of History	$	5.8
• Electrical Distribution - Duct bank Expansion and Cast Iron Water Main Replacement Along Service Rd	$	4.8
• Eli Broad College of Business - Addition No. 2 - Pavilion	$	62.0
• FRIB – Cryogenic Assembly Building	$	12.4
• FRIB – High Rigidity Spectrometer and Isotope Harvesting Experimental Vault	$	22.5
• Munn Ice Arena – Expansion	$	23.2
• STEM Teaching and Learning Facility ($72.5M) and Former Shaw Lane Power Plant Renovation ($25.0M) – Strategic Acad. Development Initiative	$	110.1
• T.B. Simon Power Plant – Reconfigure House Service and Install Spare Breakers	$	1.8
• Utilities – Power Plant Modernization		
○ Reciprocating Internal Combustion Engines (RICE)	$	47.0
• Veterinary Medical Center - Alterations to Second Floor Locker Rooms	$	1.6
• Water Distribution - Campus Water System Improvements	$	23.0
• Wells Hall – Replace Induction Units in Building Sections C and D (16-17 Major Maint.)	$	6.0
• Wonders Hall – Teaching, Learning, Student Support Renovation	$	18.0
• 2017-2018 Capital Renewal Program – Projects		
○ Veterinary Medical Center replacement and Programmatic Renovations	$	10.6
Projects Authorized for Planning (In Design, Arranged Alphabetically)		
• 20MW Solar Array Installation (material change to the landscape and long-term lease)	$	2.3
• Engineering Student Activities Building - Construct	$	4.0
• Hidden Lake Gardens - Observation Tower and Canopy Walk	$	2.2
• IM West Outdoor Pool Replacement (on-hold planning completed)	$	15.0
• Library – West Wing HVAC Zone Level Upgrade	$	1.8
• Kellogg Biological Station - Bird Sanctuary Renovation	$	2.5 – 3.5
• Outdoor Seasonal Ice Rink	$	2.3 – 3.0
• Owen Graduate Hall – Visiting Scholars Housing Project	$	1.5 – 2.0
• Swine Teaching and Research Center Addition - (Footprint Change)	$	0.5 – 0.8
• T.B. Simon Power Plant - Site Modifications		
○ Prep site for RICE engine installation		TBD
○ Security fence/cameras		TBD
• Utilities - Power Plant Modernization		
○ Reverse Osmosis Sytem	$	1.0
○ Medium Pressure Steam Boiler		TBD
○ Replace U4 Cyclone Refractory	$	1.0 – 1.5

Addressing the above projects within the next five-year timeframe 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

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

Current forecasts anticipate general fund capital renewal (deferred maintenance) and utility needs of approximately $401 million over the next five years. 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 advancing the common global good with the uncommon will and seeks to further education and research in Science, Technology, Engineering, and Math as well as other curricular priorities to expand economic impact locally, regionally, and internationally. MSU routinely receives more than $600 million in sponsored awards annually, focused in areas such as food systems; plant sciences; health sciences; computational sciences emphasizing biology and food/food-chain; and population and the environment, including food, water, and energy. Additionally, MSU's programmatic investments seek

to improve technology and teaching, prioritize interdisciplinary study, the narrowing of graduation gaps amongst various student groups, 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 2018 graduates with employment, approximately 60percent remained in Michigan, with an additional 16 percent employed in other Midwestern states.

Michigan State University has an annual economic impact of more than $5 billion statewide 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 among the fastest growing economic sectors in the state, 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.

Michigan State University is recognized around the world as a leading academic institution with world-class faculty, top graduate school programs, a powerful research portfolio, and an engaged, entrepreneurial spirit. To maximize its impact and fiscal responsibility, MSU continues to build on its partnerships with local, state and federal government agencies and with the private sector while maintaining its core values and commitments. Leadership continues to balance increasing the value of MSU's work and ensuring it matches the high quality expected of MSU. We engage our partners, our students, our faculty and the stakeholders and communities we serve, both locally and globally, to shape a shared future of sustainable prosperity.

Fall 2020

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 2019

Appendix E: Building Condition Assessment

Appendix F: Utilities

Fiscal Year 2022 Budget Information

5-Year Capital Plan

Submitted by:

MICHIGAN STATE UNIVERSITY

Fall 2020

Appendix A: Mission Statement

Fiscal Year 2022
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 2020

Appendix B: Campus Land Use Master Plan

Update February 2017

Fiscal Year 2022
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

Michigan State University

Campus Land Use Master Plan: Update 2017

February 2017

TABLE OF CONTENTS

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.

Zoning Designation	Estimated Gross Potential	Estimated Net Potential
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
Total Opportunity (w/o redevelopment)	**10,638,715 GSF**	**9,813,576 GSF**

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

Zoning Designation	Estimated Gross Potential	Estimated Net Potential
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
Total Opportunity (with redevelopment)	**13,480,215 GSF**	**11,522,524 GSF**

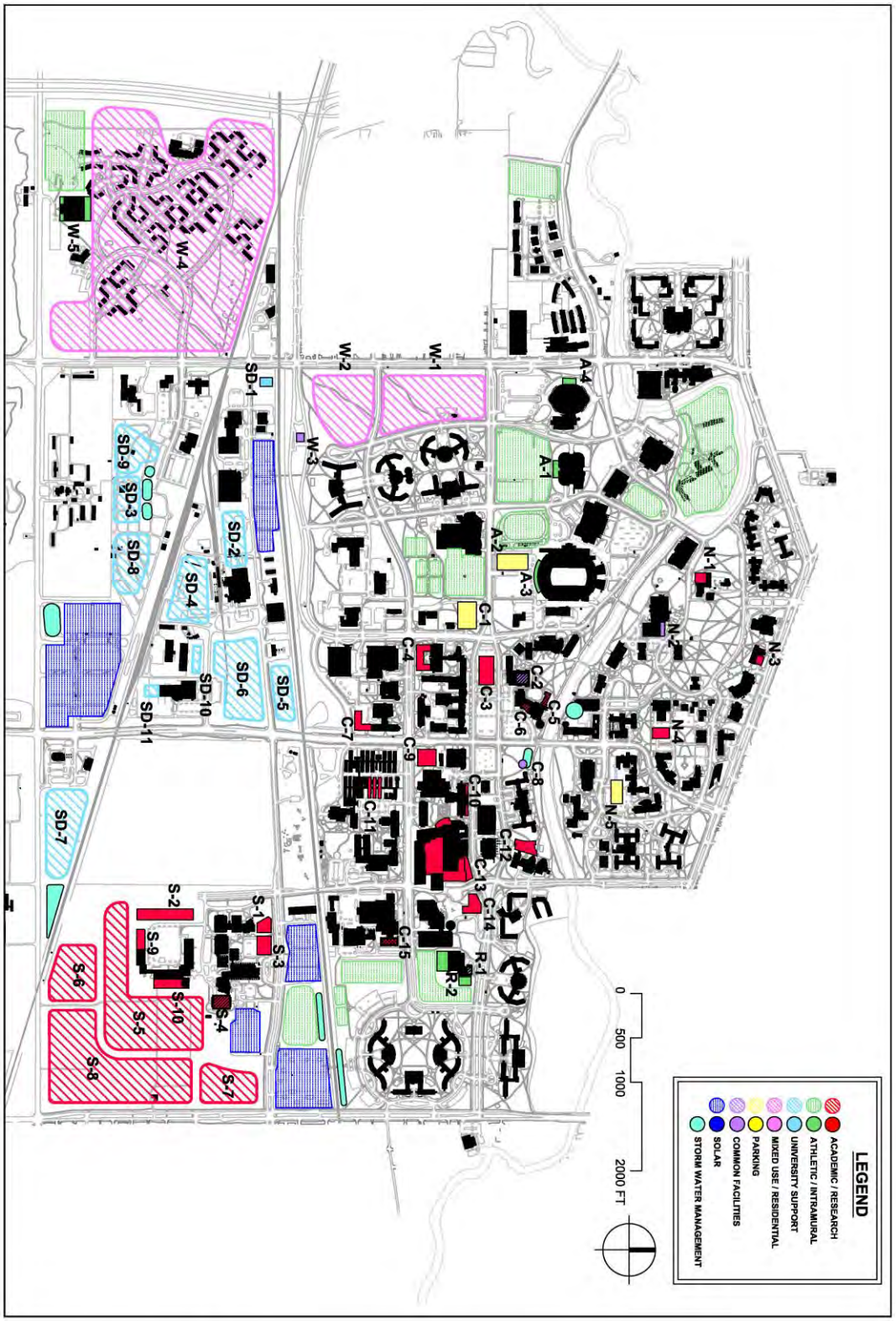
STRATEGIC LAND ACQUISITION

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.

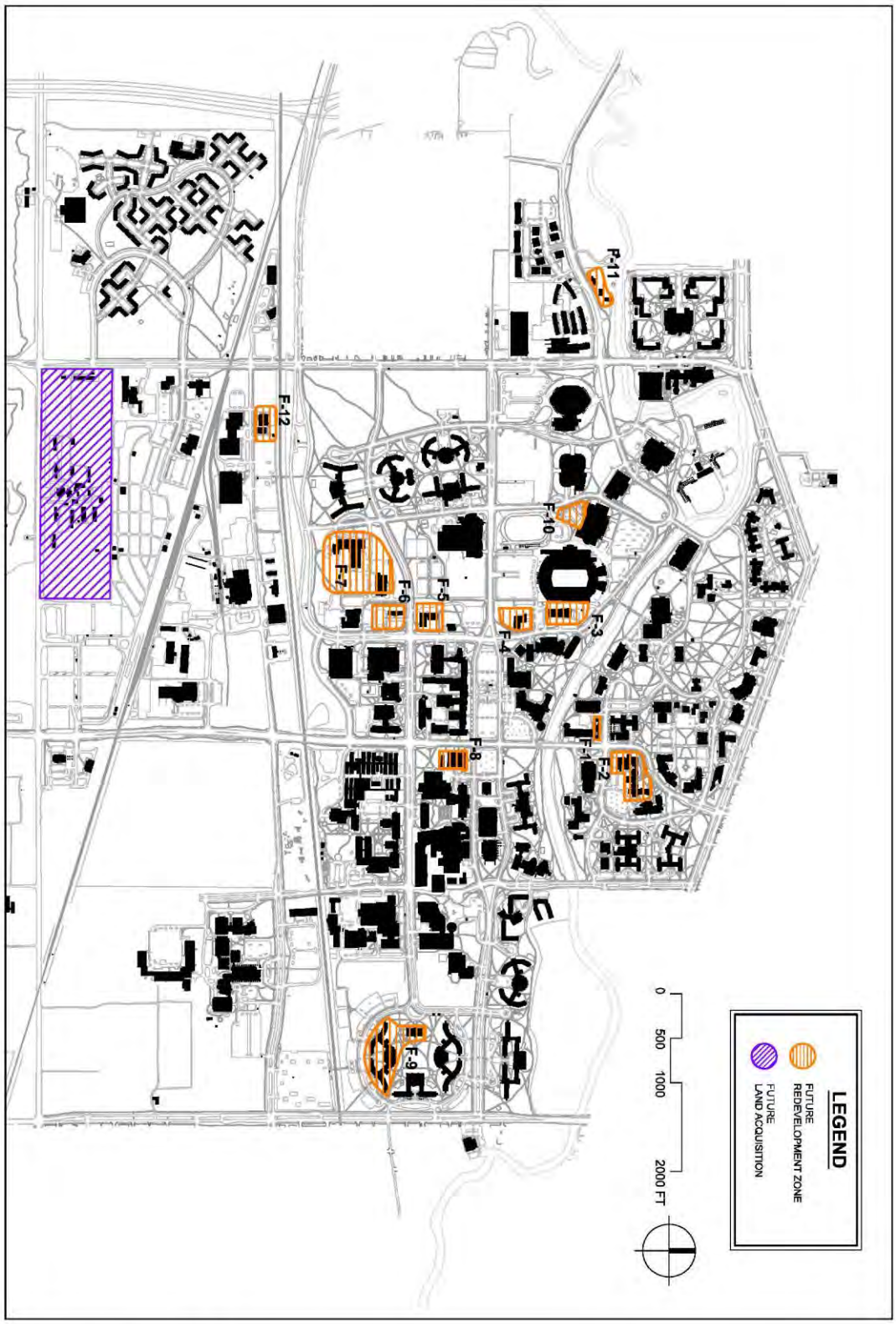
100-YEAR FLOODPLAIN AND STORM WATER MANAGEMENT

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.



1 OF 1	CAPITAL PROJ. NO.	BUILDING FRAMEWORK	MICHIGAN STATE UNIVERSITY | Infrastructure Planning and Facilities



MAJOR REDEVELOPMENT OPPORTUNITIES

MICHIGAN STATE UNIVERSITY | Infrastructure Planning and Facilities

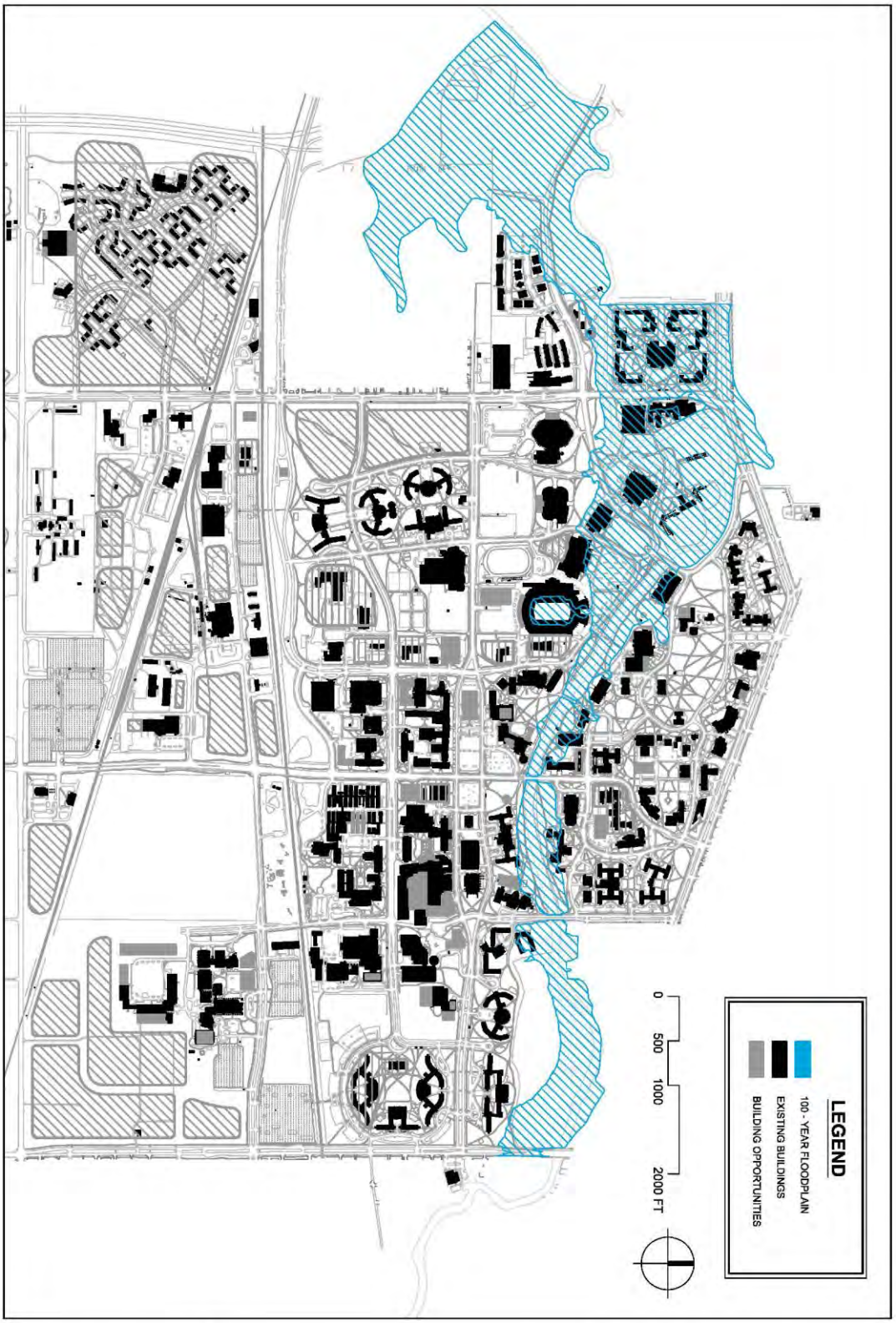
Campus Master Plan - Update 2016
Building Opportunity Framework Plan
Updated 12/19/2016

District	#	Project	Estimated Envelope	Proposed Envelope Utilization (%)	Potential Footprint	Footprint Demolition	Proposed Height	Potential GSF	GSF Demolition	GSF Net New	Notes
NORTH ACADEMIC DISTRICT											
A	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	1	8,400		4	42,000		42,000	
N	3	Human Ecology Expansion	7,700	1	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	1	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**	
CENTRAL ACADEMIC DISTRICT											
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	1	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	1	8,800		2	17,600		17,600	
C	6	Erickson Front Vertical Expansion	7,000	1	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	1	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	1	7,500		6	52,500		52,500	
C	11	Greenhouse Expansion	28,000	1	28,000		1	28,000		28,000	
C	12	Business College Graduate Pavilion	24,000	1	24,000		4	96,000		96,000	Per LMN program
C	13	FRIB Expansion	123,037	1	123,037		2	261,365		261,365	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**	
SOUTH ACADEMIC DISTRICT											
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	1	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	0.9	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**	
RESIDENTIAL DISTRICT EAST											
R	1	IM East Vertical Expansion	4,000	1	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**	
MIXED USE DISTRICT											
W	1	New Mixed use	618,000	0.75	tbd		1	463,500		463,500	Assume FAR @ 0.75 with surface parking
W	2	New Mixed use	447,000	0.75	tbd		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	tbd	-396,132	1	3,705,000	-793,857	2,911,143	Assume FAR @ 0.75, demo apts.
W	5	Tennis Center Addition	28,000	1	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**	
ATHLETIC AND RECREATION DISTRICT											
A	1	Munn Addition	25,000	1	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	1	35,000		1	35,000		35,000	Per athletic's program
A	4	Breslin Addition	10,000	1	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**	
SERVICE DISTRICT											
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	1	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**	
		TOTAL GSF			**2,779,037**			**13,480,215**		**11,522,524**	

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.



100 - YEAR FLOODPLAIN

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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

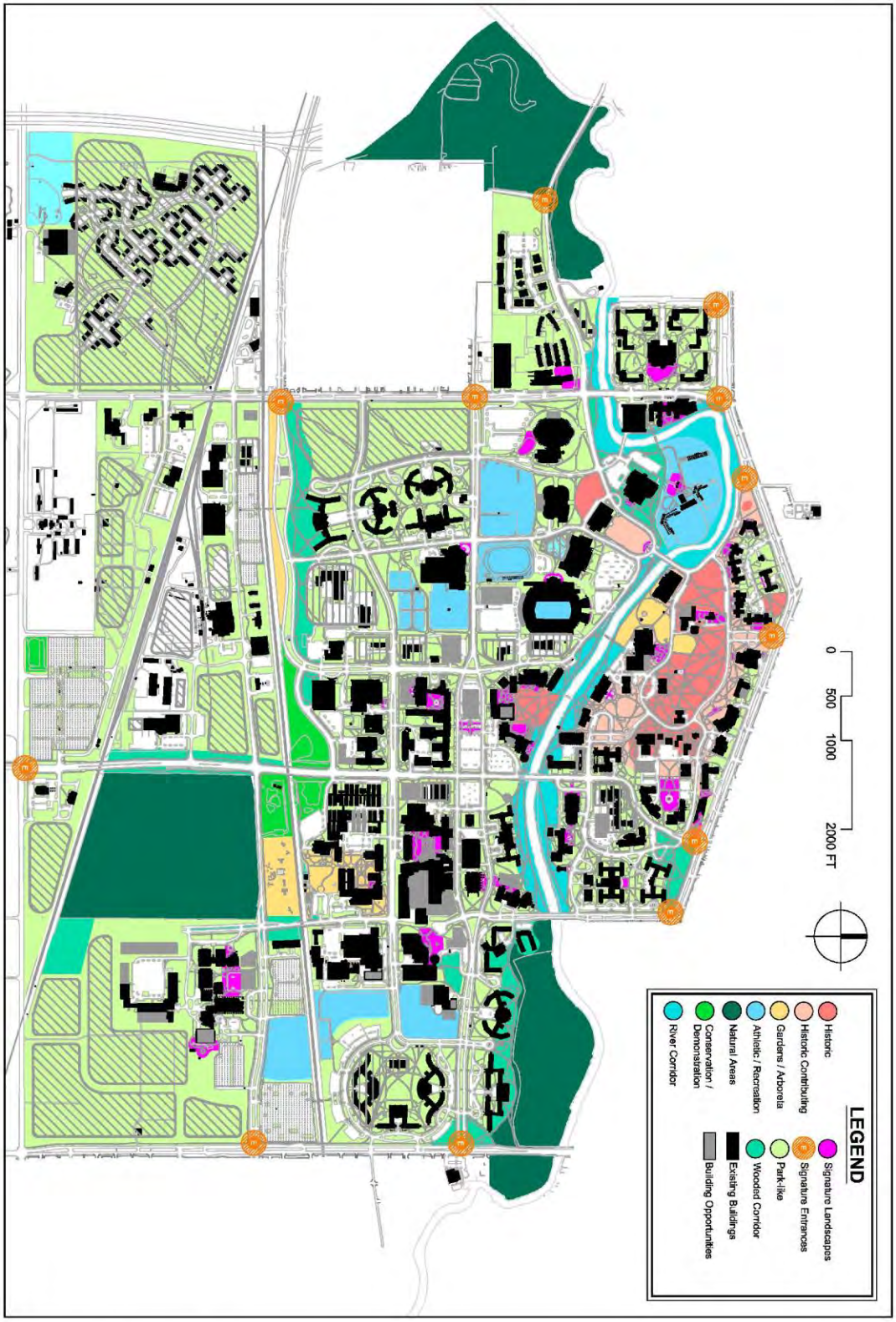
Conservation and demonstration areas are built landscapes for the purpose of storm water management, education, and research. They are actively designed, planted, and managed, requiring a moderate amount of maintenance to ensure integrity of the plantings and operation of the storm water management features.

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.



OPEN SPACE FRAMEWORK

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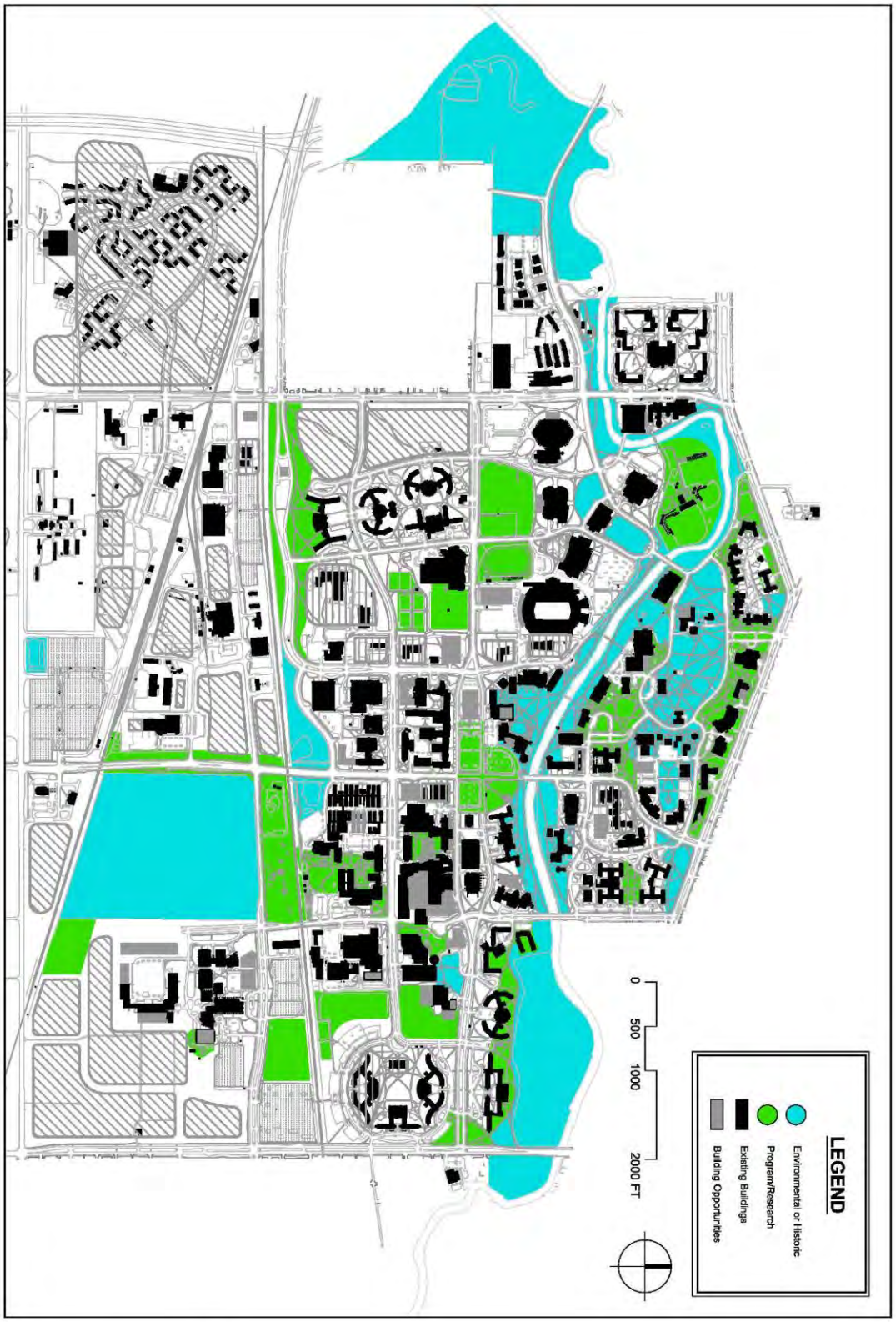

PROTECTED GREEN SPACE

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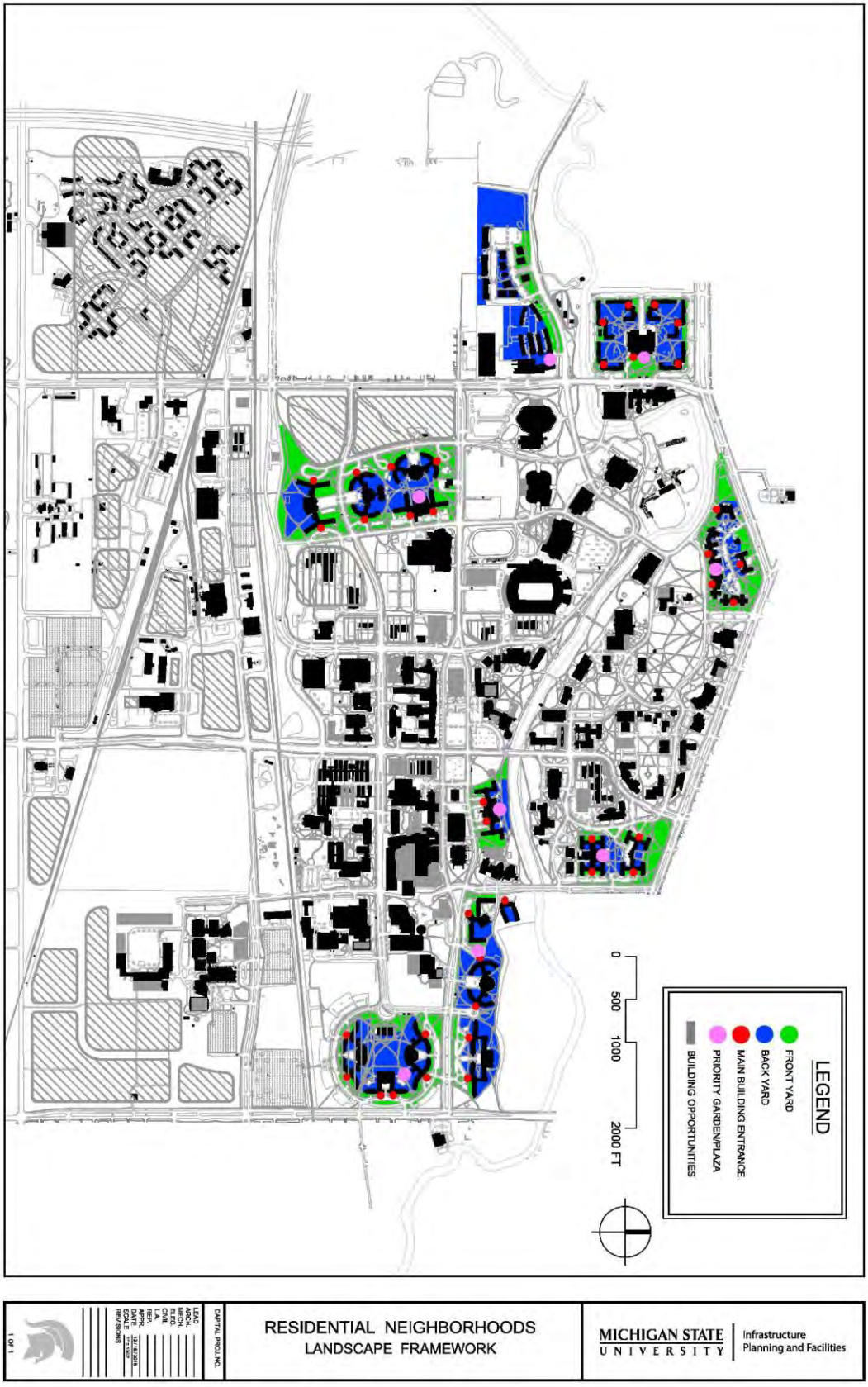

LEGEND
FRONT YARD
BACK YARD
MAIN BUILDING ENTRANCE
PRIORITY GARDEN/PLAZA
BUILDING OPPORTUNITIES
0
500
1000
2000 FT
RESIDENTIAL NEIGHBORHOODS
LANDSCAPE FRAMEWORK
MICHIGAN STATE UNIVERSITY
Infrastructure Planning and Facilities

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

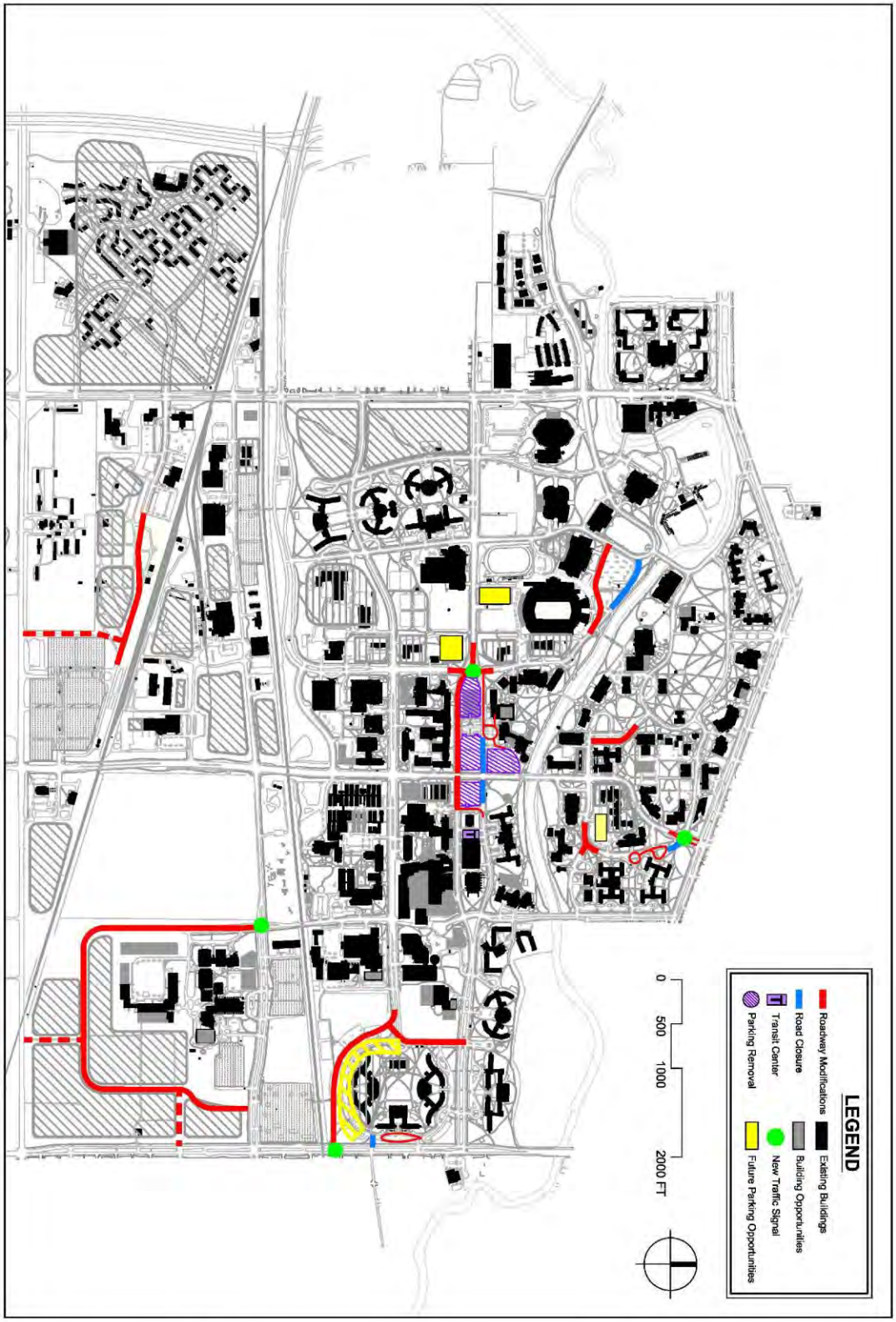
The following non-motorized projects and initiatives are anticipated in the near term (five- to ten-year planning horizon).

- 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.



MOTORIZED
CIRCULATION FRAMEWORK

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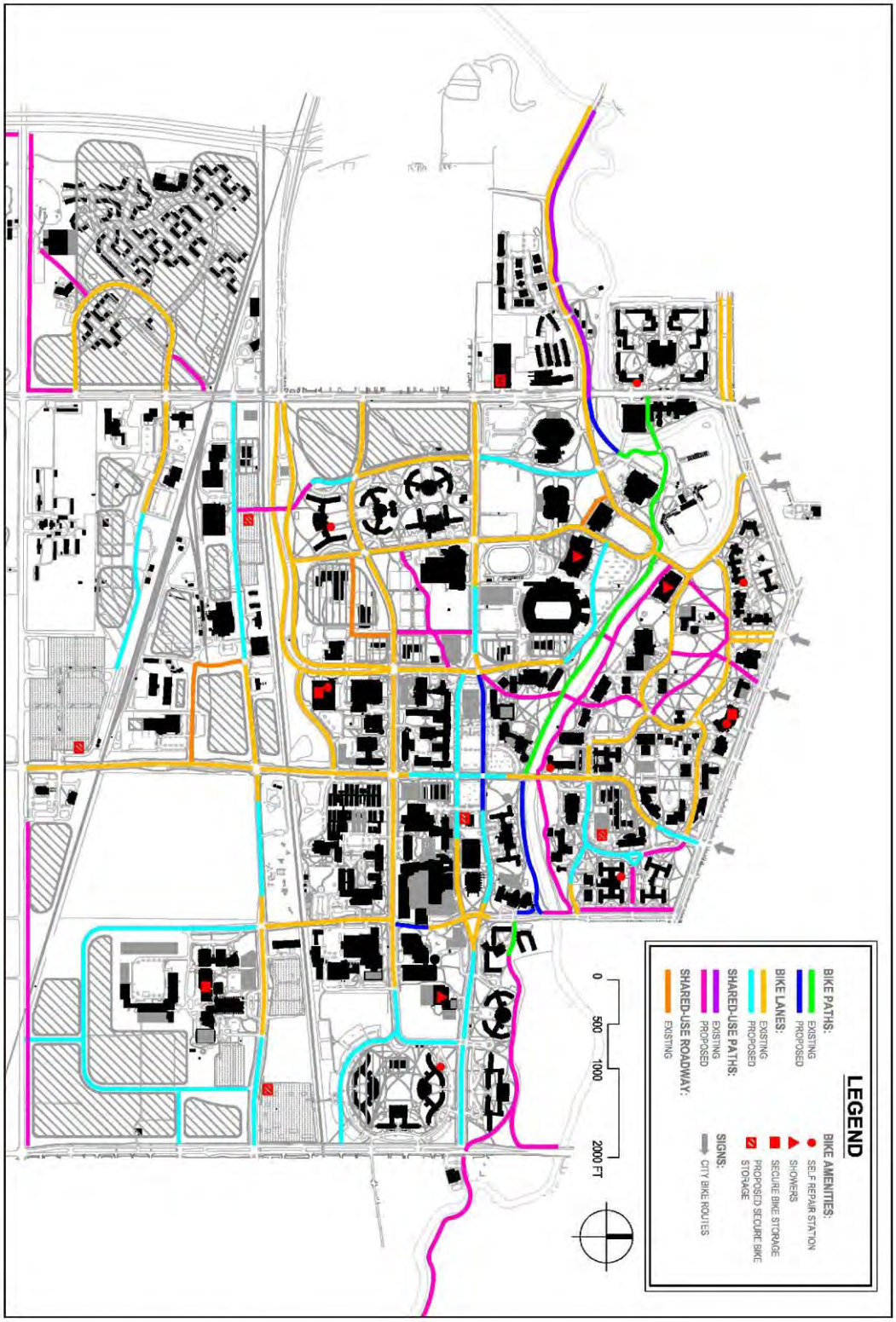


NON - MOTORIZED CIRCULATION FRAMEWORK

MICHIGAN STATE UNIVERSITY | Infrastructure Planning and Facilities

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.

_____

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

Dated: April 19, 1968

Revision Date: February 17, 2017

TABLE OF CONTENTS

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.

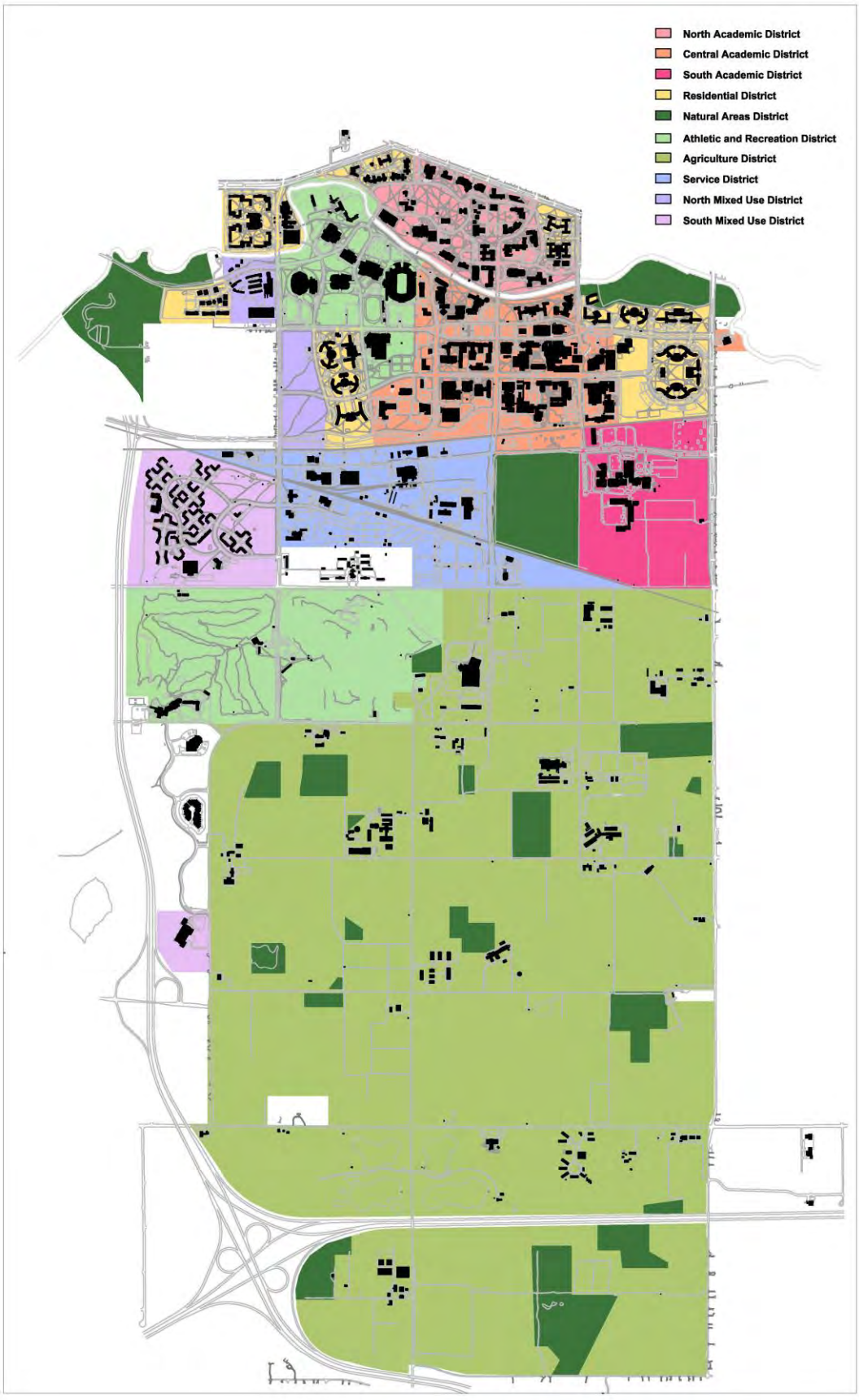
7.1.1.7 Approve the design of all building and site features, modifications, and improvements within Protected Green Space areas when a variance has been authorized.

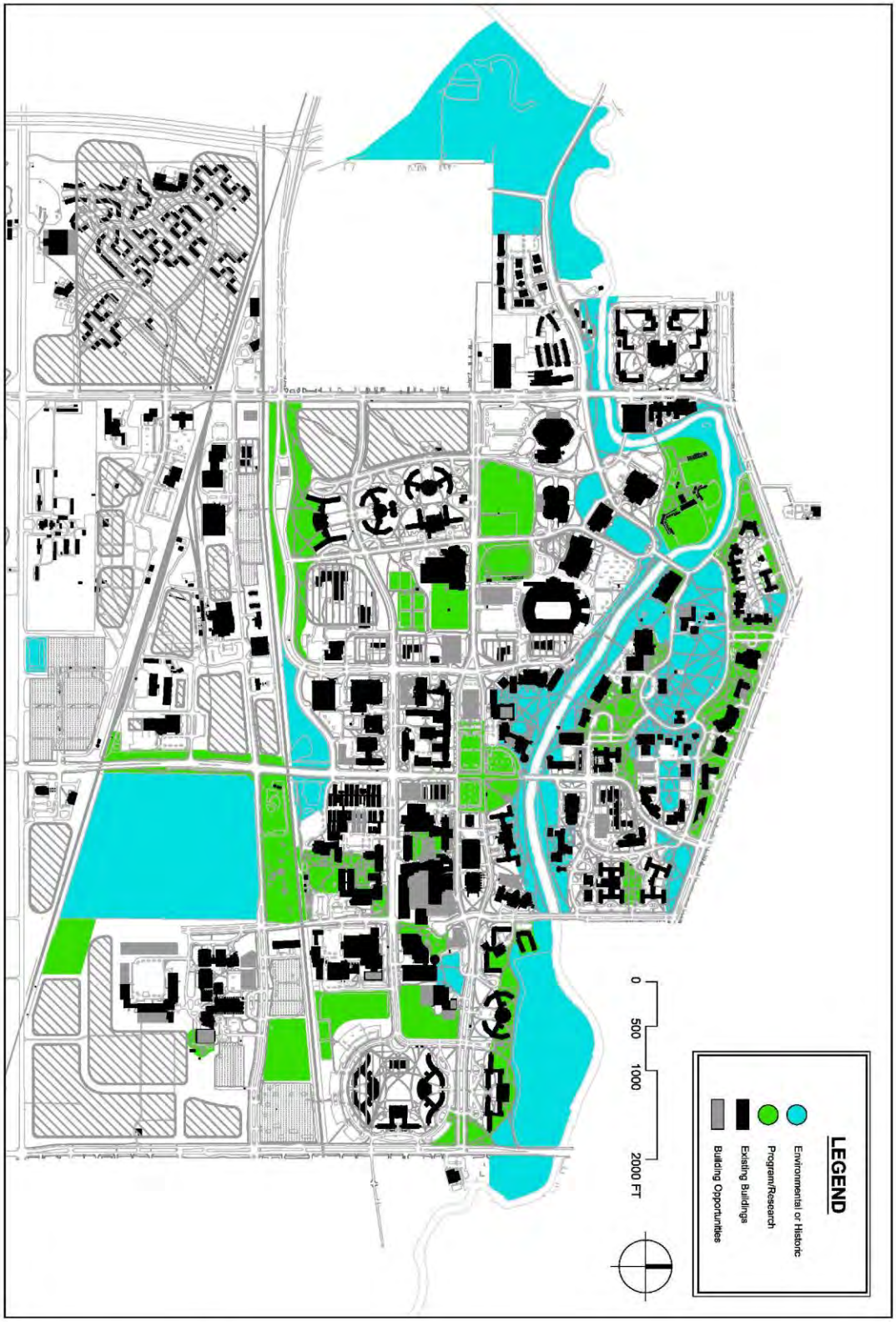
7.1.1.8 Refer any specific request for a variance to the Vice President and Secretary of the Board of Trustees for clarification regarding the need for BOT action.

8.00 - AMENDMENTS

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

End


North Academic District
Central Academic District
South Academic District
Residential District
Natural Areas District
Athletic and Recreation District
Agriculture District
Service District
North Mixed Use District
South Mixed Use District



PROTECTED GREEN SPACE

MICHIGAN STATE UNIVERSITY | Infrastructure Planning and Facilities

Fall 2020

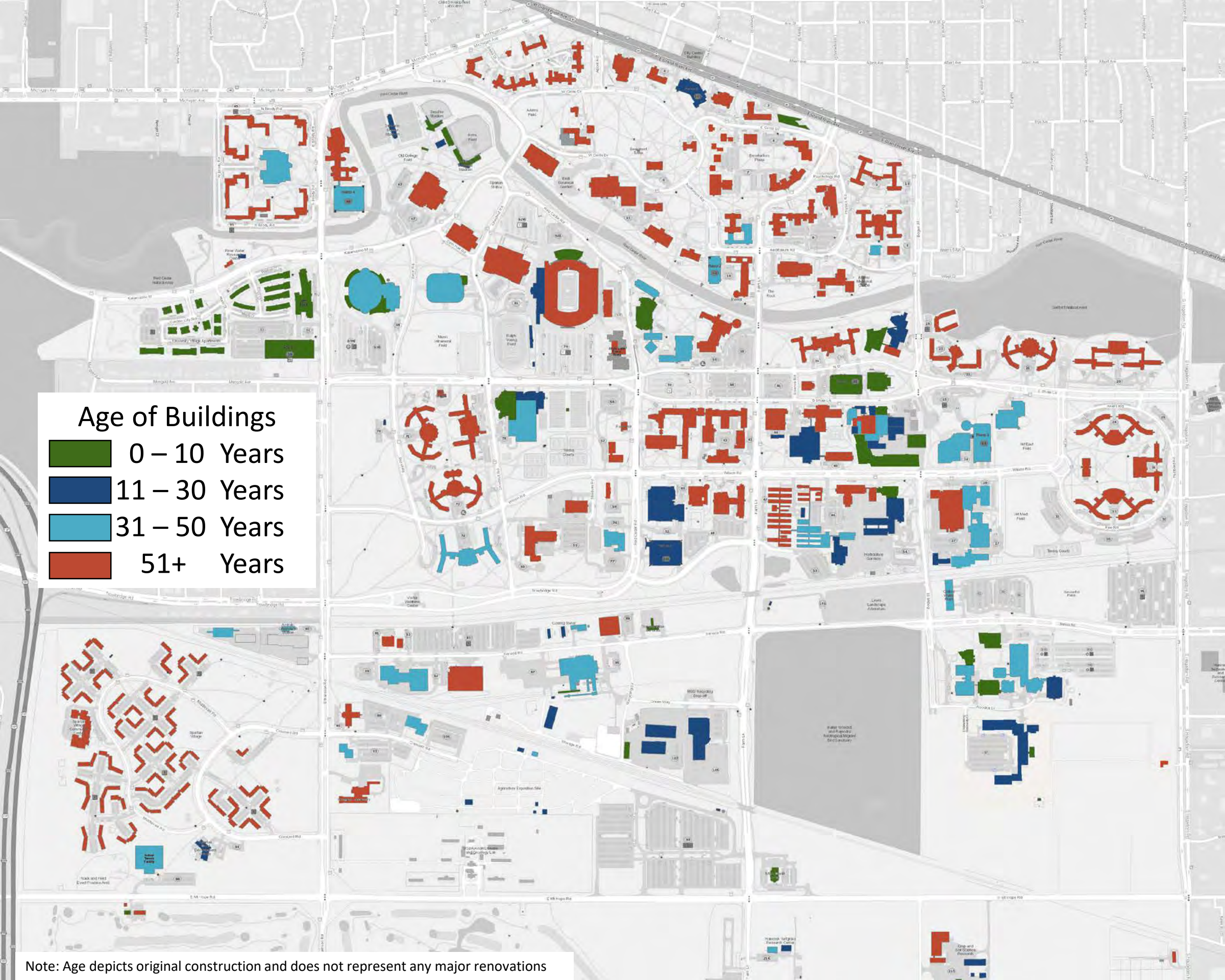
Appendix C: Buildings by Age

Fiscal Year 2022
Budget Information

5-Year Capital Plan

Submitted by:

MICHIGAN STATE
UNIVERSITY



Note: Age depicts original construction and does not represent any major renovations

Fall 2020

Appendix D: Student Enrollments Fall Semester 2020

Fiscal Year 2022
Budget Information

5-Year Capital Plan

Submitted by:

MICHIGAN STATE UNIVERSITY

Michigan State University
Office of the Registrar
Comparison of Student Enrollments

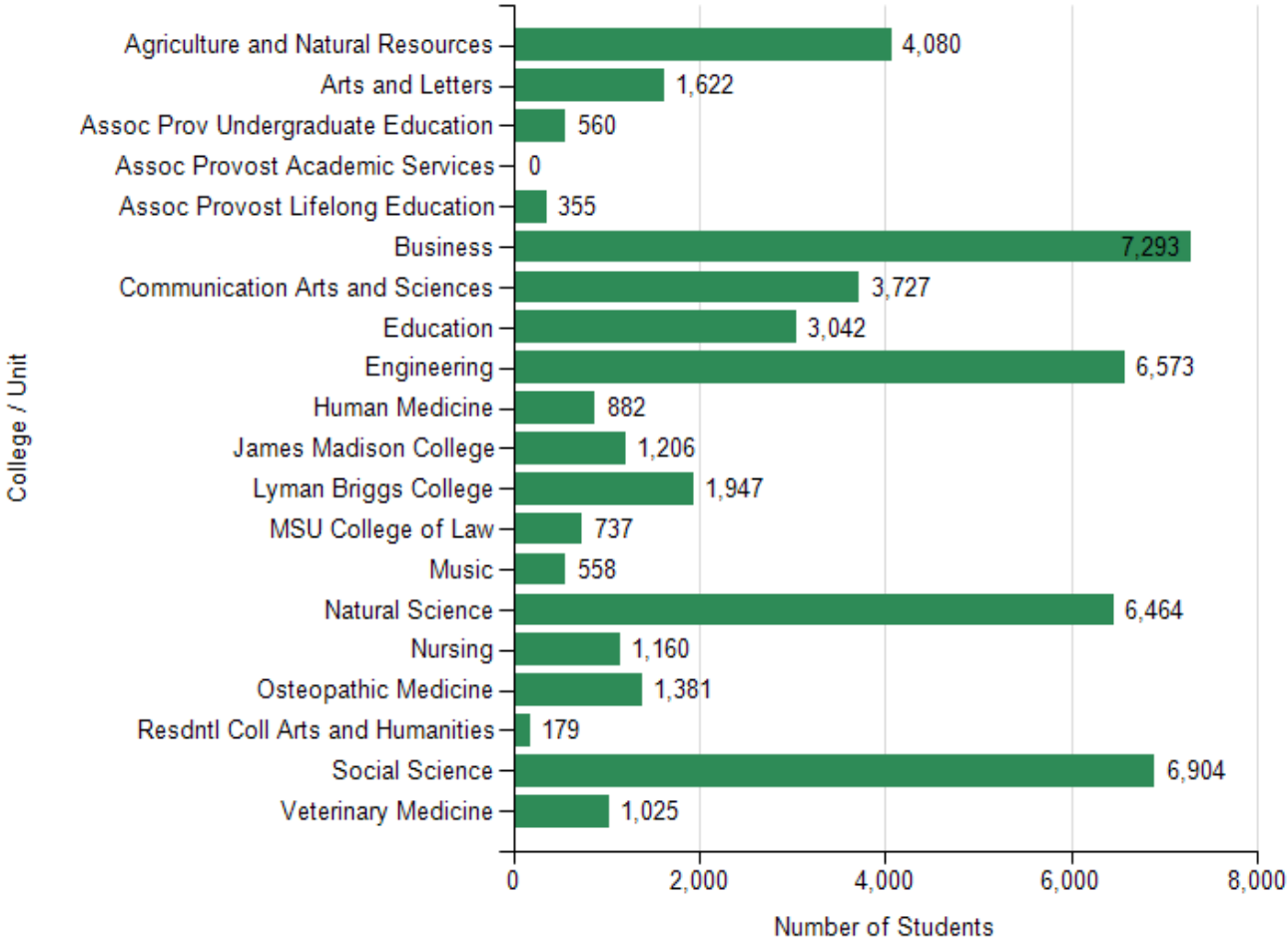
FALL 2020

COLLEGE/UNIT	Students Enrolled		Full Time Students		Fiscal Year Equated		Teaching College Course	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agriculture and Natural Resources	4,080	8.2%	3,427	8.0%	2,729	6.1%	14,419	6.6%
Arts and Letters	1,622	3.3%	1,377	3.2%	5,164	11.6%	21,584	9.8%
Resdntl Coll Arts and Humanities	179	0.4%	161	0.4%	77	0.2%	308	0.1%
Business	7,293	14.7%	6,312	14.7%	4,048	9.1%	22,473	10.2%
Communication Arts and Sciences	3,727	7.5%	3,280	7.6%	2,404	5.4%	12,153	5.5%
Education	3,042	6.1%	2,429	5.6%	2,084	4.7%	9,730	4.4%
Engineering	6,573	13.2%	5,908	13.7%	3,181	7.2%	15,020	6.8%
Human Medicine	882	1.8%	794	1.8%	1,056	2.4%	3,790	1.7%
James Madison College	1,206	2.4%	1,100	2.6%	534	1.2%	2,003	0.9%
Lyman Briggs College	1,947	3.9%	1,796	4.2%	614	1.4%	2,724	1.2%
Music	558	1.1%	499	1.2%	411	0.9%	2,580	1.2%
Natural Science	6,464	13.0%	5,706	13.3%	9,394	21.1%	47,510	21.6%
Nursing	1,160	2.3%	1,069	2.5%	454	1.0%	1,589	0.7%
Osteopathic Medicine	1,381	2.8%	1,227	2.9%	1,243	2.8%	6,877	3.1%
Social Science	6,904	13.9%	5,922	13.8%	8,671	19.5%	38,036	17.3%
Assoc Prov Undergraduate Education	560	1.1%	524	1.2%	731	1.6%	10,239	4.7%
Veterinary Medicine	1,025	2.1%	780	1.8%	762	1.7%	5,188	2.4%
Assoc Provost Academic Services	0	0.0%	0	0.0%	124	0.3%	338	0.2%
Assoc Provost Lifelong Education	355	0.7%	32	0.1%	0	0.0%	0	0.0%
MSU College of Law	737	1.5%	662	1.5%	735	1.7%	3,258	1.5%
Total University	**49,695**		**43,005**		**44,416**		**219,819**	
CLASS/LEVEL								
Doctoral	3,444	6.9%	3,326	7.7%	2,503	5.6%	6,718	3.1%
Masters	3,921	7.9%	1,720	4.0%	2,346	5.3%	11,824	5.4%
Total Graduate	**7,365**		**5,046**		**4,849**		**18,542**	
Freshman	8,994	18.1%	8,628	20.1%	8,795	19.8%	47,090	21.4%
Junior	9,573	19.3%	8,979	20.9%	9,148	20.6%	45,627	20.8%
Senior	10,694	21.5%	8,434	19.6%	9,231	20.8%	46,732	21.3%
Sophomore	8,770	17.6%	8,318	19.3%	8,529	19.2%	41,685	19.0%
Total Undergraduate	**38,031**		**34,359**		**35,703**		**181,134**	
Graduate Professional	3,187	6.4%	3,075	7.2%	3,187	7.2%	17,198	7.8%
Total Graduate Professional	**3,187**		**3,075**		**3,187**		**17,198**	
Non-Degree	1,112	2.2%	525	1.2%	676	1.5%	2,945	1.3%
Total Non-Degree	**1,112**		**525**		**676**		**2,945**	
Grand Total	**49,695**		**43,005**		**44,416**		**219,819**	
Percent of Total Students		100.0%		86.5%		89.4%		

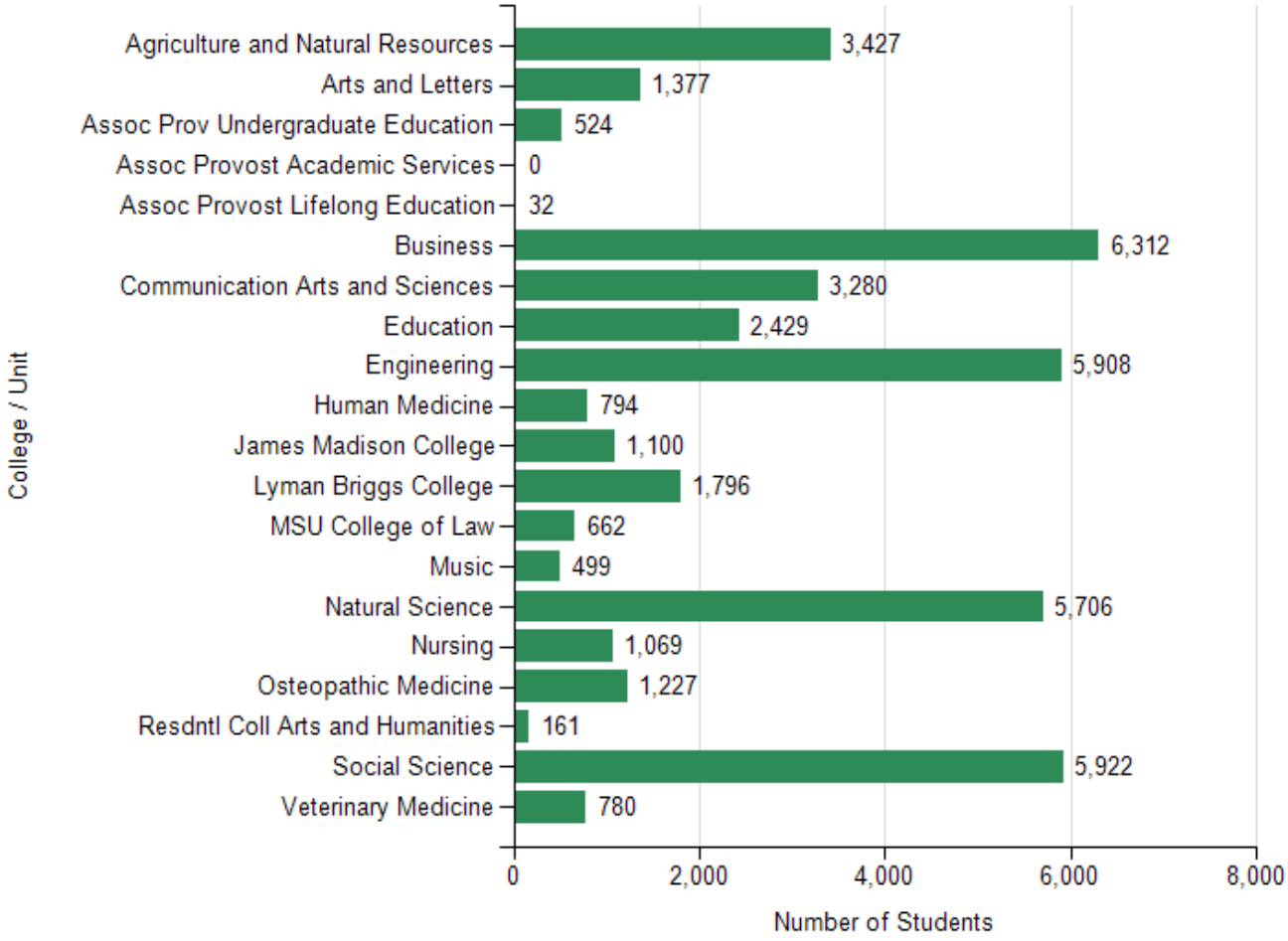
Average Student Course: 4.4 Course Enrollments

Full-Time Students column: A head count of students who are carrying minimum credits for full-time status: Undergraduate-12; Masters-9; Doctoral-6; and Graduate Professional-12.

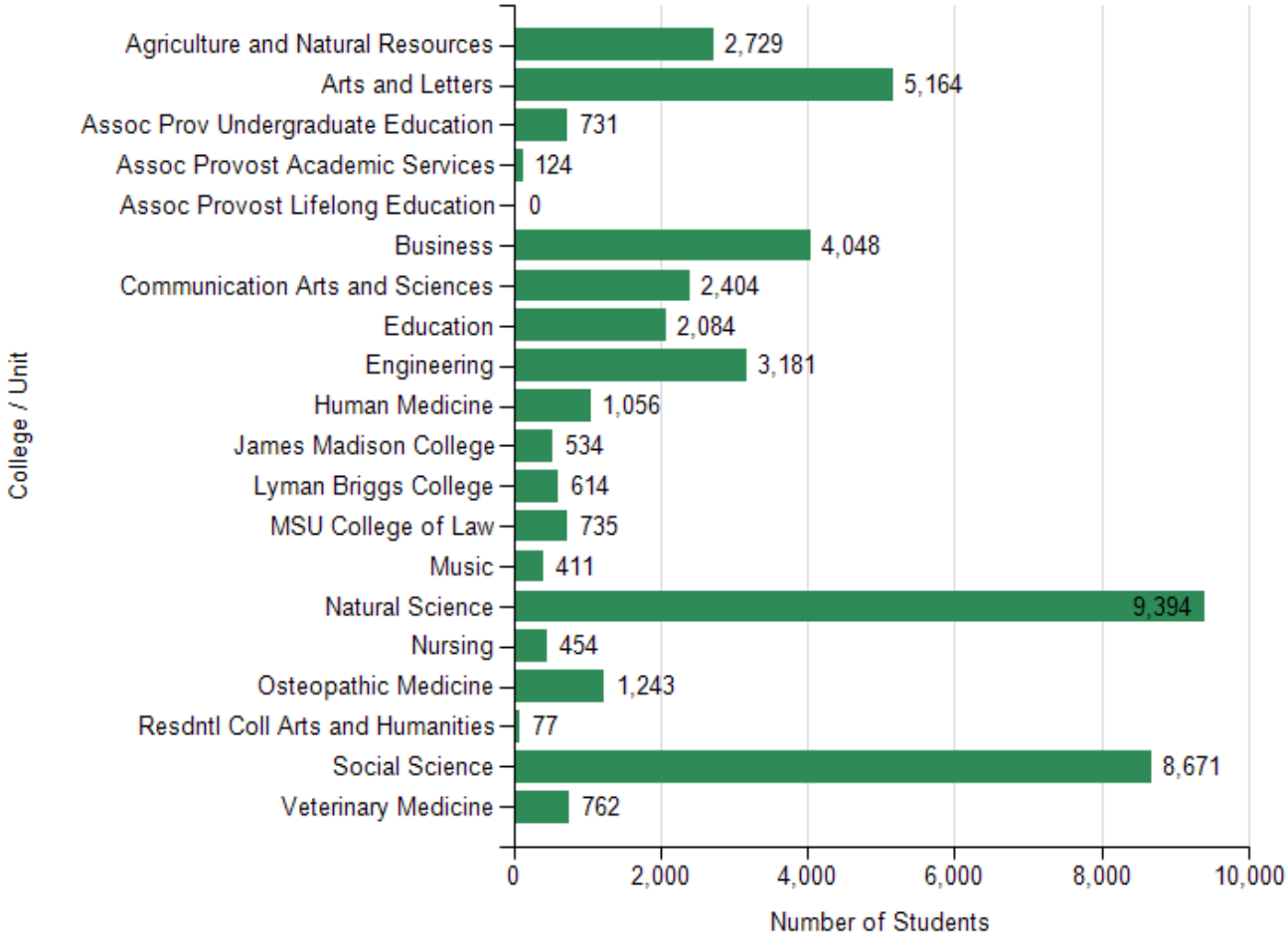
Comparison of Student Enrollments By College / Unit: Students Enrolled



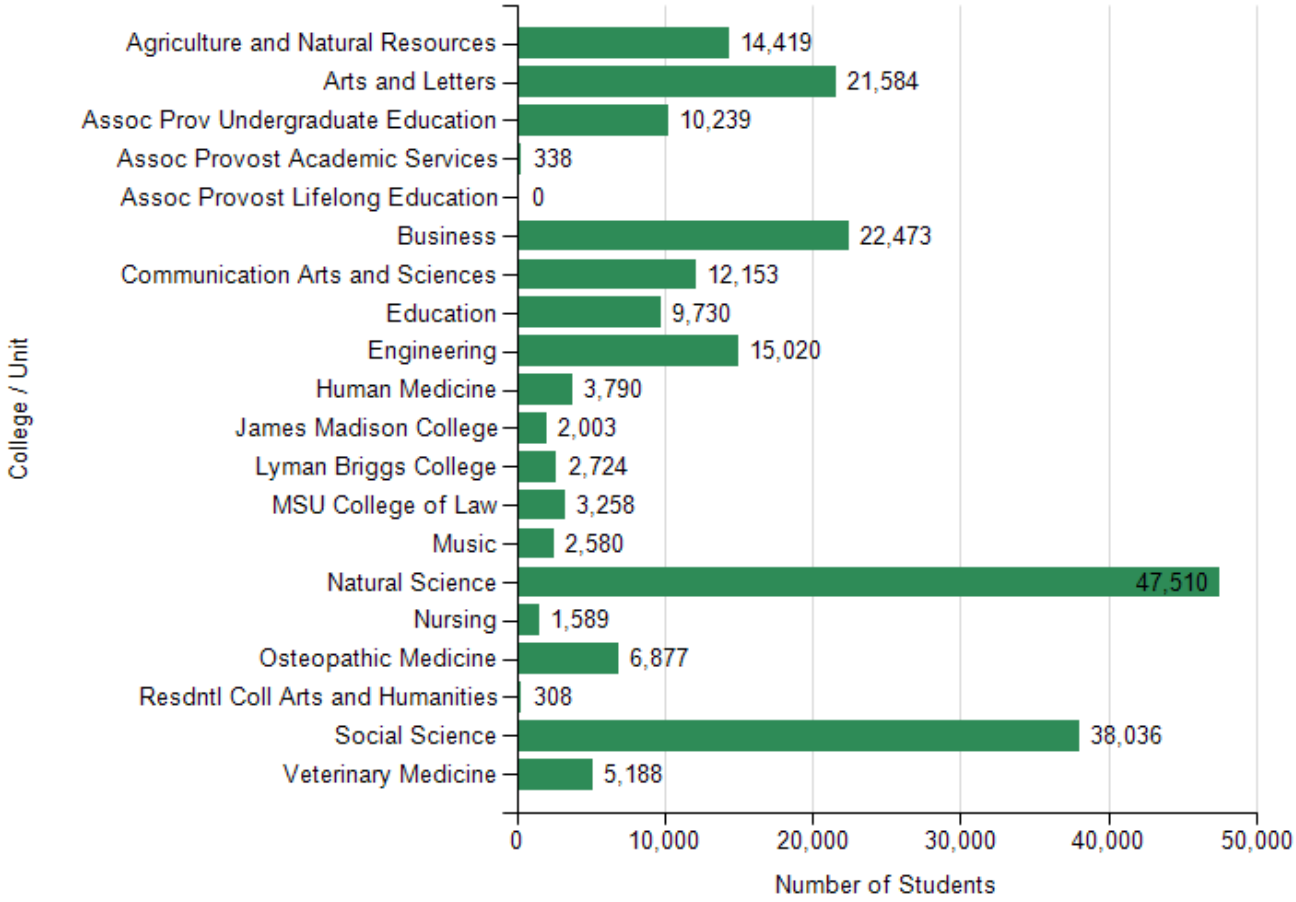
Comparison of Student Enrollments By College / Unit: Full Time Students



Comparison of Student Enrollments By College / Unit: Fiscal Year Equated



Comparison of Student Enrollments By College / Unit: Teaching College Course



Fall 2020

Appendix E: Building Condition Assessment

Fiscal Year 2022
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
ABRAMS PLANETARIUM	0165	2021	BUILDING SYSTEMS	REPLACE CONTROLS	$150,000
ABRAMS PLANETARIUM	0165	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC #1	$779,000
					$929,000
AG EXPO EXHIB-STORAGE 1 EAST	0402	2024	BUILDING ENVELOPE	REPLACE ROOF #1	$23,000
					$23,000
ALFRED BERKOWITZ BASKETBALL	0069	2021	BUILDING SYSTEMS	DAYLIGHT DIMMING LIGHTING CONTROL RENEWAL	$407,100
ALFRED BERKOWITZ BASKETBALL	0069	2021	BUILDING SYSTEMS	DOOR OPERATOR, POWER-ASSIST RENEWAL	$29,700
ALFRED BERKOWITZ BASKETBALL	0069	2021	BUILDING SYSTEMS	HUMIDIFIER, STEAM INJECTION RENEWAL	$23,100
ALFRED BERKOWITZ BASKETBALL	0069	2021	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - GYMNASIUM RENEWAL	$28,300
ALFRED BERKOWITZ BASKETBALL	0069	2021	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - GYMNASIUM RENEWAL	$34,400
ALFRED BERKOWITZ BASKETBALL	0069	2024	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM) RENEWAL	$27,200
ALFRED BERKOWITZ BASKETBALL	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	DOOR LOCK, SECURITY, EXTERIOR RENEWAL	$112,900
ALFRED BERKOWITZ BASKETBALL	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS RENEWAL	$41,400
ALFRED BERKOWITZ BASKETBALL	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION - GYMNASIUM	$26,900
ALFRED BERKOWITZ BASKETBALL	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVES RENEWAL	$115,000
					$846,000
ALUMNI CHAPEL	0030	2025	BUILDING SYSTEMS	ALUMNI CHAPEL - REPLACE ORIGINAL STEAM WATER HEATER	$54,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR WATERPROOFING AND MASONRY RESTORATION	$99,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LIGHTING PANELS IN BASEMENT STORAGE ROOM ($5800),	$21,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING ENVELOPE	STAINED GLASS WINDOW REPAIR AND PROTECTION	$43,000
ALUMNI CHAPEL	0030	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPLACEMENT/RESTORATION, BUILT-UP ROOFING, SLATE REPAIR,	$37,000
					$254,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
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	$129,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE EXTERIOR DOOR HARDWARE AND SELECTED INTERIOR DOORS.	$34,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	$37,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$1,115,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$229,000
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	$72,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MECHANICAL CHILLER	$335,000
ANGELL UNIV SERVICES	0133	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$237,000
					$2,278,000
ANTHONY HALL	0132	2021	BUILDING SYSTEMS	REPLACE ANTHONY ATS	$20,000
ANTHONY HALL	0132	2022	BUILDING ENVELOPE	ANTHONY HALL - EXTERIOR ENVELOPE RENEWAL PHASE 2 OF 2	$500,000
ANTHONY HALL	0132	2022	BUILDING ENVELOPE	ANTHONY HALL - EXTERIOR ENVELOPE RENEWAL PHASE 2 OF 2	$500,000
ANTHONY HALL	0132	2022	BUILDING SYSTEMS	CHILLER AND COOLING TOWER REPLACEMENT - #1 ABSC955	$2,141,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$336,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ENTIRE FIRE SPRINKLER PROTECTION SYSTEM	$2,932,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	$2,423,000
ANTHONY HALL	0132	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FAUCETS AND TRIM, URINAL FLUSH VALVES AND	$43,000
					$8,895,000
AUDITORIUM	0031	2021	BUILDING SYSTEMS	REPLACE CONTROLS	$200,000
AUDITORIUM	0031	2022	BUILDING ENVELOPE	REPLACE ROOF #15	$48,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STAGE LIFT ELEVATOR	$1,059,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	AUDITORIUM ROOFTOP UNIT	$219,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER HEATER	$69,000
AUDITORIUM	0031	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM - LAVATORY FAUCETS AND TRIM, TOILET SEATS AND	$40,000
					$1,635,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY REPAIRS AND CAULKING	$57,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAVATORY FAUCETS AND TRIM, TOILET FLUSH VALVES, URINAL FLUSH	$46,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER SHUT OFF VALVES AND WATER METER WHERE	$27,000
BAKER HALL	0182	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIR TREADS IN BAKER HALL	$73,000
					$203,000
BEEF CATTLE RESEARCH-ANIMAL	0471I	2022	BUILDING ENVELOPE	REPLACE ROOFS #1	$113,000
					$113,000
BEEF CATTLE RESEARCH-MAIN	0471A	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR PAINTING - DOOR TRIM & FROM OF OFFICE BUILDING	$48,000
BEEF CATTLE RESEARCH-MAIN	0471A	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT BLDG 471 - ROOF #A-2, A-1, C, H, K	$383,000
					$431,000
BERKEY HALL	0002	2025	BUILDING SYSTEMS	REPLACE CONTROL CABINET 4 (MEC)	$36,000
BERKEY HALL	0002	2025	BUILDING SYSTEMS	REPLACE CONTROL CABINET 5 (MEC)	$36,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FAUCETS, GRID DRAINS, P-TRAPS, SHUTOFF VALVES, FAUCET	$20,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR WOOD DOORS	$145,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MECHANICAL CHILLER AND CONDENSER	$427,000
BERKEY HALL	0002	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BRANCH CIRCUIT WIRING W/ CLOTH INSULATION	$32,000
					$696,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
BESSEY HALL	0079	2024	BUILDING SYSTEMS	ELEVATOR - 1	$431,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	BASEMENT AIR PLENUMS-REMOVE ALL ASBESTOS PIPE INSULATIONS &	$146,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE WINDOWS AND EXTERIOR DOORS	$2,294,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING ENVELOPE	BESSEY EXTERIOR MASONRY AND CAULKING REPAIRS	$86,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	BESSEY HALL - REPLACE STEAM DOMESTIC WATER HEATER	$69,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEMS	$137,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 200 TON CHILLER AND COOLING TOWERS	$1,912,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BESSEY ATS	$20,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIR TREADS IN BESSEY HALL	$50,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DUPLEX CONTROL AIR COMPRESSOR	$34,000
BESSEY HALL	0079	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM LAVATORY FAUCETS AND TRIM, TOILET FLUSH	$107,000
					$5,286,000

BIOCHEMISTRY	0168	2024	BUILDING SYSTEMS	REPLACE DUAL SYSTEM ELEVATOR 1 & 2	$980,000
BIOCHEMISTRY	0168	2025	BUILDING SYSTEMS	REPLACE DOMESTIC WATER BOOSTER PUMP DUPLEX, VFD DRIVE	$69,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR PAINTING	$21,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR	$33,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTEROR ALUMINUM DOORS AND HARDWARE	$41,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BOOSTER COILS, VAV AND VALVES THAT SERVE ANIMAL ROOMS	$22,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	COOLING TOWERS - CT3	$3,189,000
BIOCHEMISTRY	0168	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HORIZONTAL COLD WATER MAIN PIPING AND VALVES	$662,000
					$5,017,000

BIOMEDICAL PHYSICAL SCIENCES	0160	2022	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	$40,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
BIOMEDICAL PHYSICAL SCIENCES	0160	2022	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	$40,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE AHU 5	$167,000
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	$64,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FIBERGALSS WATERLESS URINALS	$38,000
BIOMEDICAL PHYSICAL SCIENCES	0160	2025	BUILDING SYSTEMS	REPLACE WATER SOFTENER MINERAL IN WATER SOFTENERS	$38,000
BIOMEDICAL PHYSICAL SCIENCES	0160	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 CHILLED WATER PUMPS FOR ULAR ANIMAL AREA	$107,000
BIOMEDICAL PHYSICAL SCIENCES	0160	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR	$33,000
					$547,000

BOX FARM-BARN	0477C	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #1	$22,000
					$22,000

BRESLIN STUDENT EVENTS CENTER	0069	2021	BUILDING SYSTEMS	BRESLIN REPLACE DUCT DETECTORS	$26,000
BRESLIN STUDENT EVENTS CENTER	0069	2021	BUILDING SYSTEMS	REPLACE BUNDLE IN HEAT EXCHANGER(S) FOR BERKOWITZ	$25,000
BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING SYSTEMS	REPLACE 2 HOT WATER HEAT PUMPS IN MECH ROOM A-140.	$32,000
BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN UNIT IN BERKOWITZ	$51,000
BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING SYSTEMS	REPLACE MAIN CHILLER FOR BERKOWITZ, TRANE MODEL RTAA, LOCATED IN	$204,000
BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING SYSTEMS	REPLACE TWO CHILLED WATER PUMPS AND ASSOCIATED ELECTRICAL IN MECH	$32,000
BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING SYSTEMS	REPLACE TWO VERTICAL TURBINE SEWAGE PUMPS LOCATED IN	$28,000
BRESLIN STUDENT EVENTS CENTER	0069	2022	BUILDING INTERIOR	FLOORING - CARPET, TILE OR ROLL, STANDARD RENEWAL	$18,000
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	DOOR LOCK, COMMERCIAL-GRADE, INTERIOR RENEWAL	$48,200
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	FIRE PUMP - ELECTRIC, 750 GPM, 4" ID (66-120 HP) RENEWAL	$378,900
BRESLIN STUDENT EVENTS CENTER	0069	2024	BUILDING SYSTEMS	PLUMBING FIXTURE - LAVATORY, WALL HUNG RENEWAL	$144,300

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
BRESLIN STUDENT EVENTS CENTER	0069	2025	BUILDING INTERIOR	CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD RENEWAL	$33,100
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BRESLIN ATS	$20,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CARPET AND WALLBASE IN OFFICES AND CONFERENCE ROOMS OF	$64,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LEIBERT SPLIT AC UNIT THAT SERVES THE TV REPLAY ROOM #40J.	$20,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #3,4,5,6	$89,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	SECURITY & EMERGENCY SYSTEMS/TIME CLOCKS - FIRE ALARM	$453,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNITS 1 - 14, HV-1 AND HV-5, PLUS 15 SMALL EXHAUST	$3,824,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR PUMPS AMD ELECTRICAL CONTROLS ON SEWAGE EJECTION	$96,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$181,000
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER (3-4 INCHES) RENEWAL	$24,700
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS RENEWAL	$38,300
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$211,700
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (<=400A) W/STARTERS	$95,900
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (>800A) W/STARTERS	$157,500
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (401-600A) W/STARTERS	$50,200
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - LAVATORY, COUNTER RENEWAL	$66,300
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$79,700
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	SEWAGE LIFT STATION RENEWAL	$648,800
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	SPA FILTER, AVG RENEWAL	$23,800
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	SWITCH - AUTO TRANSFER, 480 V (101-400 AMP) RENEWAL	$760,500
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVE (<=5 HP) RENEWAL	$4,171,600
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	WALL FINISH - APPLIED, STANDARD RENEWAL	$1,142,800

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
BRESLIN STUDENT EVENTS CENTER	0069	DEFERRED RENEWAL	BUILDING SYSTEMS	WATER TANK (55-274 GAL) RENEWAL	$147,600
					$13,386,900
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	AUXILLARY EQUIPMENT RENEWAL	$63,000
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-1 RENEWAL	$49,000
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL AND TUBE - HX-2 RENEWAL	$49,000
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	PNEUMATIC CONTROLS RENEWAL	$878,000
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	STEAM CONDENSATE RETURN - CONDENSATE RECEIVER RENEWAL	$56,000
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	STEAM PIPING RENEWAL	$96,000
BUSINESS COLLEGE	0080	2021	BUILDING SYSTEMS	WATER HEATER - STEAM RENEWAL	$67,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	AIR COMPRESSOR - AC-1 AND AC-2 RENEWAL	$41,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	CHILLED WATER DISTRIBUTION PIPING RENEWAL	$785,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	CUSTODIAL/UTILITY SINKS - FLOOR RENEWAL	$28,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	PERIMETER HEAT SYSTEM - HYDRONIC FIN TUBE RENEWAL	$1,748,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	PRIMARY CHILLED WATER PUMPS - CHW P1 AND P2	$114,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	REPLACE CHILLER	$194,000
BUSINESS COLLEGE	0080	2022	BUILDING INTERIOR	RUBBER TREADS - STAIRS RENEWAL	$32,000
BUSINESS COLLEGE	0080	2022	BUILDING SYSTEMS	SANITARY WASTE RENEWAL	$464,000
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	$555,000
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	$401,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	DISTRIBUTION EQUIPMENT - PANELBOARDS, TRANSFORMERS AND	$1,459,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	ELEVATOR - 5	$431,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	HOT WATER HEATING PUMPS - HWC-1B & 2B RENEWAL	$69,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	HYDRAULIC PASSENGER ELEV #4 RENEWAL	$329,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	LIGHTING - INTERIOR - FLUORESCENT FIXTURES RENEWAL	$815,000
BUSINESS COLLEGE	0080	2024	BUILDING SYSTEMS	LIGHTING - INTERIOR - INCANDESCENT FIXTURES RENEWAL	$32,000
BUSINESS COLLEGE	0080	2025	BUILDING SYSTEMS	MAIN ELECTRICAL SERVICE - 800A 480V RENEWAL	$202,000
BUSINESS COLLEGE	0080	2025	BUILDING SYSTEMS	REPLACE TOILET FLUSH VALVES, TOILET SEATS, AND LAV FAUCETS IN PUBLIC	$51,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC STEAM WATER HEATER IN BASEMENT MR-B1	$69,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE LANDING FLOORING AND TREADS AND RISERS IN TWO (2)	$50,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	BUSINESS COLLEGE NORTH- REPLACE EXISTING FIRE ALARM SYSTEM	$1,969,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS	$76,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN UNIT	$45,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SECOND OF TWO DOMESTIC STEAM WATER HEATERS IN MR-N1	$69,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TRACTION ELEVATORS 1 AND 2	$900,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER AND ISOLATION VALVES IN MR-N1	$32,000
BUSINESS COLLEGE	0080	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINALS IN MENS PUBLIC RESTROOMS	$32,000
					$12,310,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	2021	BUILDING INTERIOR	REPLACE CORRIDOR FLOORING AND WALL BASE ON BASEMENT AND 2ND	$48,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	CENTER INTEGRATIVE PLANT - REPLACE FIRE ALARM SYSTEM	$524,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	CIPS - BUILDING TEMPERATURE CONTROL UPGRADES	$174,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	CIPS - UPGRADE BUILDING EXHAUST SYSTEMS	$2,997,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM PRV STATION LOCATED IN THE PENTHOUSE MECHANICAL ROOM	$55,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	CIPS- UPGRADE PCB TRANSFORMERS AND ELECTRICAL SYSTEMS	$264,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING IN NON-MECHANICAL SPACES IN CIPS	$313,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC #1 LOCATED IN PENTHOUSE	$1,780,000
CENTER INTEGRATIVE PLANT SYS-LAB	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC #2 LOCATED IN PENTHOUSE	$1,780,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING ENVELOPE	ROOF - 1-PLY, BALLASTED RENEWAL	$55,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$70,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (4") RENEWAL	$80,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	$8,140,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH) RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2022	BUILDING SYSTEMS	WATER SOFTENER (121-200 GPM) RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2024	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET RENEWAL	$45,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	PLUMBING FIXTURE - LAVATORY, WALL HUNG RENEWAL	$95,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	PLUMBING FIXTURE - URINAL RENEWAL	$130,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	2025	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$135,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR - OVERHEAD, INTERIOR RENEWAL	$800,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	$165,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL RENEWAL	$60,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, COMMERCIAL-GRADE, INTERIOR RENEWAL	$240,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR PANIC HARDWARE, EXTERIOR RENEWAL	$50,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK RENEWAL	$415,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD RENEWAL	$70,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING ENVELOPE	GREENHOUSE - LAMINATED GLASS RENEWAL	$310,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD RENEWAL	$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP RENEWAL	$130,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL SHEET, STANDARD RENEWAL	$55,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$2,815,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (10"-18" DIAMETER) RENEWAL	$115,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (20"-22" DIAMETER) RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (25"-30" DIAMETER) RENEWAL	$55,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER RENEWAL	$65,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG MT DECO LIGHTING (COACH, SCONCE, PEND,	$35,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	ENVIRONMENTAL CHAMBER MECHANICAL SYSTEM RENEWAL	$20,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	ENVIRONMENTAL CHAMBER STRUCTURE RENEWAL	$55,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	EXPANSION TANK, STL PT (50-450 GAL) RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - UTILITY SET (.6-1.25 HP) RENEWAL	$120,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS RENEWAL	$435,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$55,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	HOOD, FUME RENEWAL	$35,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE AND MAJOR	$55,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC DISTRIBUTION NETWORKS - LABORATORY, WET RENEWAL	$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET RENEWAL	$3,645,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	LOAD INTERRUPTER ALLOCATION (5-15 kV, UP TO 600 AMP) RENEWAL	$215,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	MAIN SWITCHBOARD W/BREAKERS (>2500 AMP) RENEWAL	$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	MC SWGR INCOMING PWR CONNECT (CABLE/CONDUIT) RENEWAL	$185,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	MC SWGR METERING AND INSTRUMENT SYSTEMS RENEWAL	$30,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (401-600A) W/STARTERS	$3,000,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY RENEWAL	$1,595,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (4") RENEWAL	$5,935,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$75,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING RENEWAL	$70,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - LABORATORY, WET RENEWAL	$25,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY (751-1000 KVA) RENEWAL	$235,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH) RENEWAL	$1,400,000
CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	0181A	DEFERRED RENEWAL	BUILDING SYSTEMS	WATER TANK (55-274 GAL) RENEWAL	$420,000
					$39,930,000

CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR PAINTING - REPAINT HALLWAYS AND HIGH USE ROOMS	$61,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY AND CAULKING REPAIRS	$46,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING SYSTEMS	CENTRAL SCHOOLS BOILER 1, 2 AND 3 REPLACEMENT	$219,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$306,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL TOILET FLUSH VALVES, LAVATORY FAUCETS AND TRIM, KITCHEN	$28,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOFING #1, 2, 3, 4	$200,000
CENTRAL SCHOOL	0204	DEFERRED RENEWAL	BUILDING INTERIOR	CENTRAL SCHOOL REPLACE VCT FLOORING THROUGHOUT BUILDING	$300,000
					$1,160,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
CENTRAL SERVICES	0060	2025	BUILDING SYSTEMS	REPLACE FIRE ALARM SYSTEM AND ADD SMOKE DETECTION	$335,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE OLD WINDOWS WITH ALUMINUM FRAMED, INSULATED GLASS.	$272,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	$306,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL OLD LIGHTING PANELS	$205,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AND UPGRADE ELECTRICAL DISTRIBUTION AND LIGHTING PANELS	$304,000
CENTRAL SERVICES	0060	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ROOF TOP AIR CONDITIONING UNIT FOR ROOMS 115 AND 116	$54,000
					$1,476,000
CHEMISTRY	0163	2022	BUILDING SYSTEMS	REPLACE CHEMISTRY ATS	$20,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 3	$61,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING ENVELOPE	MASONRY AND CAULKING RESTORATION IN CHEM HALL	$573,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	CHEMISTRY - OVERLOADED PANELS	$31,000
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	$28,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHEMISTRY HVAC-1	$1,067,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHEMISTRY HVAC-2	$1,067,000
CHEMISTRY	0163	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TOILET FLUSH VAVLES, LAVATORY FAUCETS AND TRIM, AND	$38,000
					$2,965,000
CLINICAL CENTER-ANIMAL	0202	2024	BUILDING SYSTEMS	UPGRADE 3 DDC PANEL SERVING ULAR AREA	$68,000
CLINICAL CENTER-ANIMAL	0202	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ANIMAL ROOM WET VACUUM SYSTEM	$44,000
					$112,000
CLINICAL CENTER-CLINIC	0200	2022	BUILDING ENVELOPE	ROOF REPLACEMENT/RESTORATION ON WINGS A, B, C	$1,867,000
CLINICAL CENTER-CLINIC	0200	2024	BUILDING SYSTEMS	REPLACE DRY COOLER 1	$32,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
CLINICAL CENTER-CLINIC	0200	2024	BUILDING SYSTEMS	REPLACE DRY COOLER 2	$32,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE EXTERIOR OVERHANG AND CEILING AT NORTH ENTRANCE	$201,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXISTING METAL SIDING ON ENTIRE COMPLEX	$4,823,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILE AND GRID IN ENTIRE BUILDING	$1,088,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$427,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$36,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACEMENT OF CHILLED WATER PUMPS	$107,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE PCB TRANSFORMERS AND ELECTRICAL DISTRIBUTION	$1,750,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	NEW BLDG STEAM PRV SYSTEM FOR CLINICAL A, B, AND C	$155,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM SERVICE TO INSIDE OF BUILDING	$167,000
CLINICAL CENTER-CLINIC	0200	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINAL FLUSH VALAVES, TOILET FLUSH VALVES, AND TOILET SEATS IN	$32,000
					$10,717,000
CLINICAL CENTER-OFFICE/LAB	0201	2021	BUILDING INTERIOR	REPLACE FLOOR TILE AND WALL BASE IN CORRIDORS OF OFFICE WING	$95,000
CLINICAL CENTER-OFFICE/LAB	0201	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILE IN ENTIRE OFFICE WING	$68,000
					$163,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE COMM ARTS ATS	$20,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$21,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 17 AIR HANDLING UNITS AND ASSOCIATED FANS, PLUS 255 VAV BOXES	$3,535,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR - BD	$34,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL NEW DISTRIBUTION PANELS (6)	$187,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER METER AND ASSOCIATED SHUT OFF	$32,000
COMMUNICATION ARTS	0084	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ONE CONDENSER PUMP	$83,000
					$3,912,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
COMMUNICATION ARTS - MITN	0084A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$29,000
COMMUNICATION ARTS - MITN	0084A	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$94,000
					$123,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	$106,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	$106,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERY A/C SYSTEM	$106,000
COMPUTER CENTER	0035	2022	BUILDING SYSTEMS	REPLACE 30 TON DRY COOLER & 2 PUMPS THAT SERVE FOR HEAT	$39,000
COMPUTER CENTER	0035	2023	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	$106,000
COMPUTER CENTER	0035	2023	BUILDING SYSTEMS	REPLACE 15 TON WATER COOLED LIEBERT A/C SYSTEM	$106,000
COMPUTER CENTER	0035	2023	BUILDING SYSTEMS	REPLACE 30 TON DRY COOLER AND 2 PUMPS THAT SERVE FOR HEAT	$39,000
COMPUTER CENTER	0035	2024	BUILDING SYSTEMS	REPLACE 30 TON DRY COOLER AND 2 PUMPS THAT SERVE FOR HEAT	$39,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 13 BRANCH CIRCUIT PANELS	$102,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL HOT AND COLD WATER SHUT OFF VALVES AND RE-INSULATE.	$96,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - REPLACE BUILDING WINDOWS AND GLASS BLOCK.	$765,000
COMPUTER CENTER	0035	DEFERRED RENEWAL	BUILDING SYSTEMS	COMPUTER CENTER - REPLACE FIRE ALARM SYSTEM	$435,000
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	$724,000
					$2,809,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONRAD HALL ATS	$20,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BOOSTER COIL VALVES	$154,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OLD LIGHTING PANELS	$37,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	CONRAD HALL- UPRADE PCB TRANSFORMERS AND ELECTRICAL	$118,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER - CH1	$259,000
CONRAD HALL	0328	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER SHUTOFF VALVES AND WATER METER	$32,000
					$620,000
COOK-SEEVERS HALL	0020	2025	BUILDING SYSTEMS	REPLACE FLUSH VALVES, TOILET SEATS, LAVATORY FAUCETS, & WATER COOLERS	$25,000
					$25,000
COWLES HOUSE	0009	2025	BUILDING ENVELOPE	REPLACE OR REPAIR ROOFS 3,4,5,6,7 AND 9.	$184,000
					$184,000
CROP SCIENCE-FIELD LAB	0213	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$302,000
CROP SCIENCE-FIELD LAB	0213	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE RESTROOM PLUMBING FIXTURES	$32,000
CROP SCIENCE-FIELD LAB	0213	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$102,000
CROP SCIENCE-FIELD LAB	0213	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$306,000
					$742,000
CROP SCIENCE-PESTICIDE/HERBICIDE	0442F	2024	BUILDING ENVELOPE	REPLACE ROOF #1	$22,000
					$22,000
CROP SCIENCE-STRG 1	0442E	2024	BUILDING ENVELOPE	REPLACE ROOF #1	$121,000
					$121,000
DAIRY RESEARCH-HEIFER BARN 1	0469A	DEFERRED RENEWAL	BUILDING INTERIOR	REPAIR SETTLING FLOOR AND REPIPE HEATING LINES TO CONVECTORS IN	$54,000
					$54,000
DAIRY RESEARCH-HEIFER BARN 2	0469P	DEFERRED RENEWAL	BUILDING ENVELOPE	EAST, SOUTH AND WEST DOORS - REPLACEMENT	$20,000
					$20,000
DEMONSTRATION HALL	0057	2024	BUILDING ENVELOPE	REPLACE DEMONSTRATION HALL ROOF - AREA 4	$321,000
DEMONSTRATION HALL	0057	2024	BUILDING ENVELOPE	REPLACE DEMONSTRATION HALL ROOF - AREA 6	$367,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
DEMONSTRATION HALL	0057	2021	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$406,500
DEMONSTRATION HALL	0057	2023	BUILDING ENVELOPE	ROOF - 1-PLY, BALLASTED RENEWAL	$65,700
DEMONSTRATION HALL	0057	2024	BUILDING INTERIOR	CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD RENEWAL	$252,100
DEMONSTRATION HALL	0057	2025	BUILDING SYSTEMS	PTAC, DX/ HP COOL, ELEC HEAT (1.26-2 TON) RENEWAL	$20,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OBSOLETE HEATING AND VENTILATING UNITS, CONTROL VALVES,	$353,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE ARENA AUDIENCE LIGHTING	$132,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OLD INCANDESCENT FIXTURES WITH NEW FLUORESCENT- FOR CLASS	$55,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE UNIT HEATERS IN OLD HOCKEY RINK	$79,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - REPLACE ALL OLD BUILDING WINDOWS (-197)	$1,178,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE FIRE ALARM SYSTEM AND ADD SMOKE DETECTION	$455,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE RESTROOM FIXTURES AND WATER COOLERS	$64,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER SOFTENER SYSTEM IN EAST MECH ROOM 3	$64,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL RENEWAL	$1,230,600
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK RENEWAL	$114,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, SECURITY, EXTERIOR RENEWAL	$37,600
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS RENEWAL	$120,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR OPERATOR, POWER-ASSIST RENEWAL	$20,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK RENEWAL	$224,400
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD RENEWAL	$124,300
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING ENVELOPE	LOADING DOCK SEAL RENEWAL	$20,000
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	CEILING FINISH - ATTACHED ACOUSTICAL TILE RENEWAL	$938,300
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$148,300

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (2.76-3.25 HP) RENEWAL	$26,200
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG MT HI FLOOD LIGHTING (WALLPACK, WALLWASH)	$36,600
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	DRAIN PIPING SYSTEM - GYMNASIUM RENEWAL	$67,900
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - AXIAL, SUPPLY (11-15 HP) 23,000 CFM RENEWAL	$20,800
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - PROPELLER WITH LOUVER (<=0.5 HP) RENEWAL	$61,400
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - PROPELLER WITH LOUVER (1.6-2 HP) RENEWAL	$32,400
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - UTILITY SET (5-12 HP) RENEWAL	$32,500
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$53,200
DEMONSTRATION HALL	0057	DEFERRED RENEWAL	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - GYMNASIUM RENEWAL	$564,200
					$7,685,000
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	$900,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$639,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC COLD WATER METER AND ISOLATION VALVES IN MR-	$32,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	PRELIM DESIGN, ESTIMATE, AND PHASING PLANS - ENG RESEARCH	$280,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	A AND C WING EXHAUST FANS REPLACEMENT	$1,055,000
ENG RESEARCH COMPLEX	0203A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLERS SERVING A, B, & C WINGS	$1,801,000
					$4,727,000
ENGINEERING	0081	2024	BUILDING INTERIOR	ACT CEILING - OLDER RENEWAL	$407,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - 0081-LABAIR-06, 0081-LABAIR-05 RENEWAL	$115,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - CONTROL AIR - 3548 RENEWAL	$36,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - CONTROL AIR - PH4500 RENEWAL	$36,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
ENGINEERING	0081	2024	BUILDING SYSTEMS	AIR COMPRESSORS - LAB AIR - PH4500 RENEWAL	$58,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	CABINET UNIT HEATERS RENEWAL	$26,000
ENGINEERING	0081	2024	BUILDING INTERIOR	CARPETING - OLDER RENEWAL	$166,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	DOMESTIC HOT WATER SYSTEM RENEWAL	$126,000
ENGINEERING	0081	2024	BUILDING SYSTEMS	UPGRADE FIRE ALARM SYSTEM	$4,200,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE OLD METAL PAN CEILINGS AND LIGHTING IN STAIRWELLS OF OLD	$27,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR DOORS - REPLACE ALL EXTERIOR DOORS, HARDWARE AND	$230,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	COMPLETE OVERHAUL OF OLD FREIGHT ELEVATOR, CONVERT TO PASSENGER	$536,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING ENVELOPE	REPAIR CONCRETE AND BRICK SCREENWALLS	$89,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ENGINEERING ATS	$20,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE FAILED GLASS UNITS	$128,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$1,038,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 2 MECHANICAL CHILLERS	$401,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MOTOR CONTROL CENTERS	$62,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ORIGINAL STEAM WATER HEATER IN MECH RM MR-21	$69,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACEMENT OF CONDENSATE RECEIVER LOCATED IN THE BASEMENT	$75,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$4,752,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DUPLEX 5HP CONTROL AIR COMPRESSORS ON 120 GALLON TANK	$32,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAVATORY FAUCETS AND TRIM, TOILET FLUSH VALVES AND SEATS, AND	$45,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$3,030,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$1,051,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DUPLEX CONTROL AIR COMPRESSORS, AIR DRYER AND AIR	$32,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER COILS IN HVAC FANS	$254,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAVATORY FAUCETS AND TRIM, URINAL AND TOILET FLUSH VALVES AND	$32,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM WATER HEATER IN MR-B510	$69,000
ENGINEERING	0081	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$1,447,000
					$18,589,000

ENTOMOLOGY FIELD RESEARCH-MAIN	0474	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS (2) OHD`S AND (3) HM DOORS	$27,000
					$27,000

ERICKSON HALL	0144	2025	BUILDING SYSTEMS	REPLACE 2 HWH PUMPS B & G 1510, VALVES AND ELECTRICAL CONTROLS	$34,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	ERICKSON HALL- REPLACE TWO BUNDLES IN NORTH BASEMENT MECHANICAL	$125,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING ENVELOPE	FUND STUDY OF EXTERIOR MASONRY AND CAULKING FOR RESTORATION	$56,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE (2) SMALLER CONDENSATE RETURN UNIT AND ONE LARGER CRU IN	$163,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL OLD POWER PANELS	$369,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FAILED GLASS UNITS	$33,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM COIL, VALVES, TRAPS ON HVAC #2 IN NORTH BASEMENT	$35,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINAL AND TOILET FLUSH VALVES	$44,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER AND ISOLATION VALVES (SOUTH SIDE OF MR-	$38,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-6	$758,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-7	$832,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-8	$886,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-9	$758,000
ERICKSON HALL	0144	DEFERRED RENEWAL	BUILDING SYSTEMS	UPDATE FIRE ALARM SYSTEM	$995,000
					$5,126,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
EUSTACE-COLE HALL	0015	2024	BUILDING SYSTEMS	REPLACE CHILLER - 1	$207,000
EUSTACE-COLE HALL	0015	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$138,000
EUSTACE-COLE HALL	0015	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$290,000
					$635,000
FARRALL HALL	0091	2021	BUILDING SYSTEMS	REPLACE FIVE ROOFTOP UNITS AT FARRALL HALL	$200,000
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	$646,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE STEEL WINDOWS WITH NEW INSULATED WINDOWS	$550,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	FARRALL HALL - INSTALL NEW ELECTRICAL MAIN STEAM VALVE	$44,000
FARRALL HALL	0091	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$34,000
					$1,604,000
FARRALL-PROTOTYPE ASSEMBLY	0091A	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$52,000
FARRALL-PROTOTYPE ASSEMBLY	0091A	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$93,000
					$145,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FEE HALL ATS	$20,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING INTERIOR	FLOOR COVERING - REPLACE OR REPAIR IN STAIRWELLS	$254,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE SPRAY-ON FIREPROOFING IN MR-E15 AND MR-B2 AND REINSULATE	$203,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TOILET AND URINAL FLUSH VALVES, FAUCETS, TRAPS, DRAINS IN	$57,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING ENVELOPE	FEE HALL STUDY - WINDOW REPLACEMENT AND MASONRY	$107,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	FEE HALL- UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$253,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
FEE HALL	0327	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILINGS AND LIGHTING	$320,000
FEE HALL	0327	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM BOOSTER COILS	$534,000
					$1,748,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR	$21,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE THE CONDENSATES RETURN DUPLEX UNIT IN THE BASEMENT MECH	$46,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #4	$24,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	$121,000
FIRE STATION	0131	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TWO ELECTRIC DOMESTIC WATER HEATERS	$20,000
					$232,000
FOOD SAFETY TOXICOLOGY	0186	2021	BUILDING SYSTEMS	REPLACE FOOD SAFTEY TOX ATS	$20,000
FOOD SAFETY TOXICOLOGY	0186	2022	BUILDING SYSTEMS	PUMPS	$395,000
FOOD SAFETY TOXICOLOGY	0186	2022	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR (DUPLEX 5HP), MR B21	$32,000
FOOD SAFETY TOXICOLOGY	0186	2022	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FIXTURES	$32,000
FOOD SAFETY TOXICOLOGY	0186	2023	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT 3	$167,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR	$33,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$3,604,000
FOOD SAFETY TOXICOLOGY	0186	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER	$69,000
					$4,352,000
FOOD SCIENCE	0179	2024	BUILDING SYSTEMS	REPLACE COOLING TOWER 01	$213,000
FOOD SCIENCE	0179	2024	BUILDING SYSTEMS	REPLACE COOLING TOWER 02	$213,000
FOOD SCIENCE	0179	2025	BUILDING SYSTEMS	REPLACE BOOSTER COILS THAT SERVE ANIMAL ROOMS	$33,000
FOOD SCIENCE	0179	2025	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER THAT SERVES ANIMAL ROOMS	$40,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
FOOD SCIENCE	0179	2025	BUILDING SYSTEMS	REPLACE HOT WATER HEATING PUMPS THAT SERVES ANIMAL ROOMS	$80,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR	$33,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 DISTRIBUTION AND POWER PANELS IN ULAR AREA	$33,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LAB FIXTURE PLUMBING TRIM AND TRAPS	$618,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	FOOD SCIENCE- UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$245,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE INTERIOR LAMINATE CLAD OFFICE DOORS & HARDWARE AS	$335,000
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	$32,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FLUSH VALVES, TOILET SEATS, LAV FAUCETS ANDS TRIM	$25,000
FOOD SCIENCE	0179	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-3	$832,000
					$2,772,000

FRIB	0164	2024	BUILDING SYSTEMS	REPLACE COOLING TOWER RM 176 & COOLED CONDENSER RM 244	$61,000
FRIB	0164	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR PAINTING	$21,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$441,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	$260,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$29,000
FRIB	0164	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	$2,759,000
FRIB	0164	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE / COAT ROOFS #23, 24	$112,000
					$3,683,000

GEOGRAPHY	0176	2021	BUILDING SYSTEMS	UPGRADE FIRE ALARM PANEL	$235,000
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	GEOGRAPHY - REPLACE DOMESTIC WATER HEATER	$75,000
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OBSOLETE MOTOR STARTERS AND DISCONNECTS	$42,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
GEOGRAPHY	0176	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MAIN DOMESTIC COLD WATER SHUT OFF VALVES AND WATER METER,	$29,000
					$381,000
GILTNER HALL	0028	2024	BUILDING SYSTEMS	UPGRADE 3 DDC PANELS SERVING ULAR AREA	$88,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	GENERAL PATCH AND PAINT OF WALLS, FLOORS, CEILINGS, DOORS/FRAMES IN	$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AHU 2 AND 3, AND ASSOCIATED EXHAUST FANS	$368,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEATING COILS IN HV1 AND HV2	$353,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 10 DISTRIBUTION AND POWER PANELS IN ULAR AREA	$87,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 480 VOLT DISTRIBUTION SYSTEM, MOTOR STARTERS	$819,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING INTERIOR	CEILINGS - REPLACE VARIOUS LAB ROOM CEILINGS THROUGHOUT THE ENTIRE	$153,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	ELEVATOR # 4 REPLACEMENT	$475,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	ELEVATOR #3 REPLACEMENT	$375,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	GILTNER HALL - BASEMENT AIR PLENUMS-REMOVE ALL PIPE INSULATION	$175,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AHU-1 AND ASSOCIATED EXHAUST FAN	$167,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC STEAM WATER HEATER IN MR-22	$69,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC STEAM WATER HEATER IN MR-35	$69,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	SPLIT A/C 1 - REPLACE COND. UNIT AND EVAP. COIL	$80,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 2 CONTROL AIR COMPRESSORS WITH LARGER ONES	$55,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL RESTROOM URINALS WITH 1/8 GAL. FLUSH URINALS.	$51,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - CI	$63,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE GILTNER ATS	$20,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR	$100,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BOOSTER COILS FOR ANIMAL ROOMS	$100,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT EXCHANGERS FOR ANIMAL ROOMS	$40,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT PUMPS FOR ANIMAL ROOMS	$80,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - CI	$35,000
GILTNER HALL	0028	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - REPLACE/REFURBISH OLD WOOD WINDOWS	$2,000,000
					$5,842,000

HANCOCK TURFGRASS-FIELD	0476	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ORIGINAL EXTERIOR SIDING	$44,000
					$44,000

HANNAH ADMINISTRATION	0067	2021	BUILDING SYSTEMS	INSTALL NEW AHU SERVING 4TH FLOOR PRESIDENT'S SUITE	$525,000
HANNAH ADMINISTRATION	0067	2021	BUILDING INTERIOR	REPLACE LANDING FLOORING AND TREADS AND RISERS IN STAIRWELL	$75,000
HANNAH ADMINISTRATION	0067	2021	BUILDING ENVELOPE	REPLACE ROOFS 1,2,3,5,6, AND 8	$1,260,000
HANNAH ADMINISTRATION	0067	2022	BUILDING SYSTEMS	REPLACE 2 BASE MT. SUMP PUMPS (GORMAN RUPP) IN MR B1	$30,000
HANNAH ADMINISTRATION	0067	2025	BUILDING SYSTEMS	REPLACE CHILLER #1 AND COOLING TOWER - CT1	$2,294,000
HANNAH ADMINISTRATION	0067	2025	BUILDING SYSTEMS	REPLACE CHILLER #2 AND COOLING TOWER - CT 2	$2,294,000
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	$327,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE WINDOWS AND ENTRY DOORS	$2,747,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR RESTORATION AND CAULKING	$240,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	COMPLETE REPLACEMENT OF SPECIAL ELEVATOR	$353,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	ADMINISTRATION-UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$245,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-7 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	PRELIM DESIGN, ESTIMATES, AND PHASING PLANS FOR HVAC 5 AND 6	$52,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE (4) HOT WATER HEATING PUMPS AND VALVES	$91,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 15 TON CHILLER	$179,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 20 TON CHILLER	$335,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-1 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-2 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-3 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-4 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-5 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING SYSTEMS	HANNAH ADMIN: REPLACE SF-6 - UNIT IS BEYOND LIFE EXPECTANCY	$295,000
HANNAH ADMINISTRATION	0067	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILINGS, LIGHTING, AND INSTALL HVAC DISTRIBUTION	$1,850,000
					$14,982,000
HORSE RESEARCH-STRG/EXERCISE	0456 M	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOFS #1	$44,000
					$44,000
HORSE RESEARCH-TEACH RESEARCH	0456L	2021	BUILDING ENVELOPE	REPLACE METAL ROOF AT HORSE RESEARCH TEACHING & RESEARCH BARN	$23,000
					$23,000
HORSE RESEARCH-WEST HORSE BARN	0456B	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOFS #2 AND 3	$107,000
					$107,000
HORTICULTURE RES-HOUSE/OFFICE	0407A	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER BOILER WITH HIGH EFF. EQUIPMENT..	$33,000
					$33,000
HORTICULTURE RES-WINERY	0407F	2023	BUILDING ENVELOPE	REPLACE ROOFS #1 AND 2	$55,000
					$55,000
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	$427,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING ENVELOPE	HUMAN ECOLOGY: MASONRY AND CAULKING RESTORATION	$318,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING ENVELOPE	PRELIMINARY DESIGN FOR ROOF REPLACEMENT - ASBESTOS SHINGLES,	$826,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING SYSTEMS	HUMAN ECOLOGY - BUILDING STEAM VALVE	$25,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING AND LIGHTING IN BUILDINGS CORRIDORS	$88,000
HUMAN ECOLOGY	0005	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE SELECTED HALLWAY ROOM DOORS AND HARDWARE AS NECESSARY	$80,000
					$1,784,000
IM SPORTS-CIRCLE	0051	2022	BUILDING INTERIOR	IM SPORTS-CIRCLE - REPLACE FLOOR IN 2ND FLOOR GYM	$459,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE 1ST FLOOR GYMNASIUM ENTRY DOORS AND HARDWARE	$22,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OUTSIDE AIR DAMPERS	$83,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	DEMO 30'X50' 12"X12" GLUED ON CEILING TILE & REPLACE CEILING W/	$49,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BATTERY OPERATED EM LIGHTS	$238,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$340,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIR TREADS, RISERS, STRINGERS AND LANDING FLOORING	$34,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILINGS AND LIGHTING IN CORRIDORS	$90,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FIRE ALARM SYSTEM	$452,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE GASKETS/SEALS ON LIGHTS, UPGRADE TO HID FIXTURES	$102,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER SOFTENER MINERAL IN BUILDING WATER SOFTENERS	$64,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	CHANGE IM CIRCLE POOL FILTRATION TO CLOSED LOOP	$106,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE COLUMN AND WALL SHOWERS IN THE MEN'S & WOMEN'S LOCKER	$100,000
IM SPORTS-CIRCLE	0051	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TOILETS, LAVATORIES & URINALS IN RESTROOMS	$74,000
					$2,213,000
IM SPORTS-EAST	0175	2024	BUILDING ENVELOPE	ROOF REPLACEMENT / RESTORATION	$1,099,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
IM SPORTS-EAST	0175	2025	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR	$36,000
IM SPORTS-EAST	0175	2025	BUILDING SYSTEMS	SECURITY & EMERGENCY SYSTEMS/ TIME CLOCK - FIRE ALARM	$114,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE FLOORING ON RUNNING TRACK. APPROXIMATELY 7000 SQFT	$74,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE IM EAST ATS	$20,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$1,637,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS	$70,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$306,000
IM SPORTS-EAST	0175	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HW HEAT PUMPS	$70,000
					$3,426,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING AND LIGHTING IN 2ND FLOOR GYMNASIUM	$102,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DETERIORATED DUCTWORK ABOVE CEILINGS AT ROOMS 138 & 140.	$56,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR CONDITIONING SYSTEM FOR ROOM 231 BY CONNECTING TO	$115,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #13	$63,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE ASBESTOS ACOUSICAL PLASTER	$330,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CABINET HEATERS NORTH ENTRANCE	$27,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING ENVELOPE	IM SPORTS-WEST - REPLACE EXTERIOR DOORS	$230,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 20 ORIGINAL HOT AND COLD WATER SHUT OFF VALVES	$49,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-11	$213,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-13 AND HV-19	$373,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-15 AND HV-23	$480,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-18 AND HV-26	$480,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-20	$213,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-21 AND HV-24	$534,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-3	$747,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-4 AND HV-16	$373,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-6 AND HV-17	$373,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HV-9	$213,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIR TREADS IN IM WEST	$151,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE GYM FLOOR - ROOM 10	$153,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 40 TOILETS, 40 LAVATORIES, AND 25 URINALS IN RESTROOMS	$92,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EXHAUST FANS IN ARENA, TENNIS COURTS, AND UPPER WEST GYM.	$71,000
IM SPORTS-WEST	0151	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE GYM FLOORS - ROOMS 230 AND 233	$306,000
					$5,744,000

INFRASTRUCTURE PLANNING FACILITIES	0167	2021	BUILDING ENVELOPE	DOOR LOCK, SECURITY, EXTERIOR RENEWAL	$50,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2021	BUILDING ENVELOPE	ROOF - 1-PLY, BALLASTED RENEWAL	$25,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2021	BUILDING ENVELOPE	ROOF - 1-PLY, UNBALLASTED RENEWAL	$965,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2023	BUILDING ENVELOPE	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS RENEWAL	$135,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2023	BUILDING ENVELOPE	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK RENEWAL	$40,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2023	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - SHOPS / TRADES, DRY	$70,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2024	BUILDING SYSTEMS	PLUMBING FIXTURE - LAVATORY, GANG RENEWAL	$1,620,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2025	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL RENEWAL	$590,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2025	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (25"-30" DIAMETER) RENEWAL	$1,200,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2025	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 50 POINTS RENEWAL	$70,000
INFRASTRUCTURE PLANNING FACILITIES	0167	2025	BUILDING SYSTEMS	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - SHOPS / TRADES RENEWAL	$15,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	$95,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL RENEWAL	$1,825,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, SECURITY, EXTERIOR RENEWAL	$55,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	LOADING DOCK SEAL RENEWAL	$940,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL RENEWAL	$685,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL SHEET, STANDARD RENEWAL	$425,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING INTERIOR	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD RENEWAL	$15,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR - UTILITY (>5 HP) RENEWAL	$20,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (>10 TOTAL HP) RENEWAL	$115,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG MT HI FLOOD LIGHTING (WALLPACK, WALLWASH)	$55,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSATE RECEIVER, ELECTRIC, 1 PUMP RENEWAL	$1,390,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS RENEWAL	$30,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	DRINKING FOUNTAIN, DUAL-LEVEL RENEWAL	$115,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	ELECTRICAL BRANCH WIRING - SHOPS / TRADES, DRY LABORATORY RENEWAL	$30,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (20"-22" DIAMETER) RENEWAL	$20,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (25"-30" DIAMETER) RENEWAL	$115,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - SHOPS / TRADES RENEWAL	$30,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - SHOPS / TRADES, DRY LABORATORY RENEWAL	$40,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - SHOPS / TRADES, DRY LABORATORY RENEWAL	$85,000
INFRASTRUCTURE PLANNING FACILITIES	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVE (<=5 HP) RENEWAL	$145,000
IPF	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR AND CONVERT TO PASSENGER	$212,000
IPF	0167	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR AND AIR DRYER	$51,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
IPF	0167	DEFERRED RENEWAL	BUILDING ENVELOPE	IPF LOADING DOCK	$32,000
					$11,305,000
IPF - STORAGE NO. 1	0209	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOFING - FM ROOF #1	$90,000
					$90,000
IPF - STORAGE NO. 2	0210	2024	BUILDING ENVELOPE	REPLACE ROOF #1	$112,000
					$112,000
JENISON FIELDHOUSE	0056	2021	BUILDING SYSTEMS	VAV SYSTEM	$375,000
JENISON FIELDHOUSE	0056	2022	BUILDING SYSTEMS	REPLACE 2 CHILLERS LOCATED ON ROOF	$433,000
JENISON FIELDHOUSE	0056	2022	BUILDING SYSTEMS	REPLACE FILTRINE CHILLER, PUMPS, AND CONTROLS FOR THE TRAINING ROOM	$25,000
JENISON FIELDHOUSE	0056	2024	BUILDING SYSTEMS	REPLACE 2 PEERLESS POOL PUMPS IN BASEMENT MECH ROOM	$64,000
JENISON FIELDHOUSE	0056	2024	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMPS CP-1 AND CP-2	$31,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE WOOD FLOOR IN NORTH UPPER GYM	$306,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE OLD STEEL TOILET PARTITIONS	$32,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL DETERIORATED UNDERGROUND SANITARY AND STORM	$1,012,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR (DUPLEX 200GAL 7.5HP)	$34,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING ENVELOPE	REPAIR MASONRY AT ENTRANCES	$134,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEATING AND VENTILATING UNITS	$612,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM PRV SYSTEM IN MAIN MECHANICAL ROOM	$153,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	UPGRADE PNEUMATIC CONTROLS TO DDC ON ALL VENTILATION UNITS	$40,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	RENOVATE FIELDHOUSE FIRST FLOOR PUBLIC RESTROOMS	$480,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL ORIGINAL EXPOSED SANITARY WASTE PIPING	$255,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ORIGINAL STORM WASTE PIPING	$255,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE AND REPLACE ORIGINAL EXPOSED DOMESTIC HOT AND COLD	$191,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELECTRICAL BRANCH CIRCUIT PANELS, PANEL FEEDERS, AND BRANCH	$1,912,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER SOFTENER MINERAL IN TWO WATER SOFTENER TANKS LOCATED	$38,000
JENISON FIELDHOUSE	0056	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TWO 4" GORMON RUPP BASE MTD SUMP PUMPS	$46,000
					$6,428,000
KEDZIE HALL	0029	2023	BUILDING SYSTEMS	REPLACE 1 BASE MTD. PUMP THAT SENSES CHILLED WATER TO MARSHALL	$69,000
KEDZIE HALL	0029	2023	BUILDING SYSTEMS	REPLACE SECONDARY CHILLED WATER PUMP & INSTALL 2ND PUMP FOR	$92,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #12	$22,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIRTREADS/ RISERS AND LANDING MATERIAL IN STAIRWELL	$67,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE NORTH KEDZIE 1ST AND 2ND FLOOR RESTROOM PARTITIONS AND	$48,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF SPLIT AC 6	$41,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	SOUTH KEDZIE REPLACE STEAM PRV	$84,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER	$38,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM FIXTURES	$32,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING INTERIOR	CEILING REPLACEMENTS IN CORRIDORS OF 1ST, 2ND AND 3RD FLOORS OF	$107,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	KEDZIE HALL - UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$122,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONSOLE INDUCTION TERMINAL UNITS AT SOUTH KEDZIE	$1,236,000
KEDZIE HALL	0029	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 HWH PUMPS #3,4,5,6 (BASE MTD., B&G 1510'S)	$69,000
					$2,027,000
KRESGE ART	0150	2022	BUILDING SYSTEMS	INSTALL DUPLEX CONTROL AIR COMPRESSOR	$30,000
KRESGE ART	0150	2022	BUILDING SYSTEMS	REPLACE CHILLER	$353,000
KRESGE ART	0150	2022	BUILDING SYSTEMS	REPLACE DRY COOLER	$300,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE CURTAIN WALL/WINDOWS	$5,954,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE BALCONY DOORS AND HARDWARE ON SOUTH SIDE OF BLDG	$131,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING SYSTEMS	ABATE PLASTER/SPRAY-ON FIREPROOFING	$932,000
KRESGE ART	0150	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR - ED	$52,000
					$7,752,000
KRESGE ART-SCULPTURE STUDIO	0150A	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR ALUMINUM DOORS AND HARDWARE IN (2) LOCATIONS	$27,000
					$27,000
LANDSCAPE SERVICES	0158	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$38,000
					$38,000
LANDSCAPE SRVCS NURSERY-	0406A	2021	BUILDING ENVELOPE	REPLACE SHINGLED ROOF	$30,000
					$30,000
LARGE ANIMAL RES-HAY BARN	0447B	2022	BUILDING ENVELOPE	ROOFING - MT #1	$48,000
					$48,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR ALUMINUM ENTRANCE DOORS AND HARDWARE	$147,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC STEAM WATER HEATER IN BASEMENT MR WB-12	$69,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEATER (STEAM) 1	$138,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER AND ISOLATION VALVES ON MAIN COLD	$32,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	LIBRARY - UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$253,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	LIBRARY HVAC PRELIM DESIGN, ESTIMATES, AND PHASING	$104,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$52,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-2	$1,457,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-4A	$907,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-5	$907,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SF-6	$907,000
LIBRARY	0049	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$112,000
					$5,085,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$61,000
LIFE SCIENCE	0183	2024	BUILDING SYSTEMS	REPLACE ELEVATOR 2	$490,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	ELECTRICAL BRANCH WIRING - LABORATORY, WET RENEWAL	$135,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	MC SWGR BREAKER - FME Adjustable (2501-3200 AMP) RENEWAL	$25,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	MC SWGR INCOMING PWR CONNECT (CABLE/CONDUIT) RENEWAL	$490,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	PLUMBING FIXTURE - LAVATORY, WALL HUNG RENEWAL	$50,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, KITCHEN RENEWAL	$30,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	PLUMBING FIXTURE - URINAL RENEWAL	$50,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	PLUMBING FIXTURE - WATER CLOSET, TANKLESS RENEWAL	$25,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - LABORATORY, WET RENEWAL	$35,000
LIFE SCIENCE	0183	2021	BUILDING SYSTEMS	SWGR TIEBREAK SELECTOR, FME, MANUAL RENEWAL	$910,000
LIFE SCIENCE	0183	2022	BUILDING SYSTEMS	ELEVATOR MODERNIZATION - TRACTION - LOW RISE 2-8 FLOORS RENEWAL	$25,000
LIFE SCIENCE	0183	2024	BUILDING ENVELOPE	DOOR LOCK AND PANIC HARDWARE, EXTERIOR RENEWAL	$30,000
LIFE SCIENCE	0183	2024	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$35,000
LIFE SCIENCE	0183	2024	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	$85,000
LIFE SCIENCE	0183	2024	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	$6,395,000
LIFE SCIENCE	0183	2025	BUILDING ENVELOPE	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS RENEWAL	$840,000
LIFE SCIENCE	0183	2025	BUILDING ENVELOPE	DOOR PANIC HARDWARE, INTERIOR RENEWAL	$2,370,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
LIFE SCIENCE	0183	2025	BUILDING ENVELOPE	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK RENEWAL	$260,000
LIFE SCIENCE	0183	2025	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (7-10 TOTAL HP) RENEWAL	$30,000
LIFE SCIENCE	0183	2025	BUILDING SYSTEMS	BACKFLOW PREVENTER (6-8 INCHES) RENEWAL	$95,000
LIFE SCIENCE	0183	2025	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (4") RENEWAL	$395,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION POINT FOR PORTABLE GENERATOR TO POWER ULAR	$54,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	GENERAL MASONRY & CAULKING REPAIRS	$408,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FIRE ALARM SYSTEM	$826,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT PUMPS #5, #6, AND #7 IN THE NORTH A-WING PENTHOUSE, ADD	$134,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE TWO ORIGINAL STEAM WATER HEATERS	$191,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	LIFE SCIENCE - ABATE SPRAY-ON FIREPROOFING ABOVE CEILINGS IN	$10,938,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 6 DISTRIBUTION AND POWER PANELS IN ULAR AREA.	$47,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL PUBLIC RESTROOM LAVATORY FAUCETS AND TRIM,	$38,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	LIFE SCIENCE- UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$253,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC-1	$418,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC-2	$418,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC-4	$274,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HVAC-5	$259,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	LIFE SCIENCE PLENUM ABATEMENT, LIGHTING, CEILING, & INSULATION	$13,468,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE BOOSTER COILS AND VALVES FOR ANIMAL ROOMS	$33,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HUMIDIFICATION FOR ANIMAL ROOMS	$33,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, RENEWAL	$25,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR RENEWAL	$110,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR PANIC HARDWARE, EXTERIOR RENEWAL	$35,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK RENEWAL	$135,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR DOOR OR WINDOW APPLIED FINISH RENEWAL	$5,120,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR WALL FINISH - APPLIED, STANDARD RENEWAL	$25,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF - BITUMINOUS, 4-PLY, COAL TAR PITCH - R30 RENEWAL	$45,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	WALL, EXTERIOR, STUCCO OR CONCRETE RESTORE RENEWAL	$25,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING ENVELOPE	WALL, EXTERIOR, TILT-UP OR PRECAST CONCRETE PANELS - RESTORE NATURAL	$120,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	CEILING FINISH - ATTACHED ACOUSTICAL TILE RENEWAL	$3,035,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE RENEWAL	$205,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING INTERIOR	GLASS, STOREFRONT RENEWAL	$55,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	$85,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR - MEDICAL/LABORATORY PCKG (15-20 HP),	$790,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (24-27 HP) RENEWAL	$590,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (46-63 HP) RENEWAL	$55,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG LIGHTING RENEWAL	$330,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - UTILITY SET (1.26-4 HP) RENEWAL	$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - UTILITY SET (13-17 HP) RENEWAL	$155,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - UTILITY SET (5-12 HP) RENEWAL	$90,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS RENEWAL	$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$20,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP) RENEWAL	$480,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM) RENEWAL	$25,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	HOOD, FUME RENEWAL	$30,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LABORATORY RENEWAL	$1,245,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY	$870,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	$80,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC DISTRIBUTION NETWORKS - LABORATORY, WET RENEWAL	$285,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET RENEWAL	$80,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - EMERGENCY EYEWASH RENEWAL	$40,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$40,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (11-15 HP) RENEWAL	$140,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (41-50 HP) RENEWAL	$1,405,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	$345,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY (501-750 KVA) RENEWAL	$85,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	WALK-IN REFRIGERATOR OR FREEZER STRUCTURE RENEWAL	$45,000
LIFE SCIENCE	0183	DEFERRED RENEWAL	BUILDING SYSTEMS	WHEELCHAIR LIFT, VERTICAL, AVERAGE (3 FLOORS MAX) RENEWAL	$25,000
					$56,993,000
LINTON HALL	0014	2021	BUILDING ENVELOPE	LINTON HALL BUILDING ENVELOPE RENEWAL	$3,000,000
LINTON HALL	0014	2025	BUILDING SYSTEMS	ELEVATOR - 1	$431,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	$61,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LINTON ATS	$20,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPLACE SELECTED INTERIOR DOORS AND HARDWARE	$53,000
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LINTON LIGHTING FIXTURES	$23,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
LINTON HALL	0014	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL WATER PIPING IN BUILDING.	$1,020,000
					$4,608,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALL WINDOWS	$1,489,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE ALL ASBESTOS CONTAMINATED CEILING PLASTER AND SPRAY ON FIRE	$669,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$431,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$169,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING INTERIOR	STAIRWELL TREADS AND LIGHTING FLOORING REPLACEMENT	$33,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING INTERIOR	INSTALL NEW SUSPENDED CEILINGS AND LIGHTING IN BLDG	$535,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING INTERIOR	MANLY MILES FEASIBILITY STUDY	$32,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALUMINUM ENTRANCE DOORS, FRAMES, GLAZING AND HARDWARE	$33,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$34,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FAN COIL UNITS	$3,033,000
MANLY MILES	0154	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SPLIT CHILLER SYSTEM	$320,000
					$6,778,000
MICH BIOTECH INSTITUTE	0940	2021	BUILDING SYSTEMS	REPLACE OPTO 22 BUILDING AUTOMATION SYSTEM PHASE 2	$440,000
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	$425,000
					$965,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MORRILL HALL OF AGRICULTURE	0022	2021	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP) RENEWAL	$1,217,700
MORRILL HALL OF AGRICULTURE	0022	2022	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$60,000
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	COM EXTERIOR BLDG MT DECO LIGHTING (COACH, SCONCE, PEND,	$21,900
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (20"-22" DIAMETER) RENEWAL	$321,300
MORRILL HALL OF AGRICULTURE	0022	2024	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - OFFICE RENEWAL	$1,762,400
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING RENEWAL	$30,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS	$105,500
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR RENEWAL	$198,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR PANIC HARDWARE, EXTERIOR RENEWAL	$159,900
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR TRIM APPLIED FINISH RENEWAL	$2,985,200
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF - 1-PLY, BALLASTED RENEWAL	$58,300
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF - 1-PLY, UNBALLASTED RENEWAL	$23,900
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - CARPET, TILE OR ROLL, STANDARD RENEWAL	$92,900
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD RENEWAL	$640,500
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$5,663,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL SHEET, STANDARD RENEWAL	$19,600
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - OFFICE RENEWAL	$124,400
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION - OFFICE RENEWAL	$35,800
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - OFFICE RENEWAL	$19,700
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (4") RENEWAL	$29,500
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH) RENEWAL	$402,100
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER (1-2 INCHES) RENEWAL	$124,100

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	DRAIN PIPING SYSTEM - OFFICE RENEWAL	$276,900
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	ELECTRICAL BRANCH WIRING - OFFICE RENEWAL	$99,400
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	ELECTRICAL DISTRIBUTION NETWORK - OFFICE RENEWAL	$225,000
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS RENEWAL	$116,800
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$181,700
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP) RENEWAL	$1,164,200
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, KITCHEN RENEWAL	$106,800
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY RENEWAL	$517,900
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING RENEWAL	$47,300
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - OFFICE RENEWAL	$143,600
MORRILL HALL OF AGRICULTURE	0022	DEFERRED RENEWAL	BUILDING SYSTEMS	UNIT HEATER - INDOOR, GAS, SUSPENDED (41-100 MBH) RENEWAL	$767,900
					$17,743,200

MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE CHILLER - 1	$480,000
MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER - 2	$91,000
MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER - 3	$91,000
MSU FCU	0606	2024	BUILDING SYSTEMS	REPLACE HOT WATER HEATER - 1	$48,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSER WATER PUMP - 1	$28,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSER WATER PUMP - 2	$28,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSER WATER PUMP - 3	$21,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER - 1	$91,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 1	$32,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 4	$32,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 5	$37,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 5	$37,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF - 6	$43,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE VF - 1	$37,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 1	$43,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 2	$43,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 3	$37,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP - 4	$37,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN PUMP - 10	$21,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN PUMP - 11	$21,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 5	$27,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 6	$27,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 7	$32,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMP - 8	$32,000
MSU FCU	0606	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE POTABLE WATER BOOSTER PUMP - 9	$21,000
					$1,437,000

MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM DOMESTIC WATER RECLAIM PUMP 1	$25,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM 2	$26,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM PUMP 1	$25,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM PUMP 2	$25,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE STORM WATER RECLAIM SYSTEM	$26,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE WATER SOFTENER 1	$50,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE WATER SOFTENER 1	$52,000
MSU SURPLUS AND RECYCLING	0223	2024	BUILDING SYSTEMS	REPLACE WATER SOFTENER 1	$52,000
MSU SURPLUS AND RECYCLING	0223	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER	$52,000
					$333,000

MUNN ICE ARENA	0059	2024	BUILDING ENVELOPE	REPLACE ALUMINUM ENTRANCE FRAMES, DOORS AND HARDWARE	$268,000
MUNN ICE ARENA	0059	2023	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (20-85 GPM)	$64,500
MUNN ICE ARENA	0059	2024	BUILDING ENVELOPE	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH RENEWAL	$24,700
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	ELECTRICAL BRANCH WIRING - GYMNASIUM RENEWAL	$29,800
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	ELECTRICAL DISTRIBUTION NETWORK - GYMNASIUM RENEWAL	$119,500
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	MC SWGR ENCLOSURE VERT STACK SECT (1601-2500 AMP) RENEWAL	$44,200
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	MC SWGR ENCLOSURE VERT STACK SECT (801-1600 AMP) RENEWAL	$24,900
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	MC SWGR METERING AND INSTRUMENT SYSTEMS RENEWAL	$20,500
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - GYMNASIUM RENEWAL	$752,200
MUNN ICE ARENA	0059	2024	BUILDING SYSTEMS	SWGR TIEBREAK SELECTOR, FME, MANUAL RENEWAL	$29,900
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE MUNN ICE ATS	$20,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE HOLLOW METAL INTERIOR DOORS AND FRAMES IN VARIOUS AREAS	$44,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING ENVELOPE	PAINT METAL ROOF 2	$593,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING ENVELOPE	REPAIR MASONRY AT ALL ENTRANCES	$32,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE SELECTED HOLLOW METAL DOORS AND HARDWARE.	$57,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FREIGHT ELEVATOR HYDRAULICS, CONTROLLER AND WORN	$319,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE RUBBER FLOOR TILES IN AREAS WHERE FLOOR IS WALKED ON WITH	$32,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SNOW MELT SERVICE	$57,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE COLD WATER METER, TWO ISOLATION VALVES AND ONE BYPASS	$32,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE PAINTED TOILET PARTITIONS	$28,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PLUMBING FIXTURES IN 1ST FLR AND BASEMENT	$38,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 2 GORMAN RUPP PUMPS (AND ASSOCIATED ELECTRICAL), THAT PUMP	$38,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 2 STORM SUMP PUMPS AND ELECTRICAL DISCONNECTS LOCATED IN	$36,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONDENSATE RETURN UNIT IN MECH ROOM 127.	$40,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILES AND GRID AS NEEDED IN ALL AREAS OF ORIGINAL	$38,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR PANIC HARDWARE, EXTERIOR RENEWAL	$871,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - CARPET, TILE OR ROLL, STANDARD RENEWAL	$2,865,100
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$200,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	DOOR - OVERHEAD, INTERIOR RENEWAL	$562,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL RENEWAL	$43,300
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$252,100
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG MT HI FLOOD LIGHTING (WALLPACK, WALLWASH)	$27,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (2.76-3.25 HP) RENEWAL	$22,700
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS RENEWAL	$123,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSATE RECEIVER, PRESSURE (<=30 GPM) RENEWAL	$33,900
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	DEHUMIDIFIER SYSTEM, DESICCANT WHEEL (4501-9000 CFM) RENEWAL	$729,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	EXPANSION TANK, DIAPHRAGM (45-69 GAL) RENEWAL	$44,300
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	EXPANSION TANK, STL PT (27-49 GAL) RENEWAL	$904,400
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	EXPANSION TANK, STL PT (50-450 GAL) RENEWAL	$87,800
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - AXIAL, SUPPLY (21-25 HP) 35,000 CFM RENEWAL	$46,200

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - GYMNASIUM RENEWAL	$22,000
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (2") RENEWAL	$307,700
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY (501-750 KVA) RENEWAL	$643,600
MUNN ICE ARENA	0059	DEFERRED RENEWAL	BUILDING SYSTEMS	WATER TANK (55-274 GAL) RENEWAL	$34,000
					$10,601,300

MUSEUM	0013	2022	BUILDING SYSTEMS	REPLACE FUME HOOD FAN FH-1 LOCATED IN THE ATTIC	$33,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$306,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING ENVELOPE	WINDOWS - REPLACE ALL EXTERIOR WINDOWS, OLD STEEL (341)	$952,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EF-1, EF-1A, EF-1B, EF-1D, EF-2, EF-2A, SF-1, SF-1A	$803,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE VENTILATION FOR MAIN GALLERY ROOM 105 AND HERITAGE	$1,169,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	$90,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FIRE ALARM SYSTEM IN MUSEUM	$252,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CLASSMATE UNIT WITH NEW SELF CONTAINED COMPUTER ROOM AIR	$62,000
MUSEUM	0013	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CAST IRON RADIATORS AND CONTROL VALVES	$353,000
					$4,020,000

MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPLACE SOME OLD DOORS AT BASEMENT AND 1ST FLOOR,	$33,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	FLOOR COVERING - REPLACE FLOORING AT BASEMENT LEVEL	$115,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE VINYL FLOORING AND WALL BASE ON 1ST AND 2ND FLOOR	$107,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE VINYL FLOORING AND WALL BASE ON 1ST AND 2ND FLOOR	$107,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE VINYL FLOORING AND WALL BASE ON 1ST AND 2ND FLOOR	$107,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE VINYL FLOORING AND WALL BASE ON 1ST AND 2ND FLOOR	$107,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	$324,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	MUSIC BUILDING - REMOVE AND REPLACE ALL AIR DUCTS IN THE	$574,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE RF-1, EF-2, EF-3, EF-6, RF-8, RF-11, RF-12, RF-9, SF-1, SF-10, SF-15, SF-16,	$1,472,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HALLWAY LIGHTING AND WIRING ON THE 1ST AND 2ND FLOORS	$34,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	MUSIC REPLACE HV-1	$1,707,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	MUSIC REPLACE HV-10	$1,387,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	MUSIC REPLACE HV-15	$1,494,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	MUSIC REPLACE HV-3	$1,387,000
MUSIC	0011	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$306,000
					$9,261,000

MUSIC PRACTICE	0021	2021	BUILDING SYSTEMS	REPLACE ORIGINAL FIRE ALARM SYSTEM	$270,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	FLOOR COVERING - REPLACE FRONT STAIRWELL AND LANDINGS	$115,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY AND CAULKING REPAIRS	$115,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 2 HOT WATER HEATING SYSTEMS	$134,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	CEILINGS - CEILING TILE REPLACEMENT	$35,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING AND LIGHTING IN PUBLIC CORRIDORS AND STAIRWELLS	$87,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CORRIDOR FLOORING AND WALL BASE	$103,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CORRIDOR FLOORING AND WALL BASE	$103,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CORRIDOR FLOORING AND WALL BASE	$103,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CORRIDOR FLOORING AND WALL BASE	$103,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIR TREADS/ RISERS AND LANDING MATERIAL IN BACK STAIRWELL	$100,000
MUSIC PRACTICE	0021	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE STAIRWELL FIRE DOORS AND HARDWARE	$40,000
					$1,308,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
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	$138,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS/ JAMBS/ AND HARDWARE (6-OHD) (16 ENTRY)	$187,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HEAT EXCHANGER 1	$78,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DOMESTIC WATER METER	$38,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM PLUMBING FIXTURES	$32,000
NATURAL RESOURCES	0180	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE DAMAGED/OUTDATED CEILING TILE AND LIGHTING	$230,000
					$723,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING INTERIOR	FLOOR COVERING - REPLACE DETERIORATED FLOOR TILE	$335,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPAIR DOORS AND HARDWARE, BASEMENT THROUGH 4TH	$115,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER HEATER IN EAST BASEMENT MR	$76,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	NATURAL SCIENCE - REPLACE ELEVATOR 2	$306,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	PRELIM DESIGN TO REPLACE AIR-COOLED CHILLERS	$960,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 1	$219,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 2	$202,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 3	$216,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AIR HANDLING UNIT SF - 4	$242,000
NATURAL SCIENCE	0024	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 BASEMT SUMP PUMPS IN AIR PLENUMS E & W	$57,000
					$2,728,000
NISBET	0128	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	$25,000
NISBET	0128	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY REPAIRS AND CAULKING	$103,000
NISBET	0128	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER - CH1	$284,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
NISBET	0128	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER - CH2	$284,000
					$696,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE LIGHTING AND BRANCH CIRCUITS	$205,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT AND COLD WATER PIPING THROUGHOUT BUILDING	$64,000
OLD BOTANY	0017	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE OLD BOTANY 1-PIPE HOT WATER HEATING SYS WITH 2-PIPE SYS	$312,000
					$581,000
OLD HORTICULTURE	0025	2021	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$340,000
OLD HORTICULTURE	0025	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE ELECTRICAL DISTRIBUTION SYSTEM FROM AIR PLENUM	$279,000
OLD HORTICULTURE	0025	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER	$194,000
					$813,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	BASEMENT CRAWL SPACE-REMOVE ALL ASBESTOS PIPE INSULATIONS &	$27,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE FIRE ESCAPE EXTERIOR DOORS, FRAMES AND HARDWARE (9)	$66,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	INSTALL NEW HEATING/VENTILATING UNIT TO SERVE ENTIRE BUILDING,	$8,379,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$172,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #1, 2 AND 3	$254,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ROOF TOP AIR CONDITIONING UNIT #1	$67,000
OLDS HALL	0047	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL DOMESTIC HOT AND COLD WATER PIPING INSIDE THE BUILDING,	$1,275,000
					$10,240,000
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
OYER SPEECH AND HEARING	0089	DEFERRED RENEWAL	BUILDING SYSTEMS	OYER- UPGRADE PCB TRANSFORMERS AND ELECTRICAL EQUIPMENT	$373,000
					$443,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PACKAGING ATS	$20,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE APPROXIMATELY (23) INTERIOR BIRCH VENEER DOORS AND HARDWARE	$37,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	RESIZE AND REPLACE CONTROL AIR COMPRESSORS IN THE BASEMENT	$33,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	PACKAGING- UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$122,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CORRIDOR FLOOR TILE IN ORIGINAL BUILDING	$48,000
PACKAGING	0177	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC #1 & 3	$1,096,000
					$1,356,000

PATHOLOGICAL INCINERATOR	0524	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 2 EXHAUST FANS	$22,000
					$22,000

PAVILION AG LIVESTOCK	0212	2021	BUILDING SYSTEMS	REPLACE FIRE SUPPRESSION PIPING	$450,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE VARIOUS HOLLOW METAL AND OVERHEAD DOORS WHERE DAMAGED	$31,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR PAINTING WALL AREAS WHERE NEEDED	$77,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY REPAIRS AND CAULKING	$57,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$338,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC RESTROOM PLUMBING FIXTURES	$38,000
PAVILION AG LIVESTOCK	0212	DEFERRED RENEWAL	BUILDING SYSTEMS	CHILLER	$247,000
					$1,238,000

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)	$438,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HYDRAULIC ELEVATOR	$529,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING ENVELOPE	REMOVE DOUBLE STRENGTH GLASS IN ROOF AND REPLACE WITH	$98,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	$7,148,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 5 SUPPLY FANS, 4 PLENUM EXHAUST FANS.....,	$3,399,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$2,275,000
PLANT AND SOIL SCIENCE	0086	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PLUMBING FIXTURES	$51,000
					$13,958,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	ADD A REDUNDANT HOT WATER HEAT PUMP SO THAT WORK CAN BE	$23,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT	$1,432,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$336,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING ENVELOPE	PLANT BIOLOGY - EXTERIOR DOORS - REPLACE ALL MAIN ENTRANCES.	$82,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE DETERIORATED PENTHOUSE DUCT INSULATION	$111,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING SYSTEMS	MOVE AND RE-PIPE HWHT BOOSTER COILS THAT ARE LOCATED IN THE	$74,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING INTERIOR	PLANT BIOLOGY REPLACE FLOORING BASEMENT CORRIDOR	$73,000
PLANT BIOLOGY	0178	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE SUSPENDED CEILINGS AND LIGHTING THROUGHOUT CORRIDORS	$622,000
					$2,753,000
PLANT SCIENCE GREENHOUSE-EAST	0098C	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$184,000
PLANT SCIENCE GREENHOUSE-EAST	0098C	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	$184,000
PLANT SCIENCE GREENHOUSE-EAST	0098C	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR DOORS - REPLACE SOME INTERIOR GREENHOUSE DOORS.	$20,000
					$388,000
PLANT SCIENCE GREENHOUSE-	0094	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EAVES TROUGHS AND REPAIR ROOF #1	$21,000
					$21,000
PLANT SCIENCE GREENHOUSE-WEST	0093	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 160 SIDEWALL EXHAUST FANS	$669,000
					$669,000
PSYCHOLOGY	0027	2022	BUILDING SYSTEMS	REPLACE CHILLER	$194,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
PSYCHOLOGY	0027	2022	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$490,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP 3	$38,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP 4	$38,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER 1	$79,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE DOMESTIC HOT WATER HEATER 2	$79,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE EXHAUST FAN 1	$28,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HOT WATER PUMP 1	$25,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HOT WATER PUMP 2	$25,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 1	$313,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 2	$313,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 3	$179,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE HVAC SYSTEM 4	$168,000
PSYCHOLOGY	0027	2024	BUILDING SYSTEMS	REPLACE STEAM FIRED HOT WATER HEATER 1	$89,000
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	$54,000
PSYCHOLOGY	0027	DEFERRED RENEWAL	BUILDING SYSTEMS	PSYCHOLOGY - UPGRADE PCB TRANSFORMERS AND ELECTRICAL	$127,000
					$2,289,000

PUBLIC SAFETY	0087	2021	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS	$20,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING INTERIOR	PAINT MAIN LOBBY AND HALLWAYS	$53,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR ENTRANCE DOORS/ FRAMES/ HARDWARE	$91,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE PUBLIC SAFETY ATS	$20,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY RESTORATION	$35,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #1,2,3,5,7,8	$330,000
PUBLIC SAFETY	0087	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$289,000
					$838,000
PUREBRED BEEF-HAY SHED	0450E	DEFERRED RENEWAL	BUILDING ENVELOPE	PAINT ROOF	$49,000
					$49,000
PUREBRED BEEF-LOOSE HOUSING	0450C	DEFERRED RENEWAL	BUILDING ENVELOPE	RE-COAT NE ROOF	$24,000
					$24,000
PUREBRED BEEF-MAIN	0450A	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXISTING VINYL SIDING WITH NEW STEEL VERTICAL BARN SIDING AND	$107,000
PUREBRED BEEF-MAIN	0450A	DEFERRED RENEWAL	BUILDING ENVELOPE	REPAIR CRACKED BLOCK WALLS	$55,000
					$162,000
PUREBRED BEEF-SHEEP BARN	0450B	2024	BUILDING ENVELOPE	REPLACE ROOF #1	$20,000
					$20,000
RADIO FACILITY-RADIO TRANSM	0600A	2024	BUILDING ENVELOPE	REPLACE ROOFS #1, 2 AND 3	$78,000
					$78,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$490,000
RADIOLOGY	0214	2023	BUILDING SYSTEMS	REPLACE RADIOLOGY ATS	$20,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$265,000
RADIOLOGY	0214	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$543,000
					$1,318,000
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	$2,294,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
REGIONAL CHILLED WATER PLANT	0189	2023	BUILDING SYSTEMS	REPLACE FAN BLADES ON COOLING TOWERS 1 & 2	$30,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE RCW PLANT ATS	$20,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING ENVELOPE	GENERAL MASONRY & CAULKING RESTORATION OF ENTIRE BUILDING	$172,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR DOOR REPLACEMENT (2) ENTRY DOORS & (2) OVERHEAD DOORS	$27,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$24,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #2	$107,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	RCWP STEAM METERING	$213,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLER #10 AND COOLING TOWER	$2,323,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM POWERED CONDENSATE PUMPS SERVING NORTH	$500,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLER #9 AND COOLING TOWER	$2,294,000
REGIONAL CHILLED WATER PLANT	0189	DEFERRED RENEWAL	BUILDING SYSTEMS	PROVIDE CONNECTION FOR PORTABLE GENERATOR TO RUN ABSORBER AND	$194,000
					$8,228,000
SHEEP BARN	0449	2024	BUILDING ENVELOPE	REPLACE ROOFS #1 AND 2	$88,000
					$88,000
STUDENT SERVICES	0142	2022	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$490,000
STUDENT SERVICES	0142	2022	BUILDING SYSTEMS	REPLACE ELEVATOR 2	$490,000
STUDENT SERVICES	0142	2025	BUILDING SYSTEMS	REPLACE SUMP PUMP 01	$23,000
STUDENT SERVICES	0142	2025	BUILDING SYSTEMS	REPLACE SUMP PUMP 02	$23,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING INTERIOR	CORRIDOR CEILING AND LIGHTING REPLACEMENTS ON 1ST, 2ND & 3RD	$161,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 10 OBSOLETE MOTOR STARTERS, BRANCH CIRCUIT FEEDERS.	$42,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR	$207,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 4 HOT WATER HEAT PUMPS AND VALVES	$76,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER DOMESTIC CONVERTER	$69,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE INTERIOR DOORS AND HARDWARE TO OFFICES AND CLOSETS	$669,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP N-3	$40,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMP N-4	$40,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ALL PUBLIC RESTROOM LAVATORY FAUCETS AND TRIM, AND	$38,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE EXISTING SHUT OFF VALVES AND WATER METER....	$32,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STUDENT SERVICES ATS	$20,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SUMP PUMP 03	$23,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SUMP PUMP 04	$23,000
STUDENT SERVICES	0142	DEFERRED RENEWAL	BUILDING SYSTEMS	UPDATE FIRE SYSTEM AND ADD SMOKE DETECTORS	$589,000
					$3,055,000
SWINE RESEARCH-BARN/ELEVATOR	0440A	DEFERRED RENEWAL	BUILDING ENVELOPE	REMOVE OLD ROOF SHINGLES AND REPLACE (AREAS 1,4,5) REPLACE AREA 3	$135,000
					$135,000
SWINE RESEARCH-GARAGE	0440B	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR	$41,000
					$41,000
SWINE RESEARCH-GESTATION	0440E	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPLACEMENT	$35,000
					$35,000
SWINE TEACH AND RESEARCH	0479	2025	BUILDING SYSTEMS	PUMPS	$40,000
					$40,000
TB SIMON POWER PLANT	0065	2021	BUILDING SYSTEMS	POWER PLANT CONVERT EXTERIOR LIGHTING TO LED	$30,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE MAIN ENTRANCE EXTERIOR DOOR AND VESTIBULE DOOR AND	$27,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ORIGINAL HOLLOW METAL EXTERIOR DOORS AND HARDWARE	$60,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ORIGINAL OVERHEAD DOORS ON BLDG EXTERIOR	$134,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING SYSTEMS	ELEVATOR - 2	$689,000
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	$76,000
TB SIMON POWER PLANT	0065	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT ROOF #2	$78,000
					$1,254,000
THAYER HOUSE	0445A	2021	BUILDING ENVELOPE	REPLACE ROOFS 1-5	$30,000
THAYER HOUSE	0445A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR	$32,000
					$62,000
TREE RESEARCH-HEADHOUSE	0472D	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF REPAIR/REPLACEMENT - GREENHOUSE (NORTH) ROOF #1,	$209,000
					$209,000
UFSC-4-H	0453G	DEFERRED RENEWAL	BUILDING ENVELOPE	RECOAT/REPLACE ROOF #1	$161,000
					$161,000
UFSC-COMMUNITY STRG	0453D	2024	BUILDING ENVELOPE	RECOAT/ REPLACE ROOF #1	$110,000
					$110,000
UFSC-MAINTENANCE	0453H	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #1	$87,000
					$87,000
UFSC-MATERIALS & PESITCIDE STRG	0453J	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF #1	$66,000
					$66,000
UFSC-NORTH MORTON	0453I	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF #1	$88,000
					$88,000
UNIV RESEARCH CONTAINMENT	0211	2021	BUILDING SYSTEMS	REPLACE CHILLED WATER PUMPS	$355,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
UNIV RESEARCH CONTAINMENT	0211	2021	BUILDING SYSTEMS	REPLACE EXISTING HEAT EXCHANGER AND ADD A SECOND HEAT EXCHANGER	$300,000
UNIV RESEARCH CONTAINMENT	0211	2022	BUILDING SYSTEMS	REPLACE EAST LOW PRESSURE BOILER	$335,000
UNIV RESEARCH CONTAINMENT	0211	2022	BUILDING SYSTEMS	REPLACE HIGH PRESSURE BOILER	$268,000
UNIV RESEARCH CONTAINMENT	0211	2022	BUILDING SYSTEMS	REPLACE WEST LOW PRESSURE BOILER	$335,000
UNIV RESEARCH CONTAINMENT	0211	2025	BUILDING SYSTEMS	REPLACE WATER SOFTNER THAT SERVES BOILER	$27,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING INTERIOR	PAINT INTERIOR WALLS, DOORS AND FRAMES, AND RECOAT FLOORS IN ULAR	$27,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE SHEET METAL PANS IN HVAC 3 AND HVAC 5	$44,000
UNIV RESEARCH CONTAINMENT	0211	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE AHU 1, 2, 3, 4, 5, 6, EXHAUST FANS 1, 2, 7, AND 8.	$1,472,000
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	$69,000
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 ENVELOPE	ROOFING - FM ROOFS #1, 2, 3, AND 4	$291,000
					$3,763,000

UNIVERSITY SERVICES	0088	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE UNIVERSITY SERVICES ATS	$20,000
					$20,000

URBAN PLANNING LANDSCAPE ARCH-	0082	2021	BUILDING SYSTEMS	HVAC STUDY ON URBAN PLANNING	$100,000
URBAN PLANNING LANDSCAPE ARCH-	0082	DEFERRED RENEWAL	BUILDING INTERIOR	REST ROOM PARTITIONS - REPLACE TOILET PARTITIONS.	$21,000
URBAN PLANNING LANDSCAPE ARCH-	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	URBAN PLANNING LANDSCAPE - REPLACE FIRE ALARM SYSTEM	$256,000
URBAN PLANNING LANDSCAPE ARCH-	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE HOT WATER HEAT PUMPS 1 AND 2, INCLUDING CHECK, BALANCING	$41,000
URBAN PLANNING LANDSCAPE ARCH-	0082	DEFERRED RENEWAL	BUILDING SYSTEMS	VAV SYSTEM	$48,000
					$466,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VET RESEARCH-GERM FREE BARN	0446F	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOF #1	$143,000
VET RESEARCH-GERM FREE BARN	0446F	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR - ED	$72,000
VET RESEARCH-GERM FREE BARN	0446F	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR - IND	$28,000
					$243,000
VET RESEARCH-LARGE ANIMAL	0446A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR - ED	$41,000
VET RESEARCH-LARGE ANIMAL	0446A	DEFERRED RENEWAL	BUILDING INTERIOR	DOORS - INTERIOR	$24,000
					$65,000
VET RESEARCH-MANAGER'S HOUSE	0446C	DEFERRED RENEWAL	BUILDING ENVELOPE	COMPLETE EXTERIOR RENOVATION INCLUDING WINDOWS, DOORS, SIDING,	$44,000
VET RESEARCH-MANAGER'S HOUSE	0446C	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALL WINDOWS AND MAIN ENTRY DOORS	$23,000
					$67,000
VET RESEARCH-ROUND ROOF	0446B	DEFERRED RENEWAL	BUILDING ENVELOPE	RECOAT ROUND ROOF BARN 0446B	$50,000
VET RESEARCH-ROUND ROOF	0446B	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS	$27,000
					$77,000
VETERINARY DIAGNOSTIC	0215	2021	BUILDING SYSTEMS	UPGRADE CONTROLS IN VDL TRAILER-1	$35,000
VETERINARY DIAGNOSTIC	0215	2022	BUILDING SYSTEMS	REPLACE FILTER MEDIA IN THE IRON FILTER TANKS FOR DOMESTIC COLD	$44,000
VETERINARY DIAGNOSTIC	0215	2025	BUILDING SYSTEMS	REPLACE DEAERATOR AND FEED PUMPS FOR BOILER SYSTEM	$1,004,000
VETERINARY DIAGNOSTIC	0215	2025	BUILDING SYSTEMS	REPLACE EAST HIGH PRESSURE BOILER	$1,004,000
VETERINARY DIAGNOSTIC	0215	2025	BUILDING SYSTEMS	REPLACE WEST HIGH PRESSURE BOILER	$1,004,000
VETERINARY DIAGNOSTIC	0215	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM DOMESTIC WATER HEATER LOCATED IN PENTHOUSE	$69,000
VETERINARY DIAGNOSTIC	0215	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER SOFTENER MINERAL IN 2 DOMESTIC WATER SOFTENER TANKS IN	$44,000
					$3,204,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING ENVELOPE	REPAIR/REPLACE ROOF FLASHING	$37,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER	0170	2021	BUILDING SYSTEMS	UPDATE HVAC STUDY AND DEVELOP PHASING PLAN	$250,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING SYSTEMS	VAV SYSTEM	$863,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	VET MED HVAC 1 AND 21 PHASE 3 OF 3	$5,000,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	PLUMBING FIXTURES	$481,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING INTERIOR	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD RENEWAL	$290,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING INTERIOR	INTERIOR STAIR TREAD AND LANDING FINISH RENEWAL	$425,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING SYSTEMS	EXPANSION TANK, STL PT (50-450 GAL) RENEWAL	$620,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$100,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVE (16-20 HP) RENEWAL	$335,000
VETERINARY MEDICAL CENTER	0170	2021	BUILDING SYSTEMS	WATER HEATER - SHELL & TUBE (46-93 GPM) RENEWAL	$680,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING INTERIOR	WALL FINISH - APPLIED, STANDARD RENEWAL	$30,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (2") RENEWAL	$7,710,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	$460,000
VETERINARY MEDICAL CENTER	0170	2022	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVES RENEWAL	$135,000
VETERINARY MEDICAL CENTER	0170	2023	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER RENEWAL	$40,000
VETERINARY MEDICAL CENTER	0170	2024	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (10-12 HP) RENEWAL	$25,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	DOOR OPERATOR, OVERHEAD COIL DOOR, PADS RENEWAL	$195,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	DOOR OPERATOR, POWER-ASSIST RENEWAL	$35,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING ENVELOPE	ROOF - 1-PLY, BALLASTED RENEWAL	$16,090,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING INTERIOR	FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE RENEWAL	$370,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$4,520,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP) RENEWAL	$35,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	BACKFLOW PREVENTER (<=1 INCH) RENEWAL	$490,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	BACKFLOW PREVENTER (1-2 INCHES) RENEWAL	$60,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	COM EXTERIOR BLDG MT HI FLOOD LIGHTING (WALLPACK, WALLWASH)	$30,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	DRAIN PIPING SYSTEM - LABORATORY, WET RENEWAL	$925,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS RENEWAL	$50,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 400 POINTS RENEWAL	$170,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 700 POINTS RENEWAL	$235,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$175,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	$100,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET RENEWAL	$570,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, KITCHEN RENEWAL	$520,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	POWER INVERTER, DC TO AC RENEWAL	$265,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$1,820,000
VETERINARY MEDICAL CENTER	0170	2025	BUILDING SYSTEMS	WATER SOFTENER (41-70 GPM) RENEWAL	$2,440,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY AND CAULKING RESTORATION	$80,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE ORIGINAL 9X9 FLOOR TILE IN HALLWAYS AND PUBLIC AREAS OF `A`	$401,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE STEAM PRV STATION, RECONFIGURE PIPING MR-A50	$53,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSORS (3 SETS)	$95,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	VETERINARY MEDICAL CENTER- UPGRADE PCB TRANSFORMERS AND	$245,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR D2	$340,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR G3	$340,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR G4	$340,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL RENEWAL	$60,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, SECURITY, EXTERIOR RENEWAL	$35,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD RENEWAL	$35,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH RENEWAL	$335,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING ENVELOPE	WALL, EXTERIOR, SIDING, METAL CORRUGATED, V-BEAM, OR RIBBED	$105,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - CARPET, TILE OR ROLL, STANDARD RENEWAL	$720,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$35,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS RENEWAL	$60,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM (2") RENEWAL	$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	$85,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	$55,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING RENEWAL	$845,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVE (7.6-10 HP) RENEWAL	$25,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR - MEDICAL/LABORATORY PCKG (=10 HP),	$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR - MEDICAL/LABORATORY PCKG (20-40 HP),	$145,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (7-10 TOTAL HP) RENEWAL	$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP) RENEWAL	$105,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (.5-1.25 HP) RENEWAL	$35,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (10-12 HP) RENEWAL	$1,255,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (13-17 HP) RENEWAL	$355,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (24-27 HP) RENEWAL	$390,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (28-35 HP) RENEWAL	$535,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (46-63 HP) RENEWAL	$105,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER (<=1 INCH) RENEWAL	$215,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER (1-2 INCHES) RENEWAL	$65,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER (3-4 INCHES) RENEWAL	$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	BACKFLOW PREVENTER (4-6 INCHES) RENEWAL	$1,470,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG MT DECO LIGHTING (COACH, SCONCE, PEND,	$45,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	COM EXTERIOR BLDG MT HI FLOOD LIGHTING (WALLPACK, WALLWASH)	$40,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS RENEWAL	$510,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON) RENEWAL	$45,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	DOMESTIC WATER BOOSTER SYSTEM RENEWAL	$90,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	DUST COLLECTION SYSTEM RENEWAL	$685,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	ELECTRICAL BRANCH WIRING - LABORATORY, WET RENEWAL	$1,090,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET RENEWAL	$60,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	ELEVATOR MODERNIZATION - HYDRAULIC 2-5 FLOORS RENEWAL	$40,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	EVAPORATOR UNIT, NO HEAT (>3 TON) RENEWAL	$40,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	FANs - AXIAL, RETURN RENEWAL	$20,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	FAN - CENTRIFUGAL ROOF EXHAUST (20"-22" DIAMETER) RENEWAL	$805,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE PUMP - ELECTRIC, 500 GPM, 3" ID (16-65 HP) RENEWAL	$715,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	GENERATOR - NATURAL GAS OR GASOLINE (>100 KW) RENEWAL	$310,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM) RENEWAL	$25,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	HUMIDIFIER, STEAM INJECTION RENEWAL	$265,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY AND	$115,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	$45,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	MAIN SWITCHBOARD W/BREAKERS (1601-2500 AMP) RENEWAL	$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	MC SWGR ENCLOSURE VERT STACK SECT (1601-2500 AMP) RENEWAL	$30,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	MC SWGR INCOMING PWR CONNECT (CABLE/CONDUIT) RENEWAL	$145,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	MC SWGR METERING AND INSTRUMENT SYSTEMS RENEWAL	$130,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (401-600A) W/STARTERS	$5,025,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (601-800A) W/STARTERS	$780,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PANELBOARD, 3 PH, 208/120V (151-300 AMP), INCL. BRK. RENEWAL	$130,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, KITCHEN RENEWAL	$180,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY RENEWAL	$115,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PRESSURE REDUCING VALVE, STEAM SYSTEM RENEWAL	$270,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$55,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (31-40 HP) RENEWAL	$50,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	$85,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER	$205,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REFRIGERATION SYSTEM - WALK-IN, 4 EVAP FANS, 26500 BTUH, CONDENSER	$380,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING RENEWAL	$360,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	REVERSE OSMOSIS SYSTEM (<=5,000 GPD) RENEWAL	$2,560,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	SUPPLY PIPING SYSTEM - LABORATORY, WET RENEWAL	$430,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	SWITCH - AUTO TRANSFER, 480 V (101-400 AMP) RENEWAL	$285,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVES RENEWAL	$100,000
VETERINARY MEDICAL CENTER	0170	DEFERRED RENEWAL	BUILDING SYSTEMS	WATER SOFTENER RENEWAL	$2,560,000
					$74,540,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER-EQUINE	0170A	2021	BUILDING ENVELOPE	ROOF - BITUMINOUS, 3-PLY, SBS MODIFIED BITUMEN, MOP RENEWAL	$240,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2021	BUILDING INTERIOR	FLOORING - VINYL COMPOSITION TILE, STANDARD RENEWAL	$25,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2021	BUILDING SYSTEMS	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP) RENEWAL	$35,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2021	BUILDING SYSTEMS	BACKFLOW PREVENTER (<=1 INCH) RENEWAL	$35,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING INTERIOR	FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL RENEWAL	$560,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	AIR HANDLING UNIT - INDOOR (3.26-6 HP) RENEWAL	$50,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	BOILER - GAS (801-1500 MBH) RENEWAL	$425,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	PLUMBING FIXTURE - LAVATORY, WALL HUNG RENEWAL	$130,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	PLUMBING FIXTURE - URINAL RENEWAL	$740,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2024	BUILDING SYSTEMS	PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE RENEWAL	$45,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	2025	BUILDING INTERIOR	CEILING FINISH - APPLIED PAINT OR STAIN, STANDARD RENEWAL	$1,100,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC EQUIPMENT - AHU	$664,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$69,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMPS	$141,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR LOCK, COMMERCIAL-GRADE, EXTERIOR RENEWAL	$830,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS RENEWAL	$1,610,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR PANIC HARDWARE, EXTERIOR RENEWAL	$16,130,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING ENVELOPE	WALL, EXTERIOR, SIDING, METAL CORRUGATED, V-BEAM, OR RIBBED RENEWAL	$50,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING INTERIOR	FLOORING - CARPET, TILE OR ROLL, STANDARD RENEWAL	$730,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	FURNACE, OUTDOOR, NATURAL GAS (121-225 MBH) RENEWAL	$90,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION AND FIELD PANELS/OPS SOFTWARE- MEDICAL CLINIC RENEWAL	$40,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION AND FIELD PANELS/OPS SOFTWARE- OFFICE RENEWAL	$35,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - MEDICAL CLINIC RENEWAL	$110,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC RENEWAL	$40,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	RES EXTERIOR BLDG MT DECO OR FLOOD LIGHTING RENEWAL	$915,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH) RENEWAL	$5,020,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVE (<=5 HP) RENEWAL	$1,210,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER UP TO 200 POINTS RENEWAL	$5,115,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$260,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	PUMP - ELECTRIC (<=10 HP) RENEWAL	$745,000
VETERINARY MEDICAL CENTER-EQUINE	0170A	DEFERRED RENEWAL	BUILDING SYSTEMS	UNIT HEATER - INDOOR, GAS, SUSPENDED (41-100 MBH) RENEWAL	$20,000
					$37,209,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2021	BUILDING SYSTEMS	UNIT HEATER - INDOOR, GAS, SUSPENDED (41-100 MBH) RENEWAL	$2,785,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2022	BUILDING INTERIOR	FLOORING - CARPET, TILE OR ROLL, STANDARD RENEWAL	$40,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2022	BUILDING SYSTEMS	VARIABLE FREQUENCY DRIVE (21-25 HP) RENEWAL	$80,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2023	BUILDING SYSTEMS	FIRE ALARM SYSTEM - DEVICES RENEWAL	$20,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING INTERIOR	FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE RENEWAL	$150,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	BACKFLOW PREVENTER (<=1 INCH) RENEWAL	$65,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	BACKFLOW PREVENTER (3-4 INCHES) RENEWAL	$35,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	COM EXTERIOR BLDG MT DECO LIGHTING (COACH, SCONCE, PEND, SOFFIT) RENEWAL	$80,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	HVAC CONTROLS - TERMINAL ASSEMBLIES - MEDICAL CLINIC RENEWAL	$20,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	2025	BUILDING SYSTEMS	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC RENEWAL	$25,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING ENVELOPE	DOOR PANIC HARDWARE, EXTERIOR RENEWAL	$45,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON) RENEWAL	$290,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	EVAPORATOR UNIT, NO HEAT (<=1.5 TON) RENEWAL	$1,290,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - MEDICAL CLINIC RENEWAL	$8,160,000
VETERINARY MEDICAL CENTER-PEGASUS	0170B	DEFERRED RENEWAL	BUILDING SYSTEMS	HVAC CONTROLS - MAJOR INSTRUMENTATION - MEDICAL CLINIC RENEWAL	$25,000
					$13,110,000
WATER RESERVOIR	0096	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WATER RESERVOIR ATS	$20,000
					$20,000
WELL HOUSE 15	0550	DEFERRED RENEWAL	BUILDING ENVELOPE	DOORS - EXTERIOR	$21,000
					$21,000
WELLS HALL	0078	2021	BUILDING SYSTEMS	REPLACE ABSORBERS	$25,000,000
WELLS HALL	0078	2024	BUILDING SYSTEMS	REPLACE 590 TON CHILLER #1 (IN MR B-1) AND ASSOCIATED COOLING TOWER	$2,167,000
WELLS HALL	0078	2024	BUILDING SYSTEMS	REPLACE 590 TON CHILLER #2 (IN MR B-1) AND ASSOCIATED COOLING TOWER	$2,167,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING INTERIOR	REST ROOM PARTITIONS - REPLACE REST ROOM PARTITIONS IN B 110, 111.	$21,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE 6 EXTERIOR DOORS AND HARDWARE AT A & D WINGS	$40,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	REMOVE ALL ASBESTOS	$1,633,000
WELLS HALL	0078	DEFERRED RENEWAL	BUILDING SYSTEMS	PLUMBING FIXTURES	$107,000
					$31,135,000
WHARTON	0085	2024	BUILDING SYSTEMS	REPLACE CONTROL AIR COMPRESSOR (SAYLOR BEALL 707 5HP, 200 GALLON	$34,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE WHARTON ATS	$20,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING INTERIOR	REPLACE CEILING TILE IN OFFICES, PUBLIC AREAS, BATHS AND HALLWAYS,	$140,000

MSU Capital Renewal Maintenance by Building FY2021-2025 (Including Deferred)

Building Name	Bldg	Work Plan Year	Type	Description (Title)	Total Estimate
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 1	$306,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 2	$306,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE ELEVATOR 3	$441,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING INTERIOR	INTERIOR PAINTING - THROUGHOUT THE ENTIRE BUILDING.	$184,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY RESTORATION AND EXTERIOR WATERPROOFING	$207,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE EXTERIOR DOORS, FRAMES, HARDWARE (DOOR ID #988)	$127,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE 3 DISTRIBUTION PANELS	$126,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE FUSIBLE SWITCH TO BREAKERS OR NEW SWITCHES	$82,000
WHARTON	0085	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE URINAL FLUSH VALVES, TOILET FLUSH VALVES AND TOILET SEATS	$32,000
					$2,005,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE (3) ENTRANCES, DOORS, FRAMES, AND HARDWARE	$27,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ALL WINDOWS AND EXTERIOR DOORS	$417,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	EXTERIOR MASONRY AND CAULKING RESTORATION	$29,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING SYSTEMS	LIGHTING FIXTURES	$52,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING SYSTEMS	REPLACE CAST IRON RADIATORS WITH CONVECTORS AND SELF CONTAINED	$42,000
WILLS HOUSE	0008	DEFERRED RENEWAL	BUILDING ENVELOPE	REPLACE ROOFS 1 AND 2	$45,000
					$612,000

All Buildings: $572,642,400

Fall 2020

Appendix F: Utility System Distribution

Fiscal Year 2022
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

MSU Capital Renewal Utilities FY21-25 (Including Deferred)

Building Name	Bldg	Work Plan Year	Description (Title)	Total Estimate
TB SIMON POWER PLANT	0065	2021	POWER & WATER - INSTALL INFRARED INSPECTION WINDOWS ON TRANSFORMERS	$50,000
TB SIMON POWER PLANT	0065	2021	POWER & WATER - TURBINE OVERHAUL	$600,000
OFFICE COMPLEX - MAIN BUILDING	1027	2021	REPLACE OFFICE COMPLEX PARKING LOT LIGHTING	$250,000
ROADS	2070	2021	ROADS/UTILITIES - SERVICE RD AND SERVICE/BOGUE INTERSECTION RECONSTRUCTION (FUNDING PHASE 2 OF 2)	$3,000,000
WATER DISTRIBUTION	9571	2021	LEADED HYDRANT REPLACEMENT PHASE 1 OF 3	$107,000
WATER DISTRIBUTION	9571	2021	REPLACE DETERIORATING CAST IRON SERVICE LEAD TO OLIN HEALTH CENTER	$325,000
SEWER DISTRIBUTION	9572	2021	STORM SEWER - RIVER OUTFALL STRUCTURAL REPAIRS - PHASE 1	$200,000
COMMUNICATION DISTRIBUTION	9576	2021	COMMUNICATION DUCTLINE - NEW DUCTLINE TO HUBBARD, FEE AND CONRAD HALL AREA	$1,931,000
				$6,463,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - AUTOMATE U4 BAGHOUSE INLET POPPETS	$150,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - CHIMNEY REPAIRS	$500,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - COMMISSION U6 HRSG FEEDWATER PREHEATER SECTION	$150,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - DISTRIBUTION SYSTEM METER REPAIRS	$150,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - INSTALL NEW WELL/WELL HOUSE	$650,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	$75,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - PLANT MODS TO RETIRE U1&2	$350,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - PLANT STABILIZATION AND LOAD SHEDDING	$750,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - REPLACE MAIN STEAM CROSS CONNECT VALVES PHASE 1 OF 2	$350,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - REPLACE/EXPAND SECURITY CAMERA SYSTEM	$400,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - RETIRE/REPLACE U1/2/3 COOLING TOWER	$350,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - TURBINE OVERHAUL	$600,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - U4 BOILER IMPROVEMENTS	$50,000
TB SIMON POWER PLANT	0065	2022	POWER & WATER - WELL SYSTEM REPAIRS	$250,000
STEAM DISTRIBUTION	9570	2022	STEAM DISTRIBUTION - MISC MAJOR REPAIRS AND RESTORATION	$2,613,000
WATER DISTRIBUTION	9571	2022	LEADED HYDRANT REPLACEMENT PHASE 2 OF 3	$107,000
WATER DISTRIBUTION	9571	2022	WATER DISTRIBUTION - REPLACE DETERIORATING CAST IRON DISTRIBUTION MAINS	$3,267,000
SEWER DISTRIBUTION	9572	2022	REPAIR FAILING SANITARY MAINS PHASE 4 OF 5	$650,000
ELECTRICAL DISTRIBUTION	9573	2022	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	$2,613,000
STREET LIGHT DISTRIBUTION	9574	2022	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 5 OF 10	$383,000
				$14,408,000
TB SIMON POWER PLANT	0065	2023	DISTRIBUTION SYSTEM METER REPAIRS	$150,000

MSU Capital Renewal Utilities FY21-25 (Including Deferred)

Building Name	Bldg	Work Plan Year	Description (Title)	Total Estimate
TB SIMON POWER PLANT	0065	2023	POWER & WATER - CONVERT TO MOTOR OPERATED VALVES FOR FEEDWATER PUMPS	$200,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - INSTALL VACUUM PUMPS FOR U3/U4 TURBINE	$100,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	$75,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - REMOVE MILLS ON NO. 3	$150,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - REPLACE MAIN STEAM CROSS CONNECT VALVES PHASE 2 OF 2	$350,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - REPLACE U3 STG STEAM PATH	$2,000,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - TURBINE OVERHAUL	$600,000
TB SIMON POWER PLANT	0065	2023	POWER & WATER - U4 BAGHOUSE REFURBISHMENT	$250,000
TB SIMON POWER PLANT	0065	2023	REPLACE FOUR PLANT REACTORS WITH 2000 AMP UNITS	$1,100,000
STEAM DISTRIBUTION	9570	2023	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	$2,613,000
STEAM DISTRIBUTION	9570	2023	STEAM DISTRIBUTION INSTALL SECOND 18" CR LINE FROM PWR PLT TO VLT 206	$2,246,000
WATER DISTRIBUTION	9571	2023	DOMESTIC WATER - REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS AND MISC REPAIRS	$3,267,000
WATER DISTRIBUTION	9571	2023	LEADED HYDRANT REPLACEMENT PHASE 3 OF 3	$107,000
SEWER DISTRIBUTION	9572	2023	REPAIR FAILING SANITARY MAINS PHASE 5 OF 5	$650,000
ELECTRICAL DISTRIBUTION	9573	2023	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	$2,613,000
STREET LIGHT DISTRIBUTION	9574	2023	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 6 OF 10	$383,000
				$16,854,000
TB SIMON POWER PLANT	0065	2024	DISTRIBUTION SYSTEM METER REPAIRS	$150,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - 7TH FLOOR STAIRWELL EMERGENCY EGRESS LIGHTING	$100,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - ADD ATTEMPERATION CAPABILITY PER	$500,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - AUTOMATE VALVES	$350,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	$75,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - REPLACE CAUSTIC DAY TANK	$50,000
TB SIMON POWER PLANT	0065	2024	POWER & WATER - TURBINE OVERHAUL	$600,000
STEAM DISTRIBUTION	9570	2024	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	$2,613,000
WATER DISTRIBUTION	9571	2024	DOMESTIC WATER - MISC. REPAIRS AND REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS	$3,267,000
ELECTRICAL DISTRIBUTION	9573	2024	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	$2,613,000
STREET LIGHT DISTRIBUTION	9574	2024	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 7 OF 10	$383,000
				$10,701,000
TB SIMON POWER PLANT	0065	2025	DISTRIBUTION SYSTEM METER REPAIRS	$150,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - AUTOMATE BLOWDOWN OF U6	$350,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - AUTOMATE U6 ATTEMPERATOR BACK-UP SUPPLY VALVE	$150,000

MSU Capital Renewal Utilities FY21-25 (Including Deferred)

Building Name	Bldg	Work Plan Year	Description (Title)	Total Estimate
TB SIMON POWER PLANT	0065	2025	POWER & WATER - BLOWDOWN ON FIRST FLOOR/FOR U4 BOILER	$250,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - BUILT PLATFORM FOR U5 TURBINE EXTRACTIONS TEAM COMMON ISO VALVE	$50,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - D/A WATER SHUTOFF TO PREVENT WATER HAMMER	$500,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - INSTALL NEW WELL/WELL HOUSE	$650,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - INSTALL PLATFORM AND LIGHTING UNDERNEATH ATTEMPERATOR	$100,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - MISCELLANEOUS SAFETY PLATFORMS (ANNUAL)	$75,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - POWERHOUSE FOUNDATION SUBSIDENCE	$250,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - RELOCATE CONTROLLERS FOR ASH PIT SUMP AND U5 BLOWDOWN RECEIVER PUMPS	$100,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - STRAINER FOR EAST TOWER	$50,000
TB SIMON POWER PLANT	0065	2025	POWER & WATER - TURBINE OVERHAUL	$600,000
STEAM DISTRIBUTION	9570	2025	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	$1,719,000
STEAM DISTRIBUTION	9570	2025	STEAM DISTRIBUTION - MISC. MAJOR REPAIRS	$2,613,000
WATER DISTRIBUTION	9571	2025	DOMESTIC WATER - REPLACE DETERIORATING CAST IRON (CI) DISTRIBUTION MAINS	$3,267,000
WATER DISTRIBUTION	9571	2025	WATER DISTRIBUTION - REPLACE DETERIORATED CAST IRON DISTRIBUTION MAINS	$1,960,000
WATER DISTRIBUTION	9571	2025	WATER DISTRIBUTION - REPLACE DETERIORATING CAST IRON DISTRIBUTION MAINS	$2,613,000
ELECTRICAL DISTRIBUTION	9573	2025	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	$2,613,000
ELECTRICAL DISTRIBUTION	9573	2025	ELECTRICAL DISTRIBUTION - CABLE/MISC REPLACEMENT AND REPAIRS	$2,613,000
STREET LIGHT DISTRIBUTION	9574	2025	STREET LIGHT DISTRIBUTION - CABLE REPLACEMENT - PHASE 8 OF 10	$383,000
				$21,056,000

WATER DISTRIBUTION	9571	DEFERRED RENEWAL	WATER DISTRIBUTION - REPLACE DETERIORATING CAST IRON DISTRIBUTION MAINS	$1,960,000
ELECTRICAL DISTRIBUTION	9573	DEFERRED RENEWAL	REPLACE CONTACTORS, CONTROL SYSTEMS, WIRE AND LIGHT FIXTURES IN STEAM TUNNELS AND VAULTS	$170,000
				$2,130,000

All Utilities: $71,612,000