2010
FACILITIES MASTER PLAN

Muskegon Community College

Muskegon, Michigan

August, 2010

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Muskegon Community College

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1. Introduction

In December, 2009, Muskegon Community College commissioned TowerPinkster to develop a new Facilities Master Plan, building on the successful implementation of many of the initiatives recommended in its previous 2000 Campus Master Plan: Student-Centered Learning for the New Millenium". In conjunction with MCC's current Strategic Planning process, this new plan is intended to guide the physical development of the College in ways that respect the environment, maximize existing assets, and reflect its mission and vision for the future. It further reflects newly established priorities at MCC as it strives toward excellence in educational opportunity for all.

We appreciate and acknowledge the assistance of all those Board of Trustees members, administrators, faculty, and staff members at MCC that contributed time, interest, advice and thoughtful input into the master planning process. In particular, the guidance of President Dr. Dale K. Nesbary, the organization, support and strategic planning leadership of Executive Vice President of Administration Diana R. Osborn and Dr. John Bartley, the extensive coordination and scheduling efforts of Associate Vice President of Administration Joe Doyle, and the detailed knowledge of Maintenance Supervisor Gerald A. Nyland were most appreciated during the entire study process.

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2. Executive Summary

The Executive Summary for this Facilities Master Plan report includes the following:

A. Master Plan Goals

B. Planning Process

C. Summary of Recommendations

D. Estimate of Costs

A. Master Plan Goals

In 2000, Muskegon Community College commissioned a Facilities Master Plan, completed that same year to guide the future physical development of the College in ways that reflect its mission and vision for the future. Specific recommendations were developed with corresponding budgets to guide financial planning to achieve the recommended facility improvements.

Since that time, several major projects have been accomplished: the Career Technology Center, in partnership with the MAISD; the Hendrick Meijer Library Information Technology Center; and the Student One-Stop renovation. In addition, ongoing upgrades to infrastructure, parking, and facilities have been accomplished to meet the goals of the 2000 Master Plan. Currently, a major reroofing project is underway.

In order to continue to look forward in the interest of meeting the needs of students for course offerings and facilities, MCC commissioned this new Master Plan in 2010. This plan was developed simultaneously with and in alignment with the new strategic plan initiative for MCC.

Five-year roadmap

The goal of this Master Plan is to provide Muskegon Community College with a roadmap for meeting facilities issues over the next 5 years. It should be stated that the recommendations documented in this section (Section 2) are presented without prioritization for each building / facility at MCC. Selected prioritized projects and accompanying costs are presented in Sections 7 and 8 of this document.

2. Summary
(continued)

Designed for flexibility

Just as change has created the need for this facilities master plan, future changes will continue to make the planning process dynamic. While this master plan report makes recommendations to retain an attractive, serviceable physical environment that is responsive to the changing needs of MCC, it is not rigid or static. To be an effective consensus-building and decision-making tool, this facilities master plan should be seen as a flexible document, able to be periodically evaluated and revised as new ideas emerge.

Like the 2000 Master Plan, this update includes the following specific goals:

1. Identify sites for new construction, or expansion on or off campus.

2. Recommend a plan to maximize the value of existing physical assets.

3. Recommend a plan for responding to emerging and changing physical needs as they relate to technology.

4. Maintain stewardship of the natural environment.

6. Assist in establishing priorities and cost estimates for a five-year Facilities Master Plan.

7 Consider design consistency, renovations, retrofits and maintenance.

8. Incorporate provisions within the Facilities Master Plan that will adhere to the necessary comprehensive 5-year planning documents for Capital Outlay, as required by the State of Michigan, State Budget Office.

2. Summary
(continued)

This plan observes MCC core values for shaping future facilities and environments:

- MCC facilities, programs and services must be focused on the needs of students, creating the optimum environment for learning and growth.
- MCC is committed to making educational services available to all, taking full advantage of emerging technologies, partnerships, and networks.
- Environmental quality and barrier-free issues must be considered in all facilities.
- Maintaining and enhancing the natural and built environment is important to the College.
- Facilities must be flexible and provide a variety of learning environments toward the enhancement of lifelong learning.
- MCC is committed to being responsive to the changing needs of its service area.

B. Planning Process

The development of this facilities master plan aligned with and coordinated with the strategic planning process underway at MCC. Members of the master planning team participated in MCC strategic planning meetings to discern the facilities implications of strategic recommendations. The master planning team conducted a separate strategic planning session with the Board of Trustees to explore these implications further.

The planning team reviewed a broad range of existing documentation about MCC facilities and sites, as well as documents and data that could influence the direction, character, and quality of future facilities. These included possible local governmental changes in zoning or codes, space utilization statistics for existing MCC space, demographic data, and enrollment trends, among others. The team reviewed plans and specifications from existing building projects and it toured the campus to observe existing conditions.

The team conducted meetings with a number of stakeholders and stakeholder groups. Following this input from faculty, administration and staff, this document was created to be submitted to the MCC Board of Trustees for its consideration and approval, with the intent that it will become the College Facilities Master Plan.

C. Summary of Recommendations

Based upon observations of site and building features, as well as an analysis of gathered information, several recommendations are presented in the following categories:

- Site Recommendations
- Bartels-Rode Gymnasium Recommendations
- Science Expansion Recommendations
- Fine Arts Center Expansion Recommendations
- University Park Golf Course Recommendations
- Downtown Muskegon Center Recommendations
- Infrastructure Recommendations
- Technology Recommendations
- Wayfinding and Signage Recommendations

Site Recommendations

In general, projects related to the existing MCC campus should retain MCC's core value of stewardship and enhancement of the natural environment.

Following are individual site-related projects recommended for MCC:

1. Enhanced signage at the northeast corner of Marquette and Quarterline.
2. Definition of a clear campus edge through additional landscaping materials at southwest corner of Quarterline and Stebbins.
3. Identification of a future site for potential student housing
4. Expanded archery range
5. Enhanced campus safety and security
6. Replacement of existing tennis courts

Bartels-Rode Gymnasium Recommendations

As the single most heavily used facility on campus, the Bartels-Rode Gymnasium is a major resource for students, faculty and the community. Existing facilities are already too small to handle existing staff needs, instructional needs, and appropriate student-athlete needs. The growing MCC enrollment only exacerbates this problem, as more students require PE credits and desire choices for recreational, intramural, and wellness programming.

The proposed expansion includes approximately 27,000 SF of new space, as well as renovation of the existing 17,500 SF facility. The expanded area would include a new gym floor area, locker rooms, a training room, offices, three classrooms for instruction, a new fitness center, a climbing wall, a lobby space, a laundry facility, storage for indoor and outdoor equipment, toilet rooms, and appropriate mechanical, electrical, and custodial space.

Science Expansion / Renovation Recommendations

As the biology and chemistry disciplines are core to a number of academic programs at MCC, the proposed project renovates approximately 20,000 SF of existing lab and classroom space into larger, technology-rich instructional spaces. The proposed project also adds about 21,000 SF of new space for six new labs, including prep space, and six new instructional classrooms.

This project also includes the renovation and upgrading of the Carr-Fles Planetarium, including upgrading the facility to a digital planetarium instrument with coordinating digital sound. In addition to the new equipment, the project will include new theater seating, new finishes, and mechanical and electrical upgrades.

Fine Arts Center Recommendations

For some time, the Visual Arts Department has been located in a free-standing pre-engineered metal building, approximately 60 ft x 140 ft., near the maintenance building and remote from the main campus buildings.

The proposed project would relocate the art department to a new addition, approximately 26,000 SF on the south side of the Frauenthal Fine Arts Center. The new addition would include five art studios, three instructional classrooms, offices for faculty, an exhibition gallery for display of artwork, as well as support spaces such as kiln room, glaze room, and storage for bulk materials.

This addition would also include an expanded scene shop and dressing rooms at the Overbrook Theater. The existing Overbrook Theater would be renovated, as would the band and music area of the building as part of this overall project.

University Park Golf Course Recommendations

The nine-hole University Park Golf Course is a unique asset for MCC. Students, faculty and community members teach, learn and recreate here regularly.

As MCC is considering leveraging the value of the course by offering golf management programs, turf management curricula in partnership with Michigan State University, and general use by the Muskegon community, the existing clubhouse is small and lacks adequate space and features for instructional or public use. This project includes a new clubhouse of 3,000 SF to include a pro shop, instructional teaching space, storage space, and barrier-free toilet facilities.

Downtown Muskegon Center Recommendations

As part of its new strategic direction, and in its position as an economic development engine for the greater Muskegon area, a new presence in downtown Muskegon provides an opportunity to relocate the visual art department on the main campus to new quarters there. This project includes a new building of about 35,000 SF, to be built on a site within the downtown core or within walking distance of the downtown core.

The project would include the same spaces proposed with the art department expansion on the main campus, plus four additional instructional classrooms, offices, and a computer lab. The budget proposed in this master plan assumes new construction on a site already owned by MCC. However, the spaces could be developed within an existing building, assuming it met the criteria of size, location and access to public transportation.

The Downtown Center is one of several potential off-campus location options. Each option should continue to be evaluated and pursued as service area needs evolve.

Infrastructure Recommendations

a. New Emergency Generator

b. HVAC Improvements
- Back-up cooling for IT Center
- Integrate existing four chillers into one piping loop to serve existing and future additions without adding cooling capacity
- Domestic hot water circulation
- Humidity control

c. Electrical Improvements
- Electrical distribution system

Technology Recommendations

The purpose for this project recommendation is to identify costs related to technology improvements that would not otherwise be included in the specific projects mentioned above.

a. Budget to replace student-use computers within a four-year life cycle.

b. Expand bandwidth capacity to support streaming video across all curricula.

c. Create a remote data center location for the protection and security of data.

d. Connect all areas of campus, including remote locations, to campus-wide network.

e. Make every instructional space a “smart” room.

f. Expand the digital limits for students.

g. Create a new student ID card system that coordinates with the College’s security system.

h. Enhance the security system, including additional camera locations, across campus.

i. Provide digital messaging boards / kiosks throughout campus.

Wayfinding and Signage Recommendations

From the 2000 Master Plan, wayfinding recommendations for exterior signs have been successfully implemented. However, recommendations for interior wayfinding have not, owing primarily to the high quantity, quality, and cost of the recommended signage.

This plan proposes to revisit and update the recommendations from the 2000 Master Plan for implementation across campus. This will result in the most comprehensive and cost-effective solution to the orientation and wayfinding issues at MCC.

D. Estimate of Costs

Cost Summary - All Projects

Muskegon Community College

May 3, 2010

Project	Priority	Construction Cost	Project Cost
Arts Addition		$ 5,554,416	$ 7,387,323
MCC Downtown Center		$ 5,959,520	$ 7,924,102
Science Wing Addition		$ 6,723,360	$ 8,936,221
Bartels-Rode Gymnasium		$ 6,185,760	$ 8,176,449
MCC Miscellaneous Projects		$ 2,307,200	$ 2,883,560
TOTAL		$ 26,730,256	$ 35,307,655

3. History, Mission & Goals

It is important to recognize the heritage and history of Muskegon Community College as it looks to the future. Stated below are the history and mission of the College, taken from the College's current web site. The College is currently working on a new Strategic Plan, which will be adopted in 2010.

History of the College

"Muskegon Junior College was established by the Muskegon Board of Education in 1926 and was housed on the third floor of what was then the new Muskegon Senior High School. It was a pioneering effort, since only four other two-year institutions existed in Michigan at the time.

By 1934, enrollment of both the College and the high school had grown beyond the capacity of a single building. The Junior College, therefore, moved into the former Hackley School in downtown Muskegon across from Hackley Park (now the Board of Education Building).

It was appropriate that the College should occupy the old Hackley Building, which had been presented to the public schools of Muskegon by Charles H. Hackley after fire had destroyed the original Central School. The city's First Citizen believed that a community was obliged to offer its youth the kind of training which would enable them to earn a good livelihood and at the same time contribute to the well-being of the community.

At the time of its move into this facility and for 17 years after, Muskegon Junior College was primarily geared to those students intending to complete at least four years of college. Muskegon's reputation in this field of the "college transfer" program was an enviable one, and continues to be so today.

Then in June of 1951, after an enabling act by the Michigan Legislature, the name and educational scope of the College was changed. "Muskegon Junior College" became "Muskegon Community College", thereby reflecting the expanded nature of the College's programs.

They were broadened to serve a larger number of students with a wider variety of interests. Courses were added in retailing, the vocations, the technical fields, public health, and the trades. These courses enabled young men and women to prepare themselves for a specific field of employment in two years of training beyond high school. There was no shrinking of the transfer program, only an expanded curriculum to serve a large segment of the community.

In the post World War II years, enrollment climbed quickly and the Community College "campus" had to grow accordingly. The Muskegon Board of Education, which still operated the College, utilized available space in many of its buildings, and rented other community facilities when enrollment exceeded the capacities of those buildings.

By the early 1960's, enrollment had topped 2,000 and the College was operating full-time at Hackley, Vanderlaan, and Wilson Schools and part-time at eight other locations. The time had come for another step in the development of the college.

The Board of Education formed a Special Citizens Committee to study the entire program and make recommendations. The Committee proposed that the College be separated from the public school system, that a county-wide community college district be created, that a board of trustees be elected to plan, build, and operate the school, and that millage be voted in sufficient amount and for enough years to build and operate the College.

In April of 1963, the country overwhelmingly approved the recommendations of the committee and elected the first Board of Trustees. The elected board went to work immediately and by September of that year had purchased the 111-acre campus on which the College exists today.

Alden B. Dow and Associates was named architect and by the summer of 1965 drawings were completed and construction begun. The Vocation-Technical Wing was completed and occupied in the fall of 1966 and the following September the entire complex was placed in service. Formal dedication ceremonies were held in October 22, 1967, with Dr. Ashley Montagu, one of the world's foremost anthropologists, delivering the dedicatory address.

The first addition to the new campus was the Frauenthal Foundation Fine Arts Center, completed in 1968 and named for the Muskegon industrialist whose gift had made the Center possible – A. Harold Frauenthal.

When the new district was created, the name of the college was changed to Muskegon County Community College; but in the spring of 1969, at the request of the Board of Trustees, the State Board of Education approved changing the name once again to Muskegon Community College. With an enrollment over 5,000 students, the College exists today in the eighth decade of service to area citizens.

January 1995 opened a new era of educational opportunity with the completion of the Center for Higher Education on the campus of Muskegon Community College. The Center houses upper level courses and programs offered by Ferris State, Grand Valley State, and Western Michigan universities.

These institutions, along with Muskegon Community College, have formed a "consortium" to coordinate offerings to meet the needs of West Michigan residents. In 2001, the center was renamed the James L. Stevenson Center for Higher Education in honor of the MCC President who conceptualized and tirelessly guided the project to it successful completion.

The 90,000 square foot facility represents about one-third the size of the main building and was constructed to complement existing architecture. Attached to the main building near the Technical Wing, the James L. Stevenson Center for Higher Education contains the latest in communication technology with all its 35 rooms connected via fiber optics for voice, video and data transmission. In addition to housing the educational programs of the consortium member institutions, the Center is also the new home for MCC's Media Center and Graphic Design program.

For years, Muskegon County was in desperate need for a cutting-edge career tech facility for high school students. The college and the Muskegon Area Intermediate School District collaborated and proposed a plan whereby the college would build the facility on its property and the MAISD would lease and operate it. In 2002, the good citizens of Muskegon County approved the necessary millage, and in January 2004, the Career Technology Center opened its doors on MCC's campus. The facility boasts geo-thermal heating, a wind-powered generator and many other high-tech features.

MCC continued its push for 21st-century facilities when, in January 2006, it opened the Hendrik Meijer Library Information Technology Center (LIT). The LIT offers students and the community the latest in communication capabilities, including wireless Internet access, state-of-the-art library facilities/technologies and classrooms, and an Internet café. The 42,000 square foot facility has three levels overlooking the woods and creek, and offers special services including interlibrary loan, photocopy machines, group study rooms, a quiet reading room, a

workstation for visually impaired persons, and both group and individual orientations."

Consistent with its Master Plan of 2000, the College continued to seek improvements to the existing facility by planning major improvements to the organization and delivery of student services. Culminating in a major renovation project in 2009, the MCC Student One-Stop relocated key student services to the first floor at the main entrance, making it convenient for students to successfully complete all registration, counseling, admissions, and financial aid functions related to attending MCC.

This project also included the relocation of administrative offices to the former library at the center of campus. The second floor of the former library was completely remodeled for administrative offices and Board of Trustees functions. The third floor of the former library was also remodeled to serve as the Student Success Center. An elevator was added to link all floors of the former library building with barrier-free access.

The rooftop of the former library, used as a concrete plaza since the building was constructed, was transformed into the Outdoor Learning Center: a rooftop garden with plantings, walks, benches and lighting to provide an inviting place for gathering with others.

Vision Statement of the College

*"Building our community's gateway to opportunities….
Creating the first and best choice for success."*

Mission Statement of the College

"Muskegon Community College, an associate degree-granting institution of higher education, is a center for lifelong learning which provides persons the opportunity to attain their educational goals by offering programs that respond to individual, community and global needs. To fulfill its mission, MCC is committed to:

1. *Prepare students for successful transfer to four-year colleges and universities, and enable students to pursue higher-level degree opportunities through our local partnerships with university programs.*

2. *Prepare students in critical thinking, communication and long-term learning skills for the changing challenges of the future.*

3. *Develop technical and vocational skills necessary to enter and/or advance in the technologically sophisticated workplace of the 21st century.*

4. *Provide for the assessment and/or improvement of learning skills and attitudes necessary for a successful educational experience.*

5. *Meet the unique educational, cultural, and societal needs in the community through special courses, seminars, and exhibits.*

6. *Respond in a rapid fashion to the ever-changing educational and training needs of local and regional business and industry.*

7. *Stimulate intellectual curiosity, promote humanitarian values and enhance the general educational experiences necessary for persons to function as effective citizens.*

8. *Create an atmosphere where diversity is acknowledged and encouraged.*

9. *Provide comprehensive student services that are conducive to student learning and satisfaction in all facets of the college experience and appropriate to an open door community college."*

4. Trends / Observations

A. Curriculum Development

In the course of analysis, our team met with the following stakeholders. The commentary for curriculum development is derived from these meetings and subsequent communications.

Athletics / HPER (Health PE Recreation)
Business / College Success
Creative Arts
English
Industrial Manufacturing Technology
Information Technology
Nursing, Respiratory Therapy, Life Sciences
Physical Sciences & Mathematics
Social Science & Education
Student Services

4. Trends / Observations
(continued)

Athletics / HPER (Health PE Recreation)

MCC Athletics supports competitive teams in the following sports affiliated with NJCAA - Region XII - MCCAA - Western Conference:

	Sport	Venue
Men:	Baseball	on-site
	Basketball	on-site
	Golf	off-site
	Wrestling	on-site
Women:	Basketball	on-site
	Softball	on-site
	Tennis	on-site
	Volleyball	on-site

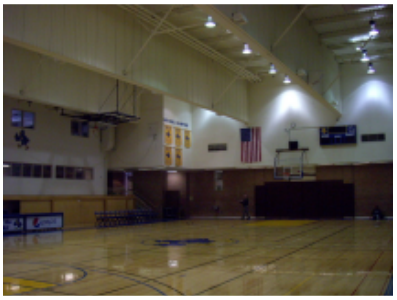
MCC will field a Men's Cross Country Team and a Women's Cross Country Team beginning in the Fall of 2010. Meets will be held off-site, planned at Orchard View High School.

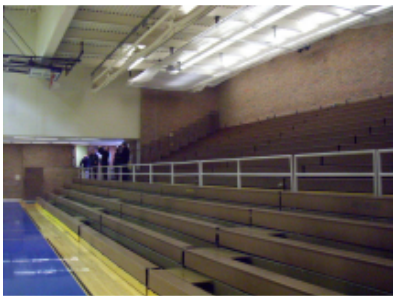
MCC plans to field a Men's Bowling Team and a Women's Bowling Team in the Winter of 2011. Meets will be held off-site, planned at Northway Bowling Lanes in Muskegon.

MCC plans to field a Men's Soccer Team in the Fall of 2011. A Women's Soccer Team will be fielded in the Fall of 2012. Meets will be held off-site, planned at Orchard View High School.

Home golf meets are held Stonegate Country Club in Muskegon. In addition, health, physical education, and recreation classes are offered at MCC and at area venues, such as Cannonsburg Ski Area, the Muskegon YMCA, Pere Marquette Park, and MCC's own University Park Golf Course (9-hole course).

4. Trends / Observations
(continued)





Each student is required to take two PE classes to receive an Associates Degree from MCC. In addition, there are about 125-130 student athletes at MCC currently. As a result, the Gymnasium building is heavily utilized and in constant demand. Locker facilities for PE and competitive teams are limited. The existing fitness facility is not available to students on a walk-in basis.

More globally, the recreation and leisure industry continues to grow as part of a rising interest in personal health and wellness. This is creating a demand for professional education and training in this area. There is potential in the future for MCC to develop formal programming in recreation and leisure that transfers to a four-year degree at another institution.

In order to meet the need for current and future athletic teams, to address the demand for more academic coursework in recreation, health and fitness, to accommodate intramural athletics, and to accommodate the fitness needs of the MCC students and members of the community, the existing building should be expanded to provide the following:

- Additional floor area
- Additional locker facilities
- Additional classrooms (4-6)
- Wrestling room
- Computer lab
- Training Room
- Offices for coaches
- Laundry facility
- Climbing wall
- Expanded archery range
- Equipment storage
- Fitness center (for 40 persons), with jogging track
- Aerobics room
- Study lounge

4. Trends / Observations
(continued)

Regarding the University Park Golf Course, there is a desire to strengthen the use of the course with MCC events and for greater access by the community. To do this, the following facilities are needed:

- Pro Shop
- Barrier-free toilet facilities
- Locker rooms
- Kitchen
- Classroom
- Office

Business / College Success
About 20% of business courses are delivered entirely on-line in the business curriculum. Many more are a hybrid of online and hard copy materials. Campus-wide, 36% of all students take some on-line courses. More is anticipated in terms of hi-speed wireless streaming video, but the limiting factor is technology, i.e., bandwidth.

Future classrooms should be more like meeting rooms, with access to technology and set up for team work. More classrooms are needed that seat 40-60 persons.

Creative Arts (including visual and performing arts)
The Creative Arts curricula are not currently part of a degree program at MCC. There are five existing studio spaces which are housed in a pre-engineered metal building separate from the main campus building and north of the maintenance building. The art programs have been located here for some time. This physical separation from the main campus building has caused a sense of exclusion by faculty and students from the rest of MCC. In addition, existing heating, cooling, plumbing, and dust collection systems do not work well, and the upstairs portion of the building

is unusable for instruction because it is not barrier-free. Storage is limited, and there is no means of securing individual rooms when they are not in use. The building lacks effective use of natural light, exhibit space for student work, and multi-media technology in each studio.

There is a desire to add more sections of visual arts, particularly in 3-D sculpture and ceramics, as well as photography and welding. The Art Department desires a new location physically connected with the main campus for greater convenience of the students and for better display of student and faculty work. The direction of the arts program is toward interdisciplinary collaboration and increased access to the College and to each other.

Some mention has been made to locate the art department as a spearhead for an enhanced presence in downtown Muskegon. In fact, several years ago, an attempt was made to locate a new center near the Muskegon Art Museum. MCC Arts represent a compatible function with the Muskegon visual and performing arts communities already in place and are seen as a potent driver of economic development in the wider Muskegon community. A downtown location also offers greater visibility for student work in the community. The success of a downtown center, however, would depend upon good, reliable public transportation between the main campus and the downtown center.

The existing Overbrook Theater, within the Frauenthal Center for fine Arts, has 344 seats and is the home of the MCC theater program. It is also a principal venue for the music department, which is looking to grow in the years ahead under new departmental leadership. The future vision for the music program includes a wind ensemble, a concert ensemble, an expanded vocal curriculum, a jazz lab and a commercial music curriculum, as well as the development of musical theater productions. The piano lab would be upgraded to a theory and composition room.

4. Trends / Observations
(continued)

Theater improvements

The existing theater and music facility, however, is dated and the performance stage (approx. 38 ft. wide x 30 ft. deep) is limited in size for musical presentations. Lighting, sound, seating, and patron amenities, including accessibility, need to be addressed, and "back-of-house" functions, such as scene shop, dressing rooms, rehearsal space, prop storage, scene storage, costume storage, and space for actors off-stage are all lacking in size. The mechanical system is noisy and the electrical systems need to be modernized. Access to current technology is limited, and sound attenuation is lacking. The recently-removed semi-trailer just outside the scene shop was used for storage – its presence over the past five years has been a reminder of the lack of storage space contained within the existing facility.

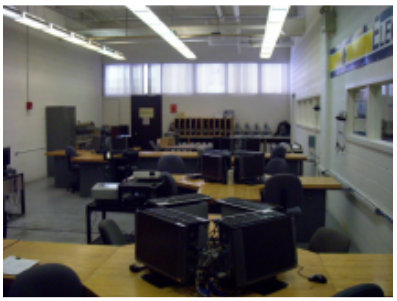
English

Commentary from the English department included issues pertaining to MCC at large. There is a need for another IT commons at the opposite end of the campus from the library. Room #144 was cited as a model classroom and lab environment.

MCC needs to provide greater recreation opportunities for students. Continuing security issues need to be addressed.

Green technologies

MCC should improve its use and efficiency of green technologies, including a strong recycling program, and alternative energy resources, such as solar, wind and biofuels.

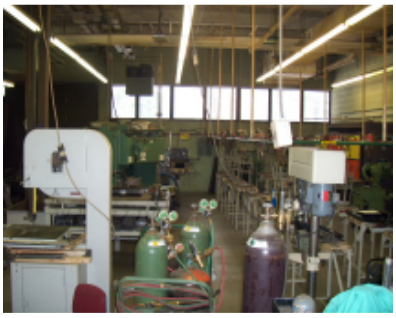


Industrial Manufacturing Technology

The Industrial Manufacturing Technology program is industrial manufacturing-based and is located in the Technology Wing of the College. It includes automotive, welding, materials science (part of the foundry), machining, electronics / electricity, and the foundry. The foundry is a regional training site for the American Foundry Society.

4. Trends / Observations

(continued)



The CAD curriculum requires classes in welding and machining as part of the "required related" curriculum. MCC has new furnaces for the foundry, so they can work with steel and iron. MCC has gone from sand casting to chemical set castings, and the curriculum utilizes the latest software to produce collaborative, integrated projects.

Most of the students in industrial manufacturing technology return to local industry after graduation. The average age of students is about 30 years.

Interactive Media (gaming) curriculum is gaining popularity. The department is also developing an alternative sustainable energy program, including a 2K solar array, and a swift wind turbine. MCC is working closely with MAREC (Michigan Alternative & Renewable Energy Center). MCC also has a license to create biofuel / ethanol and would like to develop a program around biofuel technology.

The automotive program is holding steady and will continue to be in demand in response to developing auto technologies in electric vehicles and new generations of hybrid and diesel-powered autos.

The welding program includes 16 stations and is consistently full. This program is expected to remain steady. Robotic welding will probably not be part of the curriculum, as it is highly vendor specific. The materials science program is also expected to hold steady, with curriculum in cast metal and metallurgy.

The machining program teaches manual tools and digital machines. The program is growing and there are plans to expand into adjacent space to create a larger lab.

4. Trends / Observations
(continued)

The electronics program involves electricity / electronics, hydraulics and pneumatics, computer repair, and biomedical instrumentation. The instructional area in the electronics program is in need of updating.

Information Technology

Sungard was hired by MCC in 2005 to provide full-involvement IT services at MCC, including web site support, student services, network services, telephone services, instructional services, and security for data. The security strategic plan is revised every three years, with annual updates and annual tactical planning.

Core components of the IT system at MCC are considered stable, with a high availability of computers for student use. The backbone is solid, with overall low volume across the system. Currently there are about 700 computers on campus available for student use, in 40 different locations, ranging from 2-4 computers in a room to 70 computers in a computer lab. Additional, there are 400-500 computers for faculty and staff use, bringing the total to 1100-1200 computers on campus. Sustained higher enrollments will create a demand for more computer access, including hours of availability.

MCC currently operates on a 3-year budget cycle, which funds the replacement of approximately 150 computers each year.

Emergency generator

MCC operates on a battery-backup system. There is a need to move to an emergency generator to support the data center in case of power failure. MCC should also consider a remote data center location, separate from the main campus, for protection and security of data.

4. Trends / Observations
(continued)

The current IT utilization is manageable. However, future additions to the building would likely require additional power switches, extended cabling and additional network drops to serve remote locations. For example, the current network connectivity does not reach Overbrook Theater and the PE building could use an additional 1-2 switches to enhance current network connectivity.

Improvements for the future include:

- "Smart room" capability in every classroom (currently there is "smart room" capability in 55 rooms)
- Student portal for communications on the MCC Web site
- Online books
- Increased wireless access.
- Connection to remote campus locations
- Expansion of digital limits for students

Nursing, Respiratory Therapy, Life Sciences

The Life Sciences Department includes the core courses for the health professions programs, including botany, biology, and anatomy. There are about 500 students enrolled in the Life Sciences each semester. About 300 students go also to the nursing and respiratory therapy programs.

Life Sciences has a student / teacher ratio of 1:20. Labs are set up for a two-day period and are shared among faculty members. At the end of the two-day period, a lab coordinator changes the lab setup. Science labs should be set up with computer stations at all lab stations.

4. Trends / Observations
(continued)

In the nursing program, MCC is starting an accelerated list for those students who already have completed all the required science courses. The nursing program has about 15 groups of 10 students each semester.

The respiratory therapy area currently has a shared lecture / lab space. The program was recently reaccredited for the maximum term, but the facilities were cited as meeting only minimal requirements.

With the emphasis and growth of health professions programs in Michigan, there are opportunities for new programs, or to bring back previously-offered programs if funding is available.

For lectures, class sizes are capped at 60. The current limitation for the department is the number of faculty and spaces required. All spaces must be handicap accessible.

Physical Sciences & Mathematics

The physical sciences include chemistry, astronomy, geology, physical science, engineering and physics.

It appears that MCC is attracting more traditional transfer students as the cost of higher education rises at 4-year institutions. There is a growing need for more technology and software resources for instruction.

Existing chemistry labs require updating, and utility services to the labs is inadequate.

Faculty commented on the lack of office space for full-time and adjunct faculty.

4. Trends / Observations
(continued)

Planetarium improvements

The Carr-Fles Planetarium continues to serve the astronomy program and to offer free shows to the public. Four shows per year are provided in the domed theater. The facility, however, is largely original and has not been updated in many years. For this amenity to continue will require complete replacement and refurbishing of the existing facility.

Social Science, Foreign Language & Education

Faculty expressed a need for an early childhood lab in the education department. There was also a need expressed for a language lab, with Skype connectivity and better internet connection to visit international sites in real-time.

There is a desire among some faculty to locate education faculty offices adjacent to the social science faculty offices, or to locate all liberal arts offices in one location.

The new Board of Trustees Room was cited as a good example of a "Classroom of the Future" in terms of color, lighting, transparency, and technology. There is a need for several rooms like this on campus to accommodate 40 to 60 students. Every teaching space should be equipped with "smart cart" capability.

Student Services

MCC enrollment is about 5,100 students. The current stated goal is to consistently be above 6,000 students, perhaps as high as 7,000 – 8,000 students on a continuing basis. In the future, staff predicted that there will be an increasing number of older, under-educated students, and MCC will be the "school of necessity" for 18-year old students. The increased enrollment is creating the need for additional student services staff to handle the additional load. Technology improvements have allowed Student Services to do "more with less". However, higher enrollments create a need for additional counselors, more recruiters, and space for a student success person for retention.

4. Trends / Observations *(continued)*

Converging factors

Staff commented that there are three or four converging factors affecting student services for the future:

- Many different kinds of students with many different needs
- We may have already outgrown the capacity of the Student One-Stop
- Providing financing to students in a timely fashion is more difficult with reduced state and federal grant support
- Individual students require more attention than ever before.

Also, Federal aid for student grants may go into a "freeze mode". Support for students may have to come more and more from institutional funds or private sources.

MCC is moving in the direction of document imaging for student record storage, but has not yet purchased the equipment needed to implement it fully. Equipment and staff to run it could be located remotely.

Engaging facilities

Students are looking for engaging facilities – places to play and recreate. The PE building is fully scheduled, reducing opportunities for students to use the gym for recreational purposes. Staff indicated that many students have requested an expanded fitness center and time to use the gym.

Food service options

Students need more food service options. A food court, with franchise food options was mentioned as an option. Students are typically lined up at the Cyber Café to use the microwave ovens to heat lunches.

About 12-14 percent of MCC students come from the north Ottawa County area. Some stated that MCC should stake a claim to that area as Lake Michigan College, Grand Rapids Community College, and Grand Valley State University have done, perhaps by developing a relationship with the Tech Center in Grand Haven. To a lesser extent, a significant percentage of MCC students come from Newaygo County.

Housing

Regarding student housing, staff suggested that there may be several directions MCC could take: off-campus rental houses, off-campus apartment complexes, or on-campus housing. Currently, there seems to be a sense that, if MCC decided to develop student housing, it would start with renting some nearby off-campus apartments to see how it develops over time. Recruitment of international students would be impacted by the availability of student housing.

Downtown center

Regarding the possibility of a downtown campus location, there seemed to be consensus that an arts program, including visual and performing arts, could make sense there. This could be in strategic alliance with the Frauenthal Theater and other arts establishments. This would be aided by stronger, convenient transportation ties to downtown.

Universal design should be applied wherever possible to make more space and facilities accessible to the disabled.

Wayfinding

Wayfinding remains a consistent problem. Some suggested that it may be time to renumber every room. Several comments were made that new and prospective students often come to sign up, but do not know where to go – there needs to be electronic message boards and/or an information booth at the main south entrance with a real person to respond to questions, at least during the weeks leading up to the beginning of each semester and the first weeks of the new semester.

There is a need for a designated security office.

B. Enrollment

Muskegon Community College is currently enjoying high enrollment levels. Several factors appear to be contributing to this: 1) additional academic and athletic programming is creating increased interest in the College; 2) a poor national and state economy, with high unemployment and the need for workers to be retrained in a new field, enter the workforce for the first time, or seek advanced education to retain employment; and 3) the rising cost of higher education at 4-year institutions, which is having the impact of motivating a higher proportion of traditional high school graduates to seek lower tuition costs and housing costs by taking core coursework at MCC and transferring to another institution for advanced education after two years.

However, the ability to maintain high enrollment levels will be tempered by the declining enrollments in K-12 districts through Muskegon Community College's service area and Michigan in general, as well as another result of a poor economy – outmigration.

Sustained enrollment levels

The ability of MCC to attract students will rest on factors such as cost, quality, service, technology, student amenities, community relevance, consistent marketing and messaging, and effective recruitment. Also, the steady, incrementally small tuition increases over the years appear to have kept MCC extremely competitive relative to other community colleges in Michigan.

Population Projections

Developing physical facility plans for the future requires a look at the potential future enrollment at Muskegon Community College and overall population projections of the area.

The Regional Economic and Demographic Projections were developed by the West Michigan Shoreline Regional Development Commission and released in August, 2009, with the following overall population growth findings:

County	2000	2030	% Change
Lake	11,333	13,651	20.5%
Mason	28,274	31,258	10.6%
Muskegon	170,200	193,657	13.8%
Newaygo	47,874	59,421	24.1%
Oceana	26,873	34,827	29.6%
N. Ottawa	49,996	67,222	34.5%
Total	334,550	400,036	19.6%

A breakdown by the U.S. Census Bureau (2000 census data) for Michigan by age group predicts the following:

Age	2010	2020	2030
0-4 yrs	6.5%	6.4%	6.2%
5-17 yrs.	17.3%	16.8%	16.6%
18-24 yrs.	9.7%	8.5%	8.4%
25-44 yrs.	26.9%	26.7%	25.4%
45-64 yrs.	26.7%	25.6%	24.0%
65+ yrs.	12.9%	16.0%	19.4%
Total	100 %	100 %	100 %

4. Trends / Observations
(continued)

	2010	2020	2030
Median Age	37.4	38.6	40.2
Male	36.0	37.3	39.0
Female	38.8	39.9	41.4

This data tends to supports the continuation of the profile of the average MCC student as one in the 20-39 age group, looking to acquire additional job-training skills, pursue additional degrees or professional certification / licensure, and attending part-time.

This data also points out the gradual decline of the traditional high school graduate population. Increasing the market share of this population will require greater presence in the marketplace to attract these students.

Program growth potential

It also points out the tremendous growth of the aging "boomer" generation. The needs and desires of this age group represents an opportunity and potential incentive for MCC to develop and/or enhance post-graduate curriculum, community service curriculum, leisure-related curriculum, and fitness / wellness programs. In addition, the relative under-education of the general population in Muskegon and Michigan, compared to national statistics, provides an opportunity for growth:

Total Percentage of People (Age 25-34) with Bachelor Degree or Higher:

Muskegon County:	16.9 %
West Michigan:	25.9 %
State of Michigan:	27.3%
United States:	29.2%

C. Space Utilization

A fundamental goal of this master plan is to identify the need for remodeling or expansion of existing physical assets.

To assess the need for additional classroom and associated space, we reviewed class schedules for one-week time periods in three consecutive semesters. These were suggested as "typical" for each semester for analysis purposes:

. March 19-23, 2009
. October 19-23, 2009
. March 22-26, 2010

For each teaching space, we documented class hours scheduled for each space over the course of a typical week. In the campus plans which follow, composite classroom utilizations are identified. The utilization category for each is an average of the three weeks noted above. Each space was placed in one of the following categories:

0-9	hours of schedule class time per week
10-19	hours of schedule class time per week
20-29	hours of schedule class time per week
30-39	hours of schedule class time per week
40+	hours of schedule class time per week

The number of scheduled hours for the selected weeks in March and October, 2009 were almost identical, with a slight increase of 10 hours in October over March. However, the March, 2010 hours were about 11% higher than the typical weeks in 2009, indicating higher enrollments and additional course offerings.

4. Trends / Observations
(continued)

As a percentage of the weekly total, following are the daily averages:

	% of Weekly Total
Mondays	23.5%
Tuesdays	23.3%
Wednesdays	22.5%
Thursdays	21.4%
Fridays	9.3%
Total	100.0%

Daytime utilization versus nighttime utilization of spaces varied depending upon curriculum. In the Art Building, three of five studios were scheduled only for day courses. One was scheduled only in the evening. In the Bartels-Rode Gym Building, the Exercise / Wrestling room is scheduled only after 3 p.m., Monday through Thursday. In the main building, many spaces are scheduled in the day and night hours, but some are scheduled Monday through Wednesday only. However, some spaces are scheduled only during daytime hours and are unused at night.

Impact of technology

Access to technology appears to influence which spaces are utilized more. Rooms with "smart carts" were scheduled, on the average, 28% more often than spaces without "smart cart" capability.

Overall, there appear to be sufficient instructional spaces on campus to meet the needs of current and anticipated enrollment and course offerings. However, the location and configuration of teaching spaces, access to technology, and the condition of each space for 21st-century higher education creates the need to address infrastructure and bricks and mortar issues. Further, access to teaching spaces based on expanded hours of operation, the addition of teaching faculty, and flexible course schedules will decrease the pressure experienced by some faculty for specific courses, though this presents operational cost implications.

MCC Master Plan

Room Utilization

3/20/10

Room #	Room Name	3/19/09 M	3/20/09 T	3/21/09 W	3/22/09 Th	3/23/09 F	10/19/09 M	10/20/09 T	10/21/09 W	10/22/09 Th	10/23/09 F	3/22/10 M	3/23/10 T	3/24/10 W	3/25/10 Th	3/26/10 F	Total	Weekly Average
	Art Building																	
	Art Studio A	6.0		3.0			3.0	6.0	3.0			6.0	2.0	3.0			**32.0**	**10.7**
	Art Studio B	3.0		3.0								3.0	2.0	3.0			**14.0**	**4.7**
	Art Studio C		3.0		3.0		2.0	3.0	2.0	2.0	2.0		3.0		3.0		**23.0**	**7.7**
	Art Studio D	9.0	8.5	9.0	8.5		8.0	6.0	8.0	5.0	2.0	9.0	6.0	9.0	3.0	3.0	**94.0**	**31.3**
	Art Studio E						3.0		3.0				3.0				**9.0**	**3.0**
	Bartels-Rode Gym																	
701		6.0	5.5	4.0	6.0		9.0	4.0	2.0		2.0	7.0	9.0	7.0	8.0	2.0	**71.5**	**23.8**
702	Fitness Center																	
800	Exercise / Wrestling	4.0	2.0	2.0			4.0	4.0				4.0	2.0	2.0	2.0		**26.0**	**8.7**
904	Gym	6.0	4.0	2.0	4.0		4.0	8.0	2.0		2.0	6.0	4.0	2.0	4.0		**48.0**	**16.0**
905	Smart Cart																	
	Gym 2						2.0								13.0	14.0	**29.0**	**9.7**
	Gym 3														13.0	14.0	**27.0**	**9.0**
	Gymnasium	4.0	5.0	4.0	5.0	4.5	4.5	9.0	6.5	3.0	9.0	6.0	5.0	4.0	14.0	14.0	**97.5**	**32.5**
	Gymnasium 1						3.0			3.0					13.0	14.0	**33.0**	**11.0**
	Meijer Library																	
L163	Information							2.0	4.0	5.0	1.0				2.0		**14.0**	**4.7**
L167	Small Conference	3.5	9.0	1.5	7.0	3.5	4.0	2.5				5.0	2.0	2.0	2.0		**42.0**	**14.0**
L167-169	Smart Cart	3.5	9.0	1.5	7.0	3.5	4.0	2.5				5.0	2.0	2.0	2.0		**42.0**	**14.0**
L169	Medium Conference	3.5	9.0	1.5	7.0	3.5	4.0	2.5				5.0	2.0	2.0	2.0		**42.0**	**14.0**
L261	Computer Lab				2.0		6.0	7.0	8.0	9.0		8.0	12.0	7.0	11.0		**70.0**	**23.3**
L263	Computer Lab				2.0		6.0	7.0	8.0	9.0		8.0	12.0	6.0	11.0		**69.0**	**23.0**
L265	Information Center	15.5	15.5	15.5	15.5	9.0	14.5	14.5	14.5	14.5	9.0	14.5	14.5	14.5	14.5	9.0	**205.0**	**68.3**
L361	Computer Classroom	5.5	6.0	6.5	5.0		7.0	7.0	1.0	9.0	4.0	9.0	5.0	5.0	8.0	2.0	**80.0**	**26.7**

L363	Computer Classroom	10.0	9.0	9.0	6.5	2.0	8.0	10.0	6.0	3.0	4.0	7.0	9.0	5.5	5.5	6.0	**100.5**	**33.5**
	Library	15.5	15.5	15.5	15.5	9.0	14.5	14.5	14.5	14.5	9	14.5	14.5	14.5	14.5	9	**205.0**	**68.3**
	Main Building																	
131	Smart Cart	7.0	9.0	7.0	9.5		10.5	11.0	11.0	11.5	3.0	6.0	7.0	6.0	8.0	1.0	**107.5**	**35.8**
133	Phys / Eng. Lab	5.0	6.0	9.0	5.5		4.0	10.0	7.0	10.0	2.0	6.0	6.0	9.0	6.0		**85.5**	**28.5**
134	Testing Center																	
139	Smart Cart	8.0	6.0	5.5	4.0	2.0	8.0	7.5	6.0	6.0		7.0	7.0	7.0	4.0	1.0	**79.0**	**26.3**
141	Geol / Phys. Sci.		7.5		3.0			6.0		6.0		5.0	3.0	3.0	3.0		**36.5**	**12.2**
145	Chemistry Lab	4.5	3.0	4.5			4.0	6.0	6.0			6.0	3.0	3.0			**40.0**	**13.3**
146	English Writing	6.0	7.0	9.5	2.0		9.0	9.0	8.0	10.0		6.0	7.0	7.0	4.0		**84.5**	**28.2**
147		4.0	4.0	4.0	4.0		6.0	5.0	4.5	9.0	2.0	6.0	6.0	4.0	6.0		**64.5**	**21.5**
148	w/speakers	10.0	6.0	7.0	7.0	2.0	7.0	11.0	9.0	7.0	1.0	8.0	6.0	8.0	8.0	2.0	**99.0**	**33.0**
150		10.5	7.0	9.0	6.0		4.0	9.0	7.0	7.0		11.0	7.0	9.0	6.0		**92.5**	**30.8**
151	Chemistry Lab	1.5	3.0	4.5	4.0		6.0			4.0			3.0	6.0	4.0		**36.0**	**12.0**
152	Smart Cart	8.0	7.0	9.0	6.0		7.0	6.0	9.5	7.0		8.0	4.0	9.0	7.0		**87.5**	**29.2**
153		6.0	5.0	8.0	6.0	2.0	7.5	9.0	5.0	9.0	4.0	4.5	3.0	5.0	2.0	2.0	**78.0**	**26.0**
160	Radio Station	3.5	12.0	4.0	12.0		4.0	4.0	4.0	4.0	4.0				3.0		**54.5**	**18.2**
162	Computer Lab		7.0	5.5	7.0		6.0	11.0	7.0	12.0		6.0	10.0	4.0	10.0		**85.5**	**28.5**
202		8.0	8.5	9.5	8.5		9.0	8.0	8.0		4.0	11.0	11.0	7.0	7.0	5.0	**104.5**	**34.8**
202	Hallway	8.0															**8.0**	**2.7**
204	Hallway																	
207	Conference Room	9.0	2.0	2.0	2.0	3.0	2.0		4.0		4	2	2	6	3		**41.0**	**13.7**
230	Smart Cart	5.0	9.0	5.0	6.5		4.0	6.5	3.0	10.0	1.0	9.0	6.0	9.0	8.0	2.0	**84.0**	**28.0**
232	Smart Cart	9.5	7.0	9.5	5.0	5.5	9.0	7.0	6.0	10.0	4.0	6.0	6.0	10.0	6.0	3.0	**103.5**	**34.5**
233	Smart Cart	5.0	5.0	3.0	6.0		9.0	9.0	9.0	9.0		7.0	7.0	9.0	10.0		**88.0**	**29.3**
234		8.0	5.0	8.0	4.0	1.0	8.0	9.5	8.0	11.0		7.0	5.0	7.0	3.0	2.0	**86.5**	**28.8**
235	Repiratory Therapy	8.0	8.0	7.0	2.0		2.0	4.0	2.0	2.0		8.0	8.0	7.0	2.0		**60.0**	**20.0**
236	Smart Cart	3.0	7.0	6.0	7.0	1.0	9.0	5.0	8.0	7.0	3.0	4.0	7.0	6.0	7.0		**80.0**	**26.7**
237	Smart Cart	8.5	6.0	9.0	6.0		6.0	8.0	6.0	8.0		8.0	4.0	8.0	4.0		**81.5**	**27.2**
238		11.0	6.0	11.0	7.0		7.0	10.0	9.0	10.0		5.0	8.0	9.5	9.0		**102.5**	**34.2**

239	Smart Cart	8.0	6.0	4.0	6.0		7.0	5.0	7.0	2.0		7.0	9.0	6.0	10.0		**77.0**	**25.7**
240	Smart Cart	7.0	7.0	6.0	3.0		4.0	6.0	7.0	5.5		9.0	10.0	6.0	5.0		**75.5**	**25.2**
241	Smart Cart	5.0	5.0	4.0	5.0		6.5	2.0	7.0	2.0	3.0	4.0	4.0	7.0	3.5		**58.0**	**19.3**
244	CAD lab	6.0	3.0	6.0	3.0	4.5	9.0	6.0	10.0	6.0	5.0	6.0	9.0	6.0	9.0		**88.5**	**29.5**
244-1	CAD lab	9.0	6.0	9.0	6.0		4.0	6.0	3.0	6.0		9.0	9.0	9.0	9.0		**85.0**	**28.3**
244-2		4.0	5.5	7.0	3.5	1.0	3.0	4.5	1.0	4.0		5.0	4.0	4.5	3.5		**50.5**	**16.8**
245	Biology Lab	4.0	4.0	4.0	4.0		2.0	6.0	2.0	6.0	3.0	6.0	4.0	6.0	4.0		**55.0**	**18.3**
246	Smart Cart	7.0	6.0	7.0	6.5	4.0	4.5	6.5	2.0	8.5	1.0	7.5	7.0	11.0	5.0	4.0	**87.5**	**29.2**
247	Biology Lab	9.0	9.0	9.0	6.0	3.0		9.0	2.0	6.0		9.0	9.0	9.0	6.0	3.0	**89.0**	**29.7**
248	Smart Cart	6.0	9.0	6.0	9.0		10.0	9.0	6.0	10.0		8.0	6.0	8.5	6.5		**94.0**	**31.3**
249	Biology Supplements																	
253	Biology Lab	6.0	9.0	3.0	9.0		6.0	9.0	9.0	9.0		3.0	9.0	3.0	9.0		**84.0**	**28.0**
255	Biology Lab	2.0	6.0	2.0	6.0		6.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.5		**52.5**	**17.5**
260	OSE Lab	9.5	11.5	11.5	9.5	5.0	9.5	11.5	11.5	10.0	5.0	10.0	11.5	11.5	10.0	5.0	**142.5**	**47.5**
262	Dance Studio	6.0	8.5	7.5	10.5		4.0	7.0	2.0	4.0	1.0	7.0	5.5	8.0	4.0		**75.0**	**25.0**
305	Nursing Lab	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0		**136.0**	**45.3**
330	Smart Cart	8.0	7.0	7.0	7.0	3.0	7.0	7.0	8.0	7.0	3.0	9.0	8.0		7.0	3.0	**91.0**	**30.3**
331	Nursing Lab	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0		**136.0**	**45.3**
332		7.0	7.0	9.5	8.0		9.0	10.0	8.0	10.0		7.0	9.0		10		**94.5**	**31.5**
334	Smart Cart	7.0	6.0	3.0	6.0	2.0	11.5	7.0	10.5	7.0	3.0	8.0	7.0		7.0	2.0	**87.0**	**29.0**
335	Nursing Lab	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0		**136.0**	**45.3**
336		6.0	8.0	6.0	4.0		10.0	7.0	11.0	10.0		6.00	9.00		6.00		**83.0**	**27.7**
338	Smart Cart	5.0	8.0	5.0	9.0		7.0	8.0	7.0	9.0			7.00		4.00	1.00	**70.0**	**23.3**
339	Nursing Lab	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0		**136.0**	**45.3**
340	Smart Cart	6.0	8.0	6.0	5.0	3.0	9.0	8.0	5.5	2.0	4.0	8.0	7.0	7.0	2.0	2.0	**82.5**	**27.5**
341	Smart Cart	8.0	4.0	7.0	4.0		9.5	8.0	10.0	6.0	4.0	8.0	6.0	6.0	6.0		**86.5**	**28.8**
343		7.0	5.0	7.0	5.0		6.0	2.0	8.0	5.0	3.0	7.0	7.0	7.0	7.0		**76.0**	**25.3**
344	Smart Cart	5.5	8.0	7.0	8.5		8.5	11.5	10.5	7.0		6.0	9.0	9.0	5.0		**95.5**	**31.8**
345		8.0	10.0	9.0	11.0		8.0	7.0	7.0	5.0		11.0	8.0	10.0	8.0		**102.0**	**34.0**
346	Kids Care	1.5															**1.5**	**0.5**

348	Smart Cart	9.0	6.0	9.0	5.0	2.0	9.5	8.0	9.5	5.0	4.0	8.0	6.0	9.0	6.0		**96.0**	**32.0**
349	SIMS Room																	
350		7.0	8.0	7.0	8.0	2.0	8.0	8.0	8.0	8.0	3.0	7.0	7.0	7.0	7.0	2.0	**97.0**	**32.3**
351	Lecture Hall	7.5	9.0	6.0	6.0	6.0	9.0	5.5	9.0	4.0	3.0	8.0	9.0	6.0	4.0	3.0	**95.0**	**31.7**
353	SIMS Room																	
360	Band Room	2.0	6.0	2.0	5.5	2.0	2.0	5.5	2.0	6.0	2.0	3.0	5.5	3.0	5.0	3.0	**54.5**	**18.2**
362	Piano Lab	4.0	3.0	4.0	5.0	1.0	1.0	3.0	1.0	3.0	1.0	4.0	3.0	4.0	3.0	1.0	**41.0**	**13.7**
400LL	President's Conference		3.0	4.0					4.0						2.0	2.0	**15.0**	**5.0**
400Z	Board Room	4.0	1.0	5.0		2.0	6.0		2.0								**20.0**	**6.7**
	Bistro Hallway	6.0	4.0	3.0				5.0	4.0	5.0			6.0	3.0			**36.0**	**12.0**
	Blue & Gold Room			12.0	12.0	12.0	6.0				12.0	7.0		6.0	9.0	3.0	**79.0**	**26.3**
	Collegiate Hall	14.0	15.0	12.0	12.0	12.0			14.0		9.0			8.0		16.0	**112.0**	**37.3**
	Hallway 1 - Even																	
	Hallway 1 - Odd																	
	Main Lobby										4.0						**4.0**	**1.3**
	Nursing Hallway																	
	Orientation Computer	2.0	8.0	2.0	2.0		2.0	3.0	3.0	22.0		3.0	3.0	3.0	3.0		**56.0**	**18.7**
	Student Union			3.0	12.0					15.0	15.0			4.0			**49.0**	**16.3**
	Maintenance Building																	
	Apprentice Lab		12.0	8.5	8.5			11.5	8.5	8.5	8.5		11.5	8.5	8.5	8.5	**103.0**	**34.3**
	Maintenance											5.0	5.0	5.0	5.0		**20.0**	**6.7**
	Observatory																	
	Observatory																	
	Other																	
	Other	1.0	4.0	8.5	8.0	2.5	12.5	12.0	12.0	12.0	9.0	2.5			5.0		**89.0**	**29.7**

	Overbrook Theater																		
	Art Gallery	7.0	7.0	7.0	7.0	7.0	8.5	8.5	8.5	10.0	8.5	7.0	7.0	7.0	7.0	7.0	**114.0**	**38.0**
	Overbrook Theater	4.0	4.0	4.0	4.0	3.0	6.0	6.0	6.0	6.0	6.0			5.0			**54.0**	**18.0**
	Overbrook Theater	4.0	4.0	4.0	4.0	3.0						5.0		5.0			**29.0**	**9.7**
	Overbrook Theater																	
	Planetarium																	
	Planetarium	2.0	2.0	2.0	1.0			1.0		1.0	2.0	2.0	1.0		1.0		**15.0**	**5.0**
	Stevenson Center																	
1104							6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	**60.0**	**20.0**
1105	TV Studio			2.0										2.0			**4.0**	**1.3**
1108		3.0		3.0								3.0		3.0			**12.0**	**4.0**
1109	Center for Teleconf.																	
1110	Interactive Vic			3.5								5.0	2.0	5.0			**15.5**	**5.2**
1113							3.0		3.0								**6.0**	**2.0**
1114	Consortium																	
1115	Commercial	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	**84.0**	**28.0**
1117		2.0		2.0			3.0	3.0	3.0	3.0		4.0		4.0			**24.0**	**8.0**
1118		3.0	5.0	7.0	4.0	2.0	4.0	3.0	2.0			11.5		5.0			**46.5**	**15.5**
1131		6.0	6.0	9.0	6.0	2.0	5.0	6.0	5.0	9.0		6.0	9.0	9.0	9.0	2.0	**89.0**	**29.7**
1139	Graphic Arts	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	**90.0**	**30.0**
1200		14.0	9.5	9.5							6.0	14.0	14.0	9.5	3.0	14.0	**93.5**	**31.2**
1226		14.0	9.5	9.5							6.0	14.0	14.0	9.5	3.0	14.0	**93.5**	**31.2**
1202		14.0	9.5	9.5							6.0	14.0	14.0	9.5		14.0	**90.5**	**30.2**
1208		14.0	9.5	9.5							6.0	14.0	14.0	9.5		14.0	**90.5**	**30.2**
1204	Smart Cart	3.5	2.0	2.0	2.0	2.0	2.5		2.5	1.0		7.0	2.0	6.5		6.5	**39.5**	**13.2**
1206	Computer Classroom		2.0	2.0	3.0		6.5	7.0	7.0	4.0		5.0	6.0	7.0	2.0		**51.5**	**17.2**
1208	Smart Cart	14	9.5	9.5							6.0	14.0	14.0	9.5		14.0	**90.5**	**30.2**
1210	Computer Lab	4.5	3.0	2.0	4.5	7.0	2.5	3.0	9.0	8.0		6.0	5.0	5.0	2.0		**61.5**	**20.5**
1214	MCC Network	4	4.5	3.0	4.5		3.0	6.0		3.0		5.0	6.0	4.5	6.0		**49.5**	**16.5**
1216	Geography Lab	5.5	9.0	8.0	9.0		3.0	6.0	3.0	6.0		6.0	6.0	6.0	6.0		**73.5**	**24.5**

1218		14	14.0	14.0	14.0	14.0								2.5			**72.5**	**24.2**
1220																		
1222		5.5	2.0	5.5	5.5		2.0		2.0		14.0		3.5	6.5			**46.5**	**15.5**
1224			2.0								6.0						**8.0**	**2.7**
1226		14	9.5	9.5							6.0	14.0	14.0	9.5	3.0	14.0	**93.5**	**31.2**
1228			5.0				2.0	2.0	2.0	2.0	14.0	5.5	2.0	5.0			**39.5**	**13.2**
1300 Datatel		3	2.0	2.0				1.0		2.0	8.0			1.0			**19.0**	**6.3**
1302								6.0	7.0	3.0		2.0	5.5	5.5	5.5		**34.5**	**-11.5**
1304			6.0	2.0	3.5		4.0	5.0		4.0	1.0	5.0	3.0	5.0	7.0	1.0	**46.5**	**15.5**
1306		6	7.5	3.5	7.5		8.0	1.5	2.0	6.0		6.0	5.0	5.0	8.0		**66.0**	**22.0**
1308		2	2.0	3.0	3.0		2.0	3.0	4.0	1.0	1.0	2.0	7.5	2.0	5.0		**37.5**	**12.5**
1310		1	4.0	4.0	1.0		1.5		2.0			3.0	5.5	6.0	6.0	2.0	**36.0**	**12.0**
1312		6			3.0		10.0	3.5	2.0	5.5		8.0		7.0	3.0		**48.0**	**16.0**
1314		3	2.5	6.0	2.0	2.0	4.0	1.5	3.5	1.5		4.0	2.0	4.0	2.0	1.0	**39.0**	**13.0**
1316		2.5	3.0	2.5	3.0		3.0	3.0	6.0	6.5		2.0	4.0	3.0	7.0	4.0	**49.5**	**16.5**
1318			3.0		3.0	4.0	10.0	7.0	7.0	7.0		7.0	7.5	6.0	7.5	2.0	**71.0**	**23.7**
1320		1	5.0	1.5	5.5		3.0	4.5	3.0	5.0		6.0	2.0	3.0	2.0		**41.5**	**13.8**
1322		4	4.5	7.0	4.5		2.5	2.0	2.5	4.0		2.0			4.0		**37.0**	**12.3**
1324			2.5	3.5	3.5		7.5	3.5	4.0	5.0		7.0	5.0	3.5	2.0		**47.0**	**15.7**
1326		3	3.0	3.0	4.5		4.0	8.0	6.0	6.0		3.0	2.0	1.0	1.0		**44.5**	**14.8**
1328		2		2.5			4.0	2.0	7.0	4.0	2.0	4.0	8.0	4.0	8.5		**48.0**	**16.0**
1330		7.5		5.5			6.0	5.0	3.5	1.5		5.0	9.0	5.0	10.0		**58.0**	**19.3**
1332		6		2.0	8.0		5.5	6.0	5.5	6.0		8.0	3.5	5.0	6.0		**61.5**	**20.5**
	Community Foundation	7.5		3.0	1.0		1.5		2.5			10.0		5.0			**30.5**	**10.2**
	SC - Hallway -1																	
	Stevenson Center																	
	Stevenson Center										6.0						**6.0**	**2.0**

	Stevenson Center																	
	Stevenson Center	6	5.5	1.0	1.0			2.0				2.0	2.0	5.0			**24.5**	**8.2**
	University Room	14	9.5	9.5							6.0	14.0	14.0	9.5	3.0	14.0	**93.5**	**31.2**
	Technical Wing																	
501	Lecture Hall	6	6.0	4.0			9.0	3.0	3.0	4.0	1.0	6.0	4.0		4.0		**50.0**	**16.7**
502	MFG / Robotics	3.0	3.0	6.0	3.0		3.0	4.5	3.0	4.5		7.0	8.0	10.0	8.0		**63.0**	**21.0**
503	Cast Metal Lab	2.5	4.5	3.0	4.5		4.5	2.5	5.0	3.0			8.0		6.0		**43.5**	**14.5**
504	Machine Technology	8.0	6.0	9.0	6.0		10.5	6.0	10.0	6.0		9.0	9.0	8.0	10.0		**97.5**	**32.5**
505	Welding Technology	5.5	8.5	6.0	8.5		5.5	11.5	5.5	11.5		6.0	11.5	6.0	12.0	6.0	**104.0**	**34.7**
506	Machine Technology	2.5	2.0	3.0	2.0		7.5	5.0	7.5	6.0		6.0	2.0	6.0	2.0		**51.5**	**17.2**
507								3.0		3.0		6.0	11.5	6.0	12.0	6.0	**47.5**	**15.8**
508	Smart Cart						7.5	3.0	7.5	3.0		9.0	9.0	9.0	9.0		**57.0**	**19.0**
509	Automotive	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	7.0	9.0	9.0	9.0	9.0	7.0	**131.0**	**43.7**
510	Storage																	
511	Smart Cart											9.0	9.0	9.0	9.0	7.0	**43.0**	**14.3**
512		13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	14.0	13.5	13.5	13.5	13.5	**203.5**	**67.8**
514	ELTC / ELTR	5.0	2.0	2.0	6.0	2.0	5.0	4.0	7.0	4.0	2.0	4.0	2.0	5.0	5.0	2.0	**57.0**	**19.0**
516	Electronics / Electricity		4.0	4.0	7.0		4.0	4.0	2.0	4.0		4.0		7.0	4.0		**44.0**	**14.7**
	TOTAL	**799.5**	**798.5**	**783.0**	**696.5**	**235.0**	**740.0**	**752.5**	**715.0**	**736.5**	**378.0**	**880.5**	**848.5**	**825.0**	**771.0**	**346.5**	**10306.0**	**3435.3**

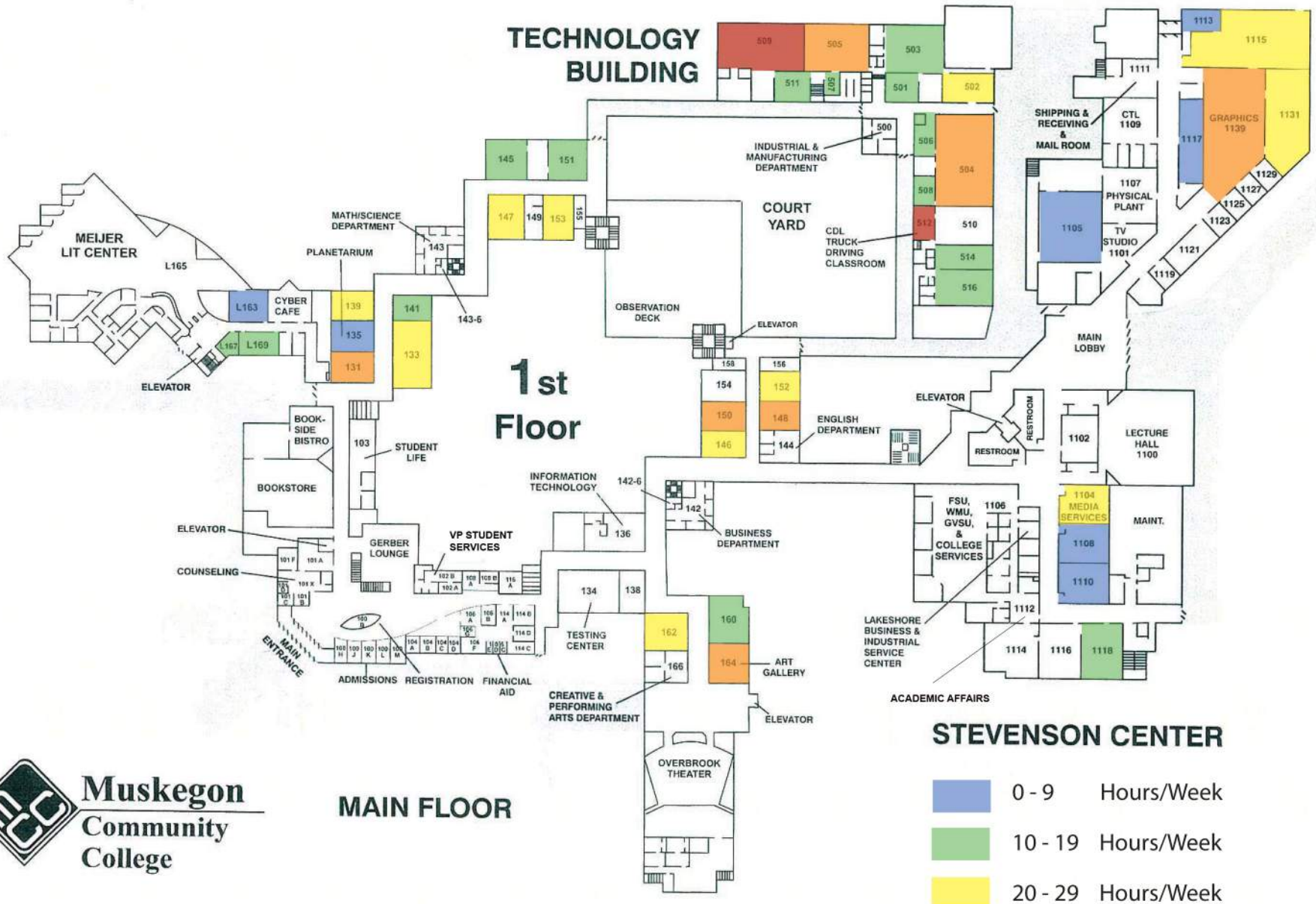
Room	Room Description	In Use
Art Building		
STA	Art Studio A *Ceramics, Sculpture, Drawing*	Day
STB	Art Studio B *Ceramics*	Night
STC	Art Studio C *Art*	Day
STD	Art Studio D *Drawing, Painting*	Day / Night
STE	Art Studio E *Drawing*	Day
Bartels-Rode Gymnasium		
701	701 *PE & Health*	Day / Night
702	702 Fitness Center	
800	800 Exercise/Wrestling Room *PE*	Day / Night
801	HPER Office	
803		(not in EMS)
804		(not in EMS)
805	Athletic Office	
901		(not in EMS)
902	Athletic Training Room	
903		(not in EMS)
904	904 Gym *PE, Health, Competitive sports*	Day / Night
905	905	
Gym	Gymnasium	
	Men's Locker Room	(not in EMS)
	Men's Team Room	(not in EMS)
	Women's Locker Room	(not in EMS)
	Women's Team Room	(not in EMS)
Meijer Library		
L163	L163 Information Literacy Program Lab	
L165	Library	
L167	L167 Small Conference Rm	
L167-L169	L167-L169 Combined Conference Room	
L169	L169 Medium Conference Room	
L261	L261 Computer Lab *English, Bus. Comm., Math*	Day
L261-L263	L261 and L263 Combined Computer Lab	
L263	L263 Computer Lab *Bus. Comm.*	Day
L265	L265 Information Commons	
L361	L361 Computer Classroom *CIS, English*	Day / Night
L363	L363 Computer Classroom *Math, Tutoring, CIS*	Day / Night
Main Building		
116	Orientation Computer Lab	
131	131 *Math, Astronomy, Business*	Day / Night
133 PHYS Lab	133 Phys/Eng Lab *Physics, Physical Science*	Day
134	134 Testing Center	
139	139 *Math, Business*	Day / Night
141	141 Geol/Phys.Sci. Lab *Geology*	Day
145	145 Chemistry Laboratory *Chemistry*	Day / Night
146	146 English Writing Lab *English*	Day / Night

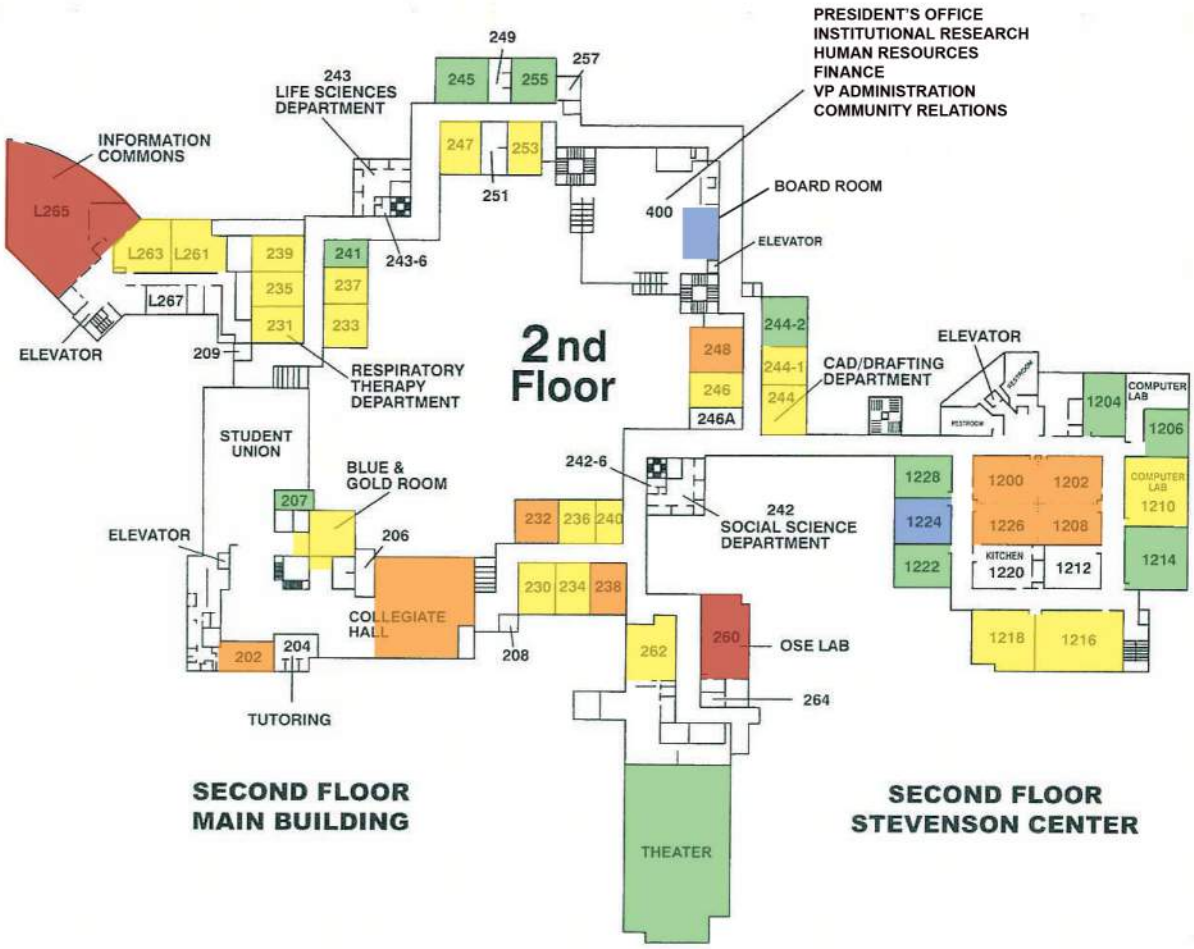
147	147 *Chemistry, Math, Business*	Day / Night
148	148 *English, Humanities*	Day / Night
150	150 *English, Communications*	Day / Night
151 Chem Lab	151 Chem Lab *Chemistry*	Day / Night
152	152 *English, Communications*	Day / Night
153	153 *Chemistry, Math, English*	Day / Night
160 Radio	160 Radio Station	
162 Computer Lab	162 Computer Lab/Classroom *English*	Day / Night
202	202 *English, Math, Tutoring*	Day / Night
207 Conf Room	207 Conference Room	
230	230 *English, CAD, History, Anthro., Humanities, Commun.*	Day / Night
232	232 *Social Science, Fire, Business*	Day / Night
233	233 *Math, Biology, Spanish, Philosophy*	Day / Night
234	234 *History, Philosophy, German, Fire*	Day / Night
235 RT Lab/Class	235 Respiratory Therapy Lab *Respiratory Therapy*	Day
236	236 *Hist., Chem., Psych., Hum., Bus., Crim. Justice*	Day / Night
237	237 *Spanish, Math*	Day / Night
238	238 *Psychology, Philosophy*	Day / Night
239	239 *Spanish, Biology, Allied Health*	Day / Night
240	240 *Economics, Criminal Justice, Business*	Day / Night
241	241 *Biology, Math, Spanish*	Day / Night
244	244 CAD Lab *CAD*	Day / Night
244-1	244-1 CAD Lab *CAD*	Day / Night
244-2	244-2 *English*	Day / Night
245	245 Biology Lab *Biology*	Day / Night
246	246 *English, History, Math*	Day / Night
247 BIOL Lab	247 Biology Lab *Biology*	Day / Night
248	248 *Biology, Business, English, CAD, Psychology*	Day / Night
249	249 Biology Supplemental Tutoring	
253	253 Biology Lab *Biology*	Day / Night
255	255 Biology Lab *Biology*	Day / Night
260 OSE Lab	260 OSE Lab *Open Lab*	Day / Night
262	262 Dance Studio *Dance, PE*	Day / Night
305 NUR Lab	305 Nursing Lab *Nursing*	Day
330	330 *Business, English, Math, Fire*	Day / Night
331 NUR Lab	331 Nursing Lab *Nursing*	Day
332	332 *English, Political Science*	Day / Night
334	334 *Business, Psychology*	Day / Night
335 NUR Lab	335 Nursing Lab *Nursing*	Day
336	336 *Business, Math, Philosophy*	Day / Night
338	338 *Philosophy, English, Psychology*	Day / Night
339 NUR Lab	339 Nursing Lab *Nursing*	Day
340	340 *Math, CIS, Psychology*	Day / Night
341	341 *Math*	Day / Night
343	343 *Math, English*	Day / Night
344	344 *Math, Humanities, Education*	Day / Night
345	345 *Math*	Day / Night
346	346 Kids Care *Nursing*	Day
348	348 *Health Ed., Education, Math*	Day / Night

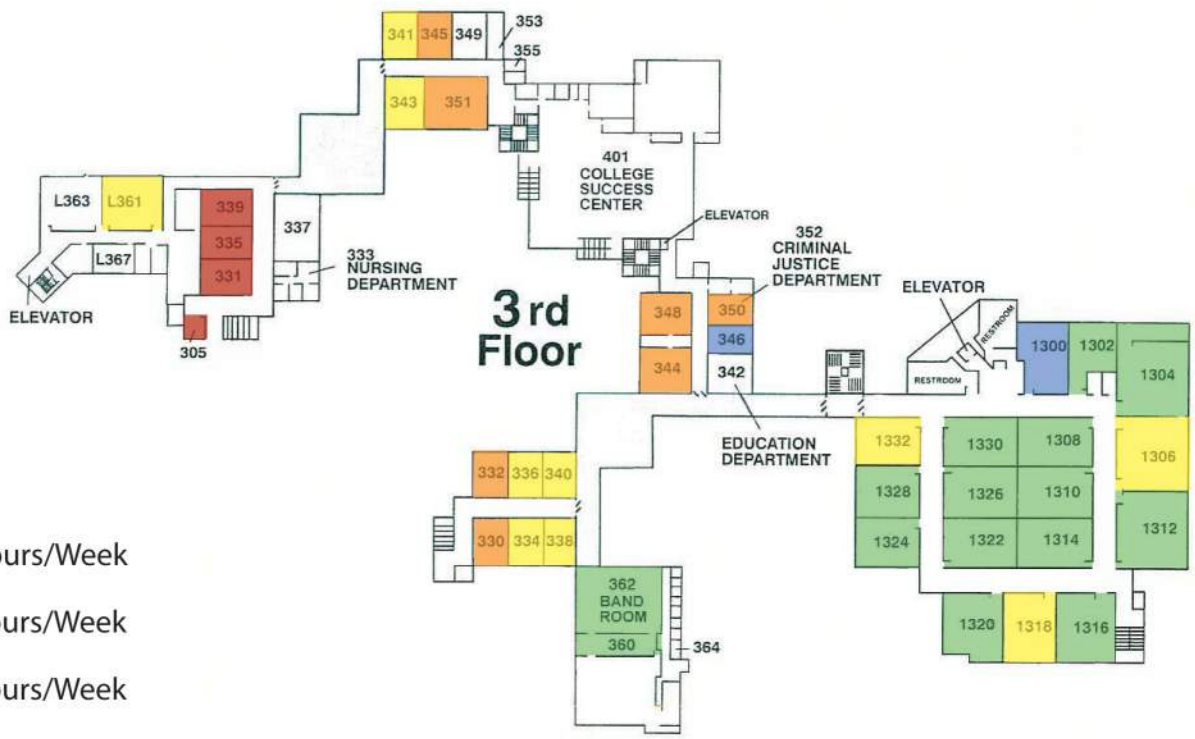
349 SIMS	349 - SIMS Room	
350	350 *Criminal Justice*	Day / Night
351	351 Lecture Hall *Nursing, English, Biol., Chem., Comm.*	Day / Night
353 SIMS	353 - SIMS Room	
360	360 Band Room *Music, Humanities*	Day
362	362 Piano Laboratory *Music*	Day
400ll	400ll - President's Conference Room	
400z	400z - Board Room	
B & G	Blue & Gold Room	
Collegiate Hall	Collegiate Hall	
Main Lobby	Main Lobby	
Nursing Hallway	Nursing Hallway	
Student Union	Student Union	
Maintenance Building		
Apprentice Lab	Apprentice Lab	
Maintenance	Maintenance	
Observatory		
Observatory	Observatory	
Outdoor Areas		
Courtyard	MCC Courtyard	
Herb Garden	Herb Garden	
Library Roof	Library Roof and Courtyard	
Natural Area	Kasey Hartz Natural Area	
S C Lawn-Creek	Stevenson Center Lawn-Creek	
Overbrook Theater		
Art Gallery	Art Gallery *Exhibits*	Day
OBT	Overbrook Theater *Rehearsals*	Day / Night
OBT Lobby	Overbrook Theater Lobby	
OBT Scene Shop	Overbrook Theater Scene Shop	
Planetarium		
Planetarium 135	Carr-Fles Planetarium	
Stevenson Center		
1100	Community Foundation Room 1100	
1101	TV Studio	(not in EMS)
1102		
1104	1104 - CTC Classroom	
1105 - TV Studio	1105 - TV Studio	
1106	Higher Ed Offices	
1107	Physical Plant Offices	
1108	1108 *Graphics*	Day / Night
1109	1109 - Center for Teaching and Learning	
1110	1110-Interactive Video	
1111	Shipping & Receiving	

1112	Academic Affairs Offices	
1113	1113 *Graphics*	Day / Night
1114	1114 Consortium Partners Instructors Offices	
1115 CTC	1115 Commercial Art	
1116	WMU office (Dr. Meade) & Higher Ed Partners' Computers	
1117	1117 *Graphics*	Day / Night
1118	1118	
1119		(not in EMS)
1121		(not in EMS)
1123		(not in EMS)
1125		(not in EMS)
1129		(not in EMS)
1131	1131	
1139 CTC	1139 Graphic Arts & Printing	
1200	1200	
1200 Complex	University Room	
1200-1226	1200-1226	
1202	1202	
1202-1208	1202-1208	
1204	1204 *Biology, Nursing, Business*	Day
1206 Computer	1206 Computer Class/Lab *English, Bus. Comm.*	Day
1208	1208	
1210	1210 Computer Lab *CIS, Bus. Comm.*	Day / Night
1212	Adjuct Faculty Offices	
1214	1214 MCC Networking Lab *CIS*	Day / Night
1216 GEO Lab	1216 Geography Lab *Geography*	Day / Night
1218	1218	
1220 Kitchen	1220 Stevenson Center Kitchen	
1222	1222 *Math*	Day
1224	1224	
1226	1226	
1228	1228	
1300-Datatel	1300-Datatel	
1302	1302 *Communications*	Day
1304	1304 *PE, Business, Biology*	Day
1306	1306 *Nursing, Criminal Justice*	Day / Night
1308	1308 *English, Communications, PE*	Day / Night
1310	1310 *Math, English, Philosophy*	Day
1312	1312 *Nursing, Math, Business, Biology*	Day / Night
1314	1314 *Humanities, Math*	Day / Night
1316	1316 *Education, Nursing*	Day
1318	1318 *Math, Nursing, Philosophy*	Day / Night
1320	1320 *Philosophy, Math, Education*	Day / Night
1322	1322 *Math, English*	Day / Night
1324	1324 *English, Education, Math*	Day / Night
1326	1326 *English*	Day
1328	1328 *English, Math, Psychology*	Day
1330	1330 *Philosophy, Education, Math*	Day / Night
1332	1332 *English, Education, Math*	Day / Night

Stevenson - 1106	Stevenson Conference Room 1106	
Stevenson Lobby	Stevenson Center Lobby	
Technical Wing		
500	Indust. & Manu. Offices	
501	501 Lecture Hall *Electronics, Electricity*	Day / Night
502	502 MFG/Robotics/MET *AMT*	Day / Night
503	503 Cast Metal Lab (Foundry) *Metals*	Day / Night
504	504 Machine Technology Lab *Machine Technology*	Day / Night
505	505 Welding Technology *Welding*	Day / Night
506	506 Machine Technology *Machine Technology*	Day / Night
507	507 *Welding*	Day / Night
508	508 *Machine Technology*	Day / Night
509	509 Automotive *Automotive Technology*	Day / Night
510	510 - Tech Classes	
511	511 *Automotive Technology*	Day / Night
512	512	
514	514 ELTC/ ELTR Lab w/Computers	Day / Night
516 Elect Lab	516 Electronics/Electricity Lab *Electronics, Electricity*	Day / Night
University Golf Course		
UPG	University Golf Course	


TECHNOLOGY BUILDING
MEIJER LIT CENTER
L165
L163
CYBER CAFE
L167
L169
ELEVATOR
PLANETARIUM
MATH/SCIENCE DEPARTMENT
143
143-6
145
151
147
149
153
155
139
135
131
141
133
COURT YARD
OBSERVATION DECK
INDUSTRIAL & MANUFACTURING DEPARTMENT
500
509
505
503
511
507
501
502
506
508
504
512
510
514
516
CDL TRUCK DRIVING CLASSROOM
ELEVATOR
1st Floor
158
154
150
146
156
152
148
144
ENGLISH DEPARTMENT
SHIPPING & RECEIVING & MAIL ROOM
CTL 1109
1111
1113
1115
1117
GRAPHICS 1139
1131
1129
1127
1125
1123
1121
1119
1107 PHYSICAL PLANT
1105
TV STUDIO 1101
MAIN LOBBY
ELEVATOR
RESTROOM
RESTROOM
1102
LECTURE HALL 1100
BOOK-SIDE BISTRO
BOOKSTORE
103
STUDENT LIFE
INFORMATION TECHNOLOGY
142-6
142
136
BUSINESS DEPARTMENT
FSU, WMU, GVSU, & COLLEGE SERVICES
1106
1104 MEDIA SERVICES
MAINT.
1108
1110
1112
1114
1116
1118
LAKESHORE BUSINESS & INDUSTRIAL SERVICE CENTER
ACADEMIC AFFAIRS
ELEVATOR
COUNSELING
GERBER LOUNGE
VP STUDENT SERVICES
134
138
TESTING CENTER
162
166
160
164
ART GALLERY
ELEVATOR
CREATIVE & PERFORMING ARTS DEPARTMENT
OVERBROOK THEATER
MAIN ENTRANCE
ADMISSIONS
REGISTRATION
FINANCIAL AID
Muskegon Community College
MAIN FLOOR
STEVENSON CENTER
0 - 9 Hours/Week
10 - 19 Hours/Week
20 - 29 Hours/Week
30 - 39 Hours/Week
40 + Hours/Week





0 - 9 Hours/Week

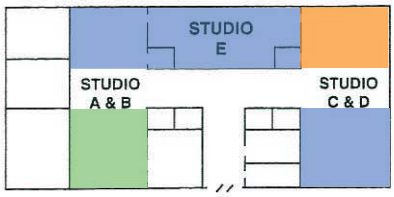
10 - 19 Hours/Week

20 - 29 Hours/Week

30 - 39 Hours/Week

40 + Hours/Week

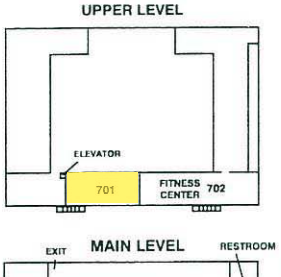
ART BUILDING

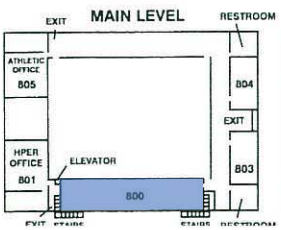


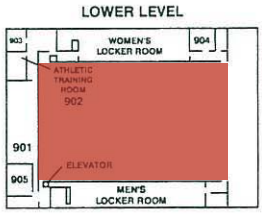
Located north of technology building

	0 - 9	Hours/Week
	10 - 19	Hours/Week
	20 - 29	Hours/Week
	30 - 39	Hours/Week
	40 +	Hours/Week

GYMNASIUM







Located south of main building

5. Assessment of Existing Conditions

Overview

The assessment of the existing condition of the sites and facilities at MCC is an important step in understanding the challenges and opportunities for future change. This baseline knowledge, when combined with instructional programming goals, enrollment goals, and space utilization goals provides a solid foundation for creating an effective and meaningful master plan.

For Muskegon Community College, the facilities were assessed on a range of criteria and given an overall score. The individual facility assessment tools are included in the Appendix to this master plan. Following is a narrative discussion of the observations and comments related to individual existing MCC facilities:

Campus Site
- Open Space
- Athletic Fields
- University Park Golf Course
- Kasey Hartz Nature Trail

Main Academic Building
Bartels-Rode Gymnasium
Technology Building
Frauenthal Foundation Arts Center
Arts Building
James L. Stevenson Center for Higher Education
Hendrik Meijer Library Information Technology Center

In general, the campus-wide quality and condition of the original structures is good, due primarily to good maintenance and consistent attention over time. Interior remodeling projects in the past ten years have made selected spaces better equipped to meet the needs and expectations of modern higher education curricula and campus life experiences. The addition of the Hendrik Meijer Library Information Technology Center in 2006 not only brought new levels of media and technology access to students, but created a convenient location for student interaction.

However, not all spaces and building systems at MCC have been improved, and some existing spaces and facilities are unchanged or only modestly changed from four decades ago. This affects all students, faculty and staff. While some issues are being addressed under ongoing maintenance budgets (i.e., roof replacement, technology upgrades, etc.), others appear in this master plan as priorities for the future.

From the 2000 MCC Master Plan:

> *"Students have more choices for higher education programs and locations. Students are willing to travel greater distances to reach specific programs designed to meet career goals. Students look for cost-effectiveness, service, quality curriculum, and convenience in selecting colleges. Technology has changed the way education is delivered, accessed, and received. In a real way, higher education institutions are in a constant process of re-creating themselves to remain relevant, vital, and competitive."*

The same is true today. Making higher education more accessible, more affordable, more convenient, and more relevant are core priorities. In addition, reaching MCC's goals as a community leader, the college of choice and an economic driver for the region are important to consider as future priorities are defined and implemented.

5. Assessment of Existing Conditions
(continued)

Campus Site

The original 111-acre campus (not including the University Park Golf Course) is bounded on the west by Harvey Street and US 31; on the north by Stebbins Road; on the east by Quarterline Road; and on the south by Marquette Avenue. Recently, the 6+ acres of land occupied by the Intermediate School District Career Tech Center was deeded to the ISD and is no longer owned by MCC. Also, there are several houses on the south side of Stebbins Road that are not owned by MCC. There is no direct access from US 31 to the College at Marquette Avenue or Harvey Street.

The campus site is comprised of wooded uplands cut east to west by a ravine, where Four Mile Creek flows. The northern and western portions of the campus are wooded with tall trees creating a deep woods environment. The southern and central portion of the site is mainly open land with scattered trees, lawns, sports fields and paved surfaces. A dense stand of trees on the southeast corner of the site adds to a sense of enclosure and screening from the roads surrounding it.

The campus site, as well as the orientation of the original buildings on campus, reflect a longstanding core value for the College to promote and maintain a close relationship with the natural environment. The building is carefully constructed to span Four Mile Creek and to complement its woodland surroundings. Views to the enclosed courtyard in the center of campus provide a natural reference from virtually anywhere in the main building. This sensitivity to the natural site contributes to Muskegon Community College as an outstanding and unique educational environment both within and beyond the classroom.

Athletic fields and physical education facilities are located south and west of the **Bartels-Rode Gymnasium**, comprised primarily of a competition baseball field, a competition softball field, archery range, and six tennis courts.

The nine-hole **University Park Golf Course** is located east of Quarterline Road (at 2100 Marquette) and includes a clubhouse building and a maintenance building. The course is bisected east/west by Four Mile Creek, and the land is gently rolling and is covered with scattered trees.

West of the Main Academic Building is the **Kasey Hartz Nature Trail**, including a trail-head gathering area and a winding natural trail through the woodlands and creek areas. The trail is not easily visible or noted with signage in high use areas of campus and therefore may go unseen by many visitors. Barrier-free access is limited.

Southwest of and adjacent to the main campus is a developed single-family residential area. South of Marquette Avenue, Baker College occupies the majority of land, along with higher density apartment-style housing.

The land north of the College is owned by Muskegon Township and includes a solid-waste landfill. Concept plans for a West Michigan Regional Public Safety Training Center have been developed, though the project remains unfunded to date.

Existing Vehicular Circulation

The primary access to the site is from the Marquette Avenue entrance. Two secondary entrances are located on Quarterline Road, one on the south side of the creek, and one on the north side. The main academic building is hidden from easy view from both Marquette and Quarterline due to natural foliage cover.

These entrances serve two large primary parking lots. The primary south lot is located south of the main academic building and may be entered from Marquette Avenue or from Quarterline Road. The primary north lot is located north of the Stevenson Center, and is entered from Quarterline Road. Additional parking lots are located south and west of the Bartels-Rode Gymnasium, near the Marquette Avenue entrance.

Four Mile Creek and its surrounding ravine create a natural barrier to internal road circulation. Maintenance equipment must use Quarterline Road for access from the Maintenance Building to the golf course and the south campus area.

From a site perspective, stormwater drains directly into Four Mile Creek, including drainage from roof areas, parking lots, and walks. This complies with current codes and regulations for the existing building. However, future buildings and expansions of existing buildings will require retention of stormwater before it is released into Four Mile Creek.

Existing Pedestrian Circulation

Primary pedestrian traffic occurs between the main south parking lot and the main academic building. Pedestrians must cross the main road circulation pattern to reach the building. Once crossed, there are paved walks leading to building access points, and some seating is available. Visibility is relatively clear for both pedestrians and vehicles.

From the north parking lot, pedestrian movement is simple and safe. Walks pass through landscaped areas and offer seating opportunities and access to quiet areas.

Pedestrian access to the central courtyard (streamside) is limited. An accessible, Outdoor Learning Center has been installed above the administration offices, and this area provides seating and opportunities for gathering for groups in a quiet setting.

Existing Utilities to MCC Campus:
Sanitary Sewer
Primary Electric Service
Telephone
Natural Gas
Storm Sewer

In general, public utilities serving the campus are adequate for today's needs as well as anticipated future growth and expansion. A sanitary sewer line runs east/west through the campus along the valley floor. Major feeds for electric, telephone, and natural gas come off Quarterline Road north of Four Mile Creek and enter the north end of the main building. Storm water for the large, central parking lots discharges into the creek along the edge of the slopes. Future improvements or expansion to the storm water system should include an improved filtration network to control sediment and other pollutants such as salt and oils from discharging directly into the creek.

Recommendations:

1. Preservation and stewardship of natural environment should remain guiding priorities for all changes, expansion and development within the campus.

2. Exterior signage enhancement was largely implemented under the 2000 Master Plan. However, additional enhancement of the Marquette / Quarterline intersection signage is recommended in terms of a more developed landscaping backdrop to each sign, particularly at the University Park Golf Course.

3. Development of stormwater retention and filtered discharge system to improve the quality of Four Mile Creek.

4. Campus safety and security are increasingly important to the sense of well-being for students, faculty, staff, and community members. Additional exterior security cameras will enhance this sense of well-being.

5. Reserve land for potential future on-site student housing. While the implementation of housing may be questioned, it is prudent to identify and reserve property at this time for possible use in the future.

6. Create building additions, not stand-alone buildings in order to conserve the natural landscape, provide greater energy efficiency, and enhance the connections among stakeholders in the MCC community.

Following are two campus site plans. The first displays existing site features. The second displays site improvement opportunities, as well as recommended locations for future additions to existing buildings.

Main Academic Building

The Main Academic Building opened in 1967 and is the centerpiece of the MCC campus. As the primary location for most academic and administrative services on campus, it occupies three floors and features an outdoor courtyard in the center of the building, with Four Mile Creek flowing under the building and through the courtyard.

As in virtually all MCC facilities, this building is a steel-frame structure, with brick exterior. It has a standing-seam metal mansard roof element that unites every component of the first floor of the building. Interior corridors feature brick walls, and at corridor corners, large expanses of single-pane glass provide a visual connection to the outdoors, often to the creek flowing under the building. This element of an interior courtyard visible from many places on campus is common to several community colleges in Michigan designed by Alden B. Dow, who had a special affinity for the integration of architecture and nature.

One of the most unique features of the building is the system for numbering rooms. Entering the building, the rooms are numbered in the 100's, with even numbered rooms on the right side of the building and odd rooms numbered on the left. At the next level down, rooms are numbered in the 200's. The bottom level is below this, with rooms numbered in the 300's. Rooms in the former library complex are numbered in the 400's. Four-digit room numbers are reserved for the Stevenson Center for Higher Education, with the numbering strategy similar to the Main Academic Building.

Room numbering

This interior numbering system has been a source of interest and frustration from the beginning, and MCC has tried a number of ways to make the system more intuitive and simple, with limited success. In the previous master plan, the recommendation for improved exterior signage and wayfinding was implemented with successful results. While improvements are still being made, the

exterior system is greatly improved. Recommendations for improving interior wayfinding were not implemented, primarily due to the anticipated high cost. They are recommended again in this master plan.

Improvements since 2000

It should be noted that several important improvements have been made at the Main Academic Building since the 2000 Master Plan:

. Development of the new Hendrik Meijer Library, Information Technology Center. The relocation of the main library functions at MCC allowed the former library to be repurposed for more effective use.

. Development of the former library as the new administration center, the new Board of Trustees Board Room and for a rejuvenated Student Success Center. In addition, the installation of a new barrier-free elevator has made the building more accessible to all, and a recently-installed rooftop garden has given the former library new purpose and functionality, as well as making a statement about environmental stewardship and MCC's commitment to sustainable design.

. Redevelopment of the main lobby and first-floor entrance area, including Gerber Lounge, for a Student One-Stop, where students can do all functions related to registration, counseling, academic advising, financial aid, etc, in one convenient location. Student Organizations are also now located in a more visible and welcoming location on the first floor. This remodeled area is highlighted by natural light, transparency and ready access to technology.

. Remodeling of the Student Union, including revised food service and access to technology, has energized this area. In general, the introduction of a variety of food venues has had a positive impact throughout campus.

5. Assessment of Existing Conditions
(continued)

Assessment

The Main Academic Building totaled a composite score between the "satisfactory" and "borderline" categories of the assessment instrument. While the building is generally in satisfactory condition, and has been maintained well, there are several reasons for the lower composite score.

Structurally, the building scored lower due to the poor condition of the existing roof. The College is currently engaged in a program that will result in the replacement of the roof of the entire Academic Building and Frauenthal Fine Arts Center, so the recommendation for a new roof is not included in this master plan.

The building envelope scored low because of the poor insulative quality of the existing roof, walls and glass areas, in addition to the condition of the existing exterior doors and frames. Many of these elements are original or in excess of twenty years old.

Interior finishes scored in the "satisfactory" range overall, but in significant locations of the Main Academic Building, finishes and casework are original and need upgrading, particularly within teaching spaces and office spaces. The Carr-Fles Planetarium requires total replacement of all equipment, fixtures, and finishes to achieve relevance into the future.

Regarding life safety and security, the building scored in the "poor" category, due primarily to the lack of these features in the building:

- Fire sprinkler system throughout the building
- Card access control system throughout the building
- Comprehensive security system throughout the building

It should be noted that MCC has stepped up security surveillance recently through the use of an outsourced security service, whose presence has had a positive impact on campus.

The mechanical system of the Main Academic Building is in satisfactory condition, due to recent improvements in the HVAC system related to the Administration and Student Success Center, as well as in replaced unit ventilator units in some rooms. But problems still persist that go beyond maintenance issues:

- Domestic hot water recirculation through the building
- Outdoor air intake odor and humidity control
- High humidity in third floor classrooms and corridors
- Heating and cooling control throughout the building.

Electrically, the building ranked in "borderline" condition, due to the following:

- Condition of the electrical service and capacity of the distribution and branch panels
- Lack of comprehensive lighting controls to meet the energy code
- Lack of emergency lighting in non-renovated areas
- Lack of emergency power generation capacity

Recommendations

1. MCC should implement a comprehensive interior wayfinding and signage program, capitalizing on the principals identified and implemented for site signage in the previous master plan, as well as lessons learned for interior wayfinding since then. The program should be flexible and should account for space changes and expansions in the future.

2. Security improvements, including card access and security camera enhancement will increase the sense of personal well-being and safety on campus.

3. HVAC improvements are required in the main academic building for better control of air quality and heating / cooling of the building.

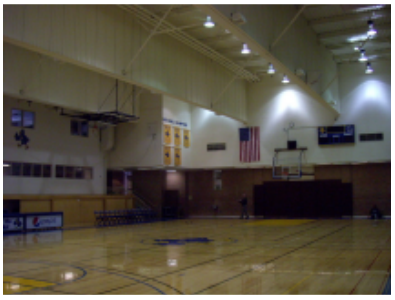
4. The domestic hot water recirculation system throughout the building should be renovated to provide on-demand hot water where needed.

5. MCC should renovate the planetarium, including replacement of all existing technical equipment with state-of-the-art digital systems, as well as replacement of all seating and enhancement of patron amenities.

6. Remodel selected teaching spaces and faculty offices to enhance comfort, privacy, contemporary work patterns, and increasing numbers of adjunct faculty members.

Bartels-Rode Gymnasium

The Bartels-Rode Gymnasium opened in 1967 and is a separate building from the Main Academic Building. It is located south of the main parking lot. In addition to housing a large, multipurpose gymnasium, this building also houses the physical education and athletic offices, a fitness center and several teaching stations. Six outdoor tennis courts are located west of the building. Outdoor volleyball courts are east of the gymnasium. The competition baseball and softball fields, as well as the archery range are located south of the gymnasium.



The building is a steel-frame structure, with brick exterior, matching that of the Main Academic Building. Originally, the entrance to the gymnasium was designed to be on axis with the entrance to the Main Academic Building, connected by a broad pedestrian tree-lined walk that exists today. However, when built, the building was re-oriented to its current configuration, with the main lobby facing east, rather than to the north.

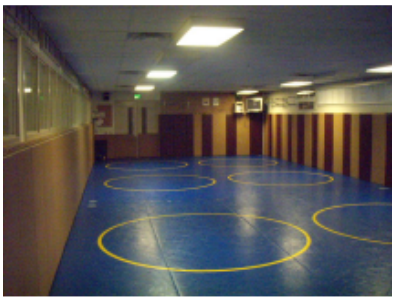
As in the 2000 master plan, the Bartels- Rode Gymnasium is the most heavily utilized facility at MCC in terms of hours of usage. It is a major resource for students, faculty and the community.

Assessment

Overall, the building scored in the "borderline" category of the assessment.

The site for this facility scored well on the assessment instrument. The condition of the outdoor fields is good, though there are signs of deterioration beginning to show in the condition of the dugouts. The archery range should be lengthened to meet instructional requirements, and the tennis courts all display significant cracking of the playing surfaces.

Because the entrance faces east, the building's exterior does not have an easily-identified entry and is beginning to reflect its age in terms of its condition and overall curb appeal.



Structurally, the condition of the roof is poor and is planned for replacement as part of the program involving the Main Academic Building. Also, the condition of some interior and exterior walls caused the facility to be in the "borderline" category.

The Building envelope scored in the "poor" category due to similar reasons to the Main Academic Building: poor roof insulation, poor wall insulation, poor quality of exterior windows, and the condition of exterior doors and frames. In addition, there is little natural light that penetrates this building.

While the building has been maintained well, many of the interior finishes are original, or have been only modestly addressed over the years. All finishes and the condition of equipment, etc. put the building's interior in the "borderline" category, although new bleachers are planned for the gym.

The original fire alarm panel still exists, with a new panel installed in 1997. The entire fire alarm system is currently being upgraded. There is no fire sprinkler system in the building and there is a lack of security cameras.

Consistent with other assessment categories, the mechanical system scored as "borderline". Although the boilers and water heaters are new, the gym has original air-handling units that are noisy. The controls are a hybrid of DDC and pneumatic. The rooftop units serving the wrestling and exercise areas are short on cooling and should be replaced.

Similarly, the electrical system scored in the "borderline" category. Although a new PA system was installed within the last four years, and lighting controls are being updated as part of another project, egress lighting meets code only in renovated areas.

5. Assessment of Existing Conditions *(continued)*

Recommendations

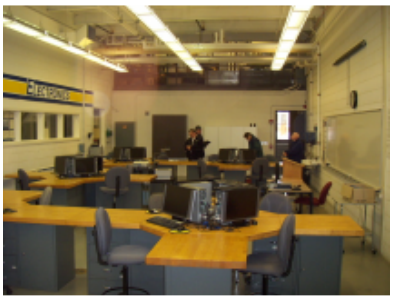
1. Renovate existing outdoor tennis courts.

2. Expand the outdoor archery range.

3. Renovate the existing Bartels-Rode Gymnasium building, including new selected HVAC and electrical equipment, improved lighting, improved finishes and renovated locker facilities.

4. Expand the existing building by providing the following spaces:
   - New non-competition gymnasium or recreation area
   - New locker rooms
   - New training room
   - Five office spaces
   - Three instructional classroom spaces
   - New fitness center for student use
   - Climbing wall
   - Indoor and outdoor storage for equipment
   - Laundry facility
   - New common lobby uniting the existing building with the new addition.

Technology Building



The Technology Building was the first building to open on the new MCC campus in 1966. It largely serves the same functions today as originally designed – the teaching and training of vocations requiring large bay spaces for equipment and circulation – automotive machinery, welding, materials science, etc.

It is a steel-frame structure, with brick exterior. It has a standing-seam metal mansard roof element, similar to the Main Academic Building.

Assessment

The site of the Technology Building is generally satisfactory, except for the size of the outdoor parking and circulation facilities on the west, which are limited. Vehicular circulation from the north parking lot to the Technology Building divides east and west at the boiler room that is the primary heating source for the campus.

The building has a "satisfactory" exterior rating. Brickwork at the parapet level of the boiler room is showing moisture penetration and spalling, however.

Accessibility to the building is satisfactory, as is the condition of the structure though the roof is planned to be replaced as part of the maintenance program. Similarly, the building envelope lacks insulation and upgraded exterior glass and exterior doors and frames.

Inside the building, the interior is in good condition, with high marks in every category except the condition of equipment, casework, some teaching surfaces and selected flooring surfaces.

The category of life safety and security received a "poor" score, due primarily to the lack of a fire sprinkler system in the building, and the lack of a comprehensive security system.

The assessment of the mechanical system is "satisfactory". The campus boilers are located in this building, and the water-cooled chiller serves the Technology Building and the Stevenson Center for Higher Education. There is a need for a quieter mechanical system for instructional spaces.

Because of the lack of adequate emergency lighting, and lack of emergency generator capability, the electrical system received a "borderline" score.

Recommendations

1. Renovate the existing building to enhance its energy efficiency, including new selected electrical systems.

2. Renovate selected instructional spaces with new finishes and equipment.

Frauenthal Foundation Fine Arts Center

The Frauenthal Foundation Fine Arts Center opened in 1967 and includes the 344-seat Overbrook Theater and adjacent art gallery, where works by students, faculty and guest artists are exhibited. The center also includes a rehearsal room for band, orchestra, and chorus, practice rooms, a dance studio, and a piano lab.

Assessment

From a site perspective, the Frauenthal site is satisfactory in its existing condition, though it lacks parking for theater staff and delivery vehicles. The sculpture court adjacent to the entrance appears neglected and little used.

The building exterior is "borderline", with a need for more prominent signage, an enhanced entrance, and overall curb appeal. Similarly, the facility is "borderline" in terms of accessibility.

The structural condition is "borderline", due primarily to the condition of the existing roof, which is scheduled for replacement.

The building envelope lacks the insulative quality expressed in all the other original buildings on campus, and as a result, received a "poor" score.

Interior finishes received a "satisfactory" assessment, though improvements should be made to doors, hardware, casework, and general finish condition, including the refurbishment of auditorium seating and auditorium space finishes.

Life safety and security was assessed at a "borderline" level, due primarily to lack of comprehensive security systems.

The mechanical system received a "borderline" assessment, due in large part to the need to replace the original air-handling units, as well as ongoing problems with the hot-water recirculation system.

The electrical system received a "poor" assessment, for several reasons: condition of the electrical service and distribution panels, the level of emergency lighting, the lack of lighting controls to meet the energy code, the lack of emergency power, condition of theater-related equipment, and full connectivity to MCC technology resources.

Recommendations:

1. Renovate the existing Frauenthal Theater, including refurbished seating, finishes, lighting, electrical service, mechanical systems, technology connectivity, and systems related to theater production, rigging, acoustical control, and sound booth equipment.

2. Expand the "back of house" spaces of the Frauenthal Theater, including expanded scene shop, costume storage, dressing rooms, and prop storage.

3. Renovate the music instruction area, including new finishes and lighting in rehearsal spaces, and enhanced instruction in the piano lab.

James L. Stevenson Center for Higher Education

The James L. Stevenson Center for Higher Education was opened in 1995 and contains 93,500 square feet over three floors. It is the home to a partnership between Muskegon Community College and Western Michigan University, Grand Valley State University, and Ferris State University. The center contains 40 classrooms / conference rooms including a computer classroom and laboratory, a large conference room and a science room.

A catering kitchen on the second level accommodates food service needs for banquets, meetings, conferences, and receptions.

Each teaching space is equipped with advanced technology capability. The MCC graphics design department, media services department, and the television studio are also housed in the Stevenson Center.

Consistent with the other construction on campus, the building is a steel-frame structure, with a brick and stucco exterior.

Assessment

As this is a newer facility at MCC, the overall rating was "satisfactory" for the Stevenson Center. With respect to the site and the building exterior, the facility rated "satisfactory" with no glaring deficiencies, considering a building that is now 15 years old.

In terms of accessibility and the structural condition of the building, the facility rated an "excellent" score. It should be noted, however, that the life span of the roof at the Stevenson Center is nearing its end and should be planned for replacement in the next several years.

The building envelope rated a "satisfactory", because of its insulative value, and because of the amount of daylighting available to interior rooms at the lower levels.

Due primarily to lack of a comprehensive security system in the building, the facility received a "borderline" rating for life safety and security.

The mechanical system is "satisfactory", citing the graphics lab exhaust system as deficient. The electrical system is rated "borderline", due to lack of adequate lighting controls to meet the energy code, and the lack of emergency power available to the building.

Recommendations

1. Renovate the mechanical system in the graphics area, and make improvements to the electrical system in terms of lighting controls and emergency power.

2. Provide an enhanced security system throughout the building.

3. Plan for replacement of the existing roof.

Hendrik Meijer Library Information Technology Center

The Meijer Library Center opened in 2006 and contains 42,000 square feet of space and it provides instructional materials and information services to support the curricula offered by MCC. Internet is available on the main floor and on the second floor information commons. The current book collection exceeds 60,000 volumes. Other resources include magazines, newspapers, videocassettes, and CD's.

Assessment

As you would expect for a building this young, it scored well, posting an overall rating of "excellent".

The building is highly accessible, and its structural condition is excellent, as is the building envelope and the interior finishes.

The life safety and security rating ranked only "borderline", due to the lack of security systems in place. The electrical system is "satisfactory" because of the lack of emergency power capability.

Recommendations

1. Add emergency power capacity to the building

2. Enhance the security system.

Stebbins Road

Muskegon Area Career Tech Center

Truck Driver Training

Parking

Art

Maint.

Steep Slopes

Steep Slopes

Wooded Area

Four Mile Creek

Nature TrailHead

Steep Slopes

Tech

Ship. & Rec.

Green Roof

Stevenson Center

Theater

Wetland

Library

Main South

Sign At US 31

Northbound US 31

Harvey Street

Residential Neighborhood

Wooded Area

Parking

Parking

Parking

Gym

Archery and Batting Cages

Existing Asphalt Path

Wooded Area

Tennis Courts

Parking

Parking

Baseball Field

Softball Field

Parking

Entrance/ Exit

Path Along Marquette Ave.

Existing Residence

Marquette Avenue

Campus Signs

South Quarterline Road

University Park Golf Course

Four Mile Creek

Steep Slopes

Driving Range

University Park Golf Course Clubhouse

Parking

Golf Maintenance Building

Muskegon Community College: Master Plan

Muskegon, Michigan

Existing Site Conditions

16 August 2010

0 100 200 300 400

TowerPinkster Making it real

OCBA O'BOYLE COWELL BLALOCK & Associates, Inc.

Stebbins Road

Muskegon Area Career Tech Center

Developable Area, Typ.

A

Enhance Landscape Screening of Parking

Truck Driver Training

No Permanent Separation Between Truck Driver Training and Parking

Art

Maint.

Parking

Steep Slopes

Wooded Area

Steep Slopes

Four Mile Creek

Maintain Natural Area

Nature Trailhead Expand Trail System

B

Steep Slopes

Tech

Ship & Rec.

C

Roof Garden

Stevenson Center

Theater

Wetland

Library

Main South

D

E

Excellent "Green Facade": Maintain to Separate Buildings From Parking

Parking

Strong Axis: Maintain/Enhance

Parking

Parking

Gym

F

Wooded Area Blocks Visual Access- Improve Visual Access from Southwest

Tennis Courts

Tennis Courts in Poor Condition

Parking

Parking

Baseball Field

Softball Field

Improve Visual Access as Entering from South

Entrance/ Exit

Existing Residence

Marquette Avenue

Sign At US 31

Northbound US 31

Harvey Street

Residential Neighborhood

Wooded Area

South Quarterline Road

Landscape Material/ Debris Storage- Not Screened

University Park Golf Course

Four Mile Creek

Turf Mowed to Edge of Creek- Causes Erosion and Poor Water Quality

Steep Slopes

Driving Range

University Park Golf Course Clubhouse

G

Parking

Golf Maintenance Building

Scale: 1"=100'

Muskegon Community College Master Plan

Muskegon, Michigan

Site Analysis

16 August 2010

0 100 200 300 400

TowerPinkster Making it real

OCBA O'BOYLE COWELL BLALOCK & Associates, Inc.

6. Master Plan

Overview

The Master Plan combines the vision of Muskegon Community College with the input of stakeholders and the assessment of existing facilities and sites to identify opportunities to maximize physical assets. The Master Plan supports the College's Strategic Plan by offering tangible facility recommendations that give structure and direction for the future development of MCC.

The Master Plan also organizes new, expanded, and renovated facilities and site projects together in a single vision for the future. This assures that any single project will be implemented within an integrated framework that anticipates infrastructure needed to support the project.

The plans that follow illustrate existing facilities, followed by a description of recommended projects. More detailed individual project descriptions are keyed to the site plan. Section 7 includes the cost summaries for each project. Section 8 describes the implementation strategy to achieve these projects.

Proposed Projects

A. Site

Projects related to the existing MCC campus should retain MCC's core value of stewardship and enhancement of the natural environment. All projects affecting the site and individual buildings should complement the natural environment, enhance its quality, utilize the existing terrain, and take advantage of existing available infrastructure.

Following are individual site-related projects recommended for MCC:

1. Enhanced signage at the northeast corner of Marquette and Quarterline, including substantial landscaping backdrop. Improved visibility of campus buildings through existing stands of trees.

2. Definition of a clear campus edge through additional landscaping materials at southwest corner of Quarterline and Stebbins

3. Identification of a future site for potential student housing. In anticipation of potential future housing or other use, MCC should purchase, as they become available, existing residential properties along Stebbins Road to consolidate this property.

4. Expanded archery range

5. Enhanced campus safety and security

6. Renovation of existing tennis courts

B. Buildings

Based upon the facility assessments and stakeholder input for future MCC needs, following is a description of recommended projects. For all projects and building improvements, MCC plans to demonstrate its commitment to environmental stewardship by emphasizing sustainability and recycling efforts in the planning, design, construction and operation phases.

It is worth stating here that, although not part of a specific project, addressing deferred maintenance issues is an important ongoing activity at MCC. With buildings dating back to 1965, it is important to maintain this ongoing effort. Each year MCC budgets for various improvements across campus and the expectation is that the College will continue to fund the repair and replacement of existing systems as necessary to sustain proper function and to avoid exponential costs in the future.

Examples of deferred maintenance items are:

- HVAC system upgrades
- Roof replacement / repairs
- Insulation / carpet replacement
- Window / door replacement
- Landscaping
- Furniture / equipment replacement
- Golf course repairs / upgrades
- Parking lot resurfacing

A list of specific projects budgeted by MCC for Fiscal Year 2009 / 2010 from the Renovation, Repair, and Replacement Fund can be found in the Appendix of this document.

1. Bartels-Rode Gymnasium Expansion

The Bartels-Rode Gymnasium is perhaps the most heavily utilized facility on campus, in terms of hours of use. It is a major resource for students, faculty and the community. However, the development of PE and health-related programming, as well as the growing roster of competitive sports teams has largely removed the possibility for students or community members to use the facilities for recreational or personal wellness purposes. Existing facilities are already too small to handle existing staff needs, instructional needs, and appropriate student-athlete needs. The growing MCC enrollment only exacerbates this problem, as more students require PE credits and desire choices for recreational, intramural, and wellness programming.

The proposed expansion includes approximately 27,000 SF of new space, as well as renovation of the existing 17,500 SF facility.

The expanded area would include a new recreational floor area (competitive sports would continue to be played in the original gym.), locker rooms for men and women, a training room, offices for staff and coaches, three studio classrooms for instruction, a new fitness center, a climbing wall, a larger lobby space, a laundry facility, separate storage for indoor and outdoor activity equipment, toilet rooms, and appropriate mechanical, electrical, and custodial space. The entire expansion is visioned on one floor level with universal accessibility.

This facility could also become an extension of the existing student union in the main academic building by offering space for student organizations and limited food service options.

2. Science Expansion and Renovation

The biology and chemistry disciplines are core to a number of academic programs at MCC, including all Health Sciences. The demand for these courses is strong and consistent. Additional lab capacity would allow the potential to increase class offerings.

The current biology and chemistry labs are located in space built in 1967. Some modifications have been made over the years, but the original configuration, finishes, and infrastructure are largely intact.

The proposed project meets the needs of these programs by renovating approximately 20,000 SF of existing lab and classroom space into larger, technology-rich instructional spaces. The proposed project also adds about 21,000 SF of new space for six new labs, including prep space, and six new instructional classrooms, sized not only for science instruction, but with the capacity to accommodate larger classes in other MCC programs. This new space will allow expansion of course offerings, and will create space to meet national standards for ongoing accreditation. They will also offer MCC the opportunity to expand partnerships and learning opportunities with the Intermediate School District and Muskegon's local chemical industry.

This project also includes the renovation and upgrading of the Carr-Fles Planetarium, which has served the College and the greater Muskegon area since 1972. This facility is used for instruction at MCC, and is also provided free of charge to the general public and local school systems. The entire system, however, is outdated and is based on antiquated technology. This project will upgrade the facility to a digital planetarium instrument with coordinating digital sound. In addition to the new

equipment, the project will include new theater seating, new finishes, and mechanical and electrical upgrades.

3. Frauenthal Fine Arts Center Expansion and Renovation for Art, Music, and Media Education

For some time, the Visual Arts Department has been located in a pre-engineered metal building, approximately 60 ft x 140 ft., near the maintenance building and remote from the main campus buildings. Inside are two floor levels: the main level houses five studio spaces for drawing, painting, and ceramics classes as well as continuing education coursework offerings. The second level is not accessible to the handicapped, so it is not used by students. The space is used largely for temporary storage of artwork.

There is no area in the existing building for art exhibition or for classroom instruction opportunities. All ceiling heights are over 20 ft. in the studio spaces, resulting in inadequate lighting and inefficient heating and cooling. Due to extreme temperatures in the building, long-term art storage is not possible.

The proposed project would relocate the art department to a new addition, approximately 26,000 SF on the south side of the Frauenthal Fine Arts Center. This direct connection to the main campus, with maximum visibility from primary parking offers a bold new public image and underscores MCC's commitment to the arts.

The new addition would include five art studios, three instructional classrooms, offices for faculty, an exhibition gallery for display of artwork, as well as support spaces such as kiln room, glaze room, and storage for bulk materials.

This addition would also include an expanded scene shop and dressing rooms at the Overbrook Theater. The existing Overbrook Theater would be renovated, as would the band and music area of the building as part of this overall project.

4. New University Park Golf Course Clubhouse

The nine-hole University Park Golf Course is a unique asset for MCC. It is one of two public courses within the city limits of Muskegon. Students, faculty and community members teach, learn and recreate here regularly.

Each year the course is funded by MCC for improvements and the quality of the course has steadily risen. In addition MCC is considering leveraging the value of the course by offering golf management programs, turf management curricula in partnership with Michigan State University, and general use by the Muskegon community.

The existing clubhouse is small and lacks the amenities for instructional or public use. This project includes a new clubhouse of 3,000 SF to include a pro shop, instructional teaching space, storage space, barrier-free toilet facilities, and parking lot improvements.

The existing storage building at University Park would remain as is under this project.

5. Downtown Muskegon Campus

As part of its new strategic direction, MCC wants to strengthen its mission and position as an economic development engine for the greater Muskegon area. With new development appearing throughout Muskegon's downtown area, MCC is seriously considering a formal presence there. With the opportunity to relocate the visual art department on the main campus to new quarters, this project includes a new building of about 35,000 SF, to be built on a site within the downtown core or within walking distance of the downtown core. This campus would relate well to the art community, the museum community and the theater community already existing in downtown Muskegon, and it would offer students unique opportunities to study and explore art that would not be available on the main campus.

The project would include the same spaces proposed with the art department expansion on the main campus, plus four additional instructional classroom, offices for administrators, and a computer lab. The budget proposed in this master plan assumes new construction on a site already owned by MCC. However, the spaces could be developed within an existing building, assuming it met the criteria of size, location and access to public transportation. A separate budget anticipates this scenario.

Section 7 contains two project cost estimates for a new downtown center: one is for new construction on property already owned by the College. The other assumes the repurposing / adaptive reuse of an existing downtown Muskegon building. In the case of repurposing an existing building, many variables play a role in developing a project cost, i.e., condition of the existing building envelope, suitability of the structure for educational settings, remediation of hazardous materials, potential for adaptability and flexibility, expansion potential, zoning or historic restrictions, proximity to utilities, and costs of bringing the existing building up to current educational and building code compliance.

This project would represent a major departure from the consolidated campus at Marquette and Quarterline, but it would set a new direction of outreach and community engagement for MCC.

Implementing this project is not without drawbacks:

a. The sense of separation of students and faculty from the rest of the MCC community would be formalized with this downtown location. This could be seen by some as "exciting pioneering spirit", and by others as "exile".

b. Many students who take art courses also take other MCC courses. The ability of students to travel to and from downtown to the main campus could be problematic. For this reason, several general classrooms are envisioned as part of the downtown campus, in order for some courses to be offered to conveniently supplement the art programs.

c. Also, it is important that students be supported by a reliable public transportation system between main campus and downtown. The Muskegon Area Transit System (MATS) currently offers three hourly daytime routes connecting downtown with MCC (Apple #1, Apple #2, and Getty-Wood), as well as two hourly nighttime routes available up to 10:28 p.m. (Apple #2 and Getty-Wood). The selected site for the downtown campus should be located on one of these two downtown routes that offer both daytime and nighttime transportation opportunities.

d. The operational cost of a new facility remote from the main campus would increase, both in terms of utility costs and staffing costs.

6. Infrastructure Improvements

a. New Emergency Generator

b. HVAC Improvements
- Back-up cooling for IT Center
- Integrate existing four chillers into one piping loop to serve existing and future additions without adding cooling capacity
- Domestic hot water circulation
- Humidity control

c. Electrical Improvements
- Electrical distribution system

7. Technology

As in the 2000 Master Plan, technology plays a more central role in delivering, receiving, creating and researching knowledge than ever before. Technology is:

- *An integral part of the curriculum*
- *A necessity in the administration of the college*
- *A marketing tool to attract customers in a competitive environment*
- *A significant expense, in terms of both initial purchase, as well as long term costs of software, repair and replacement of hardware, and support staff.*

MCC has made advances over the past decade to create and sustain a robust technology capacity. The purpose for this project recommendation is to identify costs related to technology improvements that would not otherwise be included in the specific projects mentioned above.

a. Replace student-use computers within a four-year life cycle.

b. Expand bandwidth capacity to support streaming video across all curricula.

c. Create a remote data center location for the protection and security of data.

d. Connect all areas of campus, including remote locations, to campus-wide network.

e. Make every instructional space a “smart” room.

f. Expand the digital limits for students.

g. Create a new student ID card system that coordinates with the College's security system.

h. Enhance the security system, including additional camera locations, across campus.

i. Provide digital messaging boards / kiosks throughout campus.

j. Establish a web portal to improve internal and external communications.

8. Wayfinding and Signage

From the 2000 Master Plan, wayfinding recommendations for exterior signs have been successfully implemented. However, recommendations for interior wayfinding have not, owing primarily to the high quantity, quality, and cost of the recommended signage.

The process of developing this 2010 Master Plan included much commentary by faculty, staff and students about the confusion of the existing room numbering system. Commonly, building floors are numbered from the bottom to top, but MCC numbers its floors from top to bottom, which can be very disorienting to first-time visitors. Equally unusual is the room numbering methodology, with even numbers on the east side of the building and odd numbers on the west. This can lead to further confusion. Universally, the request for a new room numbering scheme was near the top of all lists of campus-wide issues to be resolved.

One method to resolve the numbering system would be to start over with a new numbering system throughout campus. However, in addition to the need for new signs, there would be a large institutional cost in time and capital to convert its computer systems, records, publications, electronic communications, etc. to a new numbering system.

Another method, and the one proposed in this plan, is to revisit and update the recommendations from the 2000 Master Plan, including new font and logo designs, and develop and fund a plan of implementation across campus. This will require staff time to develop and implement such a plan, but it will result in the most comprehensive and cost-effective solution to the orientation and wayfinding issues at MCC.

Vegetation Buffer to Define
North Campus Edge

Stebbins Road

Future
Campus
Housing
Site

Art

Maint.

Vegetation Buffer
Between Parking
and Truck Driver
Training

Steep
Slopes

Tech

Science
Expansion

Stevenson
Center

Steep
Slopes

Steep
Slopes

South Quarterline Road

Library

Main
South

New Pedestrian
Connection from
Marquette

Frauenthal
Fine Arts
Center
Expansion

Proposed
Service
Drive

Proposed
Retaining
Wall

Tennis Court
Improvements

Gym

Gym
Expansion

Relocated
Archery Range
and Batting
Cages

New Golf
Clubhouse

New Pedestrian
Connection from
Marquette

Improved Entrance
Gateway

Marquette Avenue

New Pedestrian Connection
to Golf Clubhouse

0 100 200 300 400

Composite Site Plan

TowerPinkster
Making it Real

Muskegon Community College: Master Plan
Muskegon, Michigan

16 August 2010

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7. Cost Summaries

For each MCC building and projected project, the following pages contain cost information related to the specific recommendations identified in Section 2. The first spreadsheet summarizes the construction costs and project costs for each building, as well as the overall campus site. Costs are based upon prevailing wages anticipating capital outlay funding.

The **Construction Cost** is the cost one would expect to receive when soliciting competitive bids for construction from general contractors or construction managers. It includes the cost of materials, and labor to install the materials, as well as a reasonable factor for contractor overhead and profit.

The **Project Cost** includes the Construction Cost and other costs required to complete the project for use by the College. These include budgets for professional design fees and reimbursable expenses, plan review fees, material and construction testing services, movable furniture, movable equipment, technology systems, and a contingency. For planning by MCC, the Project Costs should be used.

Cost Summary - All Projects

Muskegon Community College

May 3, 2010

Project	Priority	Construction Cost	Project Cost
Arts Addition		$ 5,554,416	$ 7,387,323
MCC Downtown Center		$ 5,959,520	$ 7,924,102
Science Wing Addition		$ 6,723,360	$ 8,936,221
Bartels-Rode Gymnasium		$ 6,185,760	$ 8,176,449
MCC Miscellaneous Projects		$ 2,307,200	$ 2,883,560
TOTAL		$ 26,730,256	$ 35,307,655

Arts Addition

Muskegon Community College Master Plan

May 3, 2010

Description	Area (SF)	$/SF	Budget ($)	Total for Item ($)
Construction Costs				$4,959,300
Building Additions:				
Arts Studios (5)	7,500	$ 165	$1,237,500	
Classrooms (3)	3,000	$ 140	$420,000	
Kiln Room	400	$ 180	$72,000	
Glaze Room	240	$ 160	$38,400	
Storage	2,000	$ 120	$240,000	
Offices	1,000	$ 130	$130,000	
Gallery	1,200	$ 130	$156,000	
Mechanical	2,000	$ 120	$240,000	
Electrical	400	$ 120	$48,000	
Scene Shop	2,000	$ 120	$240,000	
Toilets	1,200	$ 200	$240,000	
Circulation	5,200	$ 130	$676,000	
	26,140	**$ 143**		
Site Development	26,140	$ 10	$261,400	
Building Renovations:				
Existing Band / Music	6,000	$ 80	$480,000	
Existing Overbrook Theater	6,000	$ 80	$480,000	
	12,000	**$80**		
Contractor G.C.'s and O.H.&P. (12%):				$595,116
*Escalation (0%)**				
Construction Total for the Arts Addition:				***$5,554,416***
A/E Fees (8%)				$488,789
Reimbursable Expenses				$39,103
Local Agency Plan Review				$2,500
Testing and Inspection Services (by Owner)				$25,000
Furniture, Fixtures, and Equipment (by Owner @ 5%)				$277,721
Technology Equipment (by Owner @ 8%)				$444,353
Contingency (10%)				$555,442
Project Total for Arts Addition				**$7,387,323**

*Escalation has been included in the unit prices for bidding in 2011. If bidding beyond 2011additional escalation will need to be added. Costs are based on prevailing wage anticipating Capital Outlay Program funding.

MCC Downtown Center - New Construction

Muskegon Community College Master Plan

May 3, 2010

Description	Area (SF)	$/SF	Budget ($)	Total for Item ($)
Construction Costs				$5,321,000
New Construction				
Arts Center (see separate budget)	19,000	$ 145	$2,755,000	
Administrative Offices	2,000	$ 130	$260,000	
Classrooms (4)	4,000	$ 140	$560,000	
Computer Lab	1,200	$ 140	$168,000	
Toilets	1,200	$ 200	$240,000	
Circulation	7,600	$ 130	$988,000	
	35,000	**$ 142**		
Site Development**	35,000	$ 10	$350,000	
Contractor G.C.'s and O.H.&P. (12%):				$638,520
*Escalation (0%)**				
Construction Total for the Downtown Center:				***$5,959,520***
A/E Fees (8%)				$524,438
Reimbursable Expenses				$41,955
Local Agency Plan Review				$2,500
Testing and Inspection Services (by Owner)				$25,000
Furniture, Fixtures, and Equipment (by Owner @ 5%)				$297,976
Technology Equipment (by Owner @ 8%)				$476,762
Escalation to 2011(3%)				
Contingency (10%)				$595,952
***Project Total for Downtown Center **				**$7,924,102**

*Escalation has been included in the unit prices for bidding in 2011. If bidding beyond 2011additional escalation will need to be added. Costs are based on prevailing wage anticipating Capital Outlay Program funding.

**Does not include land purchase. Site development is an allowance.

MCC Downtown Center - Existing Building

Muskegon Community College Master Plan

May 3, 2010

Description	Area (SF)	$/SF	Budget ($)	Total for Item ($)
Construction Costs				$4,066,000
Renovation				
Arts Center (see separate budget)	19,000	$ 110	$2,090,000	
Administrative Offices	2,000	$ 105	$210,000	
Classrooms (4)	4,000	$ 110	$440,000	
Computer Lab	1,200	$ 110	$132,000	
Toilets	1,200	$ 155	$186,000	
Circulation	7,600	$ 105	$798,000	
	35,000	**$ 110**		
Site Development**	35,000	$ 6	$210,000	
Contractor G.C.'s and O.H.&P. (12%):				$487,920
*Escalation (0%)**				
Construction Total for the Downtown Center:				***$4,553,920***
A/E Fees (8%)				$400,745
Reimbursable Expenses				$32,060
Local Agency Plan Review				$2,500
Testing and Inspection Services (by Owner)				$25,000
Furniture, Fixtures, and Equipment (by Owner @ 5%)				$227,696
Technology Equipment (by Owner @ 8%)				$364,314
Escalation to 2011(3%)				
Contingency (10%)				$455,392
***Project Total for Downtown Center **				**$6,061,626**

*Escalation has been included in the unit prices for bidding in 2011. If bidding beyond 2011additional escalation will need to be added. Costs are based on prevailing wage anticipating Capital Outlay Program funding.

**Does not include land purchase. Site development is an allowance. Costs can vary widely depending on site location and availability / condition of utilities, etc.

Science Wing Addition

Muskegon Community College Master Plan

May 3, 2010

Description	Area (SF)	$/SF	Budget ($)	Total for Item ($)
Construction Costs				$6,003,000
Building Additions:				
Biology Labs (2) and Prep Room	2,700	$ 200	$540,000	
Chemistry Labs (2) and Prep Room	2,700	$ 200	$540,000	
Science Labs (2) and Prep Room	2,700	$ 200	$540,000	
Classrooms (6)	7,200	$ 140	$1,008,000	
Circulation	6,000	$ 130	$780,000	
	21,300	**$ 160**		
Site Development	21,300	$ 10	$213,000	
Building Renovations:				
Planetarium		LS	$750,000	
Existing Science Wing	20,400	$ 80	$1,632,000	
Contractor G.C.'s and O.H.&P. (12%):				$720,360
*Escalation (0%)**				
Construction Total for the Science Wing Addition:				***$6,723,360***
A/E Fees (8%)				$591,656
Reimbursable Expenses				$47,332
Local Agency Plan Review				$2,500
Testing and Inspection Services (by Owner)				$25,000
Furniture, Fixtures, and Equipment (by Owner @ 5%)				$336,168
Technology Equipment (by Owner @ 8%)				$537,869
Contingency (10%)				$672,336
Project Total for Science Wing Addition				**$8,936,221**

**Escalation has been included in the unit prices for bidding in 2011. If bidding beyond 2011additional escalation will need to be added. Costs are based on prevailing wage anticipating Capital Outlay Program funding.*

Bartels - Rode Gymnasium

Muskegon Community College Master Plan

May 3, 2010

Description	Area (SF)	$/SF	Budget ($)	Total for Item ($)
Construction Costs				$5,523,000
Building Additions:				
Gymnasium	6,600	$ 170	$1,122,000	
Locker Rooms (Men & Women)	2,000	$ 200	$400,000	
Training Room	400	$ 135	$54,000	
Offices (5)	600	$ 135	$81,000	
Classrooms (3)	3,000	$ 140	$420,000	
Fitness Center	2,400	$ 140	$336,000	
Climbing Wall	1,000	$ 200	$200,000	
Lobby	2,000	$ 130	$260,000	
Storage - Indoor	1,200	$ 120	$144,000	
Storage - Outdoor	1,200	$ 120	$144,000	
Toilet Rooms	1,200	$ 200	$240,000	
Laundry	400	$ 140	$56,000	
Mechanical	1,200	$ 120	$144,000	
Electrical	400	$ 120	$48,000	
Circulation	4,200	$ 130	$546,000	
	27,800	**$ 151**		
Site Development	27,800	$ 10	$278,000	
Building Renovations:				
Existing Building	17,500	$ 60	$1,050,000	
Contractor G.C.'s and O.H.&P. (12%):				$662,760
*Escalation (0%)**				
Construction Total for the Bartels-Rode Gymnasium:				***$6,185,760***
A/E Fees (8%)				$544,347
Reimbursable Expenses				$43,548
Local Agency Plan Review				$2,500
Testing and Inspection Services (by Owner)				$25,000
Furniture, Fixtures, and Equipment (by Owner @ 5%)				$309,288
Fitness Center Equipment Allowance				$200,000
Technology Equipment (by Owner @ 4%)				$247,430
Contingency (10%)				$618,576
Project Total for Bartels-Rode Gymnasium				**$8,176,449**

Escalation has been included in the unit prices for bidding in 2011. If bidding beyond 2011additional escalation will need to be added. Costs are based on prevailing wage anticipating Capital Outlay Program funding.

MCC Miscellaneous Projects

Muskegon Community College Master Plan

May 3, 2010

Description	Area (SF)	$/SF	Budget ($)	Total for Item ($)
Construction Costs				$2,060,000
New Construction				
Site Work - Landscaping		LS	$100,000	
Site Work - Stormwater Drainage		LS	$120,000	
Technology Improvements		LS	$600,000	
HVAC / Electrical Improvements		LS	$400,000	
University Park Center	3,000	$ 180	$540,000	
Wayfinding / Signage		LS	$300,000	
Contractor G.C.'s and O.H.&P. (12%):				$247,200
*Escalation (0%)**				
Construction Total for Miscellaneous Projects				***$2,307,200***
A/E Fees (8%)				$203,034
Reimbursable Expenses				$16,243
Local Agency Plan Review				$2,500
Testing and Inspection Services (by Owner)				$15,000
Furniture, Fixtures, and Equipment (by Owner @ 10%)				$60,480
Technology Equipment (by Owner @ 8%)				$48,384
Contingency (10%)				$230,720
Project Total for Miscellaneous Projects				**$2,883,560**

**Escalation has been included in the unit prices for bidding in 2011. If bidding beyond 2011additional escalation will need to be added. Costs are based on prevailing wage anticipating Capital Outlay Program funding.*

8. Implementation Strategy

9. Appendix

A. Building Assessment Surveys

B. Structural Assessment

C. MCC Renovation, Repair, Replacement Fund

D. Muskegon Area Transit System Routes / Schedules

E. Population Projection Data

MCC Facilities Assessment

Arts Building 8/13/2010

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	138	69%
Building:				
2.1	Building Exterior Elements	100	27	27%
2.2	Accessibility	100	52	52%
2.3	Structural	100	67	67%
2.4	Building Envelope	100	23	23%
2.5	Interior / Finishes	150	42	28%
2.6	Life Safety	100	34	34%
2.7	Food Service	0	0	#DIV/0!
2.8	Mechanical	170	56	33%
2.9	Electrical	130	63	48%
Totals:		**1150**	**502**	**44%**

MCC Facilities Assessment

Arts Building **8/13/2010**

Building Data Record

Building Name: **Arts Building**

Street Address:

Building Data:

Original Construction:

Additions/Renovations:

Number of Floors: 2 Building Capacity:

Building Area: 11,000 SF Site Area:

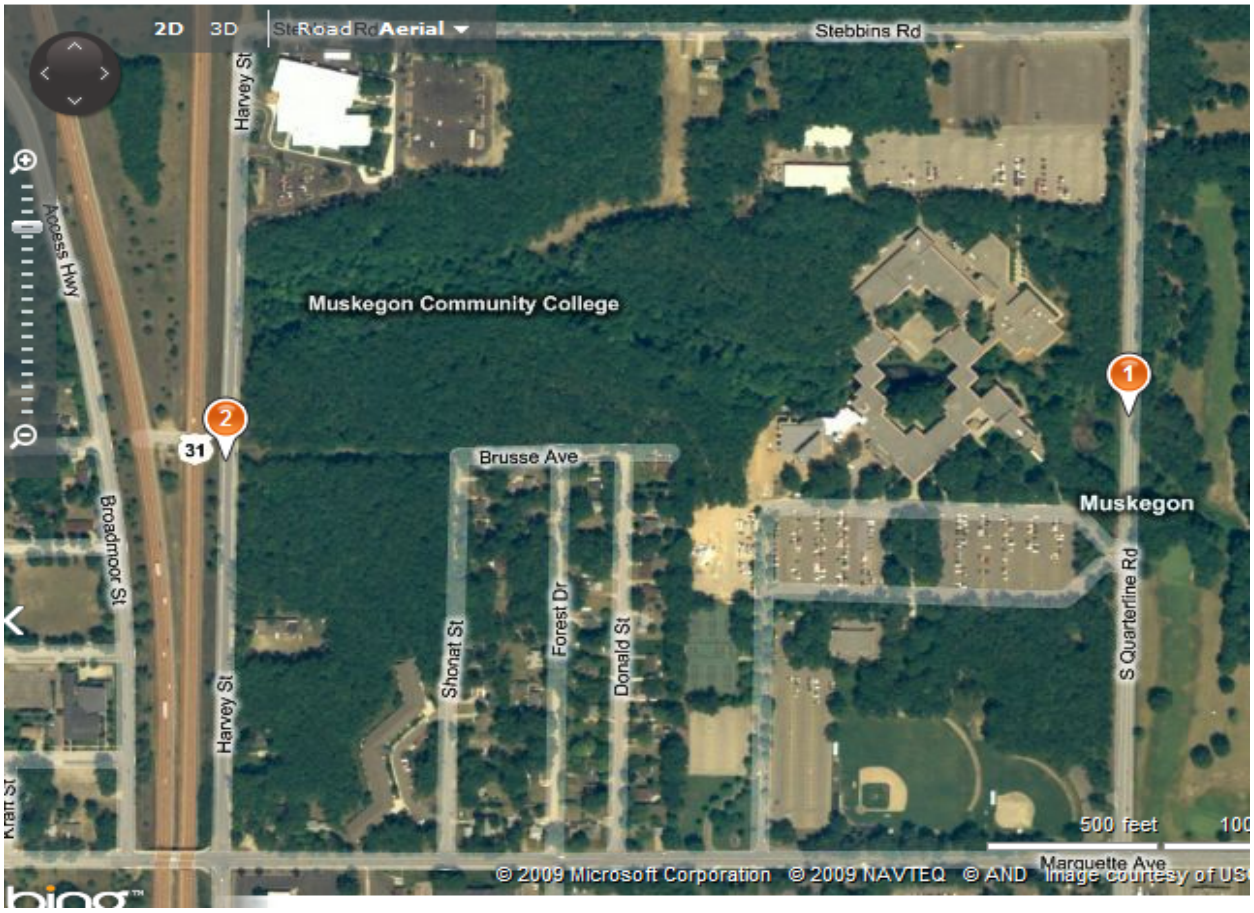
Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	■ Metal	☐ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	☐ Steel Joists	■ Slab on Grade
	☐ Wood Joists	☐ Other	
Air Conditioning:	☐ Roof Top	☐ Window Units	☐ Central
	☐ Room Units		
Heating:	☐ Roof Top	■ Forced Air	☐ Central
	☐ Room Units	☐ Steam	☐ Hot Water
Electrical Service:	☐ Aerial	☐ Underground	☐ Primary
	☐ Secondary		
	Voltage:	Phase:	Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

MCC Facilities Assessment

Arts Building **8/13/2010**

Aerial Photography

0



MCC Facilities Assessment

Arts Building **8/13/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	10
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	10
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	20
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	10
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	16
1.6	Sufficient on-site parking is provided for all occupants	20	16
1.7	Condition of on-site parking	15	12
1.8	Vehicular entrances and exits permit safe traffic flow.	20	20
1.9	Outdoor facilities are adequate and accessible	15	12
1.10	Condition of Outdoor facilities	20	12
TOTAL - Building Site		**200**	**138**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	6
2.1.2	Landscaping is adequate and appropriate.	20	4
2.1.3	Site and entry are well defined.	20	4
2.1.4	Entrances are sheltered from inclement weather.	20	8
2.1.5	Overall curb appeal (Building and Site)	25	5
TOTAL - Building Exterior Elements		**100**	**27**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	8
2.2.2	Barrier-Free parking is provided.	10	8
2.2.3	Outdoor areas and structures are on accessible routes.	20	4
2.2.4	Building entrances and exits are barrier-free.	20	12
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	8
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	12
TOTAL - Accessibility		100	52

Notes: Entire second floor is not accessible.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	15
2.3.2	Condition of the (visible) foundations.	25	15
2.3.3	Condition of exterior and interior walls.	25	15
2.3.4	Structure is non-combustible.	25	22
TOTAL - Structural		**100**	**67**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	3
2.4.2	Roof insulation is adequate.	15	3
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	3
2.4.4	Condition of exterior windows.	15	3
2.4.5	Condition of exterior doors and frames.	10	3
2.4.6	Exterior glass is insulated.	15	3
2.4.7	Openings / penetrations are sealed.	5	3
2.4.8	Building has proper amounts of daylighting.	10	2
TOTAL - Building Envelope		100	23

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	4
2.5.2	Condition of flooring.	20	4
2.5.3	Condition of ceilings.	20	4
2.5.4	Condition of walls.	15	4
2.5.5	Condition of equipment.	15	8
2.5.6	Condition of doors and hardware.	15	3
2.5.7	Condition of casework.	15	3
2.5.8	Condition of visual display boards.	15	9
2.5.9	Condition of lockers.	15	3
TOTAL - Interior / Finishes		150	42

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	3
2.6.2	Fire sprinkler system installed throughout building.	15	3
2.6.3	Security system is installed throughout building.	10	2
2.6.4	Card access control system is installed.	10	2
2.6.5	Security camera system is installed.	15	0
2.6.6	There are at least two independent exits from any point in the building.	10	8
2.6.7	Egress stairways are adequate.	10	6
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	3
2.6.9	Classroom doors are adequate for egress requirements.	5	3
2.6.10	Corridors lead to an exit or exit stair.	5	4
TOTAL - Life Safety and Security		**100**	**34**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.7 Food Service — 0 Points

		Possible	Earned
2.7.1	Condition of flooring.	0	0
2.7.2	Condition of ceilings.	0	0
2.7.3	Condition of walls.	0	0
2.7.4	Condition of lighting.	0	0
2.7.5	Condition of kitchen equipment.	0	0
2.7.6	Dry storage requirements vs. code	0	0
2.7.7	Refrigerated storage requirements vs. code	0	0
2.7.8	Condition of serving equipement.	0	0
2.7.9	Overall flow of food service.	0	0
TOTAL - Food Service		0	0

Notes: There is no food service in this building.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Arts Building **8/13/2010**

2.8 Mechanical

200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	2
2.8.1b	Condition of the heating source.	15	2
2.8.2a	Cooling source type is appropriate for the application.	5	0
2.8.2b	Cooling exists in appropriate spaces.	5	0
2.8.2c	Condition of cooling source.	10	0
2.8.3	Condition of the heating and cooling distribution system.	20	4
2.8.4	Condition of the terminal devices.	0	0
2.8.5	Condition of the air handling equipment.	20	4
2.8.6	Condition of controls.	20	4
2.8.7	Ventilation effectiveness.	10	2
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	0	0
2.8.10	Plumbing fixtures are adequate for building occupancy	10	6
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	8
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	10	4
2.8.14	Condition of drinking fountains.	10	4
TOTAL - Mechanical		170	56

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	The HVAC system should be replaced with more effective and efficient systems.
2	The building is not air-conditioned
3	Heating is provided by two gas-fired air-handling units.

MCC Facilities Assessment

Arts Building **8/13/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	10
2.9.2	Interior building and exterior building lights.	25	15
2.9.3	Condition / capacity of distribution and branch panels.	20	16
2.9.4	Condition site lighting.	15	9
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	3
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	2
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**130**	**63**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

MCC Facilities Assessment

Arts and Maintenance Buildings

8/13/2010

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	153	77%
Building:				
2.1	Building Exterior Elements	100	58	58%
2.2	Accessibility	100	74	74%
2.3	Structural	100	76	76%
2.4	Building Envelope	100	42	42%
2.5	Interior / Finishes	150	100	67%
2.6	Life Safety	100	50	50%
2.7	Food Service	0	0	#DIV/0!
2.8	Mechanical	170	116	68%
2.9	Electrical	140	80	57%
Totals:		**1160**	**749**	**65%**

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

Building Data Record

Building Name: Building Name

Street Address:

Building Data: Original Construction: 1965

Additions/Renovations:

Number of Floors: 3 Building Capacity:

Building Area: 17,500 SF Site Area:

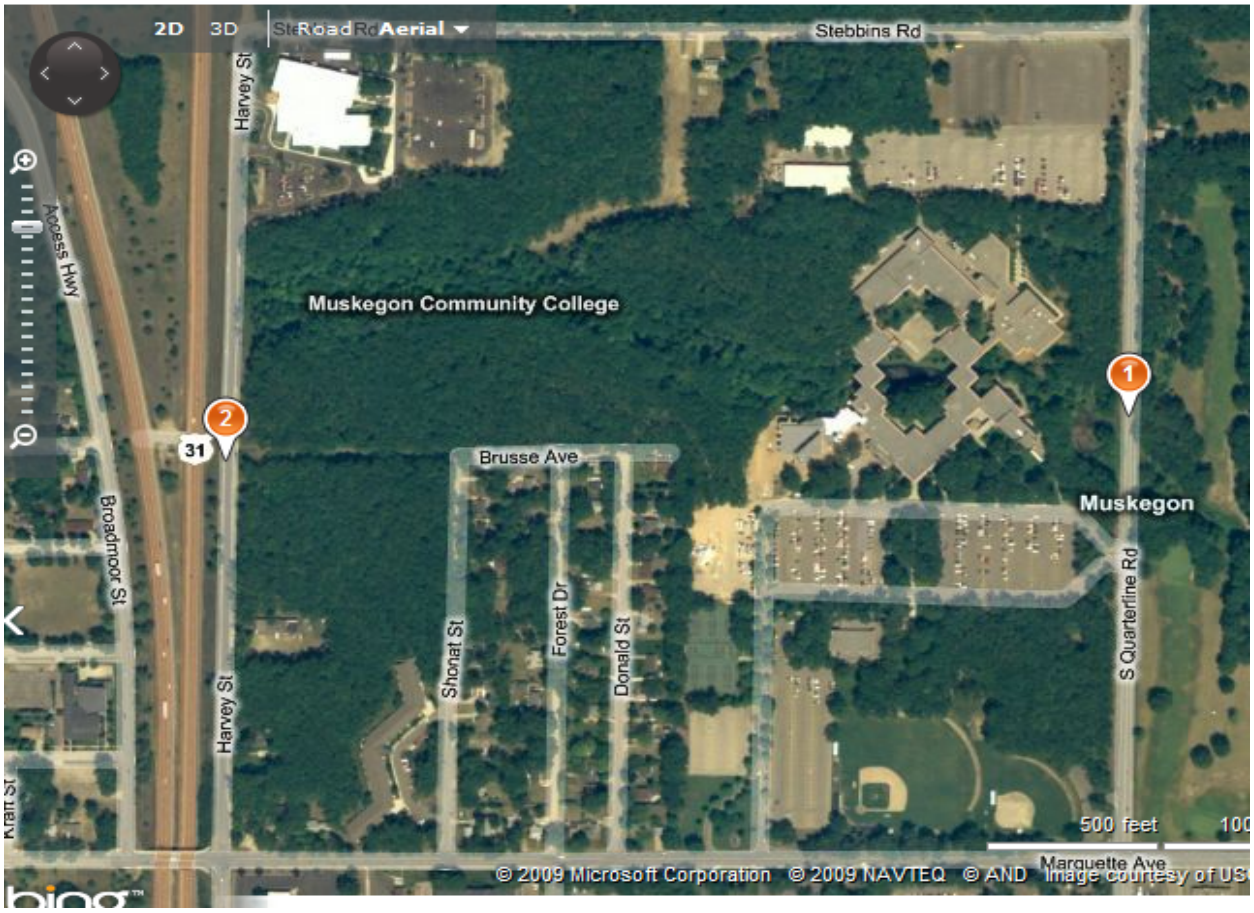
Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	■ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	☐ Steel Joists	☐ Slab on Grade
	☐ Wood Joists	■ Other	
Air Conditioning:	■ Roof Top	☐ Window Units	☐ Central
	☐ Room Units		
Heating:	☐ Roof Top	☐ Forced Air	■ Central
	☐ Room Units	☐ Steam	■ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary	300KVA Tranfs. With 800A Main Switch	
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

Aerial Photography

0



MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	23
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	15
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	20
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	16
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	15
1.6	Sufficient on-site parking is provided for all occupants	20	16
1.7	Condition of on-site parking	15	13
1.8	Vehicular entrances and exits permit safe traffic flow.	20	18
1.9	Outdoor facilities are adequate and accessible, including athletic fields, courts and accessory structures	15	9
1.10	Condition of Outdoor facilities, including athletic fields, courts and accessory structures	20	8
TOTAL - Building Site		**200**	**153**

Notes:
Archery range should be lengthened
Some deterioration at baseball dug-outs
Significant cracking in tennis court surfaces
No lighting at athletic courts or fields

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	8
2.1.2	Landscaping is adequate and appropriate.	20	10
2.1.3	Site and entry are well defined.	20	5
2.1.4	Entrances are sheltered from inclement weather.	20	20
2.1.5	Overall curb appeal (Building and Site)	25	15
TOTAL - Building Exterior Elements		**100**	**58**

Notes: Landscaping is mature
Building-mounted signage is difficult to see at north elevation

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	10
2.2.3	Outdoor areas and structures are on accessible routes.	20	18
2.2.4	Building entrances and exits are barrier-free.	20	16
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	15
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	5
TOTAL - Accessibility		100	74

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	10
2.3.2	Condition of the (visible) foundations.	25	25
2.3.3	Condition of exterior and interior walls.	25	16
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		**100**	**76**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	8
2.4.2	Roof insulation is adequate.	15	6
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	8
2.4.4	Condition of exterior windows.	15	5
2.4.5	Condition of exterior doors and frames.	10	4
2.4.6	Exterior glass is insulated.	15	4
2.4.7	Openings / penetrations are sealed.	5	3
2.4.8	Building has proper amounts of daylighting.	10	4
TOTAL - Building Envelope		**100**	**42**

Notes: Exterior walls show signs of water intrusion in the brick.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	12
2.5.2	Condition of flooring.	20	14
2.5.3	Condition of ceilings.	20	14
2.5.4	Condition of walls.	15	10
2.5.5	Condition of Physical Education / Athletic Facilities equipment.	15	10
2.5.6	Condition of doors and hardware.	15	10
2.5.7	Condition of casework.	15	8
2.5.8	Condition of visual display boards.	15	10
2.5.9	Condition of lockers.	15	12
TOTAL - Interior / Finishes		150	100

Notes:
Original finishes are dated, but in good condition
Limited lobby space
Small fitness center
Limited natural light

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	5
2.6.2	Fire sprinkler system installed throughout building.	15	0
2.6.3	Security system is installed throughout building.	10	0
2.6.4	Card access control system is installed. Yes, on one door.	10	10
2.6.5	Security camera system is installed.	15	0
2.6.6	There are at least two independent exits from any point in the building.	10	10
2.6.7	Egress stairways are adequate.	10	10
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	5
2.6.9	Classroom doors are adequate for egress requirements.	5	5
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**50**

Notes:
1. Original fire alarm panel is still there with new panel installed in 1997. Old panel reports to new panel.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.7 Food Service — 50 Points

		Possible	Earned
2.7.1	Condition of flooring.	0	0
2.7.2	Condition of ceilings.	0	0
2.7.3	Condition of walls.	0	0
2.7.4	Condition of lighting.	0	0
2.7.5	Condition of kitchen equipment.	0	0
2.7.6	Dry storage requirements vs. code	0	0
2.7.7	Refrigerated storage requirements vs. code	0	0
2.7.8	Condition of serving equipement.	0	0
2.7.9	Overall flow of food service.	0	0
TOTAL - Food Service		0	0

Notes: There is no food service in this building

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.8 Mechanical — 200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	4
2.8.1b	Condition of the heating source.	15	12
2.8.2a	Cooling source type is appropriate for the application.	5	3
2.8.2b	Cooling exists in appropriate spaces.	5	3
2.8.2c	Condition of cooling source.	10	2
2.8.3	Condition of the heating and cooling distribution system.	20	12
2.8.4	Condition of the terminal devices.	0	0
2.8.5	Condition of the air handling equipment.	20	12
2.8.6	Condition of controls.	20	16
2.8.7	Ventilation effectiveness.	10	6
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	10	8
2.8.10	Plumbing fixtures are adequate for building occupancy	10	8
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	6
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	0	0
2.8.14	Condition of drinking fountains.	10	8
TOTAL - Mechanical		**170**	**116**

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	The original units in each corner of the gym are noisy. The gym is not air-conditioned.
2	There are three ventilation modes: event, occupied, unoccupied
3	The boilers are new gas-fired hot water boilers.
4.	The water heaters are new.
5	The controls are a hybrid of DDC and pneumatic.
6	Three roof top gas electric units were added with the most recent additon to provide heating and cooling to serve wrestling, classrooms and the exercise room. The units serving Wrestling and Exercise are short on cooling and should be replaced. There is a ductless split AC unit serving the office area.
7	There is a problem with rust in the water after long shut downs.

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	15
2.9.2	Interior building and exterior building lights.	25	15
2.9.3	Condition / capacity of distribution and branch panels.	20	16
2.9.4	Condition site lighting.	15	9
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	3
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	4
2.9.8	Condition of public address system.	10	10
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**140**	**80**

Notes:
1. Egress lighting meets code only in renovated areas. The rest of the facility has several battery packs.
2. New PA system installed in the last four years.
3. Lighting controls are being updated as part of another project.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

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MCC Facilities Assessment

Bartels-Rode Gymnasium **8/11/2010**

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

Main Building North **8/11/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	159	80%
Building:				
2.1	Building Exterior Elements	100	82	82%
2.2	Accessibility	100	82	82%
2.3	Structural	100	75	75%
2.4	Building Envelope	100	47	47%
2.5	Interior / Finishes	135	88	65%
2.6	Life Safety	100	60	60%
2.7	Food Service	0	0	#DIV/0!
2.8	Mechanical	175	132	75%
2.9	Electrical	115	59	51%
Totals:		**1125**	**784**	**70%**

MCC Facilities Assessment

Main Building North **8/11/2010**

Building Data Record

Building Name: Main Building North

Street Address:

Building Data: Original Construction: 1967

Additions/Renovations:

Number of Floors: 3 Building Capacity:

Building Area: 112,500 SF Site Area:

Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	■ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	☐ Steel Joists	☐ Slab on Grade
	☐ Wood Joists	■ Other	
Air Conditioning:	☐ Roof Top	☐ Window Units	■ Central
	☐ Room Units		
Heating:	☐ Roof Top	☐ Forced Air	■ Central
	☐ Room Units	☐ Steam	■ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary		
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

MCC Facilities Assessment

Main Building North **8/11/2010**

Aerial Photography

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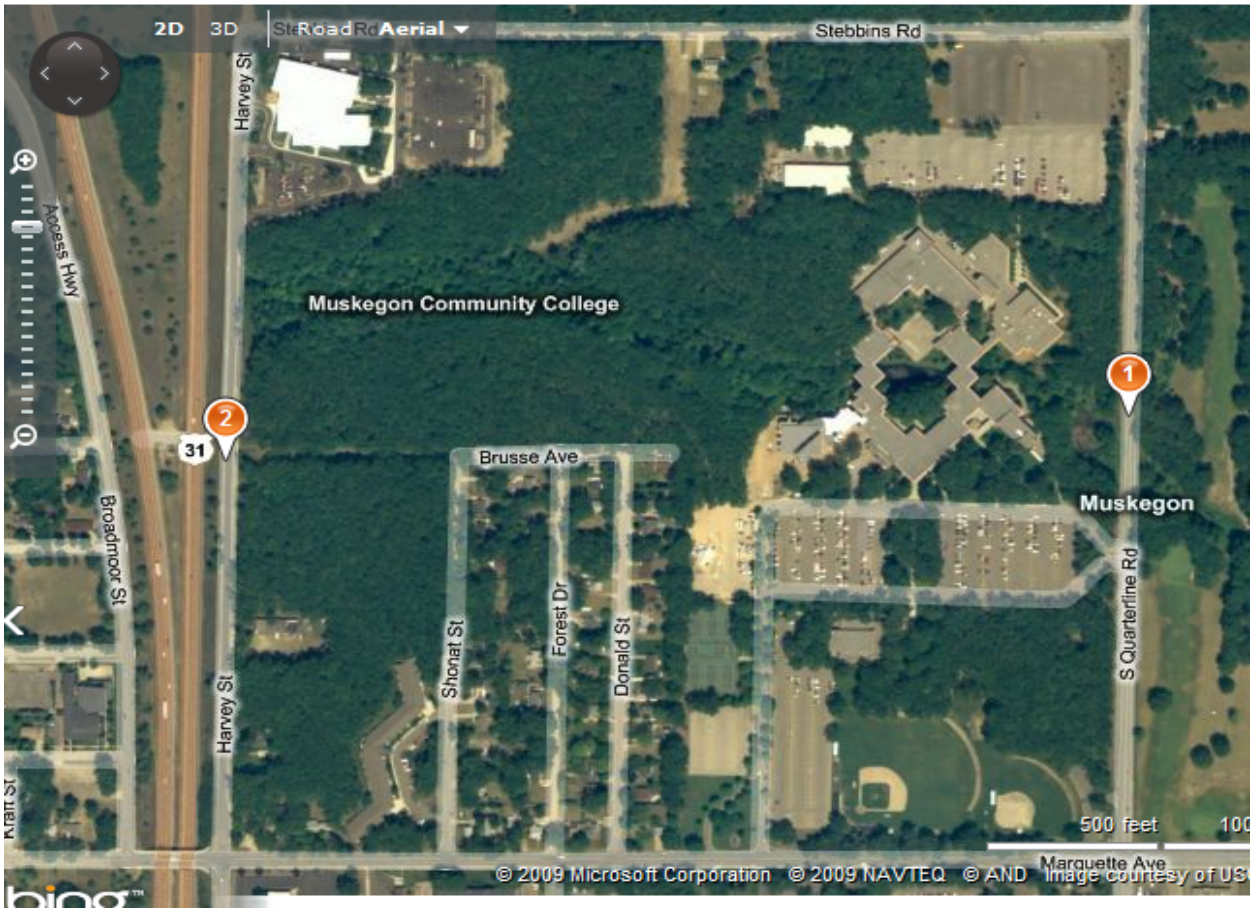

MCC Facilities Assessment

Main Building North **8/11/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	8
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	25
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	18
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	15
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	13
1.6	Sufficient on-site parking is provided for all occupants	20	17
1.7	Condition of on-site parking	15	12
1.8	Vehicular entrances and exits permit safe traffic flow.	20	16
1.9	Outdoor facilities are adequate and accessible	15	15
1.10	Condition of Outdoor facilities	20	20
TOTAL - Building Site		**200**	**159**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	9
2.1.2	Landscaping is adequate and appropriate.	20	18
2.1.3	Site and entry are well defined.	20	20
2.1.4	Entrances are sheltered from inclement weather.	20	20
2.1.5	Overall curb appeal (Building and Site)	25	15
TOTAL - Building Exterior Elements		**100**	**82**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	10
2.2.3	Outdoor areas and structures are on accessible routes.	20	10
2.2.4	Building entrances and exits are barrier-free.	20	20
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	12
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	20
TOTAL - Accessibility		100	82

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	10
2.3.2	Condition of the (visible) foundations.	25	20
2.3.3	Condition of exterior and interior walls.	25	20
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		**100**	**75**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	6
2.4.2	Roof insulation is adequate.	15	6
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	12
2.4.4	Condition of exterior windows.	15	3
2.4.5	Condition of exterior doors and frames.	10	4
2.4.6	Exterior glass is insulated.	15	3
2.4.7	Openings / penetrations are sealed.	5	4
2.4.8	Building has proper amounts of daylighting.	10	9
TOTAL - Building Envelope		**100**	**47**

Notes: Wind turbine has been installed on the roof of the west stair tower.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	16
2.5.2	Condition of flooring.	20	12
2.5.3	Condition of ceilings.	20	12
2.5.4	Condition of walls.	15	12
2.5.5	Condition of equipment.	15	12
2.5.6	Condition of doors and hardware.	15	6
2.5.7	Condition of casework.	15	6
2.5.8	Condition of visual display boards.	15	12
2.5.9	Condition of lockers.	0	0
TOTAL - Interior / Finishes		135	88

Notes: Interior ceilings show cupping from high humidity.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	13
2.6.2	Fire sprinkler system installed throughout building.	15	0
2.6.3	Security system is installed throughout building.	10	5
2.6.4	Card access control system is installed.	10	5
2.6.5	Security camera system is installed.	15	7
2.6.6	There are at least two independent exits from any point in the building.	10	8
2.6.7	Egress stairways are adequate.	10	8
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	4
2.6.9	Classroom doors are adequate for egress requirements.	5	5
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**60**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.7 Food Service — 50 Points

		Possible	Earned
2.7.1	Condition of flooring.	0	0
2.7.2	Condition of ceilings.	0	0
2.7.3	Condition of walls.	0	0
2.7.4	Condition of lighting.	0	0
2.7.5	Condition of kitchen equipment.	0	0
2.7.6	Dry storage requirements vs. code	0	0
2.7.7	Refrigerated storage requirements vs. code	0	0
2.7.8	Condition of serving equipement.	0	0
2.7.9	Overall flow of food service.	0	0
TOTAL - Food Service		0	0

Notes: No food service in north part of the main building

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building North **8/11/2010**

2.8 Mechanical

200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	4
2.8.1b	Condition of the heating source.	0	0
2.8.2a	Cooling source type is appropriate for the application.	5	4
2.8.2b	Cooling exists in appropriate spaces.	5	4
2.8.2c	Condition of cooling source.	0	0
2.8.3	Condition of the heating and cooling distribution system.	20	12
2.8.4	Condition of the terminal devices.	20	16
2.8.5	Condition of the air handling equipment.	20	16
2.8.6	Condition of controls.	20	16
2.8.7	Ventilation effectiveness.	10	8
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	10	8
2.8.10	Plumbing fixtures are adequate for building occupancy	10	8
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	4
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	10	8
2.8.14	Condition of drinking fountains.	10	8
TOTAL - Mechanical		**175**	**132**

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	Admin and Success Center have new air handling units
2	Several rooms have newer vertical unit ventilators
3	Chemical Storage Rm 149 has ventilation issues that need to be addressed including the flammable storage cabinet
4.	There are hydronic flow and balance issues
5	There are problems with the domestic hot water recirculation resulting in long delays before hw reaches the fixture.
6	Outdoor air intake chases on exterior walls of the third floor have odor and humidity issues
7	There is a problem with high humidity in the third floor classrooms and corridors
8	There is a problem with infiltration from the soffits into the ceiling spaces that needs to be addressed.
9	Heating hot water is provided by the boilers in the Technology Building
10	The west side is served by the chiller in the Main Bldg Third Floor
11	The east side is served by the chiller in the Third Floor under Overbrook Theater

MCC Facilities Assessment

Main Building North **8/11/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	15
2.9.2	Interior building and exterior building lights.	25	15
2.9.3	Condition / capacity of distribution and branch panels.	20	12
2.9.4	Condition site lighting.	0	0
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	9
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	0
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**115**	**59**

Notes:
1. Egress lighting meets code only in renovated areas.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

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MCC Facilities Assessment

Main Building North — 8/11/2010

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

Main Building South **8/13/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	146	73%
Building:				
2.1	Building Exterior Elements	100	82	82%
2.2	Accessibility	100	82	82%
2.3	Structural	100	75	75%
2.4	Building Envelope	100	47	47%
2.5	Interior / Finishes	135	88	65%
2.6	Life Safety	100	60	60%
2.7	Food Service	50	40	80%
2.8	Mechanical	175	124	71%
2.9	Electrical	115	59	51%
Totals:		**1175**	**803**	**68%**

MCC Facilities Assessment

Main Building South **8/13/2010**

Building Data Record

Building Name: Main Building South

Street Address:

Building Data: Original Construction: 1967

Additions/Renovations: 1987

Number of Floors: 3 Building Capacity:

Building Area: 112,500 SF Site Area:

Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	■ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	■ Steel Joists	■ Slab on Grade
	☐ Wood Joists	☐ Other	
Air Conditioning:	☐ Roof Top	☐ Window Units	■ Central
	☐ Room Units		
Heating:	☐ Roof Top	☐ Forced Air	■ Central
	☐ Room Units	☐ Steam	■ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary		
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

MCC Facilities Assessment

Main Building South **8/13/2010**

Aerial Photography

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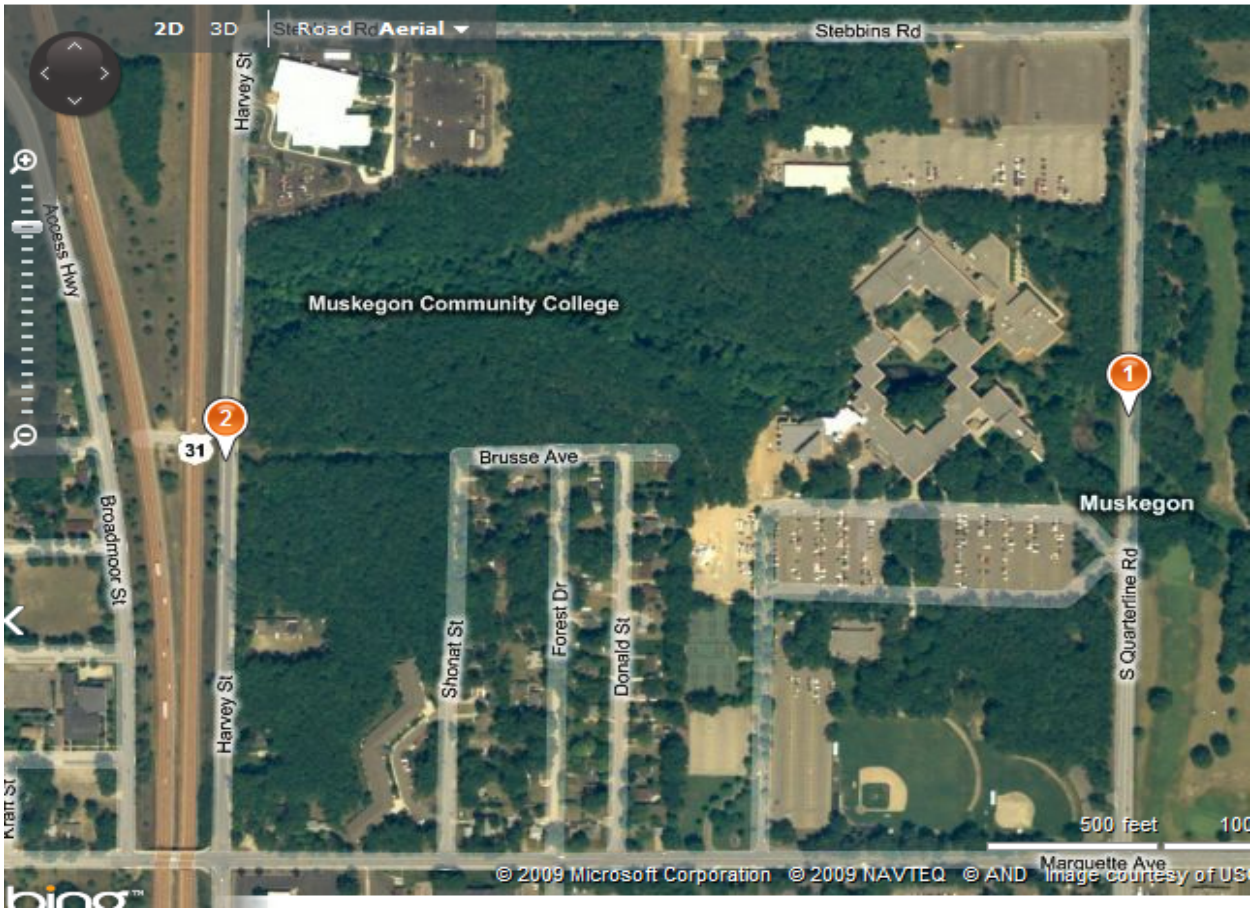

MCC Facilities Assessment

Main Building South **8/13/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	18
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	18
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	18
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	16
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	15
1.6	Sufficient on-site parking is provided for all occupants	20	16
1.7	Condition of on-site parking	15	12
1.8	Vehicular entrances and exits permit safe traffic flow.	20	16
1.9	Outdoor facilities are adequate and accessible	15	5
1.10	Condition of Outdoor facilities	20	12
TOTAL - Building Site		**200**	**146**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	12
2.1.2	Landscaping is adequate and appropriate.	20	18
2.1.3	Site and entry are well defined.	20	12
2.1.4	Entrances are sheltered from inclement weather.	20	20
2.1.5	Overall curb appeal (Building and Site)	25	20
	TOTAL - Building Exterior Elements	**100**	**82**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	10
2.2.3	Outdoor areas and structures are on accessible routes.	20	10
2.2.4	Building entrances and exits are barrier-free.	20	20
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	12
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	20
TOTAL - Accessibility		100	82

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	10
2.3.2	Condition of the (visible) foundations.	25	20
2.3.3	Condition of exterior and interior walls.	25	20
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		**100**	**75**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	6
2.4.2	Roof insulation is adequate.	15	6
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	12
2.4.4	Condition of exterior windows.	15	3
2.4.5	Condition of exterior doors and frames.	10	5
2.4.6	Exterior glass is insulated.	15	3
2.4.7	Openings / penetrations are sealed.	5	4
2.4.8	Building has proper amounts of daylighting.	10	8
TOTAL - Building Envelope		**100**	**47**

Notes:
Majority of windows are original single pane.
Brick & Stucco is in good shape.
Original pivot exterior doors are failing and causing security concerns.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	16
2.5.2	Condition of flooring.	20	12
2.5.3	Condition of ceilings.	20	12
2.5.4	Condition of walls.	15	12
2.5.5	Condition of equipment.	15	12
2.5.6	Condition of doors and hardware.	15	6
2.5.7	Condition of casework.	15	6
2.5.8	Condition of visual display boards.	15	12
2.5.9	Condition of lockers.	0	
TOTAL - Interior / Finishes		135	88

Notes:
Door hardware is primarily knob, not lever

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	13
2.6.2	Fire sprinkler system installed throughout building.	15	0
2.6.3	Security system is installed throughout building.	10	5
2.6.4	Card access control system is installed.	10	5
2.6.5	Security camera system is installed.	15	7
2.6.6	There are at least two independent exits from any point in the building.	10	8
2.6.7	Egress stairways are adequate.	10	8
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	4
2.6.9	Classroom doors are adequate for egress requirements.	5	5
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**60**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.7 Food Service — 50 Points

		Possible	Earned
2.7.1	Condition of flooring.	5	4
2.7.2	Condition of ceilings.	5	4
2.7.3	Condition of walls.	5	4
2.7.4	Condition of lighting.	5	4
2.7.5	Condition of kitchen equipment.	5	4
2.7.6	Dry storage requirements vs. code	5	4
2.7.7	Refrigerated storage requirements vs. code	5	4
2.7.8	Condition of serving equipement.	5	4
2.7.9	Overall flow of food service.	10	8
TOTAL - Food Service		50	40

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Main Building South **8/13/2010**

2.8 Mechanical

200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	4
2.8.1b	Condition of the heating source.	0	0
2.8.2a	Cooling source type is appropriate for the application.	5	4
2.8.2b	Cooling exists in appropriate spaces.	5	4
2.8.2c	Condition of cooling source.	0	0
2.8.3	Condition of the heating and cooling distribution system.	20	12
2.8.4	Condition of the terminal devices.	20	16
2.8.5	Condition of the air handling equipment.	20	12
2.8.6	Condition of controls.	20	12
2.8.7	Ventilation effectiveness.	10	8
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	10	8
2.8.10	Plumbing fixtures are adequate for building occupancy	10	8
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	4
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	10	8
2.8.14	Condition of drinking fountains.	10	8
TOTAL - Mechanical		175	124

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	This portion of the building includes the recently remodeled One Stop area
2	The air handling units are original and should be replaced.
3	There are hydronic flow and balance issues
4	There are problems with the domestic hot water recirculation resulting in long delays before hw reaches the fixture.
5	There is a problem with infiltration from the soffits into the ceiling spaces that needs to be addressed.
6	Several rooms have newer vertical unit ventilators
7	The kitchen hood exhaust duct should be replaced with welded duct
8	The dish machine room is not well ventilated.
9	Heating hot water is provided from the boilers in the Technology Building
10	The west side is served by a Trane Series R chiller (BTHA180F - 1991) with a Marley AquaTower (AQ 10021431-A1 - 2010)
11	The east side is served by a chiller in the Third Floor of the Overbrook Theater
12	Back up cooling is required for the IT Center

MCC Facilities Assessment

Main Building South **8/13/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	15
2.9.2	Interior building and exterior building lights.	25	15
2.9.3	Condition / capacity of distribution and branch panels.	20	12
2.9.4	Condition site lighting.	0	0
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	9
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	0
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		115	59

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

MCC Facilities Assessment

Main Building South — 8/13/2010

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	172	86%
Building:				
2.1	Building Exterior Elements	100	80	80%
2.2	Accessibility	100	98	98%
2.3	Structural	100	96	96%
2.4	Building Envelope	100	99	99%
2.5	Interior / Finishes	135	134	99%
2.6	Life Safety	100	80	80%
2.7	Food Service	0	0	#DIV/0!
2.8	Mechanical	190	190	100%
2.9	Electrical	130	111	85%
Totals:		**1155**	**1060**	**92%**

Building conditions are generally gauged on a standard model called a Facility Condition Index or FCI. An FCI is a condition indicator that calculates the cost of repair/renovation vs. the cost of replacement of a like facility. A general planning assumption is that if the cost of repairing/renovating a facility exceeds two-thirds (2/3 or 66%) the costs of replacing the facility, the facility should be considered for replacement

ASSUMED BUILDING REPLACEMENT COSTS (BASED ON $170 / SF FOR CONSTRUCTION)	$ 7,140,000
CALCULATED COSTS OF RECOMMENDED RENOVATIONS	$ -
FCI INDEX (COST OF REPAIR/RENOVATION vs. COST OF REPLACEMENT)	0%

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

Building Data Record

Building Name: Hendrik Meijer Library Information Technology Center

Street Address:

Building Data:
Original Construction: 2006
Additions/Renovations: N/A
Number of Floors: 3 Building Capacity:
Building Area: 42,000 SF Site Area:

Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	☐ Stucco
	☐ Wood	■ Other	
Floor Construction:	☐ Structural Slab	☐ Steel Joists	☐ Slab on Grade
	☐ Wood Joists	■ Other	
Air Conditioning:	■ Roof Top	☐ Window Units	☐ Central
	☐ Room Units		
Heating:	■ Roof Top	☐ Forced Air	☐ Central
	☐ Room Units	☐ Steam	☐ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary		
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

MCC Facilities Assessment

Meijer LIT Center **8/11/2010**

Aerial Photography

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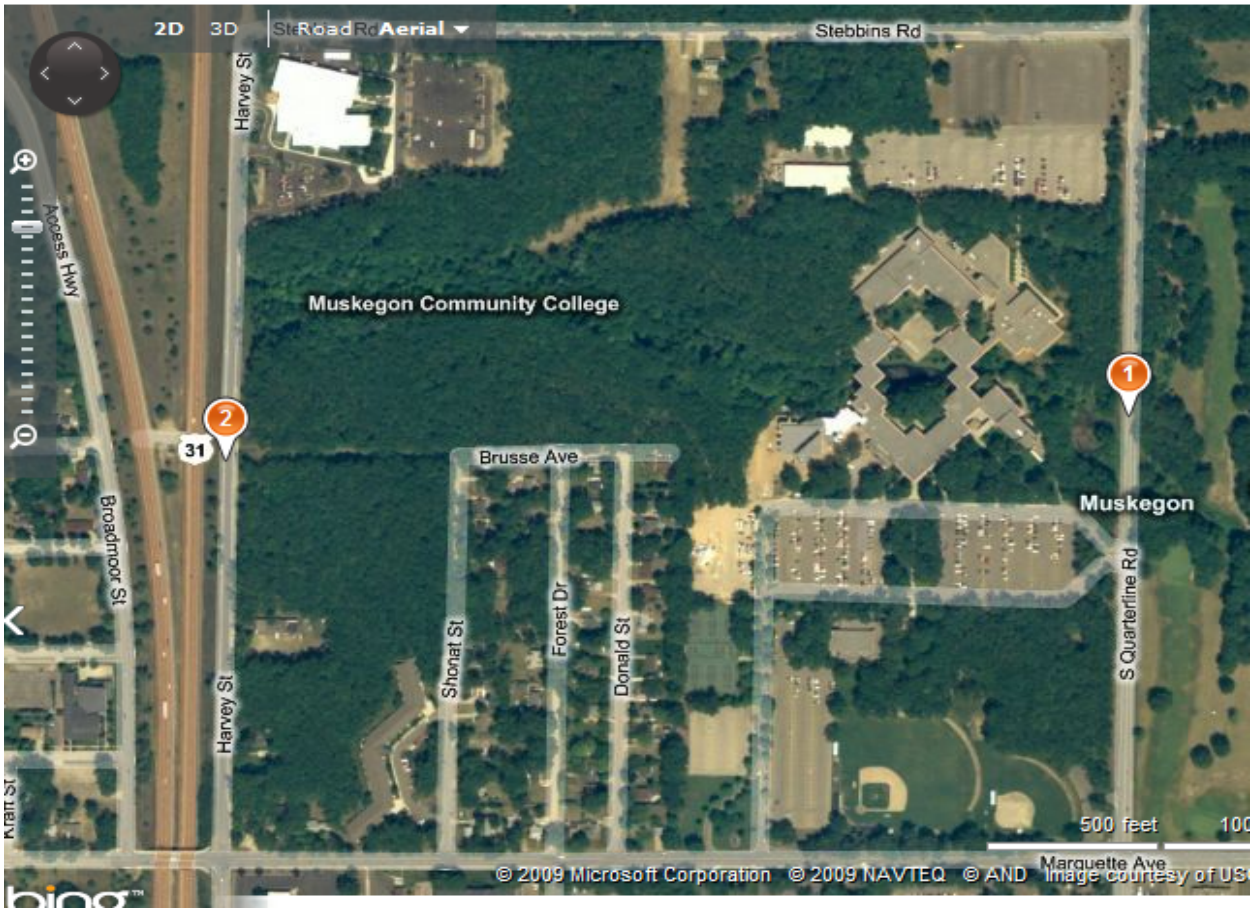

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	20
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	22
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	20
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	16
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	15
1.6	Sufficient on-site parking is provided for all occupants	20	17
1.7	Condition of on-site parking	15	12
1.8	Vehicular entrances and exits permit safe traffic flow.	20	15
1.9	Outdoor facilities are adequate and accessible	15	15
1.10	Condition of Outdoor facilities	20	20
TOTAL - Building Site		**200**	**172**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	12
2.1.2	Landscaping is adequate and appropriate.	20	12
2.1.3	Site and entry are well defined.	20	16
2.1.4	Entrances are sheltered from inclement weather.	20	20
2.1.5	Overall curb appeal (Building and Site)	25	20
TOTAL - Building Exterior Elements		**100**	**80**

Notes: Brick and stone exterior
Some green roof areas

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	8
2.2.3	Outdoor areas and structures are on accessible routes.	20	20
2.2.4	Building entrances and exits are barrier-free.	20	20
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	20
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	20
TOTAL - Accessibility		100	98

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Meijer LIT Center **8/11/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	22
2.3.2	Condition of the (visible) foundations.	25	25
2.3.3	Condition of exterior and interior walls.	25	24
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		**100**	**96**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	15
2.4.2	Roof insulation is adequate.	15	15
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	14
2.4.4	Condition of exterior windows.	15	15
2.4.5	Condition of exterior doors and frames.	10	10
2.4.6	Exterior glass is insulated.	15	15
2.4.7	Openings / penetrations are sealed.	5	5
2.4.8	Building has proper amounts of daylighting.	10	10
TOTAL - Building Envelope		100	99

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Meijer LIT Center **8/11/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	20
2.5.2	Condition of flooring.	20	20
2.5.3	Condition of ceilings.	20	20
2.5.4	Condition of walls.	15	15
2.5.5	Condition of equipment.	15	14
2.5.6	Condition of doors and hardware.	15	15
2.5.7	Condition of casework.	15	15
2.5.8	Condition of visual display boards.	15	15
2.5.9	Condition of lockers.	0	0
TOTAL - Interior / Finishes		135	134

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	14
2.6.2	Fire sprinkler system installed throughout building.	15	15
2.6.3	Security system is installed throughout building.	10	5
2.6.4	Card access control system is installed.	10	4
2.6.5	Security camera system is installed.	15	7
2.6.6	There are at least two independent exits from any point in the building.	10	10
2.6.7	Egress stairways are adequate.	10	10
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	5
2.6.9	Classroom doors are adequate for egress requirements.	5	5
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**80**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

2.7 Food Service

0 Points

		Possible	Earned
2.7.1	Condition of flooring.	0	0
2.7.2	Condition of ceilings.	0	0
2.7.3	Condition of walls.	0	0
2.7.4	Condition of lighting.	0	0
2.7.5	Condition of kitchen equipment.	0	0
2.7.6	Dry storage requirements vs. code	0	0
2.7.7	Refrigerated storage requirements vs. code	0	0
2.7.8	Condition of serving equipement.	0	0
2.7.9	Overall flow of food service.	0	0
TOTAL - Food Service		0	0

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

2.8 Mechanical

200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	5
2.8.1b	Condition of the heating source.	15	15
2.8.2a	Cooling source type is appropriate for the application.	5	5
2.8.2b	Cooling exists in appropriate spaces.	5	5
2.8.2c	Condition of cooling source.	10	10
2.8.3	Condition of the heating and cooling distribution system.	20	20
2.8.4	Condition of the terminal devices.	20	20
2.8.5	Condition of the air handling equipment.	20	20
2.8.6	Condition of controls.	20	20
2.8.7	Ventilation effectiveness.	10	10
2.8.8	Condition of the sanitary system.	10	10
2.8.9	Condition of the storm system.	10	10
2.8.10	Plumbing fixtures are adequate for building occupancy	10	10
2.8.11	Condition of exterior water supply.	10	10
2.8.12	Condition of the internal water distribution system.	10	10
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	0	0
2.8.14	Condition of drinking fountains.	10	10
TOTAL - Mechanical		**190**	**190**

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	This is a new building and the mechanical and plumbing systems are in excellent condition.
2	The building is stand alone for heating and cooling energy and is not connected to the central boilers.

MCC Facilities Assessment

Meijer LIT Center **8/11/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	20
2.9.2	Interior building and exterior building lights.	25	25
2.9.3	Condition / capacity of distribution and branch panels.	20	20
2.9.4	Condition site lighting.	15	15
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	13
2.9.6	Condition of receptacles and circuiting.	10	10
2.9.7	Lighting controls are provided to meet energy code.	10	8
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**130**	**111**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

MCC Facilities Assessment

Hendrik Meijer Library Information Technology Center **8/11/2010**

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	159	80%
Building:				
2.1	Building Exterior Elements	100	64	64%
2.2	Accessibility	100	66	66%
2.3	Structural	100	77	77%
2.4	Building Envelope	100	45	45%
2.5	Interior / Finishes	135	102	76%
2.6	Life Safety	100	73	73%
2.7	Food Service	0	0	#DIV/0!
2.8	Mechanical	165	116	70%
2.9	Electrical	130	59	45%
Totals:		**1130**	**761**	**67%**

MCC Facilities Assessment

8/13/2010

Building Data Record

Building Name: Overbrook Theater / Fruenthal Foundation Art Center

Street Address:

Building Data:

Original Construction: 1969

Additions/Renovations: N/A

Number of Floors: 3 Building Capacity:

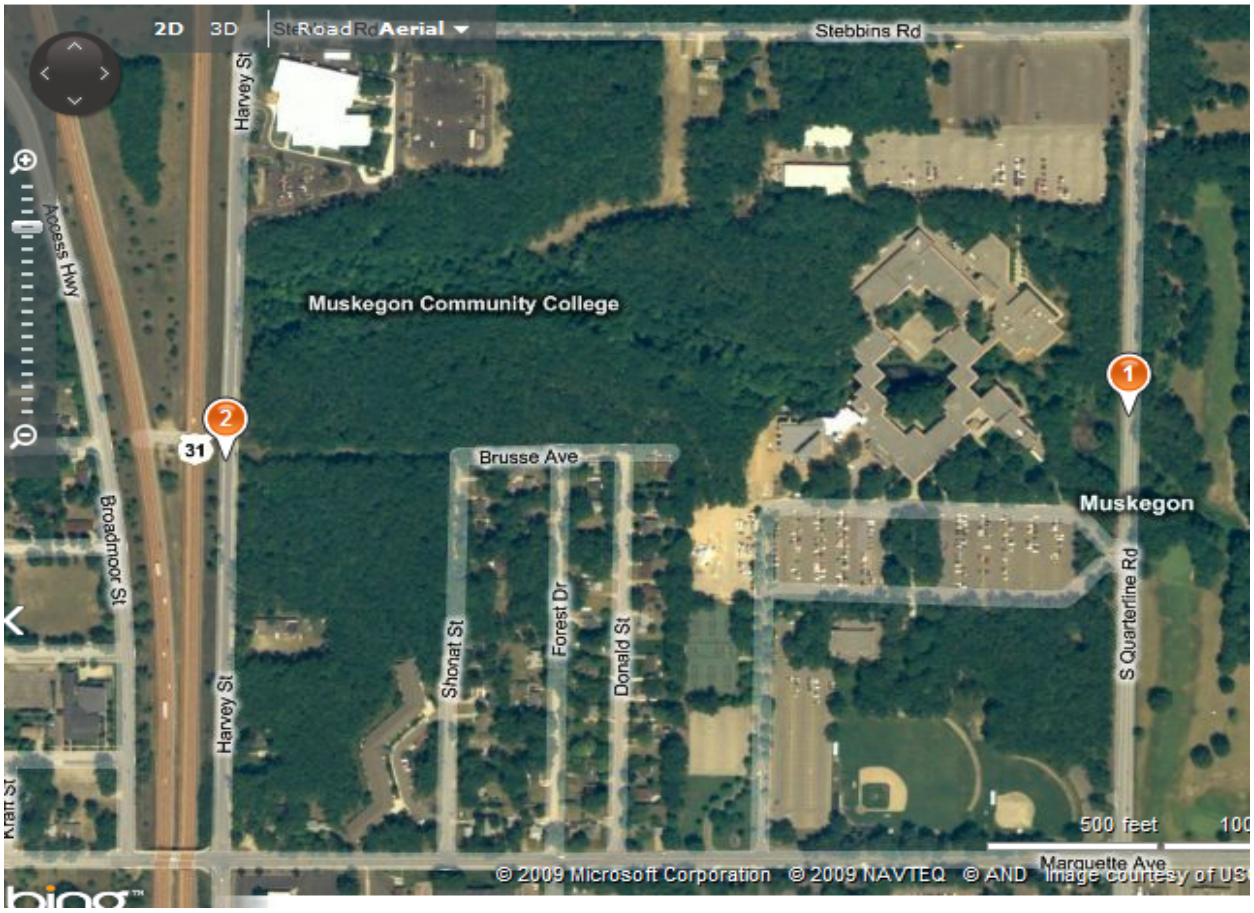
Building Area: 39,000 SF Site Area:

Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	☐ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	■ Steel Joists	■ Slab on Grade
	☐ Wood Joists	☐ Other	
Air Conditioning:	☐ Roof Top	☐ Window Units	■ Central
	☐ Room Units		
Heating:	☐ Roof Top	☐ Forced Air	■ Central
	☐ Room Units	☐ Steam	■ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary		
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

Overbrook Theatre / Fruenthal Foundation **8/13/2010**

Aerial Photography

0



MCC Facilities Assessment

Overbrook Theatre / Fruenthal Foundation **8/13/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	20
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	25
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	15
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	16
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	15
1.6	Sufficient on-site parking is provided for all occupants	20	20
1.7	Condition of on-site parking	15	14
1.8	Vehicular entrances and exits permit safe traffic flow.	20	16
1.9	Outdoor facilities are adequate and accessible	15	9
1.10	Condition of Outdoor facilities	20	9
TOTAL - Building Site		**200**	**159**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	9
2.1.2	Landscaping is adequate and appropriate.	20	16
2.1.3	Site and entry are well defined.	20	12
2.1.4	Entrances are sheltered from inclement weather.	20	12
2.1.5	Overall curb appeal (Building and Site)	25	15
TOTAL - Building Exterior Elements		**100**	**64**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	6
2.2.3	Outdoor areas and structures are on accessible routes.	20	10
2.2.4	Building entrances and exits are barrier-free.	20	20
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	10
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	10
TOTAL - Accessibility		100	66

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	8
2.3.2	Condition of the (visible) foundations.	25	25
2.3.3	Condition of exterior and interior walls.	25	19
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		100	77

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	3
2.4.2	Roof insulation is adequate.	15	3
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	12
2.4.4	Condition of exterior windows.	15	6
2.4.5	Condition of exterior doors and frames.	10	6
2.4.6	Exterior glass is insulated.	15	3
2.4.7	Openings / penetrations are sealed.	5	4
2.4.8	Building has proper amounts of daylighting.	10	8
TOTAL - Building Envelope		100	45

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	16
2.5.2	Condition of flooring.	20	16
2.5.3	Condition of ceilings.	20	16
2.5.4	Condition of walls.	15	12
2.5.5	Condition of equipment.	15	12
2.5.6	Condition of doors and hardware.	15	9
2.5.7	Condition of casework.	15	9
2.5.8	Condition of visual display boards.	15	12
2.5.9	Condition of lockers.	0	
TOTAL - Interior / Finishes		135	102

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	12
2.6.2	Fire sprinkler system installed throughout building. **(Stage only)**	15	12
2.6.3	Security system is installed throughout building.	10	5
2.6.4	Card access control system is installed.	10	5
2.6.5	Security camera system is installed.	15	7
2.6.6	There are at least two independent exits from any point in the building.	10	10
2.6.7	Egress stairways are adequate.	10	8
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	5
2.6.9	Classroom doors are adequate for egress requirements.	5	4
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**73**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.7 Food Service

0 Points

		Possible	Earned
2.7.1	Condition of flooring.	0	0
2.7.2	Condition of ceilings.	0	0
2.7.3	Condition of walls.	0	0
2.7.4	Condition of lighting.	0	0
2.7.5	Condition of kitchen equipment.	0	0
2.7.6	Dry storage requirements vs. code	0	0
2.7.7	Refrigerated storage requirements vs. code	0	0
2.7.8	Condition of serving equipement.	0	0
2.7.9	Overall flow of food service.	0	0
TOTAL - Food Service		0	0

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.8 Mechanical — 200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	4
2.8.1b	Condition of the heating source.	0	0
2.8.2a	Cooling source type is appropriate for the application.	5	4
2.8.2b	Cooling exists in appropriate spaces.	5	4
2.8.2c	Condition of cooling source.	10	8
2.8.3	Condition of the heating and cooling distribution system.	20	16
2.8.4	Condition of the terminal devices.	0	0
2.8.5	Condition of the air handling equipment.	20	12
2.8.6	Condition of controls.	20	16
2.8.7	Ventilation effectiveness.	10	8
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	10	8
2.8.10	Plumbing fixtures are adequate for building occupancy	10	8
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	4
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	10	0
2.8.14	Condition of drinking fountains.	10	8
TOTAL - Mechanical		**165**	**116**

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	The air handling units are original and should be replaced
2	There are problems with the domestic hot water recirculation resulting in long delays before hw reaches the fixture.
3	There are hydronic flow and balance issues
4	Heating hot water is provided from the boilers in the Technology Building
5	Chilled water is provided by a Trane chiller (RTHC 1C1F - 2001) with a Evapco cooling tower (AT 19-79 - 2001)

MCC Facilities Assessment

Overbrook Theater / Fruenthal Foundation Art Center **8/13/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	15
2.9.2	Interior building and exterior building lights.	25	15
2.9.3	Condition / capacity of distribution and branch panels.	20	12
2.9.4	Condition site lighting.	15	0
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	9
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	0
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**130**	**59**

Notes:
1. The transformer that feeds the theater lights is very noisy.
2. The stage lighting control panel was installed in 1993.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

MCC Facilities Assessment

Overbrook Theatre / Fruenthal Foundation — 8/13/2010

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	163	82%
Building:				
2.1	Building Exterior Elements	100	82	82%
2.2	Accessibility	100	92	92%
2.3	Structural	100	91	91%
2.4	Building Envelope	100	84	84%
2.5	Interior / Finishes	135	114	84%
2.6	Life Safety	100	68	68%
2.7	Food Service	50	43	86%
2.8	Mechanical	175	140	80%
2.9	Electrical	115	75	65%
Totals:		**1175**	**952**	**81%**

MCC Facilities Assessment

Stevenson Center **8/11/2010**

Building Data Record

Building Name: James L. Stevenson Center for Higher Education

Street Address:

Building Data:

Original Construction: 1995

Additions/Renovations: N/A

Number of Floors: 3 Building Capacity:

Building Area: 93,500 SF Site Area:

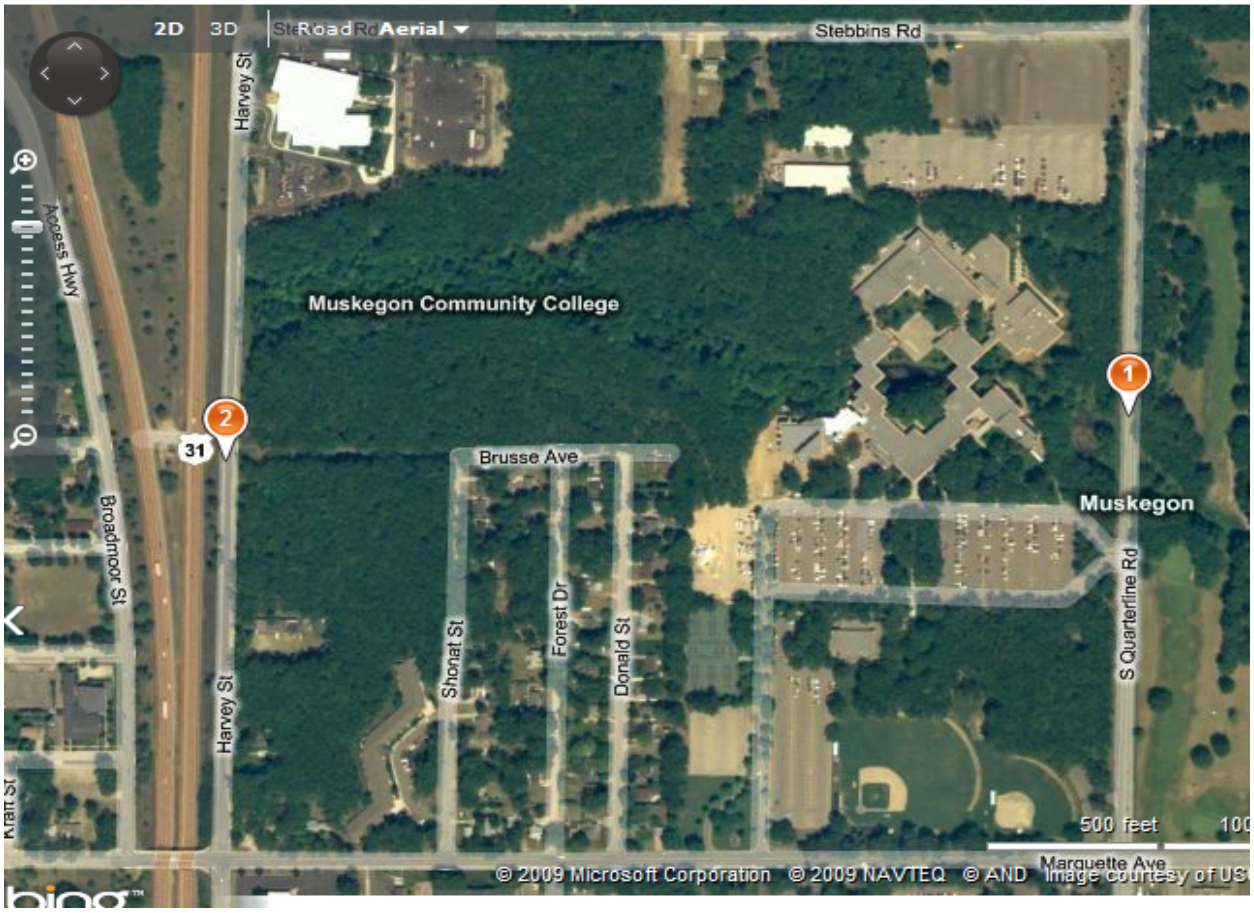
Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	☐ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	■ Steel Joists	■ Slab on Grade
	☐ Wood Joists	☐ Other	
Air Conditioning:	☐ Roof Top	☐ Window Units	■ Central
	☐ Room Units		
Heating:	☐ Roof Top	☐ Forced Air	■ Central
	☐ Room Units	☐ Steam	■ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary		
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

MCC Facilities Assessment

Stevenson Center **8/11/2010**

Aerial Photography

0



MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	20
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	25
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	20
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	16
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	13
1.6	Sufficient on-site parking is provided for all occupants	20	17
1.7	Condition of on-site parking	15	12
1.8	Vehicular entrances and exits permit safe traffic flow.	20	16
1.9	Outdoor facilities are adequate and accessible	15	8
1.10	Condition of outdoor facilities	20	16
TOTAL - Building Site		**200**	**163**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	13
2.1.2	Landscaping is adequate and appropriate.	20	16
2.1.3	Site and entry are well defined.	20	16
2.1.4	Entrances are sheltered from inclement weather.	20	16
2.1.5	Overall curb appeal (Building and Site)	25	21
TOTAL - Building Exterior Elements		**100**	**82**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	6
2.2.3	Outdoor areas and structures are on accessible routes.	20	20
2.2.4	Building entrances and exits are barrier-free.	20	16
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	20
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	20
TOTAL - Accessibility		100	92

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	20
2.3.2	Condition of the (visible) foundations.	25	25
2.3.3	Condition of exterior and interior walls.	25	21
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		**100**	**91**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	12
2.4.2	Roof insulation is adequate.	15	12
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	12
2.4.4	Condition of exterior windows.	15	15
2.4.5	Condition of exterior doors and frames.	10	8
2.4.6	Exterior glass is insulated.	15	15
2.4.7	Openings / penetrations are sealed.	5	4
2.4.8	Building has proper amounts of daylighting.	10	6
TOTAL - Building Envelope		100	84

Notes:
1.) Hollow metal doors at exterior (4) need replacement.
2.) Could use an overhang at offloading area at loading dock.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.5 Interior / Finishes — 135 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	20
2.5.2	Condition of flooring.	20	16
2.5.3	Condition of ceilings.	20	16
2.5.4	Condition of walls.	15	12
2.5.5	Condition of equipment.	15	13
2.5.6	Condition of doors and hardware.	15	13
2.5.7	Condition of casework.	15	12
2.5.8	Condition of visual display boards.	15	12
TOTAL - Interior / Finishes		135	114

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	12
2.6.2	Fire sprinkler system installed throughout building.	15	15
2.6.3	Security system is installed throughout building.	10	0
2.6.4	Card access control system is installed.	10	6
2.6.5	Security camera system is installed.	15	0
2.6.6	There are at least two independent exits from any point in the building.	10	10
2.6.7	Egress stairways are adequate.	10	10
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	5
2.6.9	Classroom doors are adequate for egress requirements.	5	5
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**68**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.7 Food Service — 50 Points

		Possible	Earned
2.7.1	Condition of flooring.	5	4
2.7.2	Condition of ceilings.	5	4
2.7.3	Condition of walls.	5	4
2.7.4	Condition of lighting.	5	4
2.7.5	Condition of kitchen equipment.	5	4
2.7.6	Dry storage requirements vs. code	5	5
2.7.7	Refrigerated storage requirements vs. code	5	5
2.7.8	Condition of serving equipment.	5	4
2.7.9	Overall flow of food service.	10	9
	TOTAL - Food Service	**50**	**43**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.8 Mechanical

200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	4
2.8.1b	Condition of the heating source.	0	0
2.8.2a	Cooling source type is appropriate for the application.	5	4
2.8.2b	Cooling exists in appropriate spaces.	5	4
2.8.2c	Condition of cooling source.	0	0
2.8.3	Condition of the heating and cooling distribution system.	20	16
2.8.4	Condition of the terminal devices.	20	16
2.8.5	Condition of the air handling equipment.	20	16
2.8.6	Condition of controls.	20	16
2.8.7	Ventilation effectiveness.	10	8
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	10	8
2.8.10	Plumbing fixtures are adequate for building occupancy	10	8
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	8
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	10	8
2.8.14	Condition of drinking fountains.	10	8
TOTAL - Mechanical		**175**	**140**

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	The exhaust ventilation in Graphics is not adequate.
2	Only one of the two water heaters is on-line, the other is shut down.
2	The cooling and heating source is provided from the Technology Building

MCC Facilities Assessment

James L. Stevenson Center for Higher Education **8/11/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	15
2.9.2	Interior building and exterior building lights.	25	20
2.9.3	Condition / capacity of distribution and branch panels.	20	16
2.9.4	Condition site lighting.	0	0
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	12
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	4
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**115**	**75**

Notes:
1. Need more receptacles in lecture hall for laptops.
2. Lighting controls are not working in the lecture hall.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

3.0 Recommendations

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

TowerPinkster Making it real

MCC Facilities Assessment

Stevenson Center **8/11/2010**

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

MCC Facilities Assessment

Technology Building **8/13/2010**

Building Rating System

		Possible	Earned	Percent
Site:				
1.0	Total Points	200	140	70%
Building:				
2.1	Building Exterior Elements	100	74	74%
2.2	Accessibility	100	80	80%
2.3	Structural	100	71	71%
2.4	Building Envelope	100	56	56%
2.5	Interior / Finishes	150	90	60%
2.6	Life Safety	100	60	60%
2.7	Food Service	0	0	#DIV/0!
2.8	Mechanical	180	131	73%
2.9	Electrical	115	62	54%
Totals:		**1145**	**764**	**67%**

MCC Facilities Assessment

Technology Building **8/13/2010**

Building Data Record

Building Name: Technology Building

Street Address:

Building Data:

Original Construction: 1966

Additions/Renovations: N/A

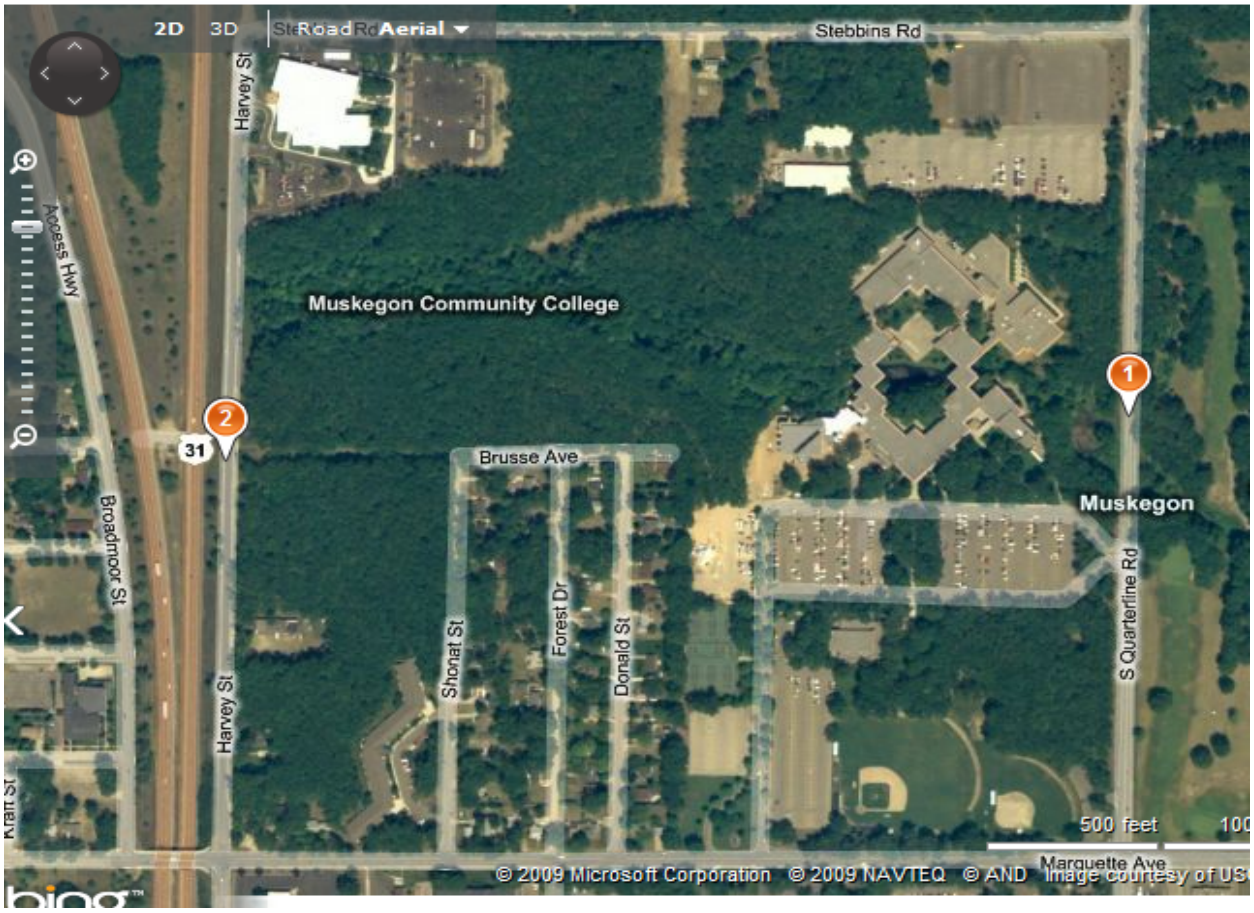
Number of Floors: 1 Building Capacity:

Building Area: 45,000 SF Site Area:

Types of Construction:	☐ Bearing Masonry	■ Steel Frame	☐ Concrete Frame
	☐ Wood	☐ Other	
Exterior Surfacing:	■ Brick	☐ Metal	☐ Stucco
	☐ Wood	☐ Other	
Floor Construction:	☐ Structural Slab	☐ Steel Joists	■ Slab on Grade
	☐ Wood Joists	☐ Other	
Air Conditioning:	☐ Roof Top	☐ Window Units	■ Central
	☐ Room Units		
Heating:	☐ Roof Top	☐ Forced Air	■ Central
	☐ Room Units	☐ Steam	■ Hot Water
Electrical Service:	☐ Aerial	■ Underground	■ Primary 7200/12470V
	☐ Secondary		
	480/277V Voltage:	**3** Phase:	**4** Wire:
Generator:	☐ Exists	☐ Natural Gas	☐ Diesel
	■ None		

Aerial Photography

0



MCC Facilities Assessment

Technology Building **8/13/2010**

1.0 Building Site — 200 Points

		Possible	Earned
1.1	Site is large enough to meet present needs and future needs.	25	13
1.2	Separation of bus, car and pedestrian traffic is adequate for the safety of occupants.	25	22
1.3	Site has stable, well drained soil with no signs of erosion. Storm water management is effective.	25	23
1.4	Pedestrian services include adequate sidewalks with crosswalks, curb cuts, etc.	20	14
1.5	Condition of Pedestrian services include sidewalks, curb cuts, etc.	15	12
1.6	Sufficient on-site parking is provided for all occupants	20	12
1.7	Condition of on-site parking	15	12
1.8	Vehicular entrances and exits permit safe traffic flow.	20	12
1.9	Outdoor facilities are adequate and accessible	15	6
1.10	Condition of Outdoor facilities	20	14
TOTAL - Building Site		**200**	**140**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.1 Building Exterior Elements — 100 Points

		Possible	Earned
2.1.1	Exterior building / site signage is adequate.	15	11
2.1.2	Landscaping is adequate and appropriate.	20	16
2.1.3	Site and entry are well defined.	20	14
2.1.4	Entrances are sheltered from inclement weather.	20	15
2.1.5	Overall curb appeal (Building and Site)	25	18
TOTAL - Building Exterior Elements		**100**	**74**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.2 Accessibility — 100 Points

		Possible	Earned
2.2.1	Exterior Walks and drives contain barrier-free curb cuts for building accessibility.	10	10
2.2.2	Barrier-Free parking is provided.	10	6
2.2.3	Outdoor areas and structures are on accessible routes.	20	20
2.2.4	Building entrances and exits are barrier-free.	20	16
2.2.5	Toilet rooms are on accessible routes and designed to meet barrier-free codes.	20	14
2.2.6	Occupied spaces are accessible and are on accessible routes.	20	14
TOTAL - Accessibility		100	80

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.3 Structural — 100 Points

		Possible	Earned
2.3.1	Condition of the roof.	25	8
2.3.2	Condition of the (visible) foundations.	25	22
2.3.3	Condition of exterior and interior walls.	25	16
2.3.4	Structure is non-combustible.	25	25
TOTAL - Structural		**100**	**71**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.4 Building Envelope — 100 Points

		Possible	Earned
2.4.1	Wall insulation is adequate.	15	9
2.4.2	Roof insulation is adequate.	15	9
2.4.3	Condition of exterior wall finishes, masonry, siding, etc.	15	9
2.4.4	Condition of exterior windows.	15	6
2.4.5	Condition of exterior doors and frames.	10	6
2.4.6	Exterior glass is insulated.	15	3
2.4.7	Openings / penetrations are sealed.	5	4
2.4.8	Building has proper amounts of daylighting.	10	10
TOTAL - Building Envelope		100	56

Notes:
1.) Water is penetrating at top of wall (parapet) above boiler room. Possibly a flashing issue.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.5 Interior / Finishes — 150 Points

		Possible	Earned
2.5.1	Condition of toilet rooms.	20	12
2.5.2	Condition of flooring.	20	12
2.5.3	Condition of ceilings.	20	12
2.5.4	Condition of walls.	15	12
2.5.5	Condition of equipment.	15	9
2.5.6	Condition of doors and hardware.	15	9
2.5.7	Condition of casework.	15	6
2.5.8	Condition of visual display boards.	15	9
2.5.9	Condition of lockers.	15	9
TOTAL - Interior / Finishes		150	90

Notes:
1.) Request for tiled floors, new benches, new lighting and quieter mechanical system.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.6 Life Safety and Security — 100 Points

		Possible	Earned
2.6.1	Fire alarm system is up-to-date and adequate for building served.	15	12
2.6.2	Fire sprinkler system installed throughout building.	15	0
2.6.3	Security system is installed throughout building.	10	5
2.6.4	Card access control system is installed.	10	5
2.6.5	Security camera system is installed.	15	7
2.6.6	There are at least two independent exits from any point in the building.	10	8
2.6.7	Egress stairways are adequate.	10	8
2.6.8	Exterior doors open outward and are equipped with panic hardware.	5	5
2.6.9	Classroom doors are adequate for egress requirements.	5	5
2.6.10	Corridors lead to an exit or exit stair.	5	5
TOTAL - Life Safety and Security		**100**	**60**

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.7 Food Service

0 Points

		Possible	Earned
2.7.1	Condition of flooring.	0	
2.7.2	Condition of ceilings.	0	
2.7.3	Condition of walls.	0	
2.7.4	Condition of lighting.	0	
2.7.5	Condition of kitchen equipment.	0	
2.7.6	Dry storage requirements vs. code	0	
2.7.7	Refrigerated storage requirements vs. code	0	
2.7.8	Condition of serving equipement.	0	
2.7.9	Overall flow of food service.	0	
TOTAL - Food Service		0	0

Notes:

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

2.8 Mechanical — 200 Points

		Possible	Earned
2.8.1a	Heat source type is appropriate for the application.	5	4
2.8.1b	Condition of the heating source.	15	10
2.8.2a	Cooling source type is appropriate for the application.	5	4
2.8.2b	Cooling exists in appropriate spaces.	5	3
2.8.2c	Condition of cooling source.	10	8
2.8.3	Condition of the heating and cooling distribution system.	20	16
2.8.4	Condition of the terminal devices.	0	0
2.8.5	Condition of the air handling equipment.	20	12
2.8.6	Condition of controls.	20	12
2.8.7	Ventilation effectiveness.	10	6
2.8.8	Condition of the sanitary system.	10	8
2.8.9	Condition of the storm system.	10	8
2.8.10	Plumbing fixtures are adequate for building occupancy	10	8
2.8.11	Condition of exterior water supply.	10	8
2.8.12	Condition of the internal water distribution system.	10	8
2.8.13	Speciality classrooms (labs, shops, etc.) are equipped with the appropriate plumbing fixtures.	10	8
2.8.14	Condition of drinking fountains.	10	8
TOTAL - Mechanical		**180**	**131**

Notes:
See next page.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

2.8 Mechanical Cont.

Notes:

1	The campus boilers are located in this building Weil-McLain cast iron sectional
2	Trane water cooled chiller (RTHA 300 - 1994) with Evapco tower (AT19-114 - 2010) serves Technology, Graphics, and Stevenson Center.
3	Water treatment is provided by ENERCO
4	Chilled water has been piped, valved, and capped to the shop air handling units
5	One shop unit has been replaced and connected to the chilled water loop.
7	Could use some pipe insulation repair.

MCC Facilities Assessment

Technology Building **8/13/2010**

2.9 Electrical — 150 Points

		Possible	Earned
2.9.1	Condition of the electrical service.	25	20
2.9.2	Interior building and exterior building lights.	25	15
2.9.3	Condition / capacity of distribution and branch panels.	20	16
2.9.4	Condition site lighting.	0	0
2.9.5	Emergency lighting is provided and meets current egress requirements.	15	3
2.9.6	Condition of receptacles and circuiting.	10	8
2.9.7	Lighting controls are provided to meet energy code.	10	0
2.9.8	Condition of public address system.	0	0
2.9.9	Condition of clock system.	0	0
2.9.10	Emergency power is provided by a generator.	10	0
TOTAL - Electrical		**115**	**62**

Notes:
1. The emergency battery lights were not working when tested.

Maximum Points	Non-Existent 0%	Very Inadequate 1-29%	Poor 30-49%	Borderline 50-69%	Satisfactory 70-89%	Excellent 90-100%
5	0	1	2	3	4	5
10	0	2	4	6	8	10
15	0	3	6	9	12	15
20	0	4	8	12	16	20
25	0	5	10	15	20	25

MCC Facilities Assessment

Technology Building **8/13/2010**

This section is intended to document and quantify recommended items / improvements noted during the building assessment. This section is included as a means of quantifying improvement cost through a conceptual estimate. These costs are placeholders of potential value to a recommended item. They only attempt to give an estimated dollar value to a recommended item. This section is designed as a tool to demonstrate the potential costs of recommendations / improvements and provide a comparison based on these costs to other buildings in the district. These costs broken down into recommended time lines based on a 5 year, 10 year and 15 year time table.

Recommendations to be performed within 1 to 5 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
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			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 1 to 5 years **$ -**

MCC Facilities Assessment

Technology Building — 8/13/2010

Recommendations to be performed within 6 to 10 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 6 to 10 years $ -

Recommendations to be performed within 11 to 15 years	Area / Qty.	*Cost per	Total
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -

TOTAL - 11 to 15 years $ -

GRAND TOTAL $ -

* The cost reflect total project costs and include: Architectural fees, Construction Management fees, Building Permit fees, moving costs, abatement costs, etc.

JDH
Structural
Engineering

March 3, 2010

Mr. Thomas Mathison
Tower Pinkster
678 Front Avenue, NW Suite 255
Grand Rapids, MI 49504-5323

RE: Muskegon Community College
Master Plan Review - Floor Structure Cracks
JDH File 0912-015

Dear Tom:

In conjunction with the facility assessment, concrete cracks in the floor structure over the corridor at Rooms 230 to 240 were reviewed. Observations were compared with information contained on the original design drawings and with a report prepared by Fleis and Vandenbrink Engineering, Inc., dated October 21, 2009.

The floor structure consists of a monolithic concrete slab and joist system supported by steel beams. Cracks were observed running parallel to the hallway and steel support beams, perpendicular to the joist span, located approximately three feet from the beams, extending from the slab into the joists. The cracks seem to be limited to this particular area, ending at the ends of the corridor where a steel beam indicates a change in direction. Cracks were not observed in the floor areas adjacent to the hallway, nor in the walls; cracks of comparable magnitude were not apparent in the slab below this level.

After review of the Fleis and Vandenbrink report, our findings generally concur with that report's conclusion that the cracks are the result of internal tension forces generated by negative moment through the joists and slab across the support beam. Reinforcement designations on the design drawings are somewhat unclear in terms of whether continuous reinforcements were required at this location, and the contractor's interpretation of construction is unknown.

It is possible that the cracks occurred shortly after construction and the condition largely unnoticed. It was reported that the concern arose when an uneven top surface was noted after flooring replacement.

We evaluated the joists over the corridor as a single span, using the joist schedule information on the original drawings. That evaluation indicates sufficient capacity to support normal corridor loading. The probability is that the concrete has reached a level of stability such that the cracks will not increase noticeably; in that regard, combined with the result that there is sufficient capacity, it is our opinion that supplemental structure is not required. It is recommended, however, that markings placed by Fleis and Vandenbrink be noted for any potential change. If there is no evidence of change, the recommendation will be that the cracks be cleaned and injected with an epoxy repair material.

Please feel free to call with any questions.

Sincerely,

JDH ENGINEERING, INC.

Larry A. Hulst, PE, SECB

LAH/ln g:\09jobs\12-015\Floor Crack Review
Copy- Ron Boezwinkle, Tower Pinkster

FLEIS & VANDENBRINK
ENGINEERING, INC.
Offices in Michigan and Indiana

October 21, 2009

Mr. Gerald Nyland, Maintenance Supervisor
Muskegon Community College
221 S Quarterline Road
Muskegon, MI 49442

Re: Structural Investigation of Several Campus Buildings – Updated per Req. #6663

Dear Mr. Nyland:

We have completed our review of the three items identified in our proposal dated April 16, 2009. A summary of our review is as follows:

Item No. 1 – Cracking in T-slab of Main Building

The first area of concern is in the classroom area of the main building. The 3rd floor concrete joists and flooring above the hallway adjoining Room 230 to 240 exhibit severe cracking. The main framing in this area consists of steel beams running parallel with the hallway located in the partition walls separating the hallway from the classroom areas. These beams are supported by steel columns, which carry the loads to the foundation. The steel beams, in turn, support a series of concrete joists and integral concrete floor. The concrete joists are oriented perpendicular to the hallway. We have attached a schematic of the area for your reference. The cracks are primarily located within 3 feet of the steel beams supporting the hallway and oriented parallel to the hallway. The cracks range from hairline cracking at the bottom of the concrete joists to approximately 0.1" or more in the floor slab. There is additional secondary cracking radiating from the main crack with concrete spalling. Based on a limited review of the surrounding area, the cracking observed appears to be concentrated in the hallway location.

We initially considered settlement of the building or parts thereof as a cause for the cracking. During our site visit, we discussed historic periods of sand migration through the drain tile system for the building. Based on the construction drawings we were provided, most of the columns in the area are supported by pile foundations, which would not typically be susceptible to settlement from a loss of soil through the drainage system. Additionally, we did not note cracking in the adjacent partition walls or racking of the doors or windows, which would be expected with building settlement. Also, the joists and flooring between the 1st and 2nd floors show limited cracking, minor in comparison to the area in question and more significant cracking would be expected in the other floors if foundation settlement were a primary cause of the cracking.

2960 Lucerne Dr., SE, Grand Rapids, MI 49546 • Office: (616) 977-1000 • Fax: (616) 977-1005 • www.fveng.com

We also considered flexure of the concrete joists under loading as a primary cause of the cracking and feel this to be the likely cause based on several factors. The first factor is the nature of the cracking itself. The cracks are predominantly oriented parallel to the steel support beams, which could indicate flexure. The cracking is generally located near the supports, which would be expected from high stresses due to negative moment bending near the supports in a continuous beam configuration. Cracking has opened to approximately 0.1" at the top of the section but has remained fairly tight at the bottom, which further supports the contention that the cracking is the result of high stresses over the supports.

The second factor considered is the design on the construction plans and possible misinterpretations by contractors. Sheet S13 shows the framing for the area in question. It indicates that the joists spanning the hallway area are to be a "1DJ21", which is a 5"x8" joist with integral 2-1/2" floor slab and a "1DJ20", which is a 6"x14" joist with integral 3" floor slab spanning the adjacent classrooms. For high stresses due to negative moment to be a primary cause of the cracking, the joists and flooring would have to be at least partially continuous at the support. Based on our review of the drawings it is possible that a contractor misunderstood whether the joists were to be constructed continuous over the support beam. First, the notes on sheet S5 indicate "concrete joists shall be spaced for continuous construction from bay to bay unless otherwise shown on the drawing". Under the "Remarks" column of the joist schedule on sheet S13, it indicates that the 1DJ21 joists are not to be continuous with the 1DJ20 joists. However, the construction joints at the support beam were specifically called out on the plans for Part C of the building, but the callout was omitted from the area in question in Part D. Also, the building is fairly symmetric in Part D, and the opposite area appears to be designed for continuous construction. Finally, the joist schedule calls for a #3 dowel bar, 3' long, to be placed across the construction joint at each joist, which would at least partially fix the joint and allow negative moment transmission. Based on these items, it is possible that the contractor misinterpreted the design intent and constructed 1DJ20 and 1DJ21 continuous and did not leave a break in the welded wire fabric reinforcement in the slab. Finally, the joist callouts appear to show the concrete joists parallel to the hallway as opposed to perpendicular, which appears to be the design intent and is how they were constructed. This could have caused further confusion during construction and possibly resulted in improper orientation of the welded wire fabric, which would further reduce the section's ability to resist negative moments.

Based on these two factors, we feel that enough negative moment was transmitted through the joints at the supports of the 1DJ21 joists to cause cracking of the section. Since the reinforcement in the floor slab is nominal welded wire fabric for temperature and shrinkage, the cracking has opened and propagated under loading. We also noted the welded wire fabric exposed in one of the cracks because it was placed with limited cover near the bottom of the floor slab. This lower position would reduce the fabric's effectiveness in resisting moments and allow wider growth of cracking.

Due to the severity of the cracking, we recommend that MCC consider a repair/retrofit to the area to prevent further damage to the structure and increase reliability. A retrofit could take the form of supplemental carbon fiber reinforcement applied to the top of the flooring, a supplemental steel system from the bottom of the section in conjunction with sealing of the cracking or another approach designed to reinforce the section. During our site visit, we marked and recorded crack widths in a number of areas. Because the timeline to budget, plan, design and construct repairs could be a lengthy one, we recommend that the cracking be monitored for further progression. We also recommend reviewing the corresponding area in Part "C" of the building, because it is similar in design.

Item No. 2 – Cracking in the masonry wall adjacent to costume storage

The second area reviewed is located in the art wing. There is a mechanical "penthouse" above the second floor mezzanine behind the theater stage area. The mezzanine area beneath the penthouse is used for storage. A costume rack was installed after construction on the mezzanine level adjacent to the penthouse and is connected to a masonry wall supported by the penthouse framing. The masonry wall exhibits cracking in the masonry joints throughout a significant portion of the costume rack area and several cracked masonry units. The cracking tends to be in a "stepped" configuration above the second course of masonry. During our review, we observed that the cracking was generally in the range of 0.03" to 0.04" in width with the worst cracking in the horizontal joint between the first and second courses of masonry block.

From the construction plans provided, we noted that the wall is supported by a steel beam spanning between steel columns. The beam is encased in concrete, likely for fire protection. The beam also carries roof loading from a series of steel columns. We did not note any deterioration of the concrete surrounding the beam, although it is possible that any deterioration was masked by periodic painting of the area.

Based on our review, we feel it is unlikely that the installation of the costume rack is the primary cause for the cracking. The worst cracking is located below the level of the costume rack connections. If the costume rack connections were exerting significant vertical load on the masonry wall, it would have a tendency to close any cracking between the connection and the beam. Based on the configuration of the racks, it appears that a large portion of the load is being carried by the mezzanine flooring, and the masonry wall connection is carrying the balance and providing lateral support. A more likely scenario is that the beam has deflected after construction of the masonry wall, either from mechanical equipment loading or roof loading above.

Because the area is fairly open and unfinished, a supplemental support option for the beam could be considered. This could entail installation of a column from the beam through the mezzanine level to a new foundation cut through the slab at grade below. Based on the fairly limited severity of the cracking and the apparent lack of cracking of the concrete encasing the steel beam, monitoring the issue for a change in severity is likely a more prudent course of action.

Item No. 3 – Area B Snake Pit and Area D floors sand migration and groundwater undermining

Because much of the lower level of the building was constructed below the water table, a system of drain tiles was installed to control water. The drains collect water and convey it to a pump station, which discharges into the adjacent pond. Based on our conversation, we understand that throughout the life of the building, sand migration has been a problem and that it routinely shows up in the pond near the discharge area. During our site visits, we observed a small amount of sand near the discharge point. We also examined the floor slab of the snake pit area. We understand that this was the location of several of the floor drain failures. We did not note any cracking in the floor slab, which would be a potential indicator of significant undermining. Based on our limited visual review, it appears unlikely that severe undermining has taken place. We recommend that suspect areas be monitored for cracking, at which time specific areas could be evaluated in greater detail. We understand that you are also in the process of potentially eliminating the footing drains in favor of a dewatering well system to use the water for heating and cooling. This would not only help by eliminating the drains, but would also keep sand from entering the pumps, which can cause premature wear of the impellers and other mechanical pump components. If the well system is not constructed, a sand screening system could also be installed upstream of the pump to reduce the amount of sand in the pump chamber and subsequently in the pond.

We have enclosed applicable plan sheets highlighting specific information relating to our findings and are returning the original plans you provided for the drain tiles. We appreciate the opportunity to work with you on this project. Please feel free to call with any questions.

Sincerely,

FLEIS & VANDENBRINK ENGINEERING, INC.

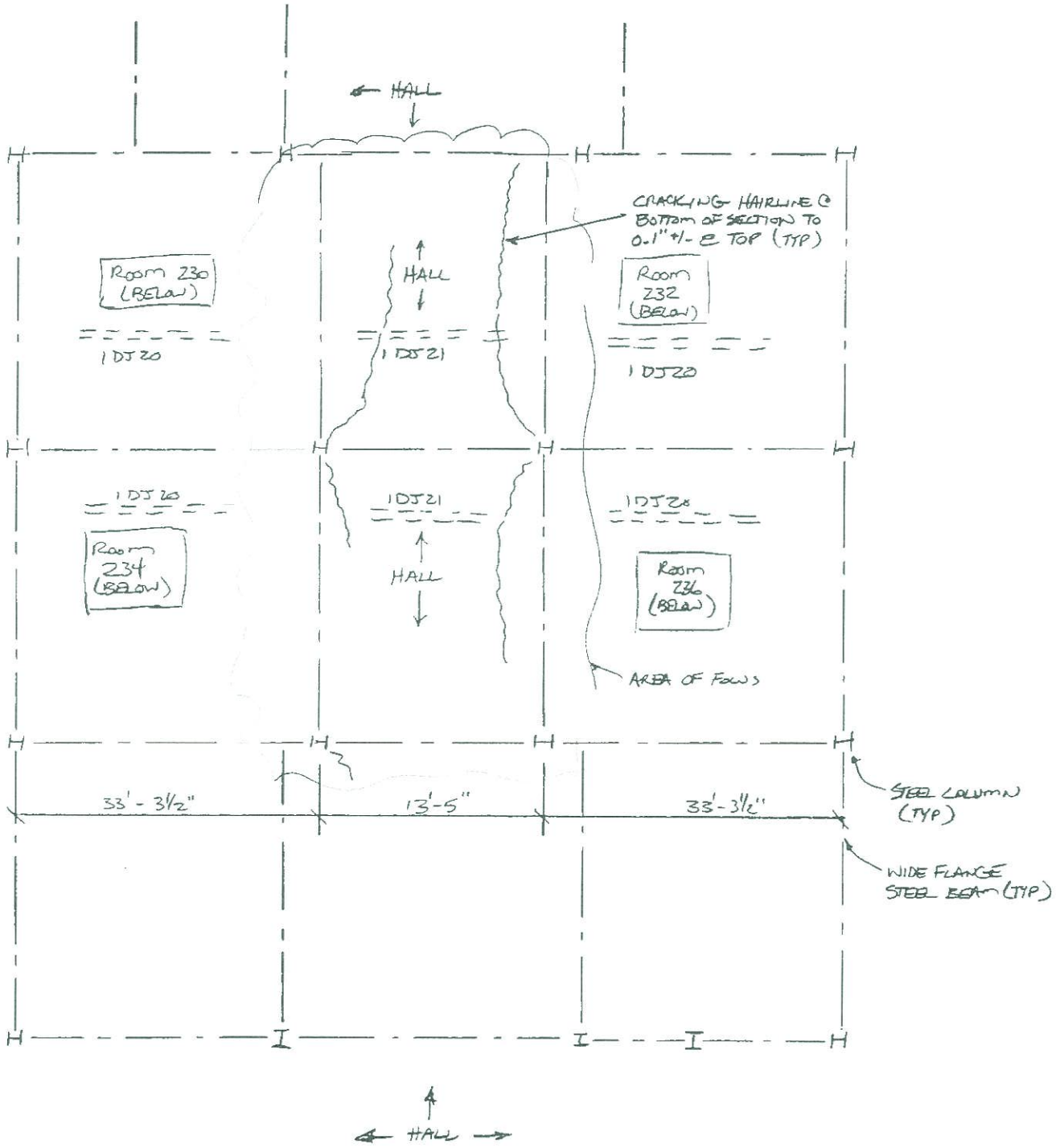
Jonathan W. Moxey, P.E.
Project Manager

Encl.

FLEIS & VANDENBRINK
ENGINEERING, INC.
www.fveng.com

Calculation Sheet

Computed by MOXEY Subject STRUCTURAL REVIEW Sheet 1 of 1
Checked by _____ Client MCC Job No. 802720 Date 10/8/09



SCHEMATIC OF "FIRST FLOOR FRAMING PLAN"
(BETWEEN 2ND & 3RD FLOORS OF BUILDING)

2009/10 Fiscal Year

Revenue:

Transfer In from General Fund	400,000
Miscellaneous Revenue	25,500
	425,500

Expenditures:

HVAC System Upgrades – Main Building	2210(25) 2813(225)	250,000
Gym Fire Alarm System Upgrade	2813	100,000
Roof Replacement/Repairs	2260	200,000
Insulation/Carpet Project	2813/2260	50,000
Window/Door Replacement	2260	250,000
Golf Course	2700	50,000
Landscaping	2803	30,000
Furniture/Equipment/Remodeling (SOS)	2260(20) 2240(50)	70,000
Vehicle Replacement	2840	30,000
Budgeted Requests	2353	100,000
Parking Lot: crack seal, stripe S-1, S-2, S-3, M-1,M-2,M-3,BKS,Stripe Marq. Ent.	2803	80,000
		1,210,000

2010/11 Fiscal Year

Revenue:

Transfer In from General Fund	400,000
Miscellaneous Revenue	25,500
	425,500

Expenditures:

HVAC System Upgrades – Main Building	150,000
Roof Replacement/Repairs	325,000
Insulation Project	50,000
Window/Door Replacement	150,000
Golf Course	50,000
Landscaping	30,000

Furniture/Equipment/Remodeling	80,000
Science Lab renovation – 245, 255	50,000
Vehicle Replacement	30,000
Parking Lot: Resurface M2, M3, seal coat Tech Wing lots, N&S Quarteline ents	150,000
	1,065,000

2011/12 Fiscal Year

Revenue:

Transfer In from General Fund	400,000
Miscellaneous Revenue	25,500
	425,500

Expenditures:

HVAC System Upgrades – IT back up cooling	200,000
Roof Replacement/Repairs	250,000
Chiller rebuild Fine Arts	50,000
Window/Door Replacement Project	150,000
Golf Course	50,000
Landscaping	30,000
Furniture/Equipment/Remodeling	80,000
Science Lab renovation – 247, 253	50,000
Vehicle Replacement	30,000
Resurface N1 & N2& N3	150,000
	1,040,000

2012/13 Fiscal Year

Revenue:

Transfer In from General Fund	400,000
Miscellaneous Revenue	25,500
	425,500

Expenditures:

HVAC System Upgrades – Chiller loop	100,000
Roof Replacement/Repairs	385,000
Theater Audio System	100,000

Interior Wayfinding upgrade	150,000
Golf Course	50,000
Landscaping	30,000
Furniture/Equipment/Remodeling	80,000
Resurface S1, Sc & S3 lots	150,000
	1,045,000

2013/14 Fiscal Year

Revenue:

Transfer In from General Fund	400,000
Miscellaneous Revenue	25,500
	425,500

Expenditures:

Electrical Upgrades - distribution	150,000
HVAC System Upgrades – chiller rebuild	100,000
Roof Replacement/Repairs	50,000
Emergency Generator	200,000
Structural repairs – Main Building	200,000
Window/Door Replacement Project	150,000
Golf Course	50,000
Landscaping	30,000
Furniture/Equipment/Remodeling	80,000
Resurface M1 lot	50,000
	910,000

2014/15 Fiscal Year

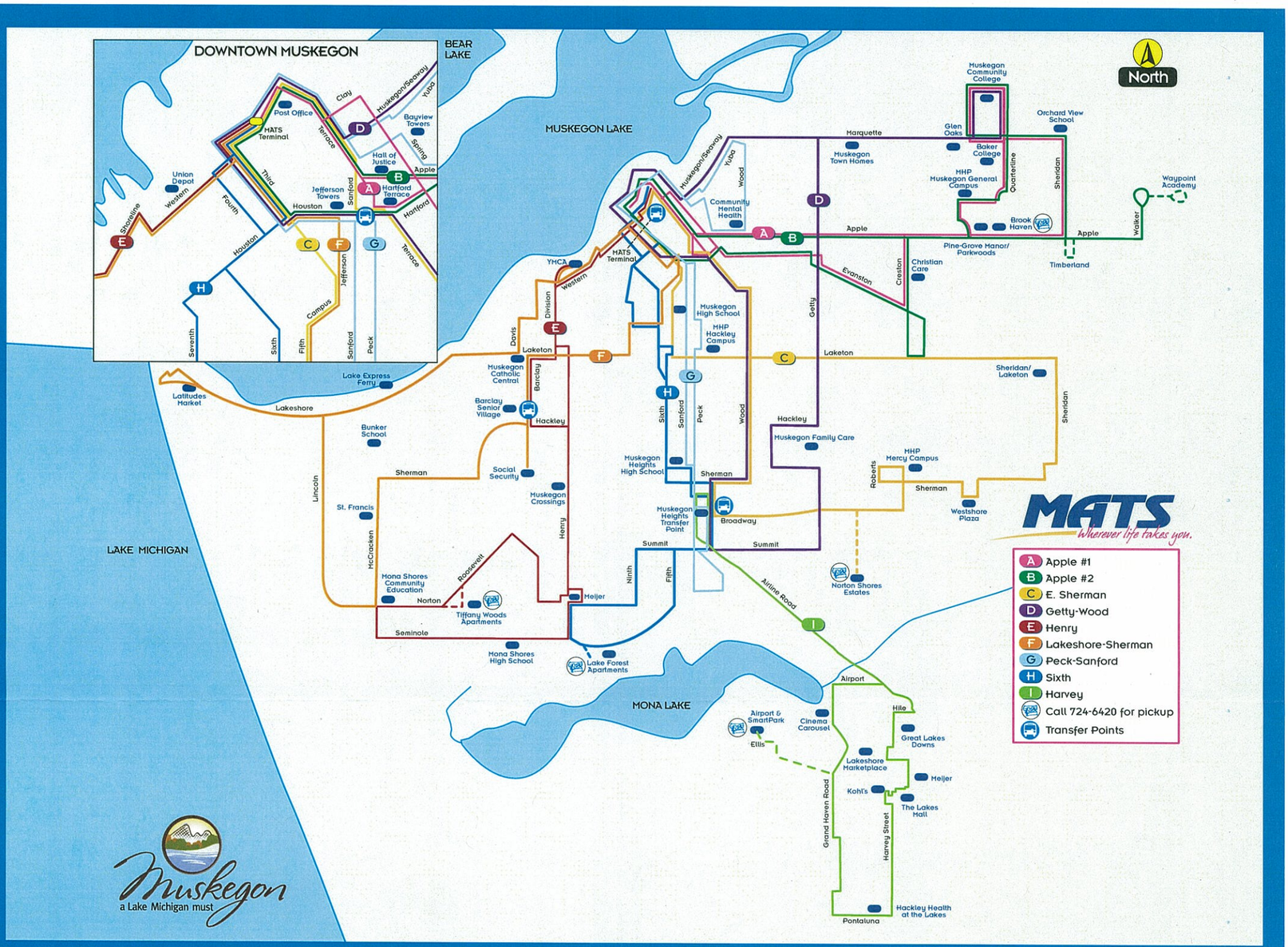
Revenue:

Transfer In from General Fund	400,000
Miscellaneous Revenue	25,500
	425,500

Expenditures:

HVAC System Upgrades – Main Building	250,000
Roof Replacement/Repairs	50,000
Theater Electrical upgrade	50,000

Structural repairs – Main Building	200,000
Window/Door Replacement Project	150,000
Golf Course	50,000
Landscaping	30,000
Furniture/Equipment/Remodeling	80,000
Parking Lot: crack seal, stripe S-1, S-2, S-3, M-1,M-2,M-3,BKS.	70,000
	930,000



FARES:

	Standard Fare	Discount Fares Senior	Disabled
Single-Ride Cash Fare	$1.25	$0.60	$0.60
Ten-Ride Ticket	$12.50	$6.00	$6.00
Unlimited Monthly Bus Pass*	$40.00	$20.00	$20.00

Exact Change Only

Children through age 5 may ride FREE when accompanied by an adult.

DEFINITIONS:

Discount Fare: The Discount Fare is available to seniors (age 60 and over), persons with disabilities, or Medicare card-holders. Seniors may be asked to show proof of age. Persons with disabilities must show a MATS Discount Fare card or Medicare card as proof of eligibility. Temporary Medicare cards are accepted as proof of disability. Drivers may request picture identification with the use of discount cards.

*Unlimited Monthly Bus Passes are nontransferable and intended for use by one individual for the course of a calendar month.

DAYS OF OPERATION:

Monday – Friday 6:30am – 6:00pm

Saturday 9:30am – 5:45pm

No service on New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

BUS STOPS:

The bus will stop on any street corner along the route where it is safe to stop. Please signal the driver if you wish to ride.

MATS
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NITE ROUTES

Routes - Apple #1

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Hours
Monday- Friday 6:54am - 5:54pm
Saturday 9:54am - 5:33pm

Click Here for Map View PDF

Apple #1							
1	2	3	4	5	6	8	9
MATS Passenger Terminal East	Hartford Terrace East	Apple & Getty East	Shonat/ Plumbs East	Muskegon Community College	Baker College	Pine-Grove Manor/ Parkwoods West	Catherine & Getty West
						6:54*	7:03*
7:20*	7:24*	7:30*	7:35*	7:43*	7:44*	7:54*	8:03*
8:20*	8:24*	8:30*	8:35*	8:43*	8:44*	8:54*	9:03*
9:20*	9:24*	9:30*	9:35*	9:43*	9:44*	9:54	10:03
10:20	10:24	10:30	10:35	10:43	10:44	10:54	11:03
11:20	11:24	11:30	11:35	11:43	11:44	11:54	12:03
12:20	12:24	12:30	12:35	12:43	12:44	12:54	1:03
1:20	1:24	1:30	1:35	1:43	1:44	1:54	2:03
2:20	2:24	2:30	2:35	2:43	2:44	2:54	3:03
3:20	3:24	3:30	3:35	3:43	3:44	3:54	4:03
4:20	2:24	4:30	4:35	4:43	4:44	4:54	5:03
5:20	5:24	5:30	5:35*	5:43*	5:44*	5:54*	

* = No Saturday Service
Call MATS Dispatcher at 724-6420
for pickup at Brookhaven.

System-Wide Map

Henry | Sixth | Apple #1

Apple #2 | Getty-Wood | Lakeshore-Sherman

Peck-Sanford | Harvey | E. Sherman

Seasonal Routes

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Routes - Apple #2

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Hours
Monday - Friday 6:50am - 5:39pm
NO Saturday Service

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Apple #2								
1	2	3	4	5	6	7	8	9
MATS Terminal East	Hartford Terrace East	Catherine & Getty East	Laketon & Creston	Apple & Quarterline East	Apple & Walker West	Muskegon Community College	Shonat/ Plumbs West	Apple & Getty West
6:50	6:55	6:59	7:05	7:09	7:14	7:21	7:30	7:34
7:50	7:55	7:59	8:05	8:09	8:14	8:21	8:30	8:34
8:50	8:55	8:59	9:05	9:09	9:14	9:21	9:30	9:34
9:50	9:55	9:59	10:05	10:09	10:14	10:21	10:30	10:34
10:50	10:55	10:59	11:05	11:09	11:14	11:21	11:30	11:34
11:50	11:55	11:59	12:05	12:09	12:14	12:21	12:30	12:34
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2:50	2:55	2:59	3:05	3:09	3:14	3:21	3:30	3:34
3:50	3:55	3:59	4:05	4:09	4:14	4:21	4:30	4:34
4:50	4:55	4:59	5:05	5:09	5:14	5:21	5:30	5:34

This route offers Nite Route service.

NITE ROUTES

System-Wide Map

Henry | Sixth | Apple #1

Apple #2 | Getty-Wood | Lakeshore-Sherman

Peck-Sanford | Harvey | E. Sherman

Seasonal Routes

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Muskegon Area Transit System > Routes > Getty-Wood

Routes - Getty-Wood

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Hours
Monday - Friday 6:28am - 6:20pm
Saturday 9:50am - 5:42pm

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Getty-Wood							
1	2	3	5	6	7	8	9
MATS Passenger Terminal East	Marquette & Erickson East	Muskegon Community College	Jarman & Hume	Summit & Woodcliffe West	Muskegon Heights Transfer Point	Wood & Laketon	Hartford & Terrace
					6:28*	6:34*	6:38*
6:50*	6:54*	7:04*	7:18*	7:24*	7:28*	7:34*	7:38*
7:50*	7:54*	8:04*	8:18*	8:24*	8:28*	8:34*	8:38*
8:50*	8:54*	9:04*	9:18*	9:24*	9:28*	9:34*	9:38*
9:50	9:54	10:04	10:18	10:24	10:28	10:34	10:38
10:50	10:54	11:04	11:18	11:24	11:28	11:34	11:38
11:50	11:54	12:04	12:18	12:24	12:28	12:34	12:38
12:50	12:54	1:04	1:18	1:24	1:28	1:34	1:38
1:50	1:54	2:04	2:18	2:24	2:28	2:34	2:38
2:50	2:54	3:04	3:18	3:24	3:28	3:34	3:38
3:50	3:54	4:04	4:18	4:24	4:28	4:34	4:38
4:50	4:54	5:04	5:18	5:24	5:28	5:34	5:38
5:50	5:54*	6:04*	6:18*				

* = No Saturday Service

This route offers Nite Route service.

System-Wide Map
Henry
Sixth
Apple #1
Apple #2
Getty-Wood
Lakeshore-Sherman
Peck-Sanford
Harvey
E. Sherman
Seasonal Routes

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Muskegon Area Transit System > Nite Routes > Apple #2

NITE ROUTES

Nite Routes - Apple #2

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NEW!
Effective MAY 3, 2010
Nite Route
Hours:
Monday - Friday 5:50pm - 10:40pm

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Apple #2								
1	2	3	4	5	6	7	8	9
MATS Terminal East	Hartford Terrace East	Catherine & Getty East	O.V. Workforce Center	Apple & Quarterline East	Dangle & Apple	Muskegon Community College	Park Woods West	Apple & Getty West
5:50	5:55	5:59	6:05	6:09	6:15	6:21	6:30	6:34
6:50	6:55	6:59	7:05	7:09	7:15	7:21	7:30	7:34
7:50	7:55	7:59	8:05	8:09	8:15	8:21	8:30	8:34
8:50	8:55	8:59	9:05	9:09	9:15	9:21	9:30	9:34
9:50	9:55	9:59	10:05	10:09	10:15	10:21	10:30	10:34
10:40								

Nite Routes

Sixth | Apple #2 | Getty-Wood
Lakeshore-Henry | Harvey | E. Sherman

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a Lake Michigan must

MATS
Wherever life takes you.
Muskegon Area Transit System

NITE ROUTES

Nite Routes - Getty-Wood

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Days of Operation
How to Catch the Bus
Courtesy Rules
Fares
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An Official Muskegon County Website

NEW!
Effective MAY 3, 2010
Nite Route
Hours:
Monday - Friday 6:24pm - 10:40pm

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Getty-Wood							
1	2	3	5	6	7	8	9
MATS Passenger Terminal East	Glen Oaks Baker College	Muskegon Community College	Jarman & Hume	Summit & Woodcliffe West	Muskegon Heights Transfer Point	Wood & Laketon	Hartford & Terrace
				6:24	6:28	6:34	6:38
6:50	6:54	7:04	7:18	7:24	7:28	7:34	7:38
7:50	7:54	8:04	8:18	8:24	8:28	8:34	8:38
8:50	8:54	9:04	9:18	9:24	9:28	9:34	9:38
9:50	9:54	10:04	10:18	10:24	10:28	10:34	10:38
10:40							

Nite Routes

Sixth | Apple #2 | Getty-Wood
Lakeshore-Henry | Harvey | E. Sherman

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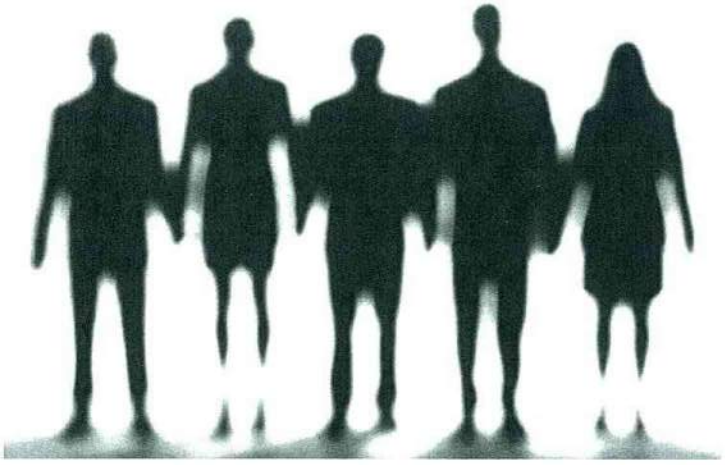
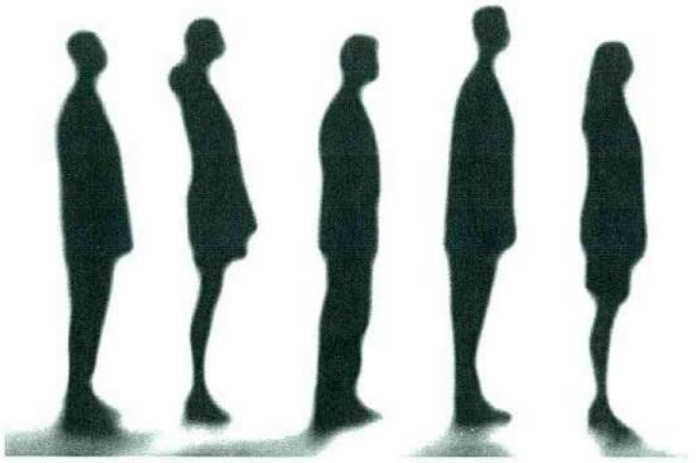


Regional Economic and Demographic Projections

August 2009



WMSRDC

WEST MICHIGAN SHORELINE
REGIONAL DEVELOPMENT COMMISSION

WEST MICHIGAN SHORELINE REGIONAL DEVELOPMENT COMMISSION (WMSRDC)

The WMSRDC is a regional council of governments representing 127 local governments in the West Michigan counties of Lake, Mason, Muskegon, Newaygo, Oceana, and Northern Ottawa.

The mission of WMSRDC is to promote and foster regional development in West Michigan… through cooperation amongst local governments.

WMSRDC
WEST MICHIGAN SHORELINE
REGIONAL DEVELOPMENT COMMISSION

James Rynberg, Chairperson
Robert Genson, Vice-Chairperson
James Maike, Secretary

Sandeep Dey, Executive Director

Project Staff:

Amy Haack, Program Manager

DEMOGRAPHIC AND ECONOMIC PROJECTIONS

August 2009

The West Michigan Shoreline Regional Development Commission (WMSRDC) is releasing its official demographic and economic projections for Lake, Mason, Muskegon, Newaygo, Oceana, and Northern Ottawa Counties for the years 2010 through 2035 (population) and 2009 through 2013 (employment).

Please note the following:

- Population projections are based on trends only and do not consider projected economic development.
- Population projections are developed at the county level. As a result of this, in-county migration from urban to non-urban areas may be understated.
- Economic and population projections are most accurate in the earliest forecasts listed.
- Population projections are shown for Northern Ottawa County and economic projections were not derived for Northern Ottawa County.

Population Projection Methodology

The population forecasts were developed using variations of the traditional cohort survival technique of population forecasting and historical trends. This method examines trends in population as provided by the U.S. Census Bureau.

To determine the population forecasts for each township, city, and village (local unit), the Proportional Forecasting Technique was used. This technique involves calculating each local unit's population as a percentage of the total county population for a recent representative year in which data is available. This proportion for each local unit is applied to the county level projections, which are provided by the U.S. Census Bureau, to arrive at local unit projections. Caution is advised at the local unit projection level because these projections may not account for in and out migration.

Employment Projection Methodology

The employment projections are by place of employment (not residence), and are based on data from the Regional Economic Information System (REIS) published by the U.S. Department of Commerce, Bureau of Economic Analysis and the Michigan Department of Career Development/Employment Services Agency, Labor Market Analysis Section.

The projection methodology utilizes past trends, existing economic activity, and anticipated growth to estimate employment totals for each county for the years 2009 through 2013. The county totals are also separated into specific economic sectors.

West Michigan Shoreline Regional Development Commission
Demographic Projections

Population Forecast 2010 to 2035

Lake County	Actual Census Figures 1970	1980	1990	2000	Census Estimate 2008	Forecasted Population 2010	2015	2020	2025	2030	2035
Total Population	5,661	7,711	8,583	11,333	11,014	11,231	11,793	12,382	13,001	13,651	14,334

Population projections are developed at the County level.
As a result of this, in-county migration from urban to non-urban areas may be understated.

Chase Township	752	858	999	1,194	1,198	1,222	1,283	1,347	1,414	1,485	1,559
Cherry Valley Township	172	272	248	368	375	382	402	422	443	465	488
Dover Township	201	293	318	332	344	351	368	387	406	426	448
Eden Township	116	174	235	377	377	384	404	424	445	467	491
Elk Township	325	538	580	900	880	897	942	989	1,039	1,091	1,145
Ellsworth Township	376	542	622	821	824	840	882	926	973	1,021	1,072
Lake Township	341	516	700	849	822	838	880	924	970	1,019	1,070
Newkirk Township	426	608	586	719	727	741	778	817	858	901	946
Peacock Township	144	278	344	445	437	446	468	491	516	542	569
Pinora Township	249	348	414	643	658	671	705	740	777	816	856
Pleasant Plains Township	1,211	1,401	1,464	1,535	1,489	1,518	1,594	1,674	1,758	1,846	1,938
Sauble Township	194	260	297	323	323	329	346	363	381	400	420
Sweetwater Township	115	206	223	238	246	251	263	277	290	305	320
Webber Township	614	865	968	1,875	1,616	1,648	1,730	1,817	1,908	2,003	2,103
Yates Township	425	552	585	714	698	712	747	785	824	865	908
Villages*											
Baldwin	502	674	821	1,107	1,171	1,194	1,254	1,316	1,382	1,451	1,524
Luther	129	414	343	339	322	328	345	362	380	399	419

*Village population included in Township figures
Sources: Census Bureau, Internal Revenue Service and U.S. Department of Health and Human Services
Forecast by the West Michigan Shoreline Regional Development Commission

August 2009

West Michigan Shoreline Regional Development Commission
Demographic Projections

Population Forecast 2010 to 2035

Mason County	Actual Census Figures 1970	1980	1990	2000	Census Estimate 2008	Forecasted Population 2010	2015	2020	2025	2030	2035
Total Population	22,612	26,365	25,537	28,274	28,782	28,999	29,548	30,107	30,677	31,258	31,850

Population projections are developed at the County level.
As a result of this, in-county migration from urban to non-urban areas may be understated.

Amber Township	1,278	1,556	1,684	2,054	2,099	2,115	2,155	2,196	2,237	2,280	2,323
Branch Township	635	1,021	973	1,181	1,213	1,222	1,245	1,269	1,293	1,317	1,342
Custer Township	1,204	1,338	1,176	1,307	1,358	1,368	1,394	1,421	1,447	1,475	1,503
Eden Township	414	511	491	555	601	606	617	629	641	653	665
Free Soil Township	731	925	860	809	851	857	874	890	907	924	942
Grant Township	419	747	749	850	924	931	949	967	985	1,003	1,022
Hamlin Township	1,778	2,616	2,597	3,192	3,198	3,222	3,283	3,345	3,409	3,473	3,539
Logan Township	154	177	203	329	356	359	365	372	379	387	394
Meade Township	59	135	142	287	182	183	187	190	194	198	201
Pere Marquette Township	1,846	2,068	2,065	2,228	2,355	2,373	2,418	2,463	2,510	2,558	2,606
Riverton Township	1,151	1,177	1,115	1,335	1,393	1,403	1,430	1,457	1,485	1,513	1,541
Sheridan Township	433	828	837	969	992	999	1,018	1,038	1,057	1,077	1,098
Sherman Township	867	996	952	1,090	1,150	1,159	1,181	1,203	1,226	1,249	1,273
Summit Township	557	922	815	1,021	1,024	1,032	1,051	1,071	1,091	1,112	1,133
Victory Township	863	1,170	1,084	1,444	1,512	1,523	1,552	1,582	1,612	1,642	1,673
Cities											
Ludington	9,021	8,937	8,507	8,357	8,324	8,387	8,545	8,707	8,872	9,040	9,211
Scottville	1,202	1,241	1,287	1,266	1,250	1,259	1,283	1,308	1,332	1,358	1,383
Villages*											
Custer	320	341	312	318	315	317	323	330	336	342	349
Fountain	156	195	165	175	174	175	179	182	185	189	193
Freesoil	186	212	148	177	176	177	181	184	188	191	195

*Village population included in Township figures
Sources: Census Bureau, Internal Revenue Service and U.S. Department of Health and Human Services
Forecast by the West Michigan Shoreline Regional Development Commission

August 2009

West Michigan Shoreline Regional Development Commission
Demographic Projections

Population Forecast 2010 to 2035

Muskegon County	Actual Census Figures 1970	1980	1990	2000	Census Estimate 2008	Forecasted Population 2010	2015	2020	2025	2030	2035
Total Population	157,426	157,589	158,983	170,200	174,344	176,017	180,271	184,627	189,088	193,657	198,337

Population projections are developed at the County level.
As a result of this, in-county migration from urban to non-urban areas may be understated.

Blue Lake Township	715	1,101	1,235	1,990	2,475	2,499	2,559	2,621	2,684	2,749	2,816
Casnovia Township	1,879	2,158	2,361	2,652	2,764	2,791	2,858	2,927	2,998	3,070	3,144
Cedar Creek Township	1,467	2,454	2,846	3,109	3,473	3,506	3,591	3,678	3,767	3,858	3,951
Dalton Township	5,361	5,897	6,276	8,047	9,270	9,359	9,585	9,817	10,054	10,297	10,546
Egelston Township	6,690	7,310	7,640	9,537	9,786	9,880	10,119	10,363	10,614	10,870	11,133
Fruitland Township	3,200	4,168	4,391	5,235	5,654	5,708	5,846	5,987	6,132	6,280	6,432
Fruitport Township	10,214	10,646	11,485	12,533	12,991	13,116	13,433	13,757	14,090	14,430	14,779
Holton Township	1,499	2,022	2,318	2,532	2,607	2,632	2,696	2,761	2,827	2,896	2,966
Laketon Township	5,440	6,327	6,538	7,363	7,883	7,959	8,151	8,348	8,550	8,756	8,968
Montague Township	1,147	1,359	1,429	1,637	1,664	1,680	1,721	1,762	1,805	1,848	1,893
Moorland Township	1,488	1,521	1,543	1,616	1,925	1,943	1,990	2,039	2,088	2,138	2,190
Muskegon Township	13,754	14,557	15,302	17,737	18,296	18,472	18,918	19,375	19,843	20,323	20,814
Ravenna Township	2,403	2,471	2,354	2,856	2,855	2,882	2,952	3,023	3,096	3,171	3,248
Sullivan Township	2,051	2,356	2,230	2,477	2,525	2,549	2,611	2,674	2,739	2,805	2,872
Whitehall Township	1,064	1,341	1,464	1,648	1,639	1,655	1,695	1,736	1,778	1,821	1,865
White River Township	1,016	1,215	1,250	1,338	1,425	1,439	1,473	1,509	1,546	1,583	1,621
Cities											
Montague	2,396	2,332	2,276	2,407	2,294	2,316	2,372	2,429	2,488	2,548	2,610
Muskegon	44,631	40,823	40,283	40,105	39,401	39,779	40,740	41,725	42,733	43,766	44,823
Muskegon Heights	17,304	14,611	13,176	12,049	11,623	11,735	12,018	12,309	12,606	12,911	13,223
North Muskegon	4,243	4,024	3,919	4,031	3,915	3,953	4,048	4,146	4,246	4,349	4,454
Norton Shores	22,271	22,025	21,755	22,527	23,307	23,531	24,099	24,682	25,278	25,889	26,514
Roosevelt Park	4,176	4,015	3,885	3,890	3,769	3,805	3,897	3,991	4,088	4,187	4,288
Whitehall	3,017	2,856	3,027	2,884	2,803	2,830	2,898	2,968	3,040	3,114	3,189
Villages*											
Casnovia (Part)	198	181	187	139	136	137	141	144	148	151	155
Fruitport	1,409	1,143	1,090	1,124	1,080	1,090	1,117	1,144	1,171	1,200	1,229
Lakewood Club	590	695	659	1,006	1,353	1,366	1,399	1,433	1,467	1,503	1,539
Ravenna	1,048	951	919	1,206	1,211	1,223	1,252	1,282	1,313	1,345	1,378

*Village population included in Township figures
Sources: Census Bureau, Internal Revenue Service and U.S. Department of Health and Human Services
Forecasted by the West Michigan Shoreline Regional Development Commission

August 2009

West Michigan Shoreline Regional Development Commission
Demographic Projections

Population Forecast 2010 to 2035

Newaygo County	Actual Census Figures 1970	1980	1990	2000	Census Estimate 2008	Forecasted Population 2010	2015	2020	2025	2030	2035
Total Population	27,992	34,917	38,202	47,874	48,897	49,771	52,026	54,382	56,846	59,421	62,112

Population projections are developed at the County level.
As a result of this, in-county migration from urban to non-urban areas may be understated.

Ashland Township	1,463	1,751	1,997	2,570	2,581	2,627	2,746	2,871	3,001	3,136	3,279
Barton Township	482	558	624	820	838	853	892	932	974	1,018	1,064
Beaver Township	356	443	417	608	613	624	652	682	713	745	779
Big Prairie Township	698	1,202	1,731	2,465	2,485	2,529	2,644	2,764	2,889	3,020	3,157
Bridgeton Township	870	1,562	1,574	2,098	2,399	2,442	2,552	2,668	2,789	2,915	3,047
Brooks Township	1,330	2,349	2,728	3,671	3,626	3,691	3,858	4,033	4,215	4,406	4,606
Croton Township	872	1,556	1,965	3,042	3,408	3,469	3,626	3,790	3,962	4,141	4,329
Dayton Township	1,910	1,938	1,971	2,002	1,978	2,013	2,105	2,200	2,300	2,404	2,513
Denver Township	1,362	1,422	1,532	1,971	1,985	2,020	2,112	2,208	2,308	2,412	2,521
Ensley Township	1,152	1,461	1,984	2,474	2,652	2,699	2,822	2,950	3,083	3,223	3,369
Everett Township	844	1,360	1,519	1,985	2,004	2,040	2,132	2,229	2,330	2,435	2,546
Garfield Township	1,448	1,822	2,067	2,464	2,466	2,510	2,624	2,743	2,867	2,997	3,132
Goodwell Township	374	387	358	551	590	601	628	656	686	717	749
Grant Township	1,719	2,274	2,558	3,130	3,135	3,191	3,336	3,487	3,645	3,810	3,982
Home Township	132	185	202	261	287	292	305	319	334	349	365
Lilley Township	429	568	565	788	793	807	844	882	922	964	1,007
Lincoln Township	490	885	969	1,338	1,348	1,372	1,434	1,499	1,567	1,638	1,712
Merrill Township	376	508	451	590	596	607	634	663	693	724	757
Monroe Township	120	263	247	324	347	353	369	386	403	422	441
Norwich Township	416	450	499	557	609	620	648	677	708	740	774
Sheridan Township	2,477	2,465	2,252	2,423	2,377	2,419	2,529	2,644	2,763	2,889	3,019
Sherman Township	1,411	1,810	1,866	2,159	2,254	2,294	2,398	2,507	2,620	2,739	2,863
Troy Township	80	199	173	243	286	291	304	318	332	348	363
Wilcox Township	519	772	831	1,145	1,173	1,194	1,248	1,305	1,364	1,425	1,490
Cities											
Fremont	3,465	3,672	3,875	4,224	4,195	4,270	4,463	4,666	4,877	5,098	5,329
Grant	772	683	764	881	856	871	911	952	995	1,040	1,087
Newaygo	1,381	1,271	1,336	1,670	1,626	1,655	1,730	1,808	1,890	1,976	2,065
White Cloud	1,044	1,101	1,147	1,420	1,390	1,415	1,479	1,546	1,616	1,689	1,766
Village*											
Hesperia (Part)	352	347	260	364	353	359	376	393	410	429	448

*Village population included in Township figures.
Sources: Census Bureau, Internal Revenue Service and U.S. Department of Health and Human Services
Forecast by the West Michigan Shoreline Regional Development Commission

August 2009

West Michigan Shoreline Regional Development Commission
Demographic Projections

Population Forecast 2010 to 2035

Oceana County	Actual Census Figures 1970	1980	1990	2000	Census Estimate 2008	Forecasted Population 2010	2015	2020	2025	2030	2035
Total Population	17,984	22,002	22,454	26,873	27,598	28,188	29,718	31,332	33,033	34,827	36,718

Population projections are developed at the County level.
As a result of this, in-county migration from urban to non-urban areas may be understated.

Benona Township	816	1,203	1,133	1,520	1,533	1,566	1,651	1,740	1,835	1,935	2,040
Claybanks Township	557	733	679	831	846	864	911	960	1,013	1,068	1,126
Colfax Township	222	328	374	574	593	606	639	673	710	748	789
Crystal Township	453	602	658	832	877	896	944	996	1,050	1,107	1,167
Elbridge Township	799	899	820	1,233	1,286	1,313	1,385	1,460	1,539	1,623	1,711
Ferry Township	719	898	1,033	1,296	1,341	1,370	1,444	1,522	1,605	1,692	1,784
Golden Township	871	1,358	1,302	1,810	1,806	1,845	1,945	2,050	2,162	2,279	2,403
Grant Township	1,587	2,366	2,578	2,932	3,263	3,333	3,514	3,704	3,906	4,118	4,341
Greenwood Township	575	815	915	1,154	1,212	1,238	1,305	1,376	1,451	1,529	1,613
Hart Township	1,525	1,801	1,513	2,026	2,051	2,095	2,209	2,328	2,455	2,588	2,729
Leavitt Township	773	848	804	845	886	905	954	1,006	1,060	1,118	1,179
Newfield Township	1,551	1,968	2,144	2,483	2,509	2,563	2,702	2,848	3,003	3,166	3,338
Otto Township	196	426	404	662	720	735	775	817	862	909	958
Pentwater Township	1,154	1,424	1,422	1,513	1,495	1,527	1,610	1,697	1,789	1,887	1,989
Shelby Township	3,352	3,506	3,692	3,951	3,963	4,048	4,267	4,499	4,743	5,001	5,273
Weare Township	695	939	1,041	1,261	1,302	1,330	1,402	1,478	1,558	1,643	1,732
City											
Hart	2,139	1,888	1,942	1,950	1,915	1,956	2,062	2,174	2,292	2,417	2,548
Villages*											
Hesperia (Part)	525	529	586	590	596	619	652	688	725	765	806
New Era	466	534	520	461	456	484	510	537	567	597	630
Pentwater	993	1,165	1,050	958	942	1,005	1,059	1,117	1,178	1,242	1,309
Rothbury	394	522	407	416	433	436	460	485	511	539	568
Shelby	1,703	1,624	1,871	1,914	1,885	2,008	2,117	2,232	2,353	2,481	2,615
Walkerville	319	296	262	254	253	266	281	296	312	329	347

*Village population included in Township figures
Sources: Census Bureau, Internal Revenue Service and U.S. Department of Health and Human Services
Forecast by the West Michigan Shoreline Regional Development Commission

August 2009

West Michigan Shoreline Regional Development Commission
Demographic Projections

Population Forecast 2010 to 2035

Northern Ottawa County	Actual Census Figures 1970	1980	1990	2000	Census Estimate 2008	Forecasted Population 2010	2015	2020	2025	2030	2035
Total Population	35,488	40,314	45,392	49,996	53,652	54,763	57,643	60,674	63,864	67,222	70,757

Population projections are developed at the County level.
As a result of this, in-county migration from urban to non-urban areas may be understated.

Crockery Township	2,861	3,536	3,599	3,782	3,838	3,917	4,123	4,340	4,569	4,809	5,062
Grand Haven Township	5,489	7,238	9,710	13,278	15,799	16,126	16,974	17,867	18,806	19,795	20,836
Robinson Township	2,051	3,018	3,925	5,588	6,131	6,258	6,587	6,933	7,298	7,682	8,086
Spring Lake Township	11,047	12,319	13,288	13,140	14,223	14,518	15,281	16,084	16,930	17,820	18,757
Cities											
Ferrysburg	2,196	2,440	2,919	3,040	3,053	3,116	3,280	3,453	3,634	3,825	4,026
Grand Haven	11,844	11,763	11,951	11,168	10,608	10,828	11,397	11,996	12,627	13,291	13,990
Village*											
Spring Lake	3,034	2,731	2,537	2,514	2,420	2,470	2,600	2,737	2,881	3,032	3,192

*Village population included in Township figures
Sources: Census Bureau, Internal Revenue Service and U.S. Department of Health and Human Services
Forecast by the West Michigan Shoreline Regional Development Commission

August 2009

West Michigan Shoreline Regional Development Commission
Regional Economic and Demographic Projections
Lake County
Employment Projections

		Actual Figures					Growth	Estimate	Forecasted Employment				
CODE	LAKE COUNTY	2003	2004	2005	2006	2007	Rate	2008	2009	2010	2011	2012	2013
	Employment:												
10	Total employment	3,674	3,758	3,792	3,639	3,603	-0.46%	3,586	3,570	3,554	3,537	3,521	3,505
	By Type:												
20	Wage and salary	2,016	2,036	1,988	1,792	1,731	-3.66%	1,668	1,607	1,548	1,491	1,437	1,384
40	Proprietors	1,658	1,722	1,804	1,847	1,872	3.09%	1,930	1,989	2,051	2,114	2,180	2,247
50	- Farm	144	142	143	142	141	-0.52%	140	140	139	138	137	137
60	- Nonfarm	1,514	1,580	1,661	1,705	1,731	3.41%	1,790	1,851	1,914	1,980	2,047	2,117
	By Industry:												
70	Farm	155	153	153	152	152	-0.49%	151	151	150	149	148	148
80	Nonfarm	3,519	3,605	3,639	3,487	3,451	-0.46%	3,435	3,420	3,404	3,389	3,373	3,358
90	- Private	2,973	3,058	3,084	2,947	2,919	-0.42%	2,907	2,894	2,882	2,870	2,858	2,846
100	- Forestry, fishing, related acitvities, and other	**114**	**(D)**	**(D)**	**(D)**	**131**	*	*	*	*	*	*	*
200	- Mining	10	**(D)**	**(D)**	**(D)**	**10**	*	*	*	*	*	*	*
300	- Utilities	0	0	0	0	0	*	(D)	(D)	(D)	(D)	(D)	(D)
400	- Construction	312	320	338	367	348	2.90%	358	368	379	390	401	413
500	- Manufacturing	123	126	117	117	117	-1.18%	116	114	113	112	110	109
600	- Wholesale trade	**(D)**	**(D)**	**(D)**	**(D)**	**(D)**	*	(D)	(D)	(D)	(D)	(D)	(D)
700	- Retail trade	**(D)**	431	436	485	463	*	*	*	*	*	*	*
800	- Transportation and warehousing	71	**(D)**	**(D)**	**(D)**	**(D)**	*	(D)	(D)	(D)	(D)	(D)	(D)
900	- Information	**(D)**	**(D)**	**(D)**	**(D)**	**(D)**	*	(D)	(D)	(D)	(D)	(D)	(D)
1000	- Finance and insurance	94	98	99	107	108	*	*	*	*	*	*	*
1100	- Real estate and rental and leasing	238	256	280	253	267	*	*	*	*	*	*	*
1200	- Professional and technical services	98	105	**(D)**	132	**(D)**	*	*	*	*	*	*	*
1300	- Management of companies and enterprises	0	0	0	0	0	0.00%	0	0	0	0	0	0
1400	- Administrative and waste services	**(D)**	**(D)**	**(D)**	116	**(D)**	*	*	*	*	*	*	*
1500	- Education Services	**(D)**	**(D)**	**(D)**	**(D)**	**(D)**	*	(D)	(D)	(D)	(D)	(D)	(D)
1600	- Health care and social assistance	**(D)**	**(D)**	**(D)**	**(D)**	**(D)**	*	(D)	(D)	(D)	(D)	(D)	(D)
1700	- Arts, entertainment, and recreation	71	75	75	76	82	3.72%	85	88	91	95	98	102
1800	- Accomodation and food services	325	324	321	298	281	-3.53%	271	262	252	243	235	227
1900	- Other services, except public administration	286	295	306	303	289	0.32%	290	291	292	293	294	295
2000	- Government and government enterprises	546	547	555	540	532	-0.63%	529	525	522	519	515	512
2001	- Federal, civilian	64	65	66	63	60	-1.55%	59	58	57	56	55	55
2002	- Military	23	23	22	20	20	-3.36%	19	19	18	17	17	16
2010	- State and local	459	459	467	457	452	-0.37%	450	449	447	445	444	442
2011	- State government	123	125	123	123	123	0.01%	123	123	123	123	123	123
2012	- Local government	336	334	344	334	329	-0.50%	327	326	324	322	321	319

Source: Regional Economic Information System (REIS), based on the North American Industry Classification System (NAICS)
Estimates and Projections by: West Michigan Shoreline Regional Development Commission

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(L) - Less than 10 jobs, but the estimates for this item are included in the totals.
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August 2009

West Michigan Shoreline Regional Development Commission
Regional Economic and Demographic Projections
Muskegon County
Employment Projections

		Actual Figures					Growth	Estimate	Forecasted Employment				
CODE	MUSKEGON COUNTY	2003	2004	2005	2006	2007	Rate	2008	2009	2010	2011	2012	2013
	Employment:												
10	Total employment	82,411	84,287	84,951	85,418	84,181	0.54%	84,637	85,095	85,556	86,019	86,485	86,953
	By Type:												
20	Wage and salary	67,494	68,691	68,544	68,639	67,148	-0.12%	67,068	66,989	66,909	66,830	66,751	66,672
40	Proprietors	14,917	15,596	16,407	16,780	17,033	3.38%	17,609	18,205	18,821	19,458	20,116	20,797
50	- Farm	465	462	465	463	460	-0.27%	459	458	456	455	454	453
60	- Nonfarm	14,452	15,134	15,942	16,317	16,573	3.49%	17,152	17,752	18,372	19,014	19,679	20,366
	By Industry:												
70	Farm	686	692	671	652	679	-0.21%	678	676	675	673	672	670
80	Nonfarm	81,725	83,595	84,280	84,767	83,502	0.55%	83,960	84,420	84,883	85,348	85,816	86,287
90	- Private	71,725	73,853	74,597	75,127	74,134	0.84%	74,757	75,386	76,020	76,659	77,303	77,953
100	- Forestry, fishing, related acitvities, and other	(D)	(D)	(D)	(D)	(D)	*	*	*	*	*	*	*
200	- Mining	(D)	(D)	(D)	(D)	(D)	*	*	*	*	*	*	*
300	- Utilities	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
400	- Construction	4,236	4,411	4,567	4,497	4,374	0.85%	4,411	4,449	4,486	4,525	4,563	4,602
500	- Manufacturing	13,229	14,108	13,897	13,560	13,230	0.07%	13,240	13,249	13,259	13,268	13,278	13,288
600	- Wholesale trade	1,997	1,685	1,735	1,704	1,664	-4.20%	1,594	1,527	1,463	1,402	1,343	1,287
700	- Retail trade	12,874	13,184	13,518	13,683	13,264	0.77%	13,367	13,470	13,575	13,680	13,786	13,893
800	- Transportation and warehousing	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
900	- Information	1,228	1,149	1,183	1,161	1,216	-0.15%	1,214	1,212	1,211	1,209	1,207	1,205
1000	- Finance and insurance	2,074	2,091	2,091	2,059	2,038	-0.43%	2,029	2,020	2,012	2,003	1,994	1,986
1100	- Real estate and rental and leasing	2,837	3,002	3,257	3,193	3,382	4.57%	3,536	3,698	3,867	4,043	4,228	4,421
1200	- Professional and technical services	2,878	2,733	2,634	2,531	2,466	-3.78%	2,373	2,283	2,196	2,113	2,033	1,956
1300	- Management of companies and enterprises	168	165	157	166	173	0.83%	174	176	177	179	180	182
1400	- Administrative and waste services	3,377	3,804	3,965	3,828	3,674	2.35%	3,760	3,849	3,939	4,032	4,126	4,223
1500	- Education Services	1,163	1,199	1,265	1,325	1,421	5.15%	1,494	1,571	1,652	1,737	1,826	1,920
1600	- Health care and social assistance	11,246	11,515	11,631	12,173	12,125	1.92%	12,357	12,594	12,835	13,081	13,332	13,588
1700	- Arts, entertainment, and recreation	1,776	1,764	1,893	1,981	1,842	1.07%	1,862	1,882	1,902	1,922	1,942	1,963
1800	- Accomodation and food services	6,451	6,693	6,398	6,689	6,616	0.70%	6,662	6,709	6,756	6,803	6,851	6,899
1900	- Other services, except public administration	4,273	4,386	4,444	4,449	4,420	0.86%	4,458	4,496	4,535	4,573	4,613	4,652
2000	- Government and government enterprises	10,000	9,742	9,683	9,640	9,368	-1.61%	9,217	9,068	8,922	8,778	8,637	8,497
2001	- Federal, civilian	417	398	379	374	367	-3.13%	356	344	334	323	313	303
2002	- Military	355	354	339	338	341	-0.98%	338	334	331	328	325	321
2010	- State and local	9,228	8,990	8,965	8,928	8,660	-1.57%	8,524	8,391	8,259	8,130	8,002	7,877
2011	- State government	1,181	1,196	1,173	1,176	1,178	-0.06%	1,177	1,177	1,176	1,175	1,175	1,174
2012	- Local government	8,047	7,794	7,792	7,752	7,482	-1.79%	7,348	7,216	7,087	6,960	6,835	6,713

Source: Regional Economic Information System (REIS), based on the North American Industry Classification System (NAICS)
Estimates and Projections by: West Michigan Shoreline Regional Development Commission

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West Michigan Shoreline Regional Development Commission
Regional Economic and Demographic Projections
Mason County
Employment Projections

		Actual Figures					Growth	Estimate	Forecasted Employment				
CODE	MASON COUNTY	2003	2004	2005	2006	2007	Rate	2008	2009	2010	2011	2012	2013
	Employment:												
10	Total employment	15,463	15,501	15,736	15,256	15,212	-0.39%	15,152	15,092	15,033	14,974	14,914	14,856
	By Type:												
20	Wage and salary	11,575	11,466	11,506	10,879	10,813	-1.66%	10,633	10,457	10,283	10,112	9,944	9,778
40	Proprietors	3,888	4,035	4,230	4,377	4,399	3.15%	4,537	4,680	4,828	4,980	5,136	5,298
50	- Farm	478	476	479	477	473	-0.26%	472	471	469	468	467	466
60	- Nonfarm	3,410	3,559	3,751	3,900	3,926	3.60%	4,067	4,214	4,366	4,523	4,686	4,854
	By Industry:												
70	Farm	675	680	662	645	668	-0.23%	666	665	663	662	660	659
80	Nonfarm	14,788	14,821	15,074	14,611	14,544	-0.40%	14,486	14,428	14,370	14,313	14,255	14,198
90	- Private	12,651	12,746	12,941	12,571	12,579	-0.13%	12,563	12,547	12,531	12,514	12,498	12,482
100	- Forestry, fishing, related acitvities, and other	79	82	89	(D)	(D)	*	*	*	*	*	*	*
200	- Mining	57	47	48	(D)	(D)	*	*	*	*	*	*	*
300	- Utilities	81	87	90	90	90	2.71%	92	95	98	100	103	106
400	- Construction	945	969	1,050	1,125	1,104	4.04%	1,149	1,195	1,243	1,294	1,346	1,400
500	- Manufacturing	2,523	2,483	2,485	2,085	2,153	-3.59%	2,076	2,001	1,930	1,860	1,794	1,729
600	- Wholesale trade	208	219	223	225	227	2.23%	232	237	242	248	253	259
700	- Retail trade	2,370	2,245	2,146	2,182	2,133	-2.56%	2,078	2,025	1,973	1,923	1,873	1,825
800	- Transportation and warehousing	374	430	414	421	444	*	(D)	(D)	(D)	(D)	(D)	(D)
900	- Information	185	191	230	218	215	4.27%	224	234	244	254	265	276
1000	- Finance and insurance	400	408	422	438	438	2.31%	448	458	469	480	491	502
1100	- Real estate and rental and leasing	595	647	738	706	712	4.83%	746	782	820	860	901	945
1200	- Professional and technical services	465	472	445	460	446	-0.97%	442	437	433	429	425	421
1300	- Management of companies and enterprises	0	0	0	0	0	*	0	0	0	0	0	0
1400	- Administrative and waste services	380	402	429	458	482	6.13%	512	543	576	611	649	689
1500	- Education Services	**(D)**	103	115	116	121	*	(D)	(D)	(D)	(D)	(D)	(D)
1600	- Health care and social assistance	**(D)**	1,583	1,579	1,595	1,640	*	(D)	(D)	(D)	(D)	(D)	(D)
1700	- Arts, entertainment, and recreation	328	303	300	295	284	-3.50%	274	264	255	246	238	229
1800	- Accomodation and food services	1,181	1,204	1,226	1,145	1,093	-1.84%	1,073	1,053	1,034	1,015	996	978
1900	- Other services, except public administration	869	871	912	867	838	-0.84%	831	824	817	810	804	797
2000	- Government and government enterprises	2,137	2,075	2,133	2,040	1,965	-2.04%	1,925	1,886	1,847	1,810	1,773	1,737
2001	- Federal, civilian	108	104	102	103	104	-0.92%	103	102	101	100	99	98
2002	- Military	67	71	70	69	67	0.06%	67	67	67	67	67	67
2010	- State and local	1,962	1,900	1,961	1,868	1,794	-2.16%	1,755	1,717	1,680	1,644	1,608	1,573
2011	- State government	123	125	123	123	123	0.01%	123	123	123	123	123	123
2012	- Local government	1,839	1,775	1,838	1,745	1,671	-2.31%	1,632	1,595	1,558	1,522	1,487	1,453

Source: Regional Economic Information System (REIS), based on the North American Industry Classification System (NAICS)
Estimates and Projections by: West Michigan Shoreline Regional Development Commission

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August 2009

West Michigan Shoreline Regional Development Commission
Regional Economic and Demographic Projections
Newaygo County
Employment Projections

		Actual Figures					Growth	Estimate	Forecasted Employment				
CODE	NEWAYGO COUNTY	2003	2004	2005	2006	2007	Rate	2008	2009	2010	2011	2012	2013
	Employment:												
10	Total employment	16,635	17,034	17,246	17,201	17,040	0.61%	17,144	17,249	17,355	17,461	17,567	17,675
	By Type:												
20	Wage and salary	11,893	12,107	12,102	11,966	11,740	-0.31%	11,703	11,666	11,630	11,593	11,557	11,521
40	Proprietors	4,742	4,927	5,144	5,235	5,300	2.83%	5,450	5,604	5,763	5,926	6,093	6,266
50	- Farm	778	774	779	776	770	-0.26%	768	766	764	762	760	758
60	- Nonfarm	3,964	4,153	4,365	4,459	4,530	3.40%	4,684	4,844	5,009	5,179	5,355	5,538
	By Industry:												
70	Farm	1,079	1,086	1,059	1,032	1,067	-0.25%	1,064	1,062	1,059	1,056	1,054	1,051
80	Nonfarm	15,556	15,948	16,187	16,159	15,973	0.67%	16,081	16,189	16,298	16,408	16,518	16,630
90	- Private	12,763	13,184	13,403	13,429	13,330	1.10%	13,477	13,626	13,776	13,929	14,082	14,238
100	- Forestry, fishing, related acitvities, and other	(D)	(D)	(D)	(D)	402	*	(D)	(D)	(D)	(D)	(D)	(D)
200	- Mining	(D)	(D)	(D)	(D)	28	*	(D)	(D)	(D)	(D)	(D)	(D)
300	- Utilities	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
400	- Construction	1,125	1,190	1,232	1,276	1,252	2.75%	1,286	1,322	1,358	1,395	1,434	1,473
500	- Manufacturing	1,918	1,964	1,924	1,916	1,848	-0.90%	1,831	1,815	1,799	1,782	1,766	1,750
600	- Wholesale trade	258	(D)	(D)	(D)	(D)	*	*	*	*	*	*	*
700	- Retail trade	2,033	2,124	2,190	2,124	2,100	0.86%	2,118	2,136	2,155	2,173	2,192	2,211
800	- Transportation and warehousing	(D)	379	389	435	439	*	*	*	*	*	*	*
900	- Information	135	172	84	85	83	-6.23%	78	73	68	64	60	56
1000	- Finance and insurance	591	610	653	725	774	7.01%	828	886	949	1,015	1,086	1,162
1100	- Real estate and rental and leasing	608	663	737	715	698	3.71%	724	751	779	808	837	869
1200	- Professional and technical services	603	(D)	(D)	(D)	530	*	*	*	*	*	*	*
1300	- Management of companies and enterprises	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
1400	- Administrative and waste services	(D)	569	564	568	(D)	*	*	*	*	*	*	*
1500	- Education Services	137	140	135	135	142	0.95%	143	145	146	147	149	150
1600	- Health care and social assistance	1,471	1,524	1,561	1,598	1,592	2.01%	1,624	1,657	1,690	1,724	1,758	1,794
1700	- Arts, entertainment, and recreation	272	287	314	310	294	2.12%	300	307	313	320	327	333
1800	- Accomodation and food services	894	903	934	939	933	1.08%	943	953	964	974	985	995
1900	- Other services, except public administration	1,253	1,286	1,340	1,279	1,297	0.92%	1,309	1,321	1,333	1,345	1,358	1,370
2000	- Government and government enterprises	2,793	2,764	2,784	2,740	2,643	-1.36%	2,607	2,572	2,537	2,502	2,468	2,435
2001	- Federal, civilian	89	89	93	103	100	3.08%	103	106	110	113	116	120
2002	- Military	96	95	90	89	89	-1.85%	87	86	84	83	81	80
2010	- State and local	2,608	2,580	2,601	2,548	2,454	-1.50%	2,417	2,381	2,345	2,310	2,276	2,242
2011	- State government	(D)	(D)	170	170	170	*	*	*	*	*	*	*
2012	- Local government	(D)	(D)	2,431	2378	2,284	*	*	*	*	*	*	*

Source: Regional Economic Information System (REIS), based on the North American Industry Classification System (NAICS)
Estimates and Projections by: West Michigan Shoreline Regional Development Commission

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August 2009

West Michigan Shoreline Regional Development Commission
Regional Economic and Demographic Projections
Oceana County
Employment Projections

		Actual Figures					Growth	Estimate	Forecasted Employment				
CODE	OCEANA COUNTY	2003	2004	2005	2006	2007	Rate	2008	2009	2010	2011	2012	2013
	Employment:												
10	Total employment	10,820	11,048	11,185	10,652	10,639	-0.39%	10,598	10,557	10,517	10,476	10,436	10,396
	By Type:												
20	Wage and salary	8,379	8,522	8,551	7,996	7,963	-1.21%	7,866	7,771	7,676	7,583	7,491	7,400
40	Proprietors	2,441	2,526	2,634	2,656	2,676	2.34%	2,739	2,803	2,868	2,935	3,004	3,074
50	- Farm	651	647	652	650	645	-0.23%	644	642	641	639	638	636
60	- Nonfarm	1,790	1,879	1,982	2,006	2,031	3.23%	2,097	2,164	2,234	2,306	2,381	2,457
	By Industry:												
70	Farm	1,000	1,009	977	948	991	-0.18%	989	988	986	984	982	981
80	Nonfarm	9,820	10,039	10,208	9,704	9,648	-0.40%	9,609	9,571	9,533	9,494	9,456	9,419
90	- Private	8,141	8,404	8,537	8,095	7,973	-0.47%	7,936	7,899	7,862	7,825	7,788	7,752
100	- Forestry, fishing, related acitvities, and other	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
200	- Mining	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
300	- Utilities	(D)	(D)	(D)	(D)	(D)	*	(D)	(D)	(D)	(D)	(D)	(D)
400	- Construction	858	914	919	754	718	-3.91%	690	663	637	612	588	565
500	- Manufacturing	1,189	1,430	1,634	2,053	2,009	14.51%	2,300	2,634	3,016	3,454	3,955	4,529
600	- Wholesale trade	(D)	149	(D)	(D)	(D)	*	*	*	*	*	*	*
700	- Retail trade	1,092	1,068	1,041	1,091	1,003	-2.00%	983	963	944	925	907	889
800	- Transportation and warehousing	205	(D)	231	**244**	285	*	*	*	*	*	*	*
900	- Information	54	53	52	(D)	(D)	*	*	*	*	*	*	*
1000	- Finance and insurance	163	177	177	168	165	0.43%	166	166	167	168	169	169
1100	- Real estate and rental and leasing	402	411	386	354	354	-3.03%	343	333	323	313	303	294
1200	- Professional and technical services	320	220	216	205	192	-11.13%	171	152	135	120	106	95
1300	- Management of companies and enterprises	(D)	(D)	0	(D)	(D)	*	*	*	*	*	*	*
1400	- Administrative and waste services	(D)	(D)	(D)	**223**	(D)	*	*	*	*	*	*	*
1500	- Education Services	55	55	43	44	45	-4.30%	43	41	39	38	36	35
1600	- Health care and social assistance	540	563	571	528	504	-1.60%	496	488	480	473	465	458
1700	- Arts, entertainment, and recreation	259	247	223	221	227	-3.13%	220	213	206	200	194	188
1800	- Accomodation and food services	1,173	1,198	1,216	1,237	1,299	2.59%	1,333	1,367	1,403	1,439	1,476	1,515
1900	- Other services, except public administration	605	618	611	591	(D)	*	*	*	*	*	*	*
2000	- Government and government enterprises	1,679	1,635	1,671	1,609	1,675	-0.01%	1,675	1,675	1,675	1,675	1,674	1,674
2001	- Federal, civilian	65	62	70	75	146	27.52%	186	237	303	386	492	628
2002	- Military	55	54	51	50	51	-1.83%	50	49	48	47	46	46
2010	- State and local	1,559	1,519	1,550	1,484	1,478	-1.30%	1,459	1,440	1,421	1,403	1,385	1,367
2011	- State government	123	125	123	123	123	0.01%	123	123	123	123	123	123
2012	- Local government	1,436	1,394	1,427	1,361	1,355	-1.41%	1,336	1,317	1,299	1,280	1,262	1,245

Source: Regional Economic Information System (REIS), based on the North American Industry Classification System (NAICS)
Estimates and Projections by: West Michigan Shoreline Regional Development Commission

(D) - According to NAICS data source, data not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.
(L) - Less than 10 jobs, but the estimates for this item are included in the totals.
(*) - Data not available due to the lack of historical trends in this category.
Numbers may not add due to rounding.
Growth rates are based on actual years of figures, as shown.
Growth rates are computed only if more than 2 years of data is present.