

Village of Mukwonago  
**Notice of Meeting and Building & Grounds Committee Agenda**

**LIBRARY BOARD OF TRUSTEES MEETING**  
**Tuesday, September 19, 2023**

Time: **5:30 pm**

Place: **Mukwonago Community Library, 511 Division St., Mukwonago, WI 53149**

**1. Call to Order**

**2. Roll Call and Introduction of Guests**

**3. Approval of Minutes**

- 3.a Building & Grounds Committee Meeting Minutes from April 13, 2023  
[Building and Grounds Committee Meeting Minutes 20230413\\_unapproved.pdf](#)

**4. Discussion/Action Items**

4.a Facilities Updates

Discussion and possible action on Library Director's updates regarding Library facilities including landscaping and connectivity to the Village internet.

4.b Space Needs Analysis and Expansion Study from August 2020

Discussion and possible action on the Space Needs Analysis and Expansion Study from August 2020.

[MCL Work Plan.pdf](#)

[MCL Space Needs Analysis and Study 8-14-20 with Appendicies.pdf](#)

[MCL Project Budget 8-30-2023.pdf](#)

**5. Referral Items**

**6. Confirm Next Meeting Date**

**7. Adjourn**

It is possible that a quorum of, members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice. Please note, upon reasonable notice, efforts will be made to accommodate the needs of individuals with disabilities through appropriate aids and services. For additional information or to request this service, contact the Municipal Clerk's Office, (262) 363-6420.

Village of Mukwonago

**DRAFT MINUTES OF THE LIBRARY BOARD - BUILDING AND GROUNDS  
COMMITTEE MEETING  
Thursday, April 13, 2023**

Time: **5:30 pm**

Place: **Mukwonago Community Library**, 511 Division St, Mukwonago, WI 53149

**1. Call to Order**

Chairperson M. Penzkover called the meeting to order at 5:30 p.m.

**2. Roll Call and Introduction of Guests**

Board Members Present

M. Penzkover

E. Brill

J. Gasser

H. Pringle

S. Kaufman

Also Present

A. Armour, Library Director

**3. Approval of Minutes**

H. Pringle/E. Brill motioned to approve the minutes of the Building & Grounds Committee Meeting from March 9, 2023. Unanimously carried.

**4. Committee Reports**

None

**5. Discussion/Action Items**

**5.a Fire Safety System Contract Renewal**

J. Gasser/S. Kaufman motioned to recommend to the full Library Board to approve and sign the renewal contract of \$1,875 for required 2023 fire system inspection services with USA Fire Protection, Inc. Unanimously carried.

**5.b Library Connectivity to Village Internet**

A. Armour informed the Committee that the Library's connection to the Village's internet services such as phones and accounts payable database will be temporarily cut off next year due to a utility project involving the north water tower. The Village Board had an initial discussion during their April Committee of the Whole meeting and is aware of the issue. The Village is considering exploring long term solutions for a more reliable network structure, including a possible fiber internet buildout for all Village buildings. Discussion centered around the immediate problem of the Library losing connectivity within a year. The Committee directed

Director Armour to draft a letter to the Village expressing the Library's concern about this interruption in service and send it out to the Committee for review.

#### 5.c Electrical Expansion for Outdoor Programs

A. Armour explained that she reached out to two more companies for quotes on the festival power project; one company said they weren't interested, and one company didn't supply a quote after multiple contacts. S. Kaufman/E. Brill motioned to recommend to the full Library Board to approve and sign the proposal of \$13,248 from Roman Electric for building infrastructure to bring adequate power to the exterior of the Library for programs. Unanimously carried.

#### 5.d Landscaping

The Committee considered two proposals for a spring cleanup and repair of landscaping, one from Createscape and the other from Seasonal Services. Discussion centered around choosing tasks from the bids to focus on and to stay within budget. J. Gasser/H. Pringle motioned to recommend to the full Library Board to approve contracting with Createscape for the tasks of spring cleanup and pruning of all flower beds, removing and replacing arborvitae in front of library, top-dressing crushed granite around foundation, and deliver and install topsoil to blend grade along walk for a total of \$12,265 to be paid for by donation money. Unanimously carried.

#### 5.e Referral from Personnel Committee

The Committee discussed the Personnel Committee's request to begin conversations for determining how best to utilize the experience of the Village DPW and make the Village aware of the need for aid regarding the "Not Library Work - Facilities" work currently being conducted by the Library Director and Administrative Assistant. The Committee directed Director Armour to coordinate a meeting between Ron Bittner, the DPW Director, and Committee members E. Brill, M. Penzkover, and J. Gasser, and herself to discuss the Library's concerns.

### 6. Referral Items

Finance Committee to examine the Waukesha County Community Foundation funds for sustainability, especially regarding capital improvements.

### 7. Confirm Next Meeting Date

**This Committee meets as needed.**

### 8. Adjourn

E. Brill/J. Gasser motioned to adjourn the meeting. Unanimously carried. Meeting was adjourned at 6:01 pm.

Minutes submitted by Abby Armour

April 9, 2019

## WORKPLAN

Mukwonago Community Library | Space Needs Analysis & Study  
Engberg Anderson Project No. 193008

Engberg Anderson believes in an interactive reiterative model of design. Our process brings together the creativity and critical thinking skills of all participants: community leaders, library staff, volunteers, patrons, architects and engineers, to answer the key questions “What do we need?”, “What do we have?” and “How do we best bridge the gap?” To facilitate this process, we propose the following workplan. Please review the approach and the proposed schedule and let us know of modifications desired.

### KICKOFF MEETING

At the start of the project, we will engage the board in a conversation regarding the goals and priorities of the study. Through a series of activities, we will begin to understand the community, the library and the desired outcomes of the process.

### WORKSHOP 1 – UNDERSTAND CONTEXT & DETERMINE NEED

The first workshop will include a reporting out of information gathered, analysis of the existing library and a series of questions to tailor a Needs Assessment to the specific needs and aspirations of the Mukwonago Community. The workshop will undertake several tasks to answer the questions “what do we need” and “what do we have”:

#### Task 1 | Needs Statement

- Review the documentation used by the library to develop its Mission Statement and Strategic Plan.
- Interview key staff and board members to more fully understand the state of service in the area and expectations related to service goals established in the Strategic Plan, the economic and political context of the planning, and the broader vision of the position of the library within the fabric of the community.
- Use established state, regional and national benchmarks, as well as peer libraries, to establish a framework for determining overall needs. Those benchmarks and peer groups will include neighbors, regional libraries, and a group of peers the library sees as relevant examples of the types of service it wants to provide.
- Review library performance measures over the past 5-year and 10-year periods to identify patterns in use of the library’s services.
- Review the projected service population of the library and its expected shifts in the next 5, 10, 15 and 20 years. These projections will be discussed with local planning agencies to understand the underlying demographic structure of the community.
- Conduct meetings with staff and trustees to discuss the applicability of emerging trends in library services in the community.

- Develop area projections related to your Strategic Plan for review. This projection will include spaces for collections, active learning, group and individual activity or study, assembly (meetings, programs, or other large group gathering) and staff space.
- Refinements will be incorporated into the revised Needs Assessment.
- Present the findings to the Board of Trustees.

Building assessments are normally divided into two components. The first is an evaluation of existing space, identifying effective and underachieving spaces along with recommendations for possible re-purposing. The second is a review of the existing building systems including interior and exterior construction. Given that most of the building is less than 10 years old, the assessment will be limited to understanding the buildings capacity to support future reconfigurations and expansions.

#### Task 2 | Building Effectiveness Survey

In this step we will quantify, observe and diagram the existing layout, condition, character and effectiveness of the library building including;

- User Experience
- Service Points & Supervision
- Staff Efficiency & Workflow
- Technology
- Acoustics & Lighting
- Structural Flexibility
- Under and Over Utilization of Space
- Suitability for Current and Anticipated Uses

#### Task 3 | Building Systems Assessment

To fully understand the existing building, we will

- Review available documentation including construction or record drawings and specifications as provided by the Library for the 2011 building addition.
- Evaluate the structural system to determine if it can support a second floor and if any barriers exist for lateral expansion.
- Determine the capacity of existing mechanical systems to support future growth.
- Review existing utilities and civil infrastructure to understand the best approach for lateral expansion.

After the workshop, the consultant team will refine and distribute a space program for review and approval by all participants. This document will reflect our common understanding the space needed at to provide the necessary services to the anticipated population and how the existing space might be improved to meet the space need, either in total or in part.

## WORKSHOP 2 | DEFINE OPTIONS

In this workshop, we will explore a wide variety of options of how to meet the identified needs through multiple renovation and expansion options, but will also touch on remote service point options such as vending machines, pick-up lockers, and material return centers to test their relevance. In addition to gathering important feedback from the core planning team, active participation by the broader community can help ensure a clear understanding of the need for the project, the rationale behind the design, an appreciation for the cost of the project and lead to an intelligent understanding of the benefits to be derived from such an investment.

## WORKSHOP 3 | TEST CONCEPTS

Options identified as most viable will be developed for more detailed review. We will prepare conceptual site and building plans for multiple options. Each concept will have worthy components that are identified and analyzed for their potential.

### Task 4 | Design Option Evaluation

Similar to the Building Effectiveness Assessment above, concept designs will be compared to the goals and objectives previously identified. Key issues to be discussed include:

- Connectivity and circulation
- Functional requirements of program elements
- Flexibility and adaptability
- Staff efficiency and workflow
- Design innovation and sustainability

Two options will be carried forward, one for a reconfiguration of space within the existing building envelope and another including a building expansion. The design concepts selected will likely be an integration of the best of all options previously explored. The consolidated designs will be evaluated by the engineering consultants to determine the impact on existing systems and identify required modifications to meet comfort and sustainability goals.

## WORKSHOP 4 – REFINE CONCEPTS & ASSESS COSTS

An additional layer of detail will be added to the plans. Furnishings will be tested to confirm the program fit. Mechanical and electrical systems will be evaluated for their ability to meet project goals. Exterior and interior materials and finishes will be considered and evaluated.

Deliverables for this phase include:

- Preliminary site plans including site circulation and amenities.
- Preliminary floor plans and interior concepts, including furnishings and lighting.
- Preliminary assessment of mechanical and electrical systems.
- Preliminary renderings to convey the design intent of exterior and interior spaces.

### Task 5 | Cost Models

Cost models will be used over the course of the design process to help inform decision making. The detailed information developed for the selected design options informs the final cost estimate for the various components of the project.

#### Capital Costs

The estimate will include the total project cost, including line-by-line breakout of all fees, construction costs, ancillary expenses, furnishings, equipment, contingencies and implementation costs. The group will have an opportunity to weigh options to balance the priorities of the project, considering size, quality and cost to achieve the appropriate project parameters.

#### Operational Costs

This component is an overview to ascertain the overall operating costs associated with the recommended option. We will work with staff to extrapolate current operating budgets to accommodate anticipated changes in terms of maintenance, energy, logistical support and staffing expenses.

## Task 6 | Report

The design team will submit a report to the Board for review and approval. The concept will be adjusted as needed to meet all cost, quality and functional goals and once approved will set the requirements for the completed project.

## SCHEDULE

The chart below illustrates the detailed schedule of the four workshops proposed to accomplish the tasks described above. Each workshop will occupy a full day and include separate meetings with the steering committee, library staff, public, and the Board. A final trip will include delivery of the design report and presentations to the broader community and all those who contributed along the way.

	4/8/19	4/15/19	4/22/19	4/29/19	5/6/19	5/13/19	5/20/19	5/27/19	6/3/19	6/10/19	6/17/19	6/24/19	7/1/19	7/8/19	7/15/19	7/22/19
Kick-off																
Workshop 1																
Workshop 2																
Workshop 3																
Workshop 4																
Final Report																

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# Mukwonago Community Library

## Space Needs Analysis and Expansion Study

August 14, 2020

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## ACKNOWLEDGEMENTS

The planning team acknowledges the highly interactive process that lead to the content and conclusions of this study. Considerable contributions were made by trustees and the Library's management team.

### Board of Trustees, Mukwonago Community Library

Howard Pringle, County Appointee ..... President  
Donna Whalen, County Appointee ..... Vice President  
Jim Darin, School Representative  
Mark Penzkover, Village Appointee  
Carol Stienstra, County Appointee  
Sandy Kaufman, Village Appointee  
Jerry Gasser, Village Appointee  
Michelle Oberwise Lacock, County Appointee  
Eric Brill, Village Appointee, Village Trustee  
Diane Magolan, Village Appointee  
Eliza Pautz, Village Appointee  
Nick Reichhoff, School District Appointee  
Jim Bodendorfer, Village Appointee

### Library Management Team

Angela Zimmermann ..... Library Director

### Engberg Anderson, Planning Team

Alexandra Ramsey ..... Project Manager  
Eric Blowers ..... Library Designer  
Joseph Huberty ..... Library Planner

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1	The Planning Context .....	30 pages
2	Long Term Library Space Needs.....	24 pages
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# 1 Executive Summary

The Space Needs Analysis and Study was undertaken by the Library Board to answer several key questions as they consider how to embrace the changing nature of library service over the decade since the current building was constructed.

1. How has the community evolved over the past decade and what changes can be anticipated over the next 20 years?
2. What are the needs of the community in terms of library services and the spaces needed to support those services, both today and in 20 years?
3. What is the best option for meeting the identified need through renovation or expansion, and what will it cost?

## 1 THE PLANNING CONTEXT

The first question was answered with the Planning Context Report which identified the current library's performance measures in the context of state and national averages and then specifically compared these measures against municipal peer libraries and libraries within the Bridges Library System.

The report illustrated that the Mukwonago Community Library is declining in the number of card holders and annual visits at a greater rate than other Wisconsin libraries, but has not seen a reduction in circulation similar to other libraries. Contrary to statewide and national trends, reference transactions have increased by 39%. Most striking is the 183% increase in program attendance compared with less than 20% statewide and nationally.

In comparison with both municipal and system peer libraries, MCL surpasses the others in circulation, magazine and media collections,

reference transaction, computers per capita and program attendance. MCL is close with the peer group in annual visits, books owned per capita, and library space per capita. The only significant shortfall was in Teen Program attendance.

## 2 LONG-TERM LIBRARY SPACE NEEDS

The space needs analysis started with quantifying the existing library collections, seating, computers, activity, program and staff spaces. In each category, the consultants adjusted the target numbers to reflect anticipated changes related to the collection formats, additional patrons, popular services and overall efficiencies.

In terms of collections, the space needs analysis supports a physical book collection equal to the existing collection given the communities preferences. Collections of audio, video and serials were reduced to reflect the reality of the shift to digital resources and the availability of these formats in the future. While the overall collections are recommended to be reduced by 3%, the space for the collections is increased to allow for a more browsable shelving environment, with wider aisles, lower shelving heights and more display space.

Activity and program spaces were both increased by significant amounts to reflect both general trends and specifically the Mukwonago community's support of the library's role as gathering place.

Staff space was recommended to be reduced by 12.5%, a reduction that looks to make the first floor spaces more efficient while bringing staff together in a more open and collaborative environment. Reduction of staff spaces at the main level can be offset by increased

use of the lower level, which was not included in the space needs calculations.

TABLE 1-1: SUMMARY OF PROPOSED SPACES BY USE CATEGORY

AREA	Existing (sf)	Existing %	Proposed (sf)	Proposed %
Collection Areas	8,334	33.5%	9,650	32.8%
Seating & Computers	6,136	24.7%	6,550	22.3%
Activity Spaces	848	3.4%	6,200	21.1%
Program Spaces	2,185	8.8%	3,410	11.6%
Staff Spaces	5,642	22.7%	3,600	12.2%
Shared Spaces	1,709	6.9%	(above)	
Assignable	24,854		29,410	
Non-Assignable	6,642	21.1%	7,350	25.0%
Net Area	31,496		36,760	
Gross Area	34,120	8.3%	38,600	5.0%

TABLE 1-2: SUMMARY OF PROPOSED SPACES BY PROGRAM AREA

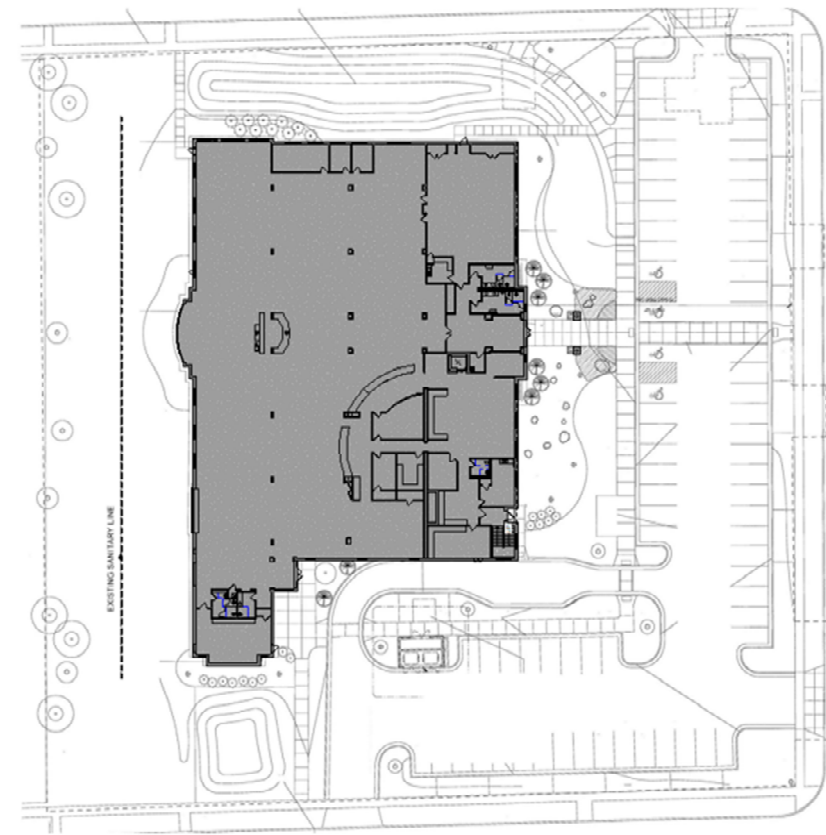
AREA	Existing Area	Existing %	Proposed Area	Proposed %
Children's Area	5,441	21.9%	9,100	31.0%
Teen's Area	1,154	4.6%	2,600	8.8%
Adult's Area	7,129	28.7%	8,550	29.1%
Shared Areas	2,455	9.9%	2,150	7.2%
Program Spaces	3,033	12.2%	3,410	11.6%
Staff Spaces	5,642	22.7%	3,600	12.2%
Assignable	24,854		29,410	
Non-Assignable	6,642	21.1%	7,350	25.0%
Net Area	31,496		36,760	
Gross Area	34,120	8.3%	38,600	5.0%

The final space needs analysis recommends an increase in space use of under 5,000 square feet to accommodate library services over the next twenty years.

### 3 RENOVATION - EXPANSION RECOMMENDATION

The third part of the study explored multiple options from a renovation only approach to multiple expansion options to arrive at the optimal solution. The development of multiple options are detailed in the next section. The final recommendation is described below.

EXISTING SITE DIAGRAM



## SITE DEVELOPMENT

Building expansion options were limited by several site constraints. First a utility easement to the west of the building containing an existing sanitary main. While theoretically possible to relocate this infrastructure and expand the building into the park, the library board rejected this as politically difficult and potentially cost prohibitive. To the south, the existing electrical transformer and book return drive limit building expansion in that direction, while both could be relocated it would be at substantial cost to the project. Finally, a large storm water pond is located to the north of the building which would require replacement, likely in the form of underground storage structures, if dislocated.

The final recommendation included a small expansion to the east for the meeting room, to accommodate the expansion of the program rooms while avoiding obstacles that would be costly to relocate. This expansion would require minor reconfigurations to the existing drainage from the parking lot to the storm water detention pond.

The recommended expansion was designed to match the existing library for a seamless image, as the previous expansion matched the original building.

## RENDERING OF BUILDING EXPANSION



## INTERIOR RENOVATION

After exploring multiple interior layouts, the recommended option is described below. The accompanying renderings were developed to

illustrate one option for the design of the space, however the modern aesthetic could easily be modified to a more traditional style during subsequent design phases if that is the preference of the community without compromise to the intended functions and features of the spaces.

## ENTRY AND BOOK SALE

The book sale shelving is relocated to the entry vestibule for greater visibility and to provide an engaging waiting area.



## LIBRARY ENTRANCE

The view into the park from the front doors is a beloved aspect of the current library layout. The sense of both arrival and destination are important to the identity of the library. The new layout preserves this view, with the bulk of the reference desk removed, the glass walls showcase the activity in Meta Space 511 and the park beyond.

The previously wide open gallery is now activated by book displays on the right and an enlarged teen zone on the right, making the overall space use more efficient.



### **CIRCULATION DESK**

To your left as you enter, the library staff are available to assist patrons. The desk is significantly smaller than the existing desk and intended to make transactions more collaborative.

Beyond the Circulation Desk is a display wall intended for the Thingery, a collection of items of all sizes available for loan. Items include items of all sizes, from a hoverboard to a museum pass. Storage for these items is immediately behind the curved wall and accessible for staff only.



### **META SPACE 511**

The success of the maker programming at the Mukwonago Community Library is celebrated by bringing the space out of the far corner of the Children's Area to this key location front and center. The location at the crossroads of adults, teens and kids enables equal access to the programs and resources contained within. In addition to a larger room with ample storage, smaller spaces are provided for the specific maker activities of video and audio production. At other libraries, these spaces are highly sought after for creating podcasts, shared digital content, school projects and music recording.

Within the Meta Space, there is plenty of room for occupants to engage in a variety of activities while taking advantage of the abundant natural light and high ceilings of this existing space.



### CHILDREN'S LIBRARY

The proposed layout of the children's spaces shifts the active play space from the west side of the building to the south east corner. The lower ceilings here will help contain the noise of the kids as they learn through exploration. The play activities have been expanded to include engaging interactives designed to develop pattern recognition, creative thinking and executive function in young children to enhance pre-math, pre-literacy and pre-school skills.

In addition to the play space, the proposed Children's Library includes a segregated area for computers to reduce the allure of screens for parents intentionally avoiding them, a dedicated area for school age kids, an open space for story hours with a view of the park, and a dedicated activity room.



### TEEN SPACE

The teen space has been shifted from the north side of the library to a more central location, closer to the main staff desk with clear views for oversight. Enclosed by a solid wall on one side and an expanded book collection on the other, the teen lounge gives a sense of identity and ownership for this key constituency. Adjacency with the Meta Space 511 builds on teen engagement in activities as both participants and leaders



## ADULT SPACE

While the space is designed to house the full existing book and media collections, the shelving is located to allow the collections to be reduced and free up space at the main circulation path between the entry and the park. This space also accommodates more reader seats and the same number of computers as the existing library.

A single staff desk is located adjacent to the computers and the Meta Space for convenience of assistance and oversight for these high-touch activities.

Four additional study rooms are provided for 1 to 2 people, in addition to the two study rooms for up to 4 people and an expanded Memory Lab.

In addition to placing kids and teens in acoustically improved and remote locations to minimize noise, a quiet reading room has been added in the far northwest corner of the building for those seeking quiet. In contrast to this space, an adult lounge with the reduced magazine collection is found outside the meeting rooms for quiet conversation and collaboration. Closer to the entry and the cafe, a third lounge is located for more social interactions while waiting for a friend or a program.

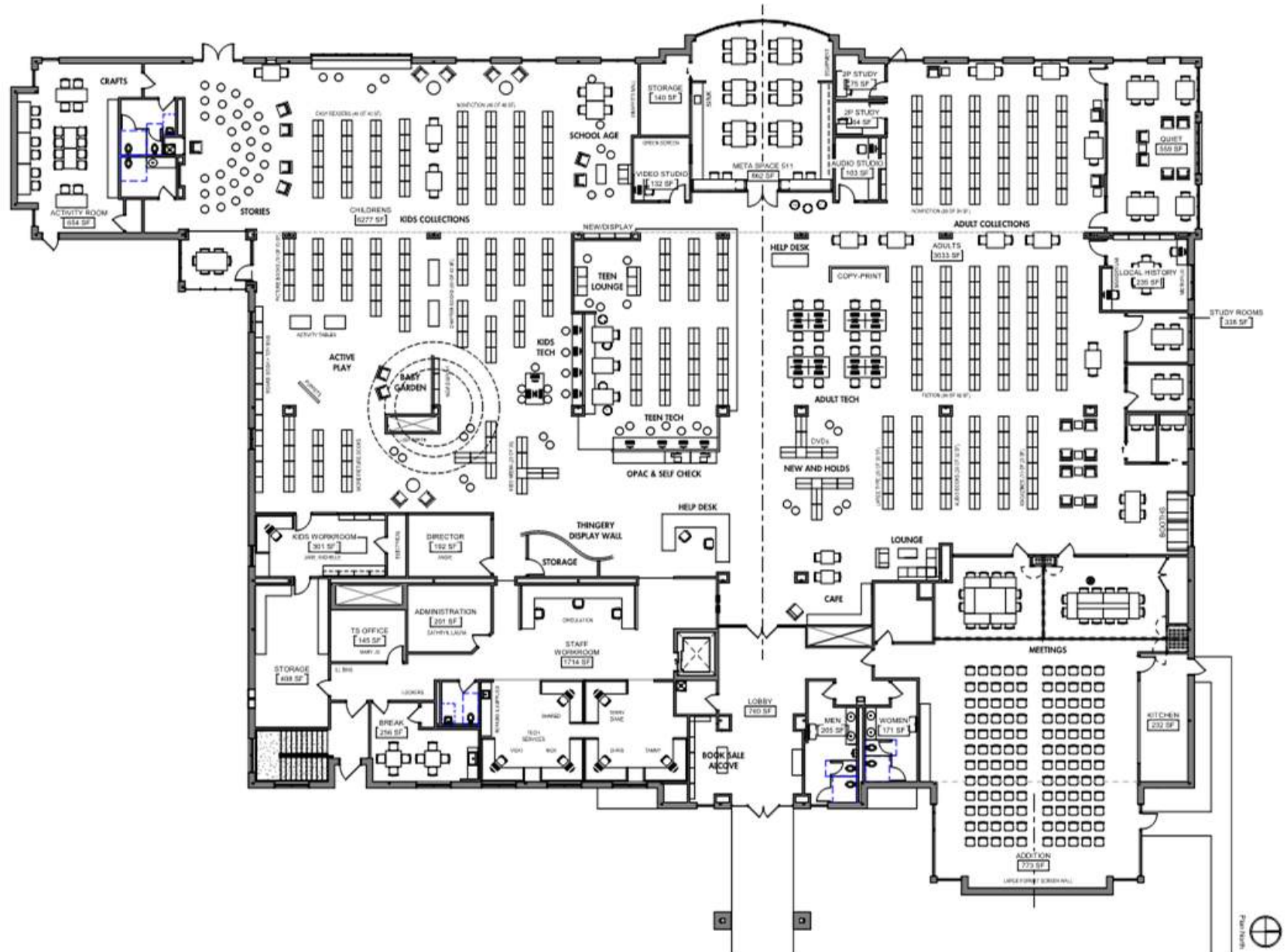


## PROGRAM ROOMS

While maintaining the existing configuration of one large room that can be subdivided into three, the new layout increases the size of all three rooms. The largest room is expanded to the east within a 825 square foot addition allowing for up to 120 participants in a lecture style presentation. A larger kitchen opens up to the space to allow for community meals, cooking demonstrations or other nutrition based programming. The two smaller rooms are both expanded to the west for more comfortable proportions, with the west walls glass to allow for a visual connection between the activity of the library and the programs. When all three rooms are combined, the 2,726 square foot room can easily host events for up to 300, 44% larger than the existing space.



# RECOMMENDED FLOOR PLAN FOR EXPANDED LIBRARY



## 4 COST ANALYSIS

After reaching a recommended renovation and expansion layout, the engineering team developed a narrative to capture the full scope of work required to implement the plan. This narrative served as the basis for the development of a cost estimate for construction, furnishings and other project costs. At the request of the library board, the project was broken down into 5 phases to allow for incremental implementation as funding becomes available.

The costs listed in the furniture column assume all new furnishing except the book shelving and a few other select items. These numbers could be reduced by identifying other furniture for reuse as appropriate given the good condition of most items.

A summary of the project costs is included in the table below. These costs assume that construction will occur in 2021, if delayed into 2022 or beyond, escalation would need to be added to all costs at a rate of approximately 4% per year.

PROJECT COSTS	Construction	Furniture	Total
Meeting Room and Addition	\$ 728,552	\$ 48,720	\$ 777,272
Staff Area Renovation	\$ 242,490	\$ 74,000	\$ 316,490
Children's and Teens	\$ 479,562	\$ 184,650	\$ 664,212
Meta Space 511 Relocation	\$ 278,901	\$ 20,900	\$ 299,801
Renovation North	\$ 563,474	\$ 122,700	\$ 686,174
Renovation South	\$ 153,766	\$ 1,600	\$ 155,366
<b>TOTAL</b>	<b>\$ 2,446,745</b>	<b>\$ 452,570</b>	<b>\$ 2,899,315</b>
<i>Cost per sf for 28,840 sf</i>	<i>\$85</i>	<i>\$16</i>	<i>\$101</i>

In addition to the contract costs for construction and the purchase of furnishings, other costs will be incurred during the course of the project. These items are itemized in the chart below:

### ADDITIONAL PROJECT COSTS

AE Design Fees	\$ 189,645
Site Survey	\$ 2,000
Geotechnical Report	\$ 2,000
Plan Review Fee	\$ 2,000
Moving Allowance	\$ 10,000
Builder's Risk Insurance	\$ 48,935
Owners Contingency	\$ 144,966
<b>TOTAL</b>	<b>\$ 399,546</b>

With all costs included, we anticipate a budget of **\$ 3,300,000** would cover all expenses required to make the improvements detailed above. This includes the construction contract, furnishings contracts, professional services, incidental fees, escalation from today until construction and a contingency to cover any unknown issues that are uncovered during the course of design and construction.

Many decisions regarding material selection, system development and project parameters have yet to be defined. Market conditions, as always, are beyond the control of the architect or estimator and will vary over time. No guarantee is given or implied that costs will not vary from these models. It is imperative that additional estimates are prepared as the project is developed to ensure conformance with project budgets.

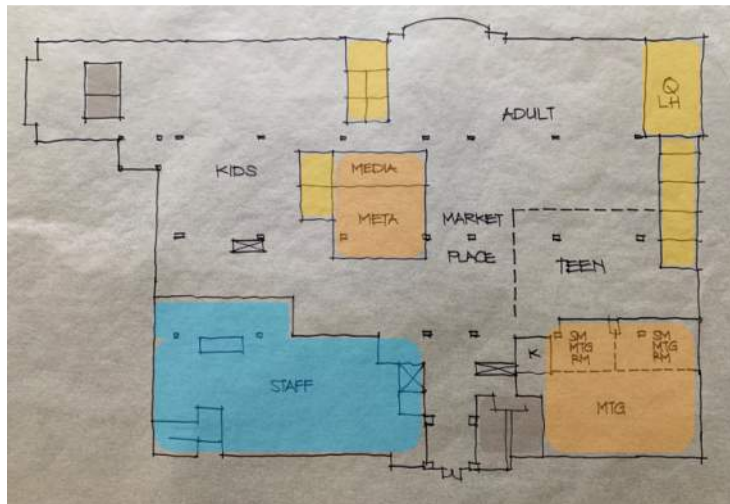
## 2 Options Exploration

With the space needs assessment in hand, the consultant team turned to exploring options for accommodating the program within the existing building.

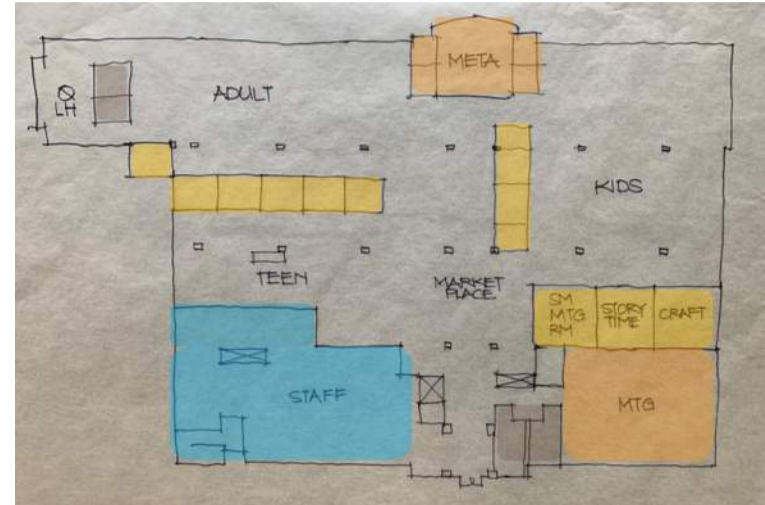
### 1 DESIGN CHARETTE

On September 19, 2019, Engberg Anderson held a day long on-site workshop to explore multiple options for arranging the largest blocks of library space. The day started with library staff analysis followed by the first public presentation. Over the course of the afternoon, the architects worked to improve the layout options based on feedback received earlier in the day to arrive at three concept layouts. These were then tested at an evening presentations to the public and the library board.

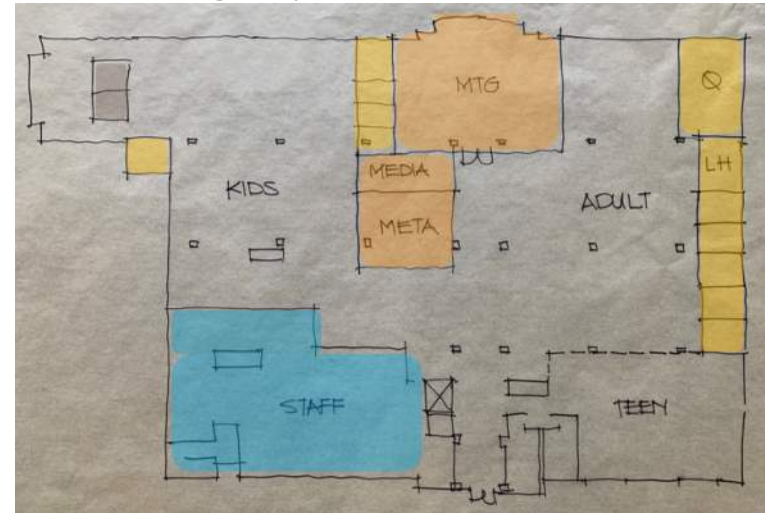
CONCEPT A: Meta in the middle



CONCEPT B: Kids adjacent to meetings



CONCEPT C: Program space as destination



During the evaluation of the three concepts, there was support for both Options A and B. Option 3 was discarded given the general sense that the meeting room in that location would hinder the use of the space after hours and creates too strong a barrier between the adult and kids spaces.

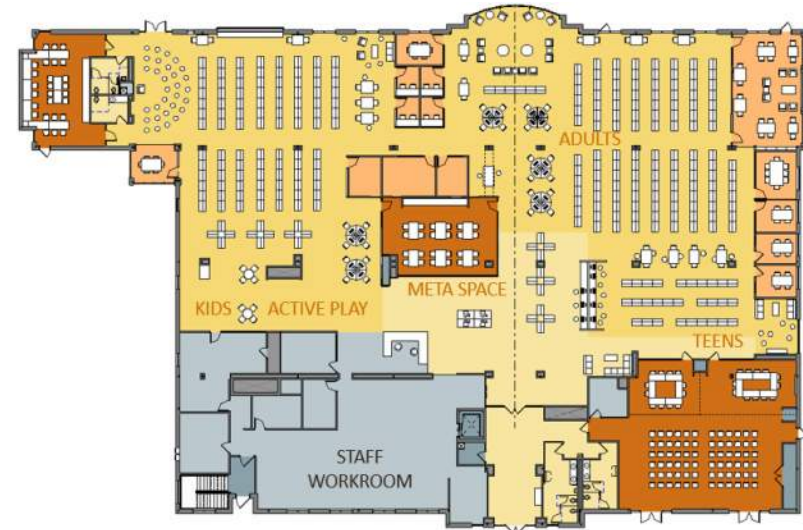
## 2 REFINED DESIGNS

On November 14, 2019, Engberg Anderson returned to the library with two concept options, complete with furniture layouts for evaluation. The options were presented to library staff, the public and the library board in a series of meetings

Both Concepts were tested against the program to see if all elements were included without expanding the building. The following chart illustrates the comparison

PROGRAM ELEMENT	Current Plan	Space Need	Option A2	Option B2
Program Rooms (Meet - Create)	4 - 0	4 - 2	5 - 2	4 - 2
Study Rooms (Adult - Teen - Kids)	8 - 2 - 4	8 - 2 - 4	2 - 4	9 - 2 - 6
Adult Stacks	254 - 70	254	262	248
Adult Seats (Reader - Computer)	55 - 19	55 - 19	44 - 19	48 - 19
Teen Stacks	31	31	58	58
Teen Seats (Reader - Computer)	12 - 5	22 - 5	24 - 5	28 - 5
Kids Stacks	222	222	220	220
Kids Seats (Reader - Computer)	33 - 7	33 - 7	30 - 8	30 - 8

CONCEPT A2:



CONCEPT B2:



### 3 EVALUATION

At both the staff and the open public meetings, participants were asked to complete a survey. The task included two parts; first to prioritize the evaluation criteria and second to evaluate the two options against the criteria.

Combining the responses from the 10 staff and 5 public participants, the evaluation criteria were scored on a scale of 1 to 5 with 1 indicating a criteria that is not important and 5 indicating the most important criteria. The criteria with their average priority scores are shown below from most important to least:

4.25	<b>PROGRAMS</b>	Layout provides appropriate meeting spaces
4.15	<b>OVERALL</b>	Spaces provided meet community expectations
4.10	<b>META-SPACE</b>	Meta Space 511 is welcoming and attractive
3.95	<b>KIDS</b>	Kids spaces are welcoming and attractive
3.85	<b>TEENS</b>	Teen space is welcoming and attractive
3.85	<b>QUIET</b>	Layout provides quiet spaces
3.85	<b>FLEXIBILITY</b>	Layout allows for future flexibility
3.75	<b>SERVICE</b>	Layout promotes interactive customer service
3.70	<b>ADULTS</b>	Adult spaces are welcoming and attractive
3.65	<b>COLLECTIONS</b>	Layout appropriately houses collections
3.40	<b>ENTRY</b>	Library is welcoming to all
3.30	<b>NATURAL LIGHT</b>	Layout takes advantage of natural light

Then the 15 participants were asked to rate each option in terms of these criteria on a scale of 1 to 5:

1. The option does not meet the criteria.
2. The option meets the minimum requirements of the criteria.
3. The option does a good job of meeting the criteria.
4. The option does a great job of meeting the criteria.
5. The option is the best possible solution to address the criteria.

Below are the average ratings for each option sorted by public and staff responses.

Evaluation Criteria Priority Ranked	OPTION A PUBLIC	OPTION A STAFF	OPTION B PUBLIC	OPTION B STAFF
1 - PROGRAMS	3.8	2.6	4.0	4.7
2 - OVERALL	4.0	3.0	3.4	3.9
3 - META-SPACE	3.4	3.2	3.2	4.3
4 - KIDS	3.8	3.7	2.8	3.2
5 - TEENS	3.8	3.1	3.4	2.9
6 - QUIET	3.8	3.9	4.0	3.4
7 - FLEXIBILITY	3.8	3.0	3.2	3.7
8 - SERVICE	4.0	2.9	3.6	2.2
9 - ADULTS	4.0	3.7	2.6	2.1
10 - COLLECTIONS	4.4	3.3	3.4	2.9
11 - ENTRY	3.4	2.9	2.8	3.6
12 - NATURAL LIGHT	3.6	3.7	3.6	3.6
<b>AVERAGE SCORE</b>	<b>3.82</b>	<b>3.24</b>	<b>3.33</b>	<b>3.37</b>

The final step in the evaluation was to weight the ratings of each option by multiplying the average rating by the average priority score to establish a weighted score for each option.

The resulting scores weighted for priority were tied:

- Option A = 157.6
- Option B = 154.6

Supporting the results of the evaluation, the 15 participants voted 8 for Option A and 7 for Option B as their preference.

At the conclusion of the day, the Library Board selected to combine aspects of both concepts into a hybrid with concept B2 as the basis for the design and incorporating the following changes:

1. Flip kids and adults.
2. Include history room.
3. Expand the meeting room to the east as a building addition.
4. Relocate teens to location of the Meta Space 511 in A2.
5. Include a large storage room for Meta Space 511.

#### **4 FURTHER DEVELOPMENT**

The consolidated design underwent multiple reviews and refinements through meeting with library staff in December and the facilities committee in January, see meeting notes in Appendix 4.

The design team continued to refine the layout based on continued input until arriving at the final concept design, described and illustrated in the Executive Summary.

# 3 Systems Narrative

## 1 OVERVIEW

The following information was assembled by the engineering team to fully identify the scope of work required to implement the recommended renovation and addition project. This narrative was used by the cost estimator to develop a detailed estimate. The estimate is included in Appendix 3.

## 2 BUILDING INFORMATION

### Location

511 Division Street  
Mukwonago, WI 53149

### Area

Lower Level (No work this level)	6,105	SF
First Floor Existing	28,015	SF
First Floor Addition	825	SF
<b>TOTAL AREA</b>	<b>34,945</b>	<b>SF</b>

### BUILDING DESCRIPTION

The current building was built in two phases. The original library was built in 2001 as a one story structure with a partial basement. The building underwent a full renovation and expansion in 2011.

### PROJECT DESCRIPTION

This project touches all interior spaces at the first floor, removing and adding partitions to reorganize the space to accommodate modern library service. A small expansion is added to the meeting room at the east side of the building, requiring modifications to the site, storm water and landscape in that area. A commercial kitchen will be added to the Meeting Room and a Maker Space will be added at the bay window along the west wall. The mechanical, electrical

and plumbing systems will require minor modifications to accommodate the shifting uses.

### Known Environmental Hazards

None

## 3 ESTIMATE PARAMETERS

### DESIGN DOCUMENTS

- Estimate Narrative (this document)
- Concept Drawings
  - A01 - Demolition/Repair Drawing
  - A10 - Conceptual Site/New Construction Floor Plan
  - A20 – Conceptual Reflected Ceiling P
  - Renderings of the Concept Design

### ESTIMATE COMPONENTS

The estimate shall include a base cost for the construction and related work associated with the building as described below. The estimate shall be itemized per standard specification divisions.

Provide separate estimates for the following project areas:

- PROJECT 1 – Meeting Room Renovation and Addition
- PROJECT 2A – Staff Area Renovation
- PROJECT 2B – Children’s Area Renovation
- PROJECT 3 – Meta Space 511 Construction
- PROJECT 4 – Renovation of all other spaces north of grid G.
- PROJECT 5 – Renovation of all other spaces south of grid G.

### SCHEDULE

Construction period will be as described in the following baseline schedule. Comment on validity of construction timeline. Estimate construction costs in current year prices and escalate to midpoint of construction.

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**ACTIVITY**

Design & Contract Documents	Summer and Fall 2020
Bidding/Award	January 2021
Construction	March 2021 – December 2021
Furnishings Installation	January 2022
Archives Opening	February 2022
Tenant Buildouts (NIC)	October 2021 – January 2022

**ACCESS**

The site is located within a residential district with a large parking lot on two sides, part of which may be designated for construction staging. The building will remain open during construction, requiring contractors to follow time and noise restrictions.

**PHASING**

If all projects identified above are approved, the complete project will be constructed in three phases, with the library remaining in operation during construction. The phases will consist of the following:

1. Construct addition, renovate meeting room and the adult collections.
2. Renovate staff area and south side of children's.
3. Renovate center area of library, including creation of the Meta Space and Teen Areas.

## 4 SITE AND LANDSCAPE

**GENERAL DESCRIPTION**

The site work includes removal of existing landscaping, regrading of the existing drainage swale located between the parking lot and the north detention area, and proposed landscaping as shown on the drawings. Approximately 2,500 square feet of land will be disturbed.

**PAVING AND HARDSCAPE**

There will be approximately 70 square feet of new sidewalk to extend from the new building addition's emergency exit door to the existing sidewalk located north of the new building addition. No other pavement or hardscape is anticipated.

Note, the proposed building addition is within approximately 14 feet of the existing sidewalk along the north detention pond. Should construction activities result in damage to the existing walk, the existing sidewalk may require to be removed and reconstructed.

**STORM SEWER AND STORMWATER MANAGEMENT**

The existing stormwater management will be maintained. The only modification will be to move the existing drainage swale between the parking lot and the north detention area. The existing location is within the proposed footprint of the new building addition. The existing drainage swale will be moved further east, towards the parking lot, to route water around the new building addition.

**LANDSCAPE**

Provide an allowance to restore the area disturbed with a raingarden of native plantings.

## 5 STRUCTURE

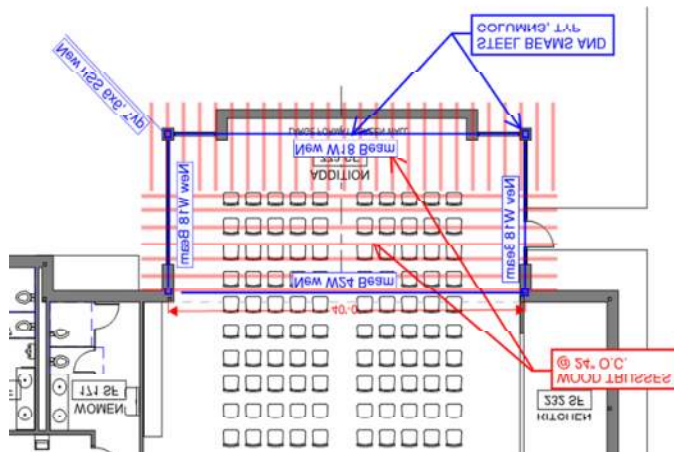
**GENERAL DESCRIPTION OF EXISTING STRUCTURE**

The existing structure shall remain in place. Create a large opening in the east wall to allow for connection to the new addition with a new steel beam. The existing wood trusses supported along this wall shall be temporarily shored to allow for the removal of existing steel beams and columns and for the installation of the new steel beam that will span the width of the new opening.

**FOUNDATIONS AND STRUCTURE FOR ADDITION**

The new addition will consist of wood roof sheathing supported by premanufactured wood roof trusses spaced at 2' that span between

Framing plan for new addition:



## SLAB ON GRADE

The existing floor slab is a cast-in-place concrete slab-on-grade. The exact thickness, reinforcing, and extents of gravel underlayment is unknown. Where portions of the existing floor slab are dug up, the new slab-on-grade shall consist of similar depth concrete slab reinforced with welded wire fabric or fibermesh at a minimum dosage rate of 4.5 #/cubic yard. The slab sub-grade shall consist of 4 inches of compacted granular fill over a 10mil vapor barrier. Slab control or construction joints shall be spaced no further than 15 feet on center.

ASTM “American Society for Testing and Materials”

### Roof Live Loads

- Snow.....30 psf

Concrete ( $f'_c$  @ 28 days)

- Footings..... 3,000 psi
- Walls and Piers ..... 4,000 psi
- Slab On Grade..... 4,000 psi

Reinforcing Steel ( $f_y$ )

- Rebar 60,000 psi
- Welded Wire Fabric..... 65,000 psi

Structural Steel ( $F_y$ )

- Steel Beams ..... 50,000 psi
- Steel Plates, Angles and Channels 36,000 psi
- Steel Tubing (A500) ..... 46,000 psi
- All Bolts, U.N..... A-325-N
- Anchor Bolts ..... A36
- Welding Electrodes ..... E70XX

## 6 ENCLOSURE

The exterior enclosure is in good condition and will not be modified, other than at the location of the new addition and an adjustment to the existing book drop on the south elevation. New addition walls, windows and roofing shall match existing.

### BRICK CAVITY WALLS

Typical wall system shall consist of utility brick with adjustable ties, 2" air cavity, 2" rigid insulation, continuous air and water barrier, and plywood sheathing installed over 6" cold form metal framing. Flashings shall be EPDM type, 40 mil thick with pre-finished stainless steel drip edge bent to profile and exposed at outer edge. See detail of existing construction below to be matched.

### ALUMINUM STOREFRONT SYSTEM

Provide Kawneer Trifab 451UT Storefront framing system or equal, with powdercoat factory finish.

Doors shall be Kawneer AA 425 Entrances, 4.25" top and side and 6.5" bottom rails.

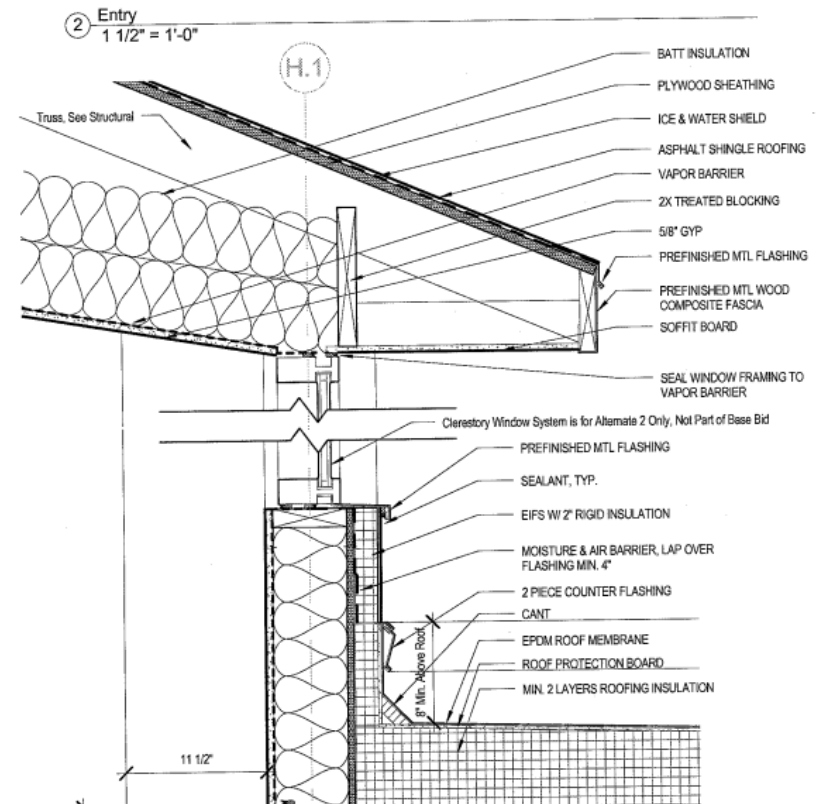
Glass shall be 1" insulated glass with low e coating and argon fill. Tempered as required.

### ROOF SYSTEM

Shall be asphalt shingles, ice and water shield, plywood sheathing over wood trusses. Provide batt insulation at ceiling level over vapor barrier.

### SHEET METAL FLASHING AND TRIM

Sheet metal work shall include composite fascia, gutters, downspouts and flashing.



## 7 INTERIOR CONSTRUCTION

### DOORS AND FRAMES

- Typical doors to be solid core wood doors with full glass lites where appropriate, plain sliced oak stained to match existing.
- Frames to be painted hollow metal, fully welded, with custom sidelights as shown on the plans.

## DOOR HARDWARE

- Standard interior Hardware: Mortise Lockset, 3 hinges, closer, hold open, stop.
- Egress doors to have panic hardware.

## FLOOR FINISHES

Replace floor finishes in all rooms not noted as “No work this room.”

- Carpet Tile, typical
- LVT plank flooring at Staff Workroom in area noted, Kitchen, Café, Meta-Space.
- Solid wood base – 4” straight – typical, match existing.

## TYPICAL WALL FINISHES

Gypsum Board interior partitions - (2) coats paint and (1) coat primer.

## CEILING FINISHES

Typical ACT to be Armstrong Ultima 2x2 w/ 9/16” grid.  
Provide acoustic panels as shown on plans, extend 4 ft. down adjacent clerestory walls both sides.

## MILLWORK

### *Kitchen Casework*

- P-Lam casework with solid surface quartz counter top, undermount stainless steel double basin sink, faucet with integrated sprayer, deck mounted water glass filler.
- Provide electrical and plumbing connections for oven/range, vent hood, dishwasher, 1 refrigerator, coffee maker, 2 microwaves.

### *Meta-Space Casework*

- P-Lam Casework (upper and lower) with HDPL counter top, drop-in single basin stainless steel sink

## OPERABLE PANEL PARTITION

Rework side wall of panel partition by adding panels as needed for extended length or replacing with new partition wall to match the north south section to remain.

## 8 FIRE PROTECTION AND PLUMBING SYSTEMS

### GENERAL

Extend existing fire sprinkler system and fire alarm system to service new addition.

### CODE/STANDARDS ANALYSIS

- State of Wisconsin Plumbing Code SPS 382
- ASHRAE 90.1-2019 (Hot water piping distribution)
- IFC-2015, NFPA 13

### FIRE PROTECTION AND PLUMBING DESIGN CRITERIA

#### Preferred Materials

- Fire Protection Piping (both wet and dry systems):
  - 2” or smaller: Schedule 40, black steel, threaded and coupled or flanged.
  - Over 2”: Schedule 10, black steel, grooved.  
Mechanically coupled grooved joints with black iron malleable iron fittings.
- Sanitary Waste and Vent Drain Piping:
  - Below Ground: Schedule 40 PVC with solvent fittings
  - Above Ground Sanitary Waste and Vent: Copper DWV tube with soldered fittings or Schedule 40 PVC with solvent fittings.
- Domestic water piping mains: Type L copper tubing with solder fittings. Provide with 1” mineral fiber insulation for all new domestic water distribution. Provide vapor barrier on cold water piping.
- Natural gas piping: Schedule 40 black iron. Provide PRVs where necessary.

## **FIRE PROTECTION**

### **Renovated and New Addition Areas**

- Revise existing wet type sprinkler piping and sprinkler layouts in renovated areas to accommodate new space requirements. Provide new sprinklers when necessary. Match existing sprinkler type.
- Extend existing wet type sprinkler piping and sprinkler layout to the Community Room addition. Provide new sprinklers to match existing sprinkler type in space.
- Extend existing dry type sprinkler piping and sprinkler layout to any added attic space created by the Community Room addition.

## **PLUMBING**

### **Renovated and New Addition Areas**

Provide new drop in stainless steel single basin sink with gooseneck faucet for META Space. Extend new hot water, hot water return and cold-water piping through the ceiling and connect to existing mains near restrooms. Saw cut floor and run new 3" sanitary drain to the existing piping in the basement. Extend new sanitary vent piping from the sink through the ceiling to connect to existing vent piping near restrooms.

Provide new drop in stainless steel single basin sink with gooseneck faucet for Tech Services Room. Extend new hot water, hot water return and cold-water piping through the ceiling and connect to existing mains near restrooms. Extend sanitary drain to the existing piping in the basement below. Extend new sanitary vent piping from the sink through the ceiling to connect to existing vent piping near restrooms.

Provide new three compartment stainless steel scullery sink with faucets in the new Kitchen space. Saw cut floor and route Greasy waste to an interior grease interceptor located in the floor of the new Kitchen. Provide a floor in the new Kitchen space. Saw cut floor and

route sanitary piping from the grease interceptor, rinse and sanitize compartments of the three-compartment sink and the floor drain. Connect to existing sanitary piping in the basement. Route vent piping overhead through ceiling and connect to existing vent piping near restrooms.

Provide gas piping to make up air unit for new Kitchen space. Unit located on roof. Connect gas piping to existing service.

## **9 HEATING VENTILATING AND AIR CONDITIONING**

### **CODE/STANDARDS ANALYSIS**

- IBC 2015 (with Wisconsin Amendments)
- IMC 2015 (with Wisconsin Amendments)
- IECC 2015 (with Wisconsin Amendments)
- ASHRAE 55
- ASHRAE 62
- ASHRAE 90.1-2019

### **HVAC DESIGN CRITERIA**

#### **Preferred Materials**

- Supply and Return Air ducts: Galvanized sheet metal.
  - Supply air ducts extended through ceilings shall be insulated with fiberglass duct insulation.
- Kitchen Exhaust from hood: Black Iron or Stainless Steel. Provide with 2-hour fire wrap insulation from hood to roof mounted exhaust fan.
- Diffusers and Grilles:
  - Supply diffusers in public spaces and offices: Slot diffusers.
  - Supply diffusers in back-of-house areas: Architectural plaque diffusers.
  - Return and Exhaust Grilles: Perforated ceiling type.

- Heating Hot Water Piping: Type L copper with soldered fittings. Provide with 1-1/2" mineral fiber insulation for all new hot water distribution.

### HEATING PLANT

The existing hot water boiler system shall remain. Extend new hot water distribution as required to new VAV units described below. Revise existing hot water perimeter baseboard heat to accommodate space renovations. Provide new baseboard radiation in newly created rooms and zone with associated VAV terminal unit.

### COOLING PLANT

Replace existing 30-ton air cooled condenser (CU-1) with new ASHRAE compliant air-cooled condenser with nominal capacity of 50 Tons. Provide new evaporator coil at the existing air handler AHU-1.

The remaining existing cooling systems shall remain.

### AIR DISTRIBUTION

Air distribution for the renovations and addition shall be as follows:

- B. Re-balance AHU-1 to provide up to 14,000 CFM supply air and 3,000 CFM outside air. Provide return air CO2 monitoring to allow reset of minimum outside air set -point to 1,000 CFM when CO2 readings are less than 500 PPM (adjustable).
- C. Re-balance AHU-2 to provide up to 11,500 CFM supply air and 2,000 CFM outside air. Provide return air CO2 monitoring to allow reset of minimum outside air set -point to 1,000 CFM when CO2 readings are less than 500 PPM (adjustable).
- D. Add new VAV box from AHU-2 to serve Seating Room (approx. 1000 CFM).
- E. Add new VAV box from AHU-2 to serve two new Tw Person Study Rooms (approx. 150 CFM).
- F. Add new VAV box from AHU-1 to Video Studio Room (approx. 200 CFM).
- G. Add new Fan Powered Box (FPB) from AHU-1 to serve Quiet Room (approx. 900 CFM).
- H. Add new VAV box from AHU-1 to serve Tech Services Office (approx. 150 CFM).
- I. Add new VAV box from AHU-1 to serve Administration Office (approx. 200 CFM).
- J. Add (2) new VAV boxes from AHU-2 to serve Small Conference rooms (approx. 600 CFM each).
- K. Re-use, re-configure and re-balance X-VAV-2.03 to accommodate Local History room.
- L. Re-use, re-configure and re-balance X-VAV-2.04 to accommodate Study Rooms.
- M. Re-use, re-configure and re-balance X-VAV-2.05 to accommodate Adult Tech & Fiction open areas.
- N. Re-use, re-configure and re-balance X-FPB-2.01 to accommodate Non-Fiction open areas.
- O. Re-use, re-configure and re-balance X-FPB-1.01, X-FPB-1.02, X-FPB-1.09, X-VAV-1.04, X-VAV-1.05, X-VAV-1.06, X-VAV-1.08, to accommodate new ceiling configuration.
- P. Re-use, re-configure and re-balance X-VAV-1.07, to accommodate new Kids Work room.
- Q. Re-use, re-configure and re-balance X-VAV-1.10, to accommodate new Director Office.
- R. Re-use, re-configure and re-balance X-VAV-2.11.10, to accommodate Staff Workroom and Storage.
- S. Re-use, re-configure and re-balance X-FPB-2.13, to accommodate Tech Services.
- T. Re-use, re-configure and re-balance X-VAV-2.07a, to accommodate new Community Room addition.

- U. Re-use, re-configure and re-balance X-VAV-2.07 b and c, to accommodate new Community Rooms A and B.
- V. Remove X-FPB-2.10.
- W. Clean and rebalance all existing systems to remain.
- X. Provide new supply and return diffusers and grilles for all new spaces and all existing areas that will receive new ceilings.

## VENTILATION

The existing exhaust systems for the building shall remain. Clean and rebalance all exhaust fans and ductwork. Replace exhaust grilles located in areas designated to receive new ceilings.

Provide a Type 1 commercial kitchen hood with fire suppression system to serve the new Kitchen Space. Duct hood exhaust up to a roof mounted upblast fan suitable for grease laden air.

## OTHER HEATING/COOLING

Provide a direct fired gas make up air unit to serve the new Kitchen space. Install unit on the flat roof area and duct supply air to the kitchen space.

## CONTROLS

Connect controls for new equipment and terminal units (i.e. CU-1 condensing unit, CO2 controls, VAV units, baseboard radiation, kitchen exhaust and make up air) to the existing DDC system. Reconnect any relocated terminal units to the existing DDC system.

# 10 ELECTRICAL SYSTEMS

## APPLICABLE CODES

- IBC 2015 (with Wisconsin Amendments) minimum required
- ASHRAE 90.1-2019 (for lighting systems)
- IMC 2015 (with Wisconsin Amendments)
- IECC 2015 (with Wisconsin Amendments)
- NATIONAL ELECTRIC CODE NEC 2017 Edition

- NATIONAL FIRE CODE NFPA 72
- LIFE SAFETY CODE NFPA 101
- AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES

## ELECTRICAL DESIGN CRITERIA

### Preferred Materials

1. Copper materials are to be utilized for all conductors and cabling, bus bars, transformer windings, and the like.
2. Minimum wire size shall be #12 AWG, Type THHN-THWN.
3. All raceway as defined by specs and as follows:
  - a. Interior concealed and exposed shall be in EMT. ½" minimum size.
  - b. All raceway installed in finished spaces shall be concealed.
  - c. Provide flexible metal conduit for final connection to all motors and equipment subject to vibration, and for connection to recessed light fixtures.
  - d. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A. Gangable boxes are prohibited.
  - e. Fittings, couplings and connectors for EMT shall be steel compression type.
  - f. MC is not acceptable unless directed otherwise by the Owner
4. All wiring devices shall be Heavy-Duty Specification Grade.
  - a. Switches to be 20 A, 120/277-VAC.
  - b. Duplex receptacles to be NEMA 5-20R.
  - c. Provide tamper-resistant receptacles in children's areas.
5. All feeders and branch circuits shall be provided with a separate equipment ground conductor and shall comply with NEC 250.

6. Disconnect switches shall be heavy-duty type. Fusible disconnect switches shall accept rejection type fuses.

## 11 POWER SYSTEMS

### NORMAL POWER SERVICE AND DISTRIBUTION

1. Normal power service is provided by We Energies. The existing electrical service size is 800A, 277/480V, 3 Phase, 4-Wire. The existing utility transformer and meter C.T. cabinet (transocket) were relocated during the 2011 building addition and renovation project.
2. The existing service size is considered to be adequate to serve the proposed building renovation including the small 825 sq. ft. building addition.
  - a. Existing utility bills for July and August 2019 indicate actual on-peak demand readings of 74.4 kW and 77.6 kW respectively, which is 89.5 amperes and 93.4 amperes. This is well within the capacity of the 800-amp service
3. Two existing 75 kVA transformers transform the 480V service voltage down to 120/208V, 3 Phase, 4-Wire to serve receptacles and other 120V branch circuits.
4. Existing Panel A is a 42 circuit, 150A main circuit breaker, 277/480V panel that served the area of the original building. Panel shall remain to serve branch circuits in the renovated area.
5. Existing Panel B is an 84 circuit, 200A main circuit breaker, 120/208V panel that served the area of the original building. Panel shall remain to serve branch circuits in the renovated area.
6. Existing Panel C is a 42 circuit, 150A main lug only, 277/480V panel that serves the area of the 2011 building addition. Panel shall remain to serve branch circuits in the renovated area.
7. Existing Panel D is an 84 circuit, 400A main lug only, 120/208V panel that serves the area of the 2011 building addition. Panel shall remain to serve branch circuits in the renovated area.
8. Existing recessed floor boxes are provided for power and data outlets located in the existing Work Room, Community Room, Conference Room, and at tables and sitting areas in the main library space. The floor boxes will remain and be reused wherever possible.
9. New floor boxes shall be provided to serve computer monitors at the free-standing tables located in the Kids Tech and Adult Tech areas. Saw-cut the floor for conduit installation to the nearest column.
10. Retain existing receptacles located in existing columns and walls that are to remain. Provide receptacles in new walls at locations required to serve specific equipment and computers, and spaced throughout for general use.
  - a. Branch circuits serving new receptacles for computer monitors located in Kids Tech, Teen Tech, and OPAC & Self Check to be routed down through adjacent columns and into the casework.
  - b. Branch circuits for new receptacles to be circuited from the nearest electrical panel.
11. Disconnect and remove the existing motor circuit for the existing 30-ton air-cooled condenser (CU-1) being removed. Provide a new circuit for the replacement 50-ton condenser.
12. Provide new power circuits to the new kitchen exhaust hood, exhaust fan, and gas-fired make-up air unit.
13. Provide new branch circuits for new fan-powered VAV boxes.

14. Provide new branch circuits for new kitchen cooking equipment.
15. Loads shall be designed using the following criteria:

<u>Description</u>	<u>Load Density (VA/sq ft)</u>
a. Receptacles	3.0
b. Lighting	1.0
c. Mechanical	6.5

### EMERGENCY POWER

1. Emergency power for means of egress lighting shall be provided by emergency battery supplied with select light fixtures. Exit signs shall have integral batteries inside of the signs.
2. Emergency power for fire alarm, access control, and security systems will utilize back-up batteries contained within the respective equipment control panels.

## 12 LIGHTING AND CONTROL

### LIGHT FIXTURE SELECTION CRITERIA

1. Existing lighting throughout the building is mainly fluorescent fixtures with T8 lamps. Some LED fixtures are installed, used for downlights, exit signs, and the emergency lighting units. Existing exterior lights are pulse-start metal halide.
2. All lighting shall be replaced with new LED light fixtures throughout the building and outside.
  - a. The base lighting system will consist primarily of pendant direct/indirect LED fixtures in high ceilings, recessed LED troffers in low ceilings, with LED recessed 2x2's and 2x4's in office areas. New Exit and Emergency Egress lighting will be provided to illuminate path of egress.

- b. New LED exterior wall mount sconces and recessed downlights will be installed for patron and staff safety and convenience when approaching or leaving the building after sunset. Additional lighting will be added underneath roof over hangs for illumination after sunset. All lighting fixtures specified should be resistant to vandalism to the greatest extent possible.

### 3. Design Lighting Levels:

- a. Office 30-40 – Horizontal, 5 – Vertical
- b. Lobbies 10-15 – Horizontal, 5 – Vertical
- c. Hallways 10-15 – Horizontal, 3 – Vertical
- d. Restrooms 15 – Horizontal, 5 – Vertical
- e. Meeting Rooms 50 – Horizontal, 5 – Vertical
- f. Stack Spaces 30 - Horizontal, 20 – Vertical
- g. Reading Rooms 50 – Horizontal, 20 – Vertical
- h. Mech/Elec 20 – Horizontal, 1.5 – Vertical
- i. Storage/Janitor 10 – Horizontal, 3 – Vertical

4. Typical illuminance levels per IES recommendations at 2'-6" workplane height.

### LIGHTING CONTROL SYSTEM

1. Existing interior lighting controls consist of toggle light switches, with occupancy sensors to provide automatic shutoff control. Daylight sensors are provided to control light fixtures that are installed in the daylight zones at the exterior windows. Existing exterior lighting is controlled by a photocell and a time clock with a 7-day astronomic dial, connected to a 6-pole lighting contactor. All existing interior and exterior lighting controls shall be replaced. Acuity nLight distributed lighting control system shall be utilized as the basis of design with use of occupancy and

daylight automatic controls compliant with ASHRAE requirements.

2. All lighting will be controlled to meet or exceed the requirements of the energy code. Photocells and occupancy/vacancy sensors shall be utilized to minimize energy consumption and to meet energy code switching, manual on, and shutoff requirements. Occupancy sensors will be combination infrared/ultrasonic type. Dimming shall be provided as dictated by energy codes.
3. Daylight responsive controls shall be incorporated in all regularly occupied spaces within approximately 15 feet of windows. The controls shall automatically adjust the light output (via dimming drivers) of the fixtures in the daylit area based on the ambient light levels. Care shall be taken to ensure that the adjustment of light levels is subtle and not disruptive to the building occupants.
4. All exterior lighting shall turn off when sufficient daylight is available as detected by a photocell. Building façade lighting shall turn off from midnight to 6am, and occupancy sensors shall dim all other exterior lighting by at least 50% during periods of inactivity.

## **13 FIRE ALARM**

### **FIRE ALARM**

1. The existing fire alarm system is addressable. The 2011 building addition and renovation project was an expansion of the existing system.
2. The existing fire alarm control panel is located in the basement, and an annunciator panel is located in the main entrance vestibule. These shall remain.

3. Audible and visual alarm notification is provided by horns and strobes. Strobes have selectable candela ratings of 15, 30, 75, and 110 candela.
  - a. New audible devices shall be wall or ceiling mounted horns and installed in accordance with NFPA and ADA guidelines.
4. Smoke detectors are located throughout most of the building, except for offices, toilet rooms, break room, and study rooms. Smoke detectors at the elevator provide for elevator recall.
  - a. Smoke detectors will be installed in, but not limited to, the following locations: air handling units, IT rooms, janitor closets, storage rooms and electrical/mechanical equipment rooms.
  - b. Heat detectors will be installed in areas that are not feasible for smoke detectors.
5. Heat detectors located in the elevator equipment room and elevator shaft activate shunt-trip relays to provide shutdown control of the power to the elevator equipment. Elevator shutdown control to remain
6. Sprinkler system flow and tamper switches are monitored by the fire alarm panel, with outside alarm bell, horn and strobe. Sprinkler system monitoring to remain.
7. A magnetic door holder and smoke detector is located at the interior door of the employee entrance corridor. Door holder is released when activated by the fire alarm panel. Door holder shall remain.
8. Provide an addressable monitoring module for the new kitchen hood fire suppression system, for alarm status monitoring at the FACP.
9. All fire alarm system wiring shall be installed in conduit. Conduit and boxes shall be painted red.

## 14 TELECOMMUNICATIONS

### LOW VOLTAGE SYSTEMS (VOICE/DATA, A/V, CCTV)

1. Provide junction boxes, conduit and other elements as necessary to support installation and routing of conductors for all low voltage systems.
2. A flush, two-gang box with a single plaster ring will be provided at each voice/data outlet location. Minimum raceway size to be 1" conduit, with end bushings stubbed up into the accessible ceiling space in the room. Cable trays will be steel basket type, and J-hooks shall be provided as required.
3. New floor boxes shall be provided to serve data cabling for computer monitors at the free-standing tables located in the Kids Tech and Adult Tech areas. Saw-cut the floor for conduit installation to the nearest column.
4. Retain existing data outlets located in existing columns and walls that are to remain. Provide new data outlets in new walls at locations required to serve specific equipment and computers.

- a. Raceway for data cabling for computer monitors located in Kids Tech, Teen Tech, and OPAC & Self Check to be routed down through adjacent columns and into the casework.
5. Data cabling to be routed back to the existing data rack located in the basement server room.

### FIRST RESPONDER RADIO SYSTEM

This system does not exist in this building but code requires all parts of the building to be able to access the 800MHz EM response system.

Provide an RF survey performed of the entire building to determine the need for the system.

### AUDIO VISUAL SYSTEMS

Data connections shall be installed based on location and Owner requirements for network connections.

Conduits and flush mounted outlet boxes shall be designed for specialized Owner or AV contractor cabling between AV and/or network devices.

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## Appendices

- 1 The Planning Context
- 2 Long Term Library Space Needs
- 3 Budget Summary and Breakdowns
- 4 Select Meeting Minutes

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# Mukwonago Community Library Space Needs Analysis and Study

## Appendix 1: The Planning Context

June 17, 2019

Prepared with the assistance of  
Engberg Anderson Architects



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The planning team acknowledges the highly interactive process that lead to the content and conclusions of this study. Considerable contributions were made by trustees and the Library's management team.

### **Mukwonago Community Library**

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#### **Library Management Team**

Angela Zimmermann ..... Library Director

#### **Planning Team**

Engberg Anderson..... Alexandra Ramsey, Joseph Huberty

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# 1 Planning Population

A Strategic Facility Plan acknowledges the importance of physical space in meeting the service needs of the community. It addresses three big questions related to that space. What do we have today? What do we need? How do we get there? Each must be answered as a service question before it can be answered as a space question. For the service questions to be answered, we need to understand the community.

An *Update to the Village of Mukwonago Comprehensive Plan 2035* gives a good overview of the objectives of the Village and the underlying planning associated with the largest unit of government served by the Library. The Village is the center of commercial and residential activity in the area. As the only Village service that extends beyond the boundaries of the Village, the Library's service population exceeds that of the village by a significant amount, encompassing parts of rural Racine, Walworth and Waukesha Counties. These adjacent spaces, to a certain extent, are included within the planning boundaries of the Village's Comprehensive Plan. As noted in the Plan,

*"The Village of Mukwonago is a multi-faceted, dynamic community with an opportunity to expand its presence as a regional center of quality housing, employment, retail and financial, health care, education, social and recreational activities. Its advantageous location along I-43 and cross connection with State Highway 83 continues the 150+ year relationship between the community and its market area within Waukesha, Walworth and Racine Counties. The surrounding region has long been an important factor driving Mukwonago's land use and economy.*

*"Village residents, young and old, newcomers, and those with a multi-generational community background, all enjoy the "real hometown" atmosphere Mukwonago has to offer with an outstanding and highly ranked K-12 public school system, local entrepreneurs and strong cultural history buoyed by numerous natural resources. "*

Population data for the service area was obtained from the *Update to the Village of Mukwonago Comprehensive Plan 2035*. The figures for population and housing projections were prepared by the Wisconsin Department of Administration (DOA) and have been revised upward as a result of actual growth between the 2000 and 2010 census statistics.

Recent growth (2011 through 2018) has averaged 214 new residents per year. Projected growth assumes something less with a typical rate of 100 new residents per year being typical. A more rapid growth rate of 140 new residents per year is used between 2020 and 2025 and a slower rate of growth of 50 new residents per year is used between 2035 and 2040.

An additional allocation is made for growth in the non-resident population. This is presumed to be limited by the density of development anticipated, trends toward fewer occupants per dwelling, and other demographic patterns. As with Village growth, the projections show moderate growth in the near future and decreasing growth farther in the future.

The result of the calculation is a conservative estimate of a likely service population of approximately 25,000 individuals in 2040.

TABLE 1-1: CALCULATION OF PLANNING POPULATION

Year	Service Population	Village Population Growth	Non- Resident Population Growth	Planning Population
2010	20,642			20,642
2011	20,271	-371		19,900
2012	21,962	1,691		23,653
2013	21,906	-56		21,850
2014	21,964	58		22,022
2015	21,457	-507		20,950
2016	21,515	58		21,573
2017	22,278	763		23,041
2018	22,350	72		22,422
2020	22,550	200	100	22,850
2025	23,250	700	280	24,230
2030	23,750	500	150	24,400
2035	24,250	500	100	24,850
2040	24,450	200	20	24,670
Projected Service Population (Planning Population), Rounded				<b>25,000</b>

## 2 Library Profile

Any institution is, to a large extent, what it sets out to be. The Mukwonago Community Library has set for itself a mission and vision that in many ways reflects the community it serves. A set of core values is the basis for the 2018 – 2021 Strategic Plan and for the longer-range Strategic Facilities Plan.

### 1 Mission

Inspiring creativity, promoting discovery, and building community.

### 2 Strategic Plan 2018-2021

The Library's shared goals reflect this vision, mission, and values and provide a template for how we resources are used. The work of all library staff and volunteers is guided by these goals, expressed in the current Strategic Plan. The Library has identified 4 priorities as a result of the strategic planning process.

- Inspire creativity through interactive opportunities to learn.
- Promote discovery by facilitating connection to resources, people, and ideas through a positive user experience.
- Building community by sparking interest in the Library through strategic marketing and communications.
- Enhance the Library's culture as a vibrant and innovative workplace.

Strategies to achieve these goals include:

- Inspire creativity through interactive opportunities to learn.
  - Utilize attendance data, feedback, and community demands to determine future programs and events
  - Evaluate staffing, marketing and outreach needs to ensure ongoing operations of MetaSpace 511

- Develop Library collections that reflect demand and relevancy to Mukwonago community
- Promote discovery by facilitating connection to resources, people, and ideas through a positive user experience.
  - Conduct facilities study to evaluate options for expanding capacity, alleviating interior noise challenges, and providing access to popular materials
  - Evaluate feasibility of expanding ours of operations including Sunday afternoons
  - Develop programming and outreach targeting older adult population
  - Increase use of the Library by teens
- Building community by sparking interest in the Library through strategic marketing and communications.
  - Develop communications plan that emphasizes consistent branding and messaging
  - Increase physical presence of staff in the community through shared programs, collaborative outreach efforts, and participation in community events
  - Explore options for expanding collaboration with the local business and education community
- Enhance the Library's culture as a vibrant and innovative workplace.
  - Develop pathways for shared leadership among Library staff to encourage sustainability of initiatives
  - Increase staff participation in professional development opportunities to energize the Library as an organization and respond to trends in public library service

- Evaluate current Library staffing model to align with Strategic Plan priorities

Many of these have direct or indirect but important space implications. In some ways they are drivers of the amount of space needed, in other ways about adjacencies, and in yet other ways, these strategies and goals suggest physical attributes that need to be in place to help the Library achieve its goals. The strategies are repeated below with space related considerations to be addressed in the study. Many of these are clearly intertwined and often need exploration of basic spatial attribute of size, location, and adjacency. While they can be condensed to these common elements, it is useful to look at each strategy in term of its potential spatial considerations. Shifts in the balance of space use and in identifying additional space needs, if any, should support these strategic goals.

- Utilize attendance data, feedback, and community demands to determine future programs and events
  - Size of program rooms
  - Capabilities of program rooms
  - Location of program rooms
  - Connections between program rooms and other library spaces inside or outside of the building
- Evaluate staffing, marketing and outreach needs to ensure ongoing operations of Metaspace 511
  - Size of Metaspace room
  - Location of Metaspace room
- Develop Library collections that reflect demand and relevancy to Mukwonago community
  - Collection balance between user groups
  - Collection balance between formats
  - Collection balance between browsing and storage needs
  - Collection balance between depth and breadth

- Conduct facilities study to evaluate options for expanding capacity, alleviating interior noise challenges, and providing access to popular materials
  - Need to define aspects of “capacity”, be it people, materials, activity spaces, etc.
  - Zoning of spaces based on intensity of use
  - Zoning of spaces based on noise levels
  - Determine extent of underutilized spaces
  - Determine extent of “overprogrammed” spaces
- Evaluate feasibility of expanding hours of operations including Sunday afternoons
  - Efficient layout of space to minimize cost to effectively provide service during each hour of operation
- Develop programming and outreach targeting older adult population
  - Nature of program and physical space requirements (size, location, capabilities)
- Increase use of the Library by teens
  - Amount of space
  - Location of space
  - Nature of space
  - Uses of space
- Develop communications plan that emphasizes consistent branding and messaging
  - Identifiable overall image of spaces that maintain brand but allow for necessary variety in support of service goals
- Increase physical presence of staff in the community through shared programs, collaborative outreach efforts, and participation in community events

- Organize spaces to reinforce connectivity of staff to public
- Scale spaces to support partnerships and outreach efforts
- Provide spaces with appropriate resources
- Explore options for expanding collaboration with the local business and education community
  - Identify activities, programs, resources needed to support the collaborations in an effective yet flexible manner
- Develop pathways for shared leadership among Library staff to encourage sustainability of initiatives
  - Identify flexible spaces to support shifts in services and use patterns as initiatives are refocused or changed
- Increase staff participation in professional development opportunities to energize the Library as an organization and respond to trends in public library service
  - Define workspaces that support staff development, collaboration, and participation in emerging services, including size, location and nature of work environments
- Evaluate current Library staffing model to align with Strategic Plan priorities
  - Location and nature of public service points
  - Location and nature of work rooms

# 3 Performance Measures

## 1 Overview

The effectiveness of a library is not measured in a single statistic or in any easily obtained set of statistics. The broadening of the statistical measures to include items other than materials circulated is a helpful trend and gives better insights into trends and community needs and desires. To gain perspective, the Library System's performance is compared to state and national groups. The measures compared include

- Registered Card Holders
- Visits
- Circulation
- Reference Transactions
- Program Attendance
- Public Computing

The past 20 years have seen several shifts in the delivery of service. For context the period between 2000 and 2018 is described and for focus, the more recent period before 2013 and 2018 is assessed.

### ***Mukwonago Community Library, 2000 to 2018***

The broad trends over the past 18 years have seen significant growth in service population and in use of the library. Part of this is underlying demographics, part of this is in response to the economic conditions during the great recession, part is attributable to emergence of technologies that were brought into common use in a number of venues including the public library. In many instances, these factors combined to establish high points in the use of certain library services. For Mukwonago Community Library, the combination of population growth in the Village and surrounding areas, along the increase in capabilities brought about by the expansion of the library building, set a broad pattern in increases in several key measures.

- The Service population increased 16% or 3,037 people
- Registered Card Holders decreased 8% or 1,105 people
- Annual Visits increased 14% or 18,098 visits
- Total Circulation increased 55% or 120,740 circulations
- Interlibrary Loans increase 122% or 21,571 loans
- Electronic Materials Circulation increased 28% or 2,963 circulations
- Reference Transactions decreased 42% or 11,336 inquiries
- Program Attendance increased 349% or 27,648 attendees
- Public use of the internet capable terminals decreased 44% or 8,551 uses while the number of terminals increased by 20 devices.

### ***Mukwonago Community Library, 2013 to 2018***

The more recent trends in use at the library show shifts from the broader long-term trends. In some instances, those trends are the combination of local demographics, national economics, and systemic shifts in the delivery of information and access to recreational materials brought about by the accelerating introduction of technology into all aspects of society. Slowing population growth and the recovery from the great recession have changed the number of users as well as the frequency of their use of the library. The changes in technology have started a shift from print to non-print materials and from physical materials to digital materials, and now from hard format digital to streaming access to digital materials. While not uniform across all ages, subjects or formats, the impact of technology is evident on top of the demographic and economic influences in key measures.

- The Service population increased 2% or 444 people
- Registered Card Holders decreased 10% or 1,503 people (most of the decline in registered card holders has been in the last 5 years)
- Annual Visits decreased 12% or 19,966 visits
- Total Circulation decreased nominally by 884 circulations
- Interlibrary Loans increase 52% or 13,499 loans
- Electronic Materials Circulation increased 28% or 2,963 circulations
- Reference Transactions increased 39% or 4,394 inquiries
- Program Attendance increased 183% or 23,027 attendees
- Public use of the internet capable terminals decreased 41% or 7,594 uses while the number of terminals increased by 2 devices.

### ***Mukwonago Use in Comparison to State and national Patterns***

It can be useful to compare these changes to those observed at the state and national levels. The following table focuses on the most recent 5-year period.

TABLE 3-1: RECENT TRENDS ACROSS KEY MEASURES, MCL, WI & US.

Measure 2013-2018	Percent Change		
	MCL	WI	US
Service Population	2%	0.6%	0.7%
Registered Card Holders	-10%	-3.3%	-0.5%
Annual Visits	-12%	-9%	-6.9%
Total Circulation	-0.3%	-9.3%	-6%
Interlibrary Loans	52%	-4.8%	0.1%
E-Material Circulation	28%	78.7%	128%
Reference Transactions	39%	-8.7%	-9.1%
Program Attendance	183%	16.8%	17.2%
No of PC Terminals	6%	1.3%	5.2%
PC Terminal Uses	-41%	-19.4%	-17.2%

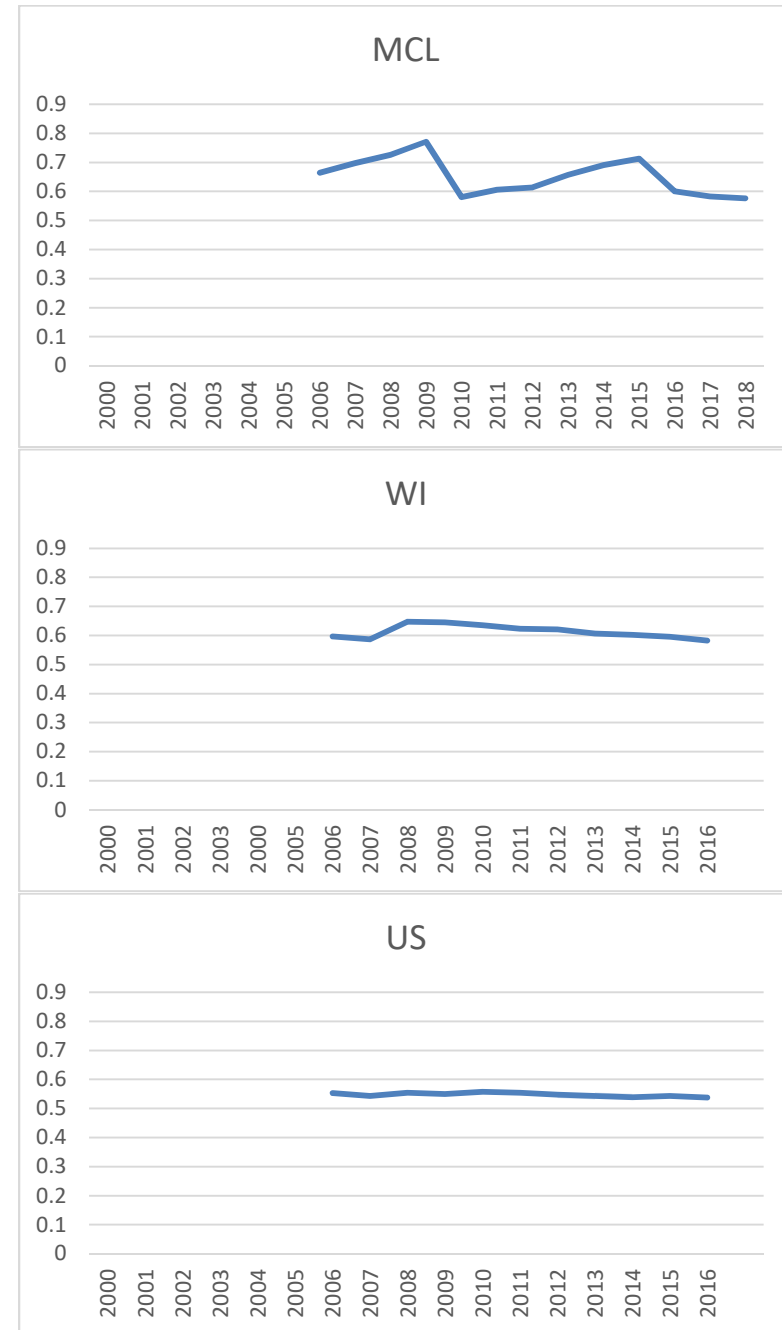
## **2 Introduction to Trendlines**

Further analysis of the key measures is provided to help the planning team identify and assess the current use levels of various services and the space attributes needed to support the high use or high value service elements. To help evaluate certain measures, a per capita comparison is used. This means of comparison is predicated on an understanding of the service population. The service population consists of two components, the legal resident population and the non-resident population that regularly uses the library. As discussed earlier, the non-resident population served by the Mukwonago Community Library is significant. The overall service population identified is about 2-1/2 times the Village population.

### 3 Registered Card Holders as Percent of Population

Cardholder figures have declined since peaks in 2008 and 2015. The number of registered cardholders per capita has shown a general decline. The pattern is seen in Wisconsin libraries and in all libraries across the United States. MCL and Wisconsin registration levels tend to exceed the national average.

*All graphs are annual per capital totals →*

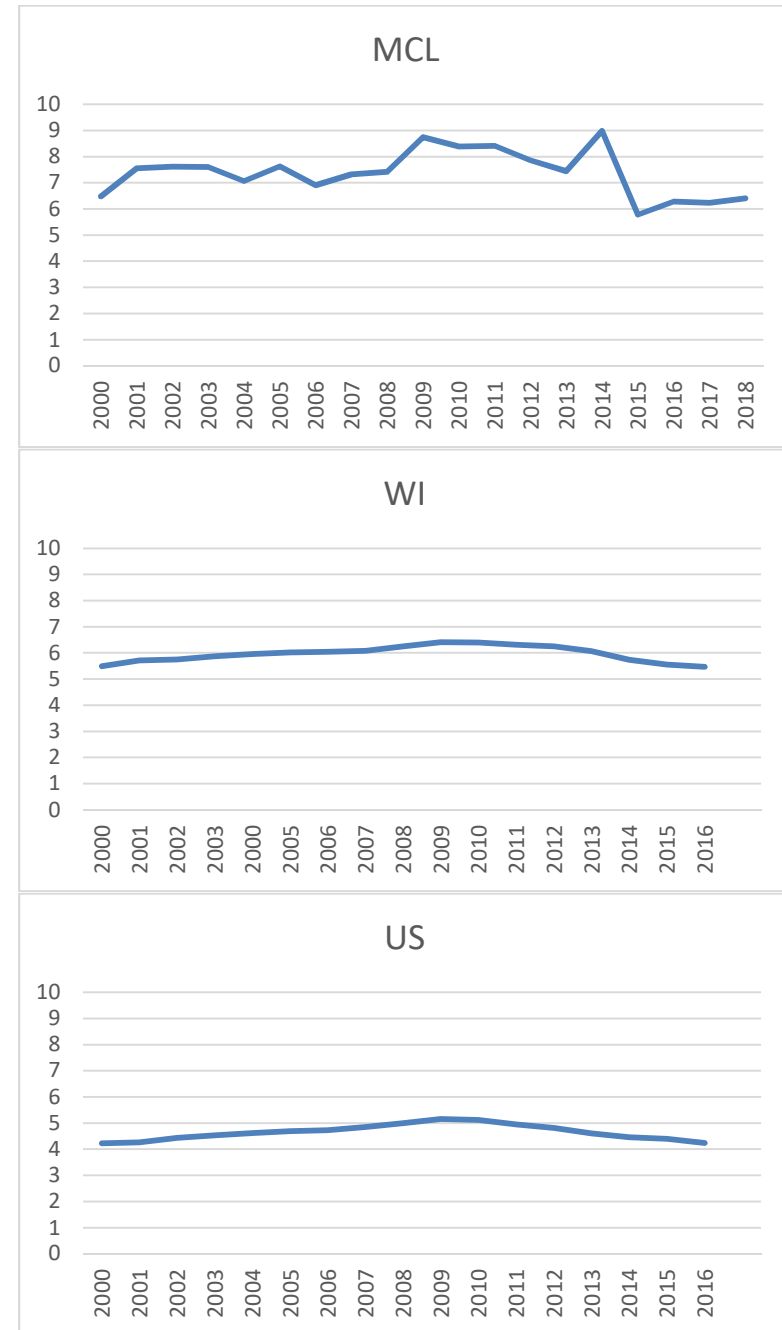


#### 4 Visits, Annually, Per Capita

The number of visitors has fluctuated over the past few years. Recent statistics show a dip from a 2014 highpoint for MCL. The most recent year shows a renewed number of visitors to the library.

MCL visits per capita are significantly higher than those reported for all libraries across Wisconsin. Both MCL figures and figures reported for all Wisconsin libraries exceed the visits reported for libraries across the United States. All groups are showing returns to levels seen prior to the great recession.

*All graphs are annual per capital totals →*

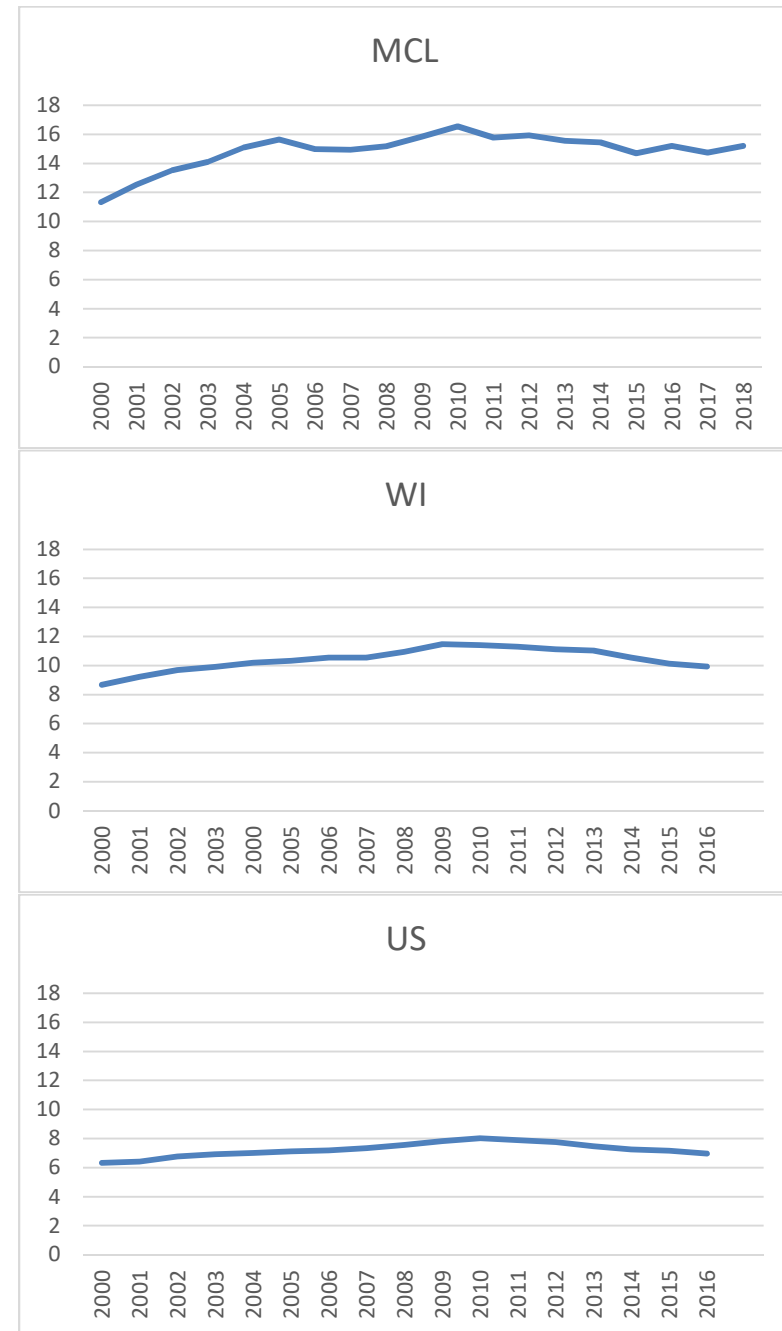


## 5 Circulation, Items Per Capita

Similarly, circulation of physical materials has declined in recent years. Recession year highs in 2008/2009 have steadily declined to present day levels. There have been slight upticks at MCL that suggest a leveling off, at least for the time being.

Per capital circulation at MCL is notably higher than circulation levels for all Wisconsin libraries. These in turn are notably higher than circulation levels averaged for all libraries across the United States.

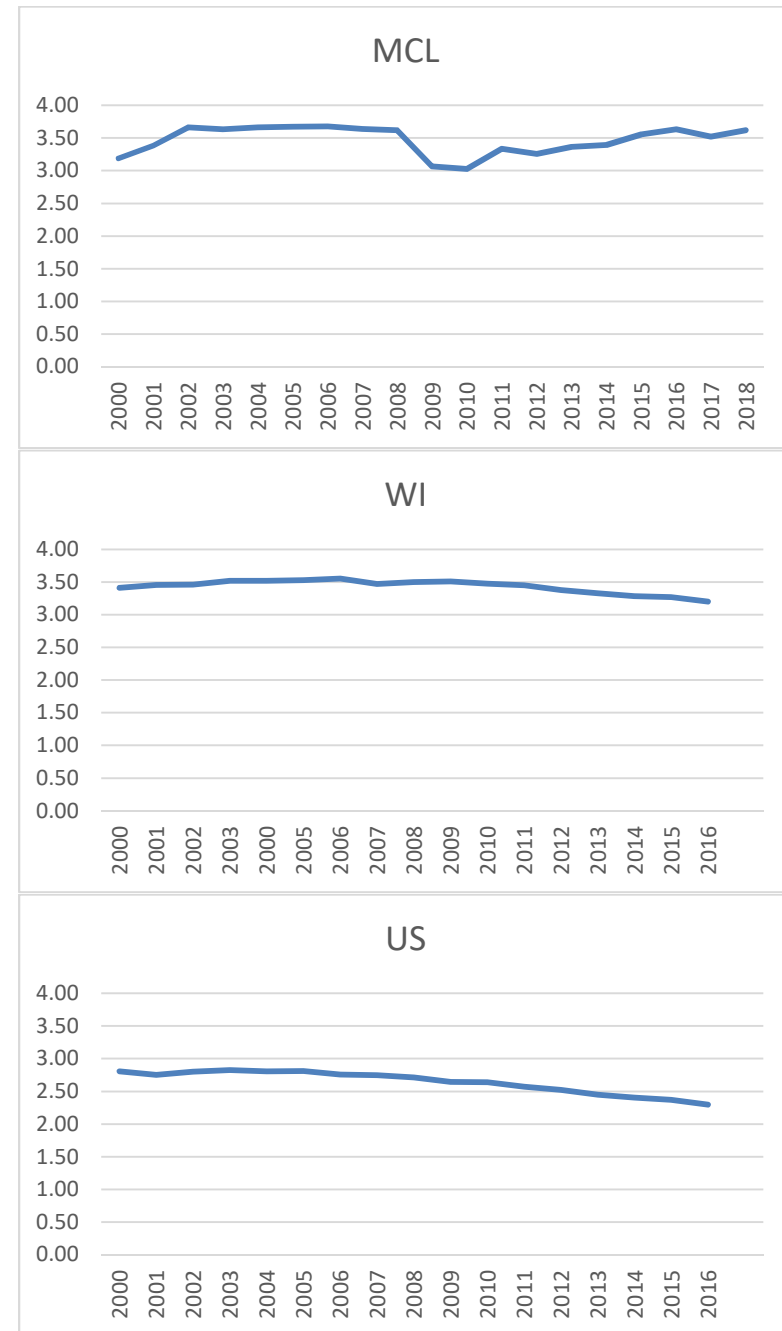
*All graphs are annual per capital totals →*



## 6 Collection, Books Owned, Per Capita

Collections at MCL are relatively consistent. At about 3.5 books per capita, this measure is in alignment with the average for Wisconsin and dramatically higher than that for all United States Libraries.

*All graphs are annual per capital totals →*

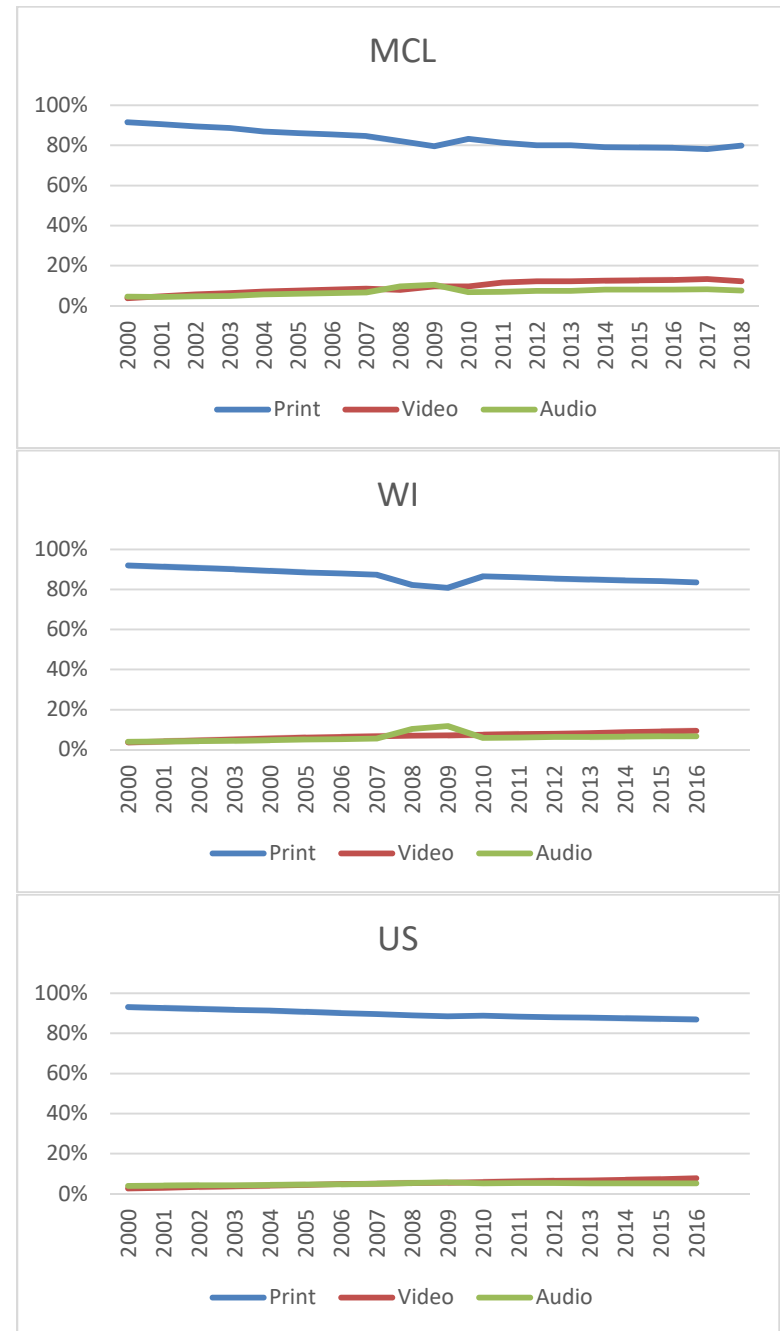


## 7 Collection, Percentage by Format

Within the overall collection, there is a continuing shift from almost exclusively print to a combination of print and other media. This pattern of increase is particularly notable for an increase in physical video holdings. Audio holdings are decreasing, in line with a national trend of patrons favoring downloadable audio over physical media. The increase in video holdings is also consistent with the experience of libraries across the country. There is some expectation that video will also see a migration to downloadable formats. The pace of the shift should increase in the near future.

MCL has slightly more of its collection in non-book forms than the average for all Wisconsin libraries. Both MCL and the Wisconsin libraries group have a slightly greater format diversity than the average for all United States libraries.

*All graphs are annual per capital totals →*



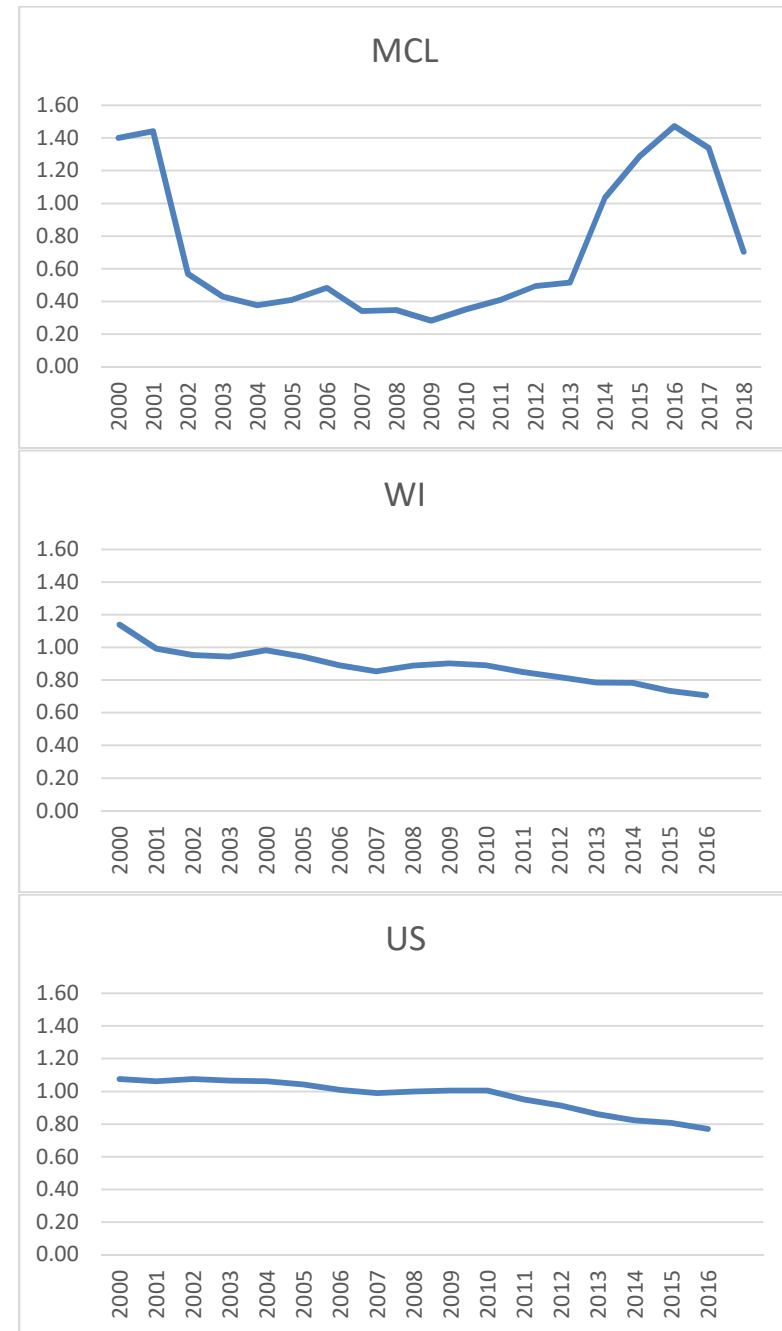
## 8 Reference Transactions, Annual, Per Capita

Reference transactions have fluctuated and currently are coming off recent highs. The pattern at MCL is less consistent than observed for Wisconsin libraries as a whole or for all United States libraries. The trendline over the last 18 years is generally upward but this is heavily skewed by a sizable jump between 2013 and 2016 and an almost equal drop between 2016 and 2018.

In contrast, both Wisconsin libraries and United States libraries have exhibited a consistent pattern of year to year declines. Overall, the current snapshot of per capita use of reference services across Wisconsin is about equal to that experienced at MCL.

The experience of all United States libraries is similar in pattern to Wisconsin with lower usage reported each year over the past 18 years. The per capita use of reference services in 2016 is a much lower than that seen at MCL. The 2018 MCL usage is more in line with the 2016 data for all United States libraries.

*All graphs are annual per capital totals →*

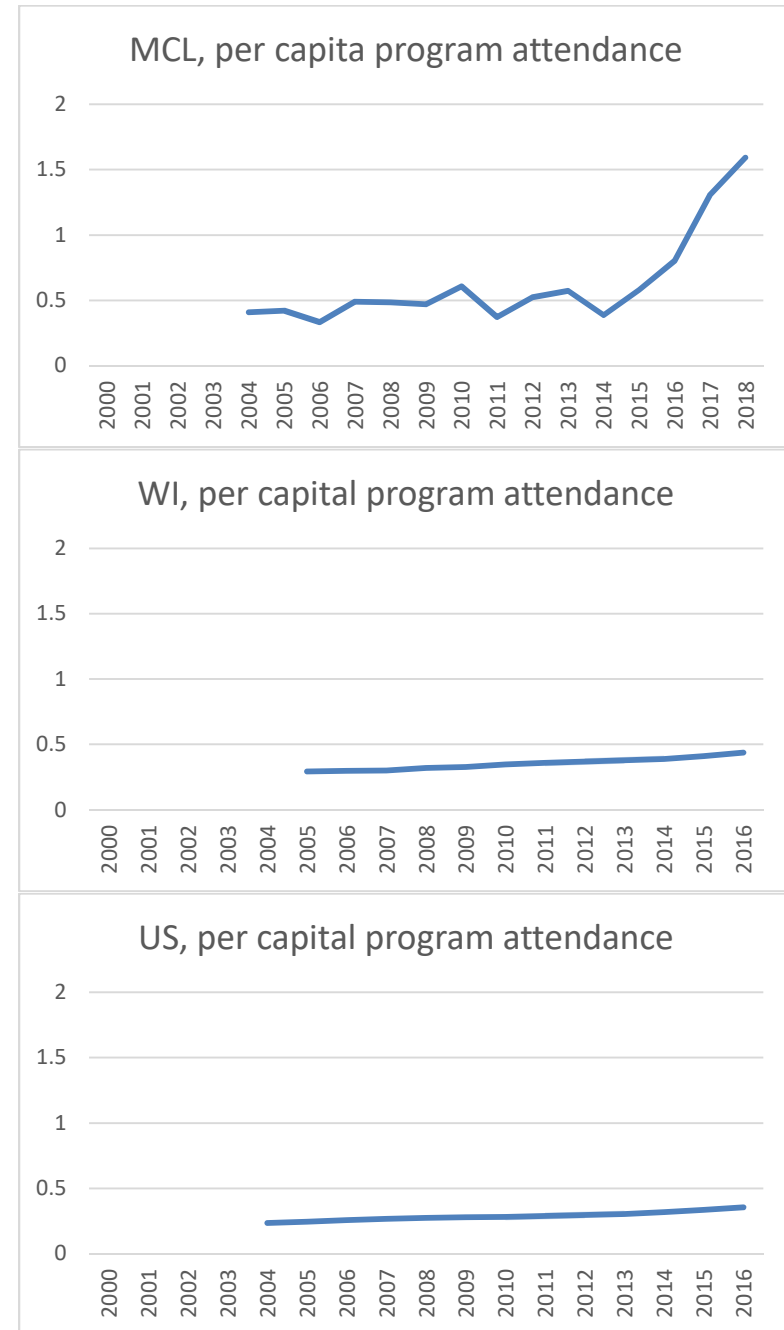
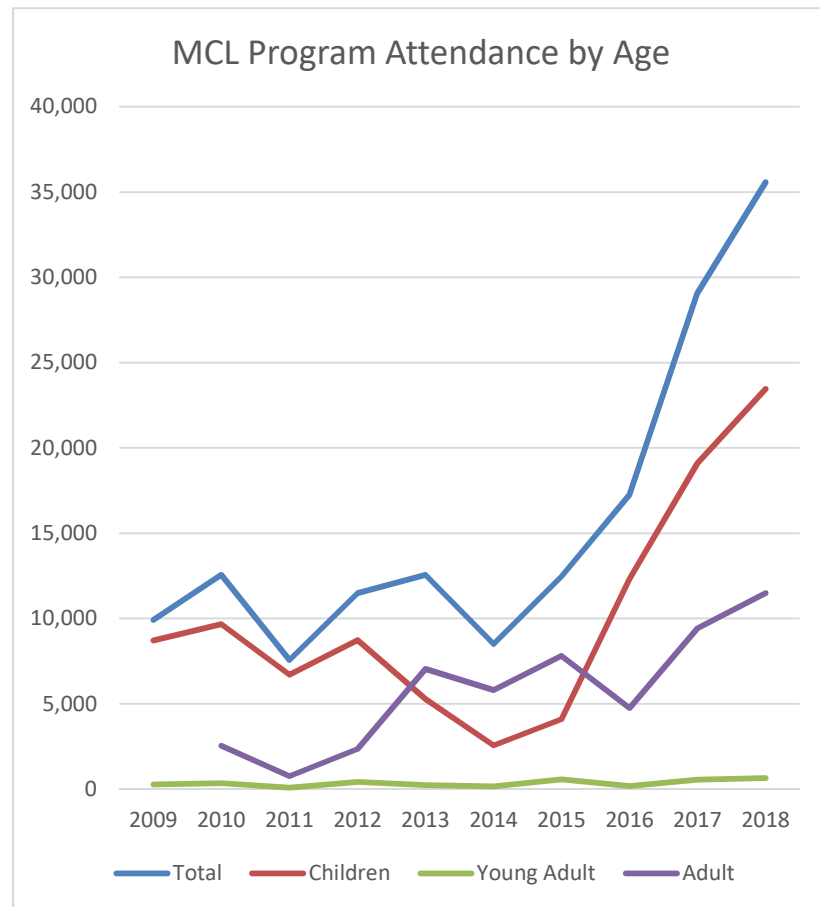


## 9 Program Attendance Per Capita

Program attendance is increasing, continuing a decade long trend. Recent experience shows an accelerated pattern of growth.

Wisconsin libraries have exhibited similar increase although per capita use is significantly lower than experienced at MCL.

The experience of all United States libraries is similar in pattern to MCL but again, the current per capita attendance is lower than that seen at MCL or at Wisconsin libraries.



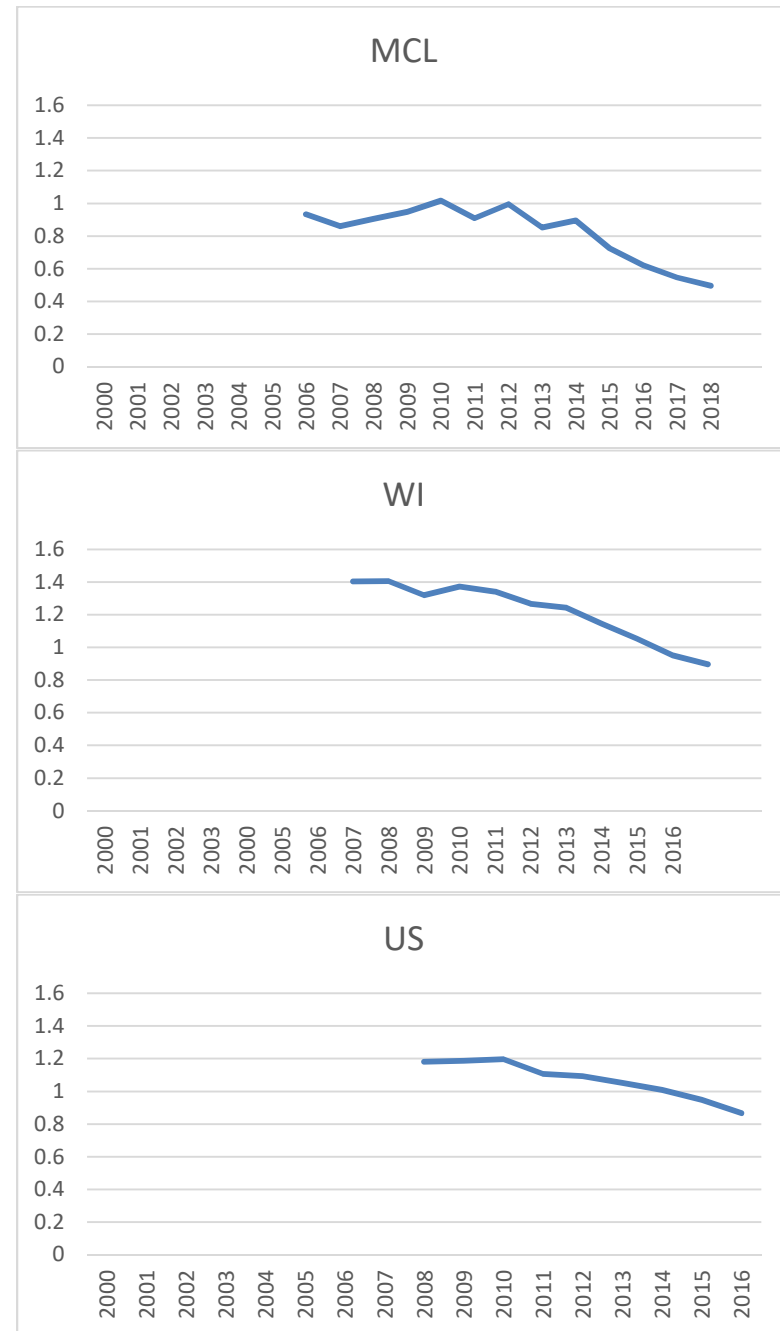
## 10 Public Computing, PC Uses Per Capita

Recent trends suggest that library visitors are utilizing the public terminals less often to access the internet. At Mukwonago Community Library, use of public, internet capable computer terminals has declined in recent years to pre-2006 levels.

Wisconsin libraries have exhibited similar declines although per capita use is higher than experienced at MCL.

The experience of all United States libraries is similar in pattern to MCL but again, the current per capita use of public terminals is higher than that seen at MCL.

*All graphs are annual per capital totals →*



## 4 Peer Comparisons

Looking at the library in the context of its neighbors or other peer institutions can be useful in assessing performance. Two groups are selected, peer municipalities, and libraries in the Bridges Library System. All graphs are annual per capital totals.

**Peer Municipalities:** The Village of Mukwonago has compiled a list of municipalities it considers peers. The list is based on population, income level, education level, median home price and metropolitan/standalone status.

HALES CORNERS PUBLIC LIBRARY	HALES CORNERS
MONONA PUBLIC LIBRARY	MONONA
ST. FRANCIS PUBLIC LIBRARY	ST. FRANCIS
E.D. LOCKE PUBLIC LIBRARY	MCFARLAND
BROWN DEER PUBLIC LIBRARY	BROWN DEER
SHOREWOOD PUBLIC LIBRARY	SHOREWOOD
PLYMOUTH PUBLIC LIBRARY	PLYMOUTH
DEFOREST AREA PUBLIC LIBRARY	DEFOREST
U.S.S. LIBERTY MEMORIAL PUBLIC LIBRARY	GRAFTON
W.J. NIEDERKORN LIBRARY	PORT WASHINGTON
BURLINGTON PUBLIC LIBRARY	BURLINGTON
PAULINE HAASS PUBLIC LIBRARY	SUSSEX
MUKWONAGO COMMUNITY LIBRARY	MUKWONAGO
DWIGHT FOSTER PUBLIC LIBRARY	FORT ATKINSON
PEWAUKEE PUBLIC LIBRARY	PEWAUKEE
MATHESON MEMORIAL LIBRARY	ELKHORN

**Bridges Library System Peers:** The broad peer group selected is all public libraries serving Waukesha and Jefferson Counties, the Bridges Library System. Waukesha Public Library is excluded from the data set based on the size of the community served which is outside the typical comparison cohort ending at 49,999 residents.

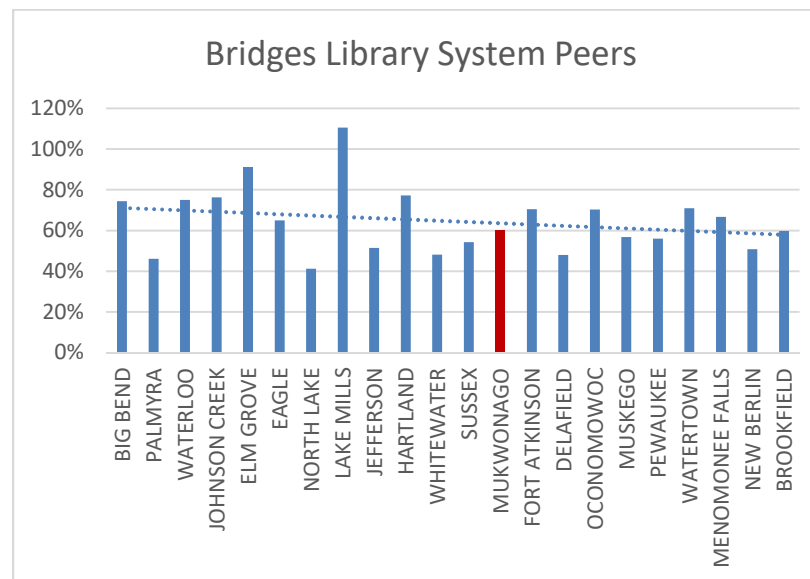
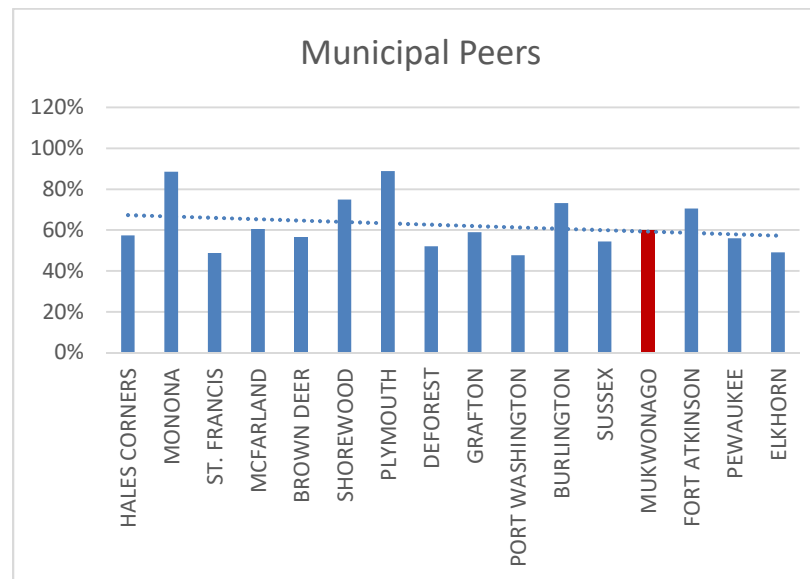
BIG BEND VILLAGE LIBRARY	BIG BEND
POWERS MEMORIAL LIBRARY	PALMYRA
KARL JUNGINGER MEMORIAL LIBRARY	WATERLOO
JOHNSON CREEK PUBLIC LIBRARY	JOHNSON CREEK
ELM GROVE PUBLIC LIBRARY	ELM GROVE
ALICE BAKER MEMORIAL PUBLIC LIBRARY	EAGLE
TOWN HALL LIBRARY	NORTH LAKE
L.D. FARGO PUBLIC LIBRARY	LAKE MILLS
JEFFERSON PUBLIC LIBRARY	JEFFERSON
HARTLAND PUBLIC LIBRARY	HARTLAND
IRVIN L. YOUNG MEMORIAL LIBRARY	WHITEWATER
PAULINE HAASS PUBLIC LIBRARY	SUSSEX
MUKWONAGO COMMUNITY LIBRARY	MUKWONAGO
DWIGHT FOSTER PUBLIC LIBRARY	FORT ATKINSON
DELAFIELD PUBLIC LIBRARY	DELAFIELD
OCONOMOWOC PUBLIC LIBRARY	OCONOMOWOC
MUSKEGO PUBLIC LIBRARY	MUSKEGO
PEWAUKEE PUBLIC LIBRARY	PEWAUKEE
WATERTOWN PUBLIC LIBRARY	WATERTOWN
MENOMONEE FALLS PUBLIC LIBRARY	MENOMONEE FALLS
NEW BERLIN PUBLIC LIBRARY	NEW BERLIN
BROOKFIELD PUBLIC LIBRARY	BROOKFIELD

Performance Measure <i>Green highlighted data exceeds peer group trendline projection. Red highlighted data falls short of projection.</i>	% of performance level predicted by defined peer group	
	Peer Municipalities	Bridges Libraries
Registered Card Holders	102.66%	98.10%
Visits	96.86%	115.14%
Circulation	123.00%	128.42%
Circulation - Children	112.72%	122.13%
Circulation - Adult & Young Adult	132.09%	133.61%
Collections - Books	105.45%	86.25%
Collections – Serials	221.28%	107.73%
Collections – Audio	131.94%	109.63%
Collections – Video	144.54%	134.25%
Reference Transactions	158.42%	180.23%
Program Attendance	145.08%	162.05%
Public Computing	96.54%	107.93%
Space	109.34%	119.43%

The Mukwonago Community Library generally performs at a level higher than one would expect by extrapolating data using service population data and the trendline generated from the libraries in the various peer groups. This is more consistently true for the Municipal Peers in that those communities are more like the Village or Library service area in population. The one instance where MCL noticeably lags the projection from the peer group trendline (book collection) can be ascribed to the size of the collection held by regional resource libraries such as Waukesha, Brookfield, New Berlin, and Menomonee Falls. Other areas where MCL lags the peer group trendline prediction are more technical deficits with MCL being within 4% or less of the projection.

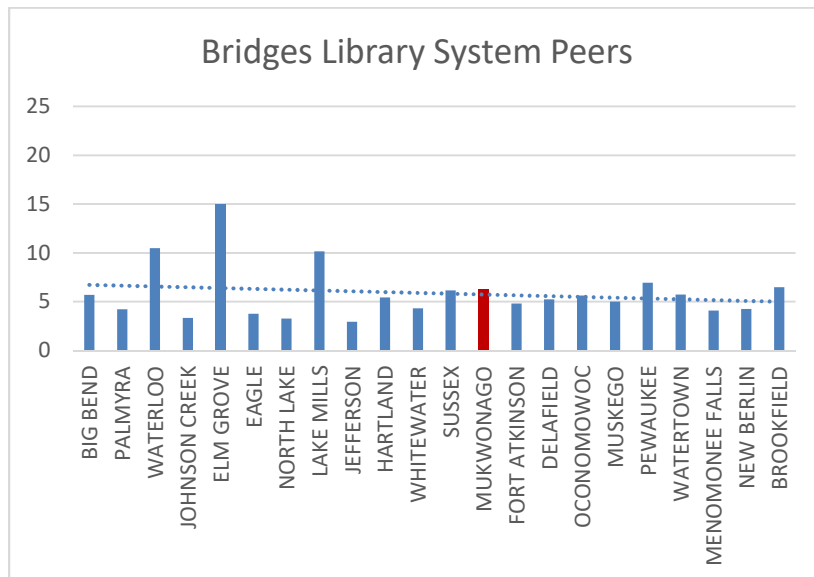
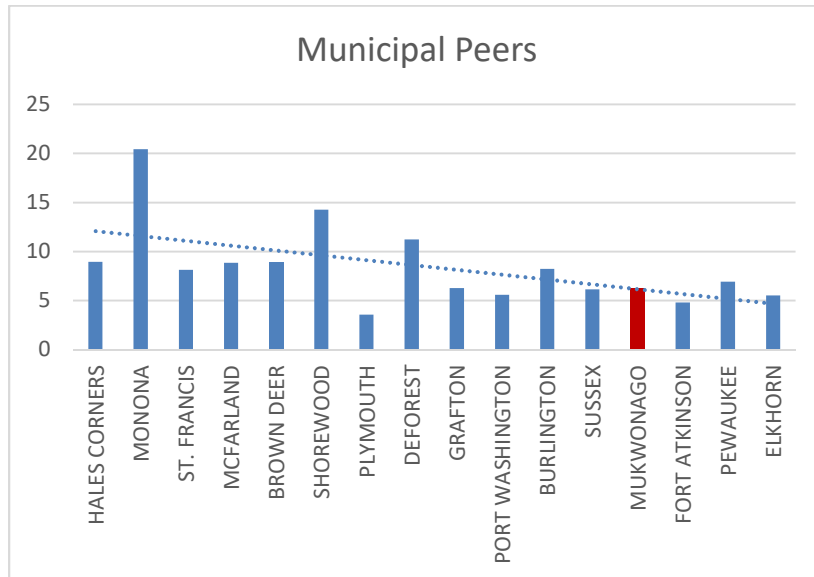
## 1 Registered Card Holders Per Capita

MCL performs at or very near the level predicted by the peer group trendlines.



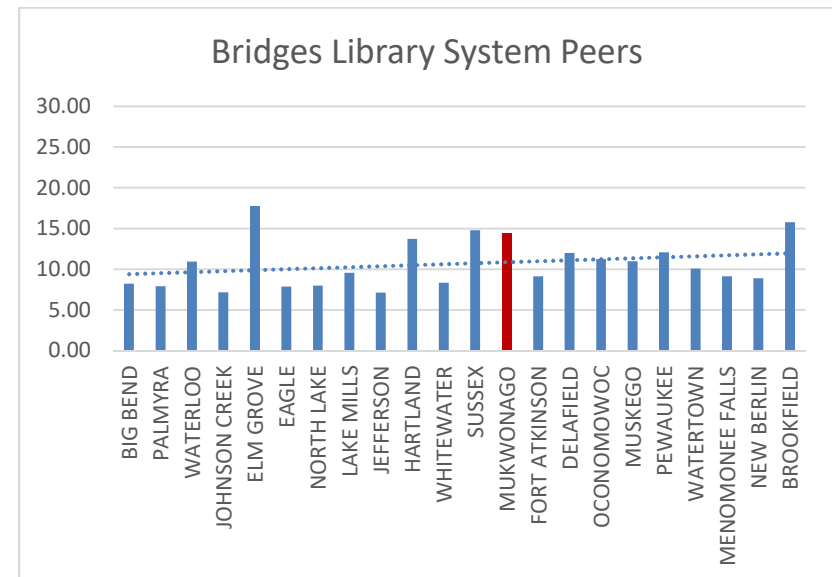
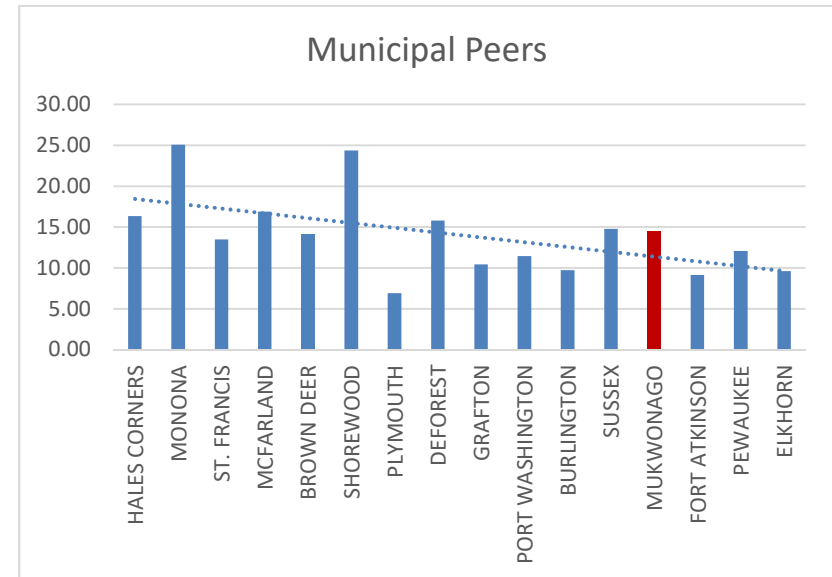
## 2 Annual Visits Per Capita

MCL performs at or very near the level predicted by the peer group trendlines.



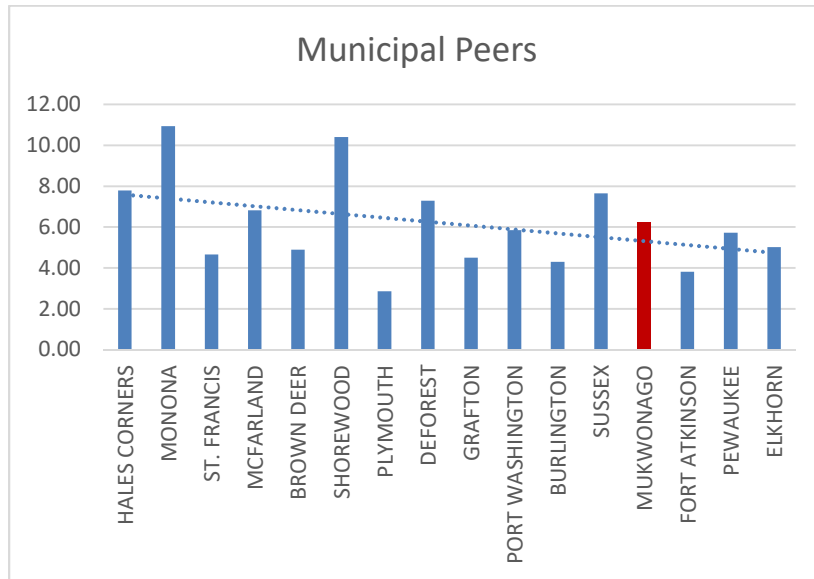
## 3 Circulation, Physical Items Per Capita

MCL surpasses, by significant amounts, the level predicted by the peer group trendlines.



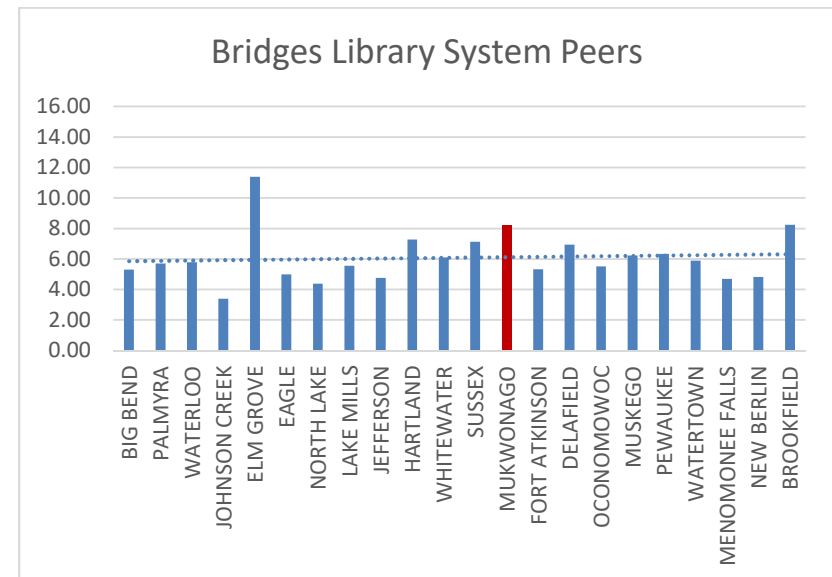
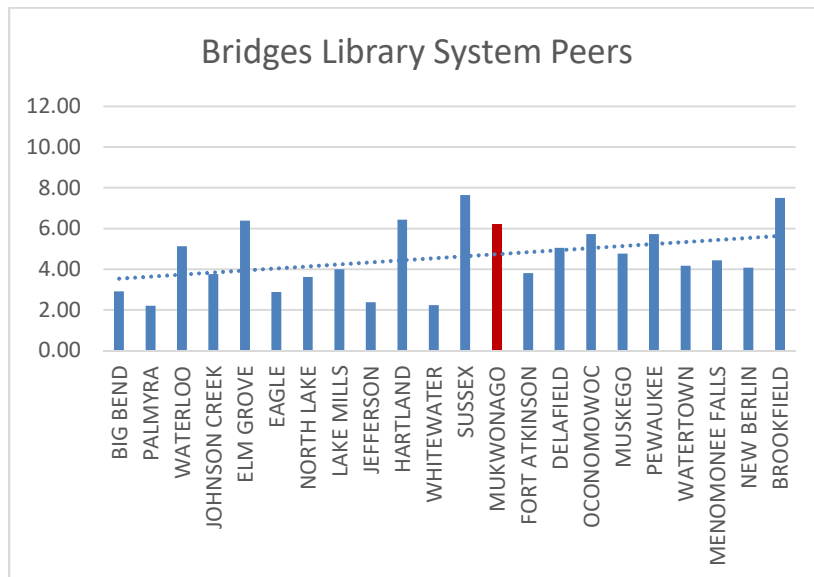
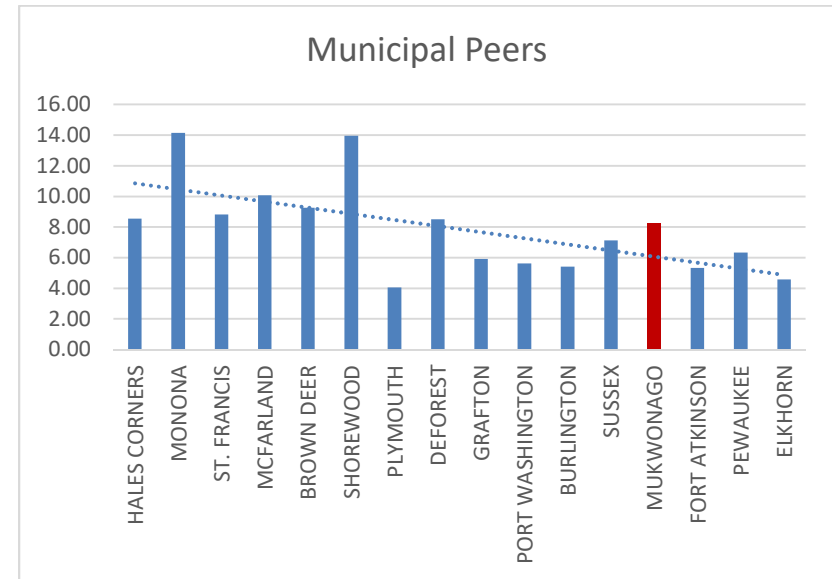
#### 4 Circulation – Children’s Material Per Capita

MCL surpasses, the level predicted by the peer group trendlines. This is particularly noticeable with the Bridges Library System peer group.



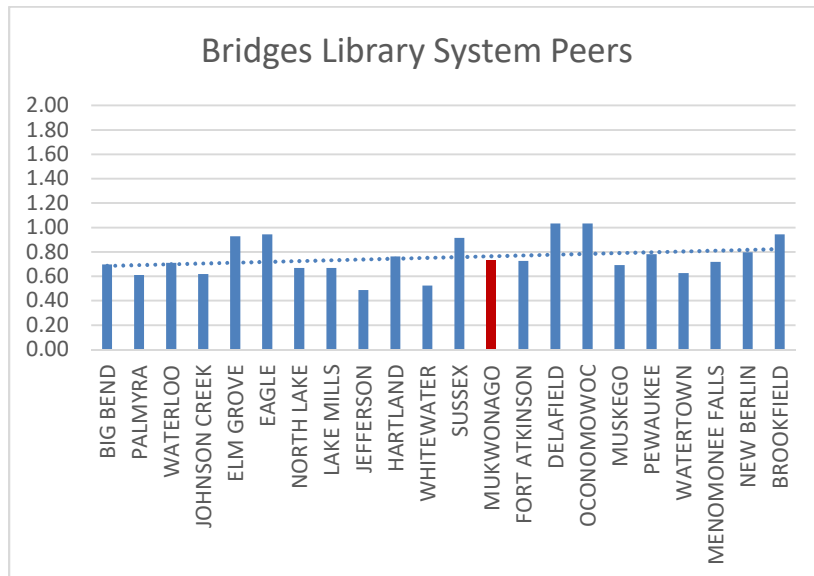
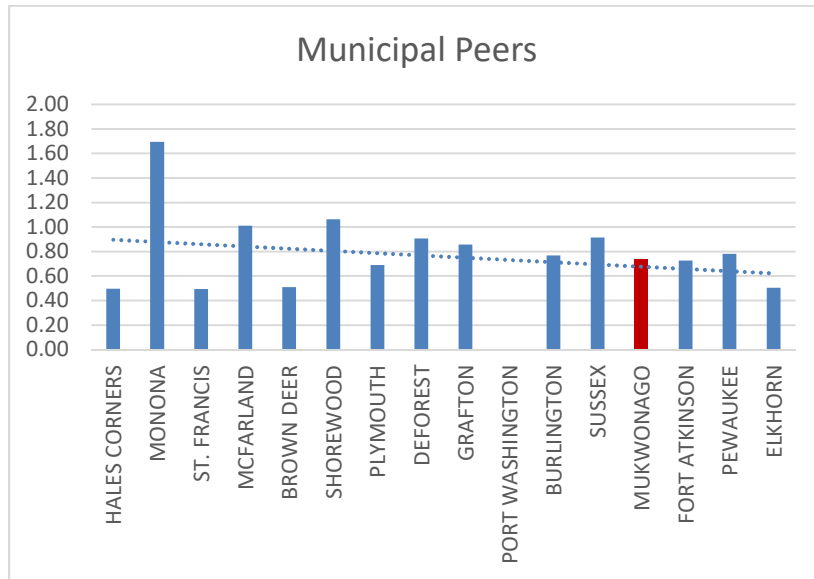
#### 5 Circulation Young Adult & Adult Material / Capita

MCL surpasses, by significant amounts, the level predicted by the peer group trendlines.



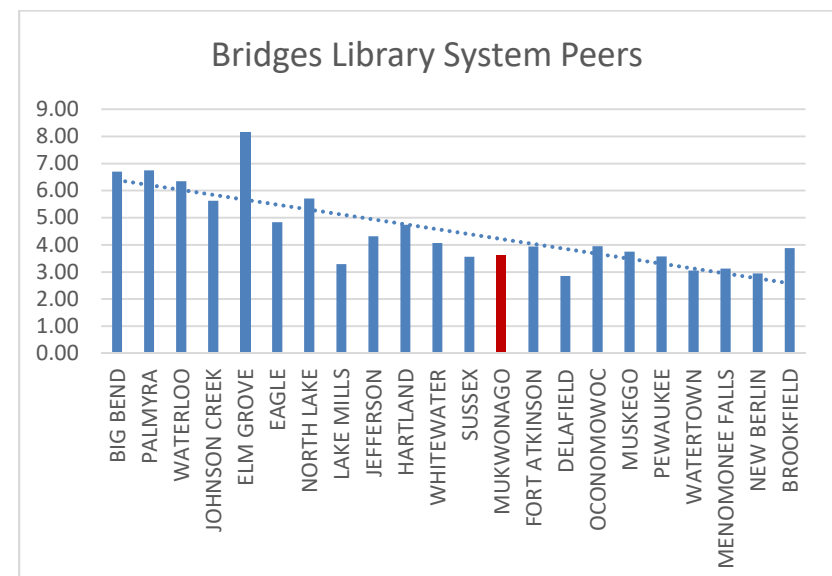
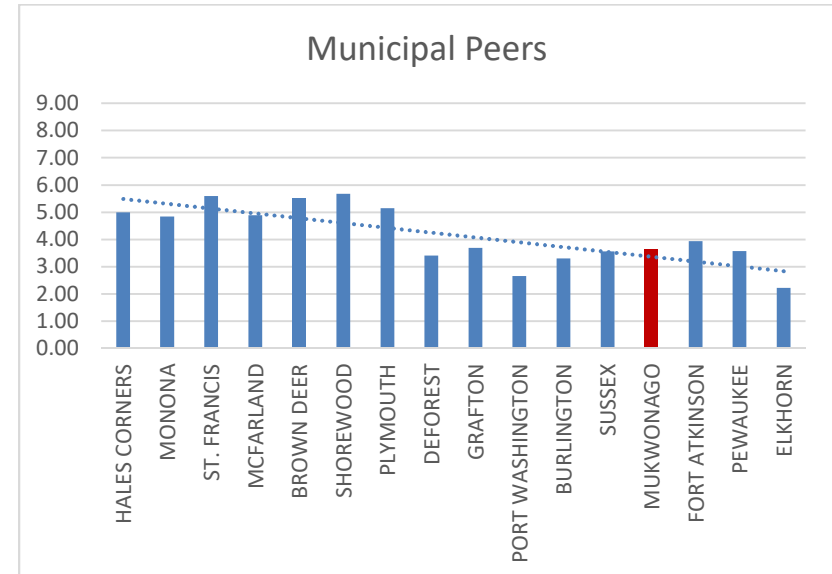
## 6 Circulation – Electronic Material Per Capita

MCL performs at or near the level predicted by the peer group trendlines.



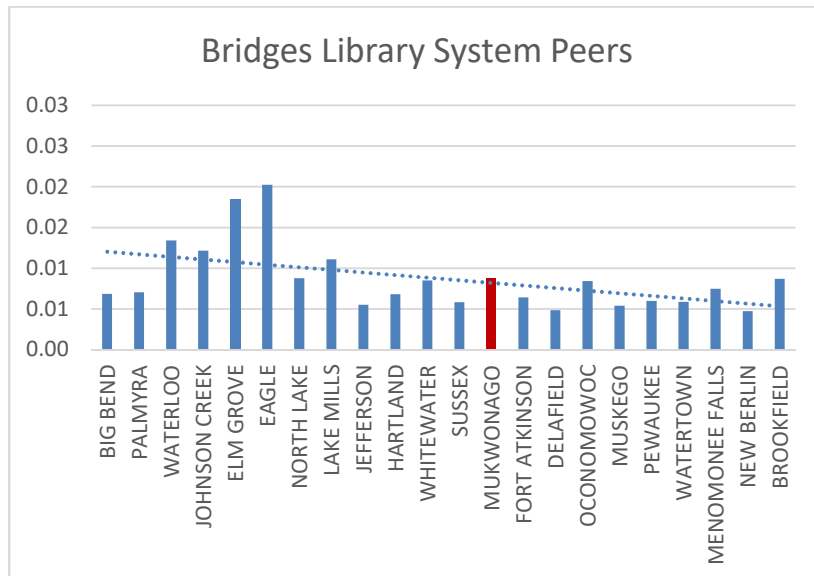
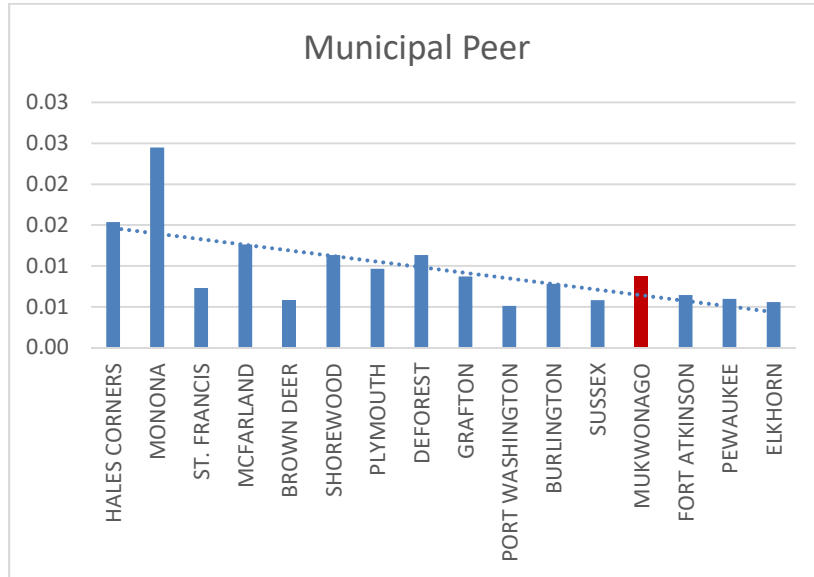
## 7 Collections – Books Owned Per Capita

MCL performs at the level predicted by the municipal peer group trendline but well below the Bridges Library System peer group trendline.



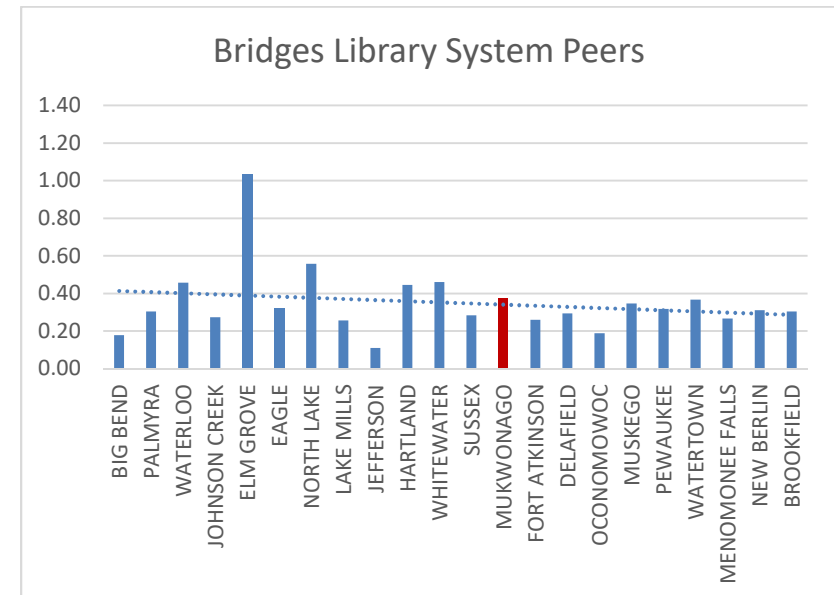
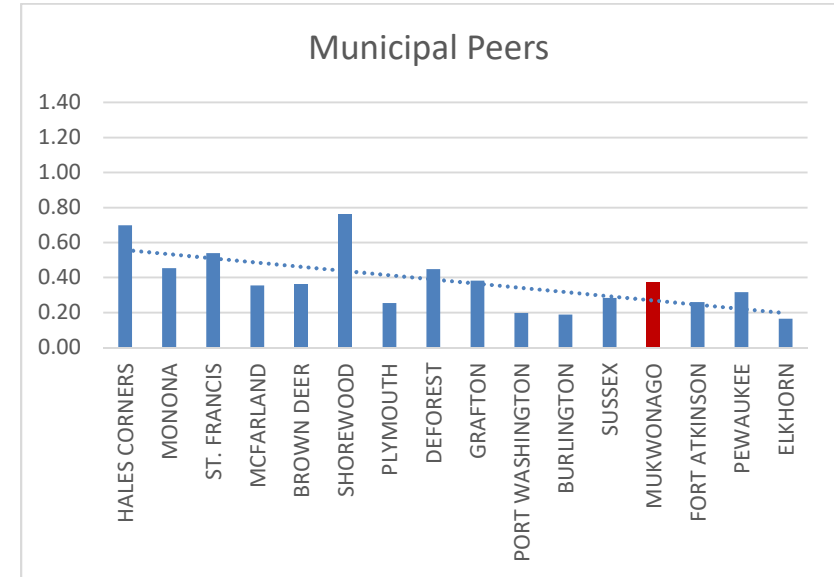
## 8 Collections – Serials Owned Per Capita

MCL performs above the level predicted by the municipal peer group trendline and at the level predicted by the Bridges peer trendline.



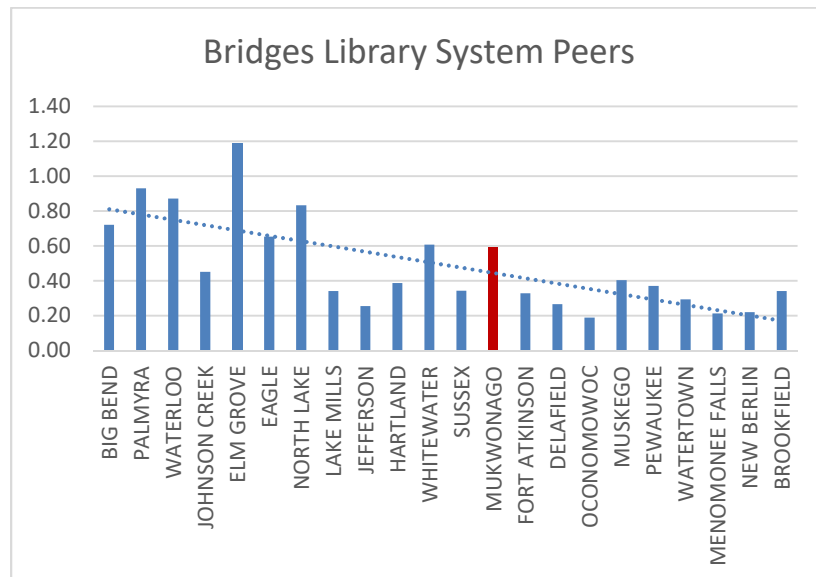
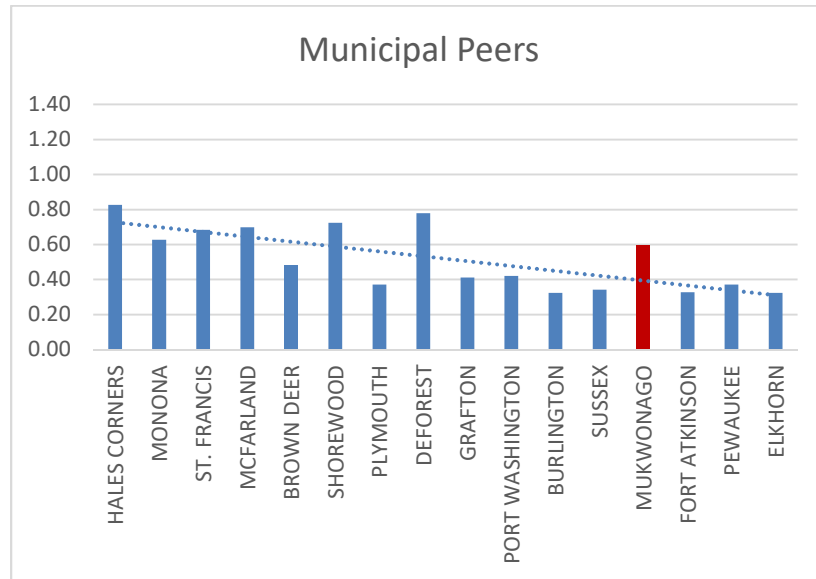
## 9 Collections – Audio Items Owned Per Capita

MCL performs above the level predicted by the municipal peer group trendline and near the level predicted by the Bridges peer trendline.



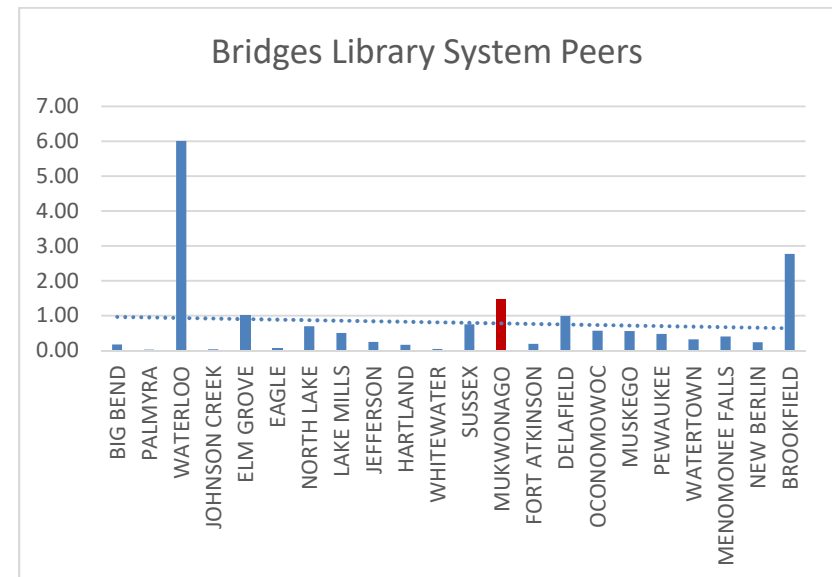
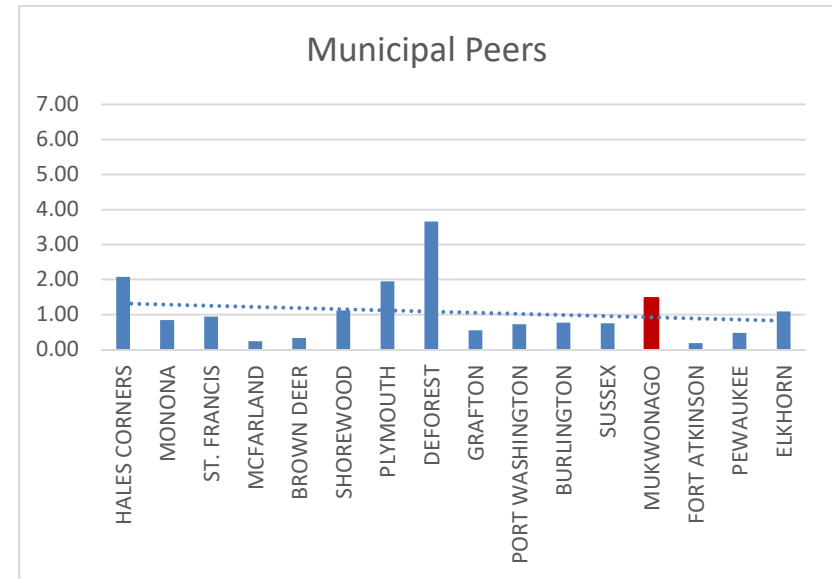
## 10 Collections – Video Owned Per Capita

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



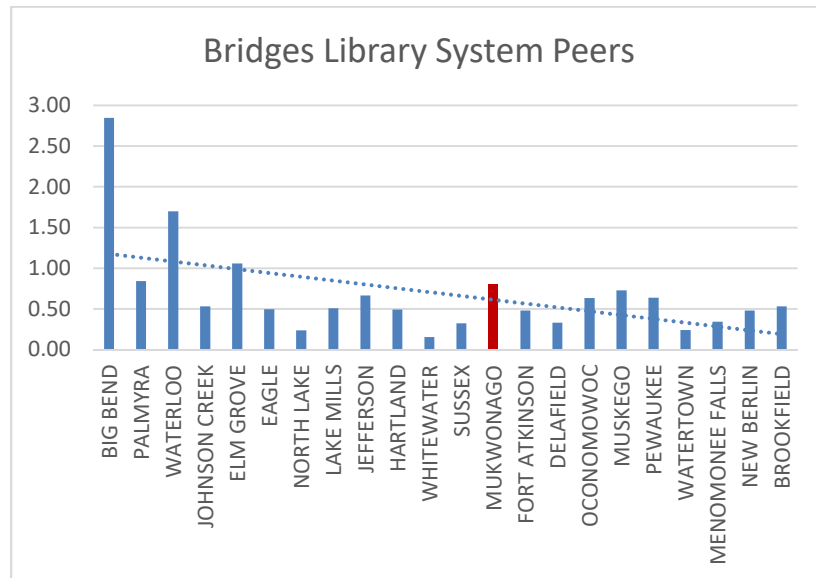
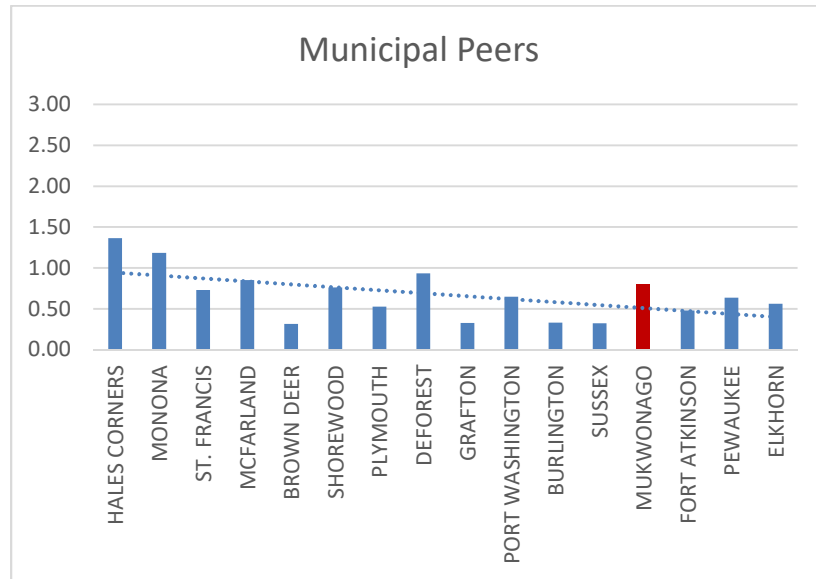
## 11 Reference Transactions - Annual, Per Capita

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



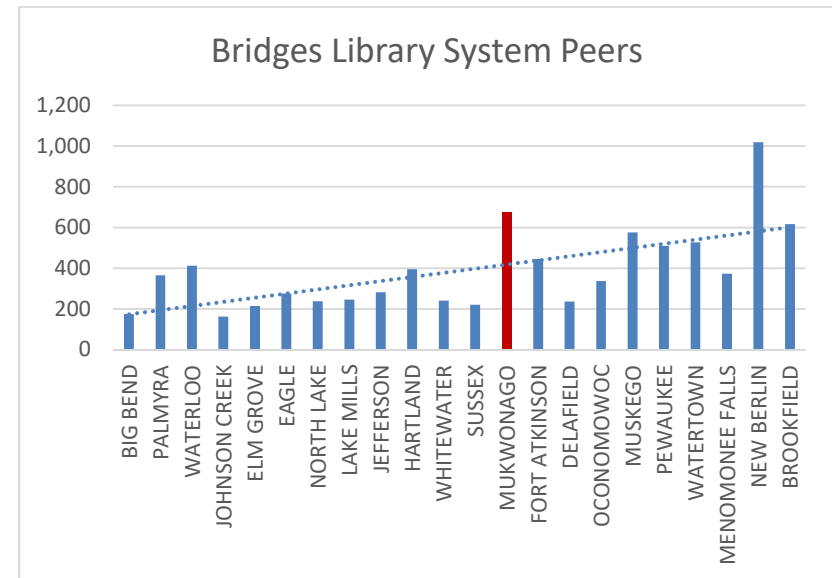
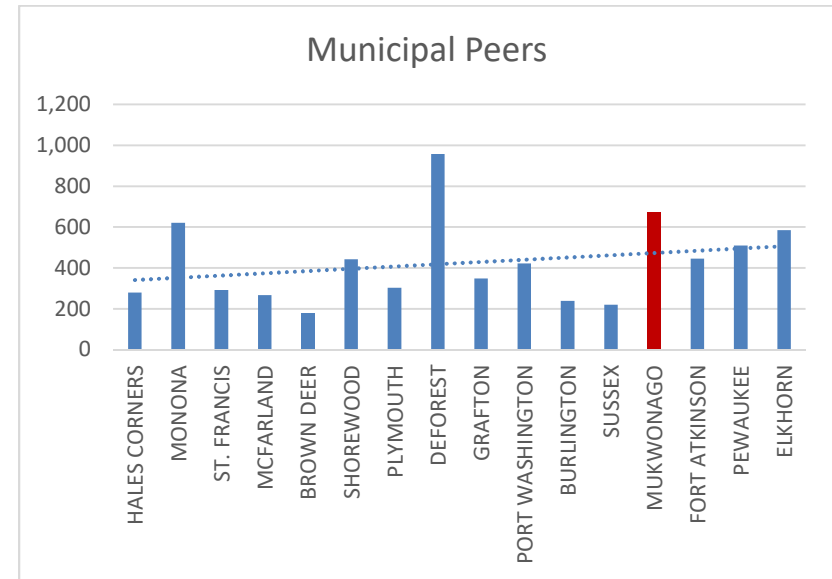
## 12 Program Attendance - Annual, Per Capita

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



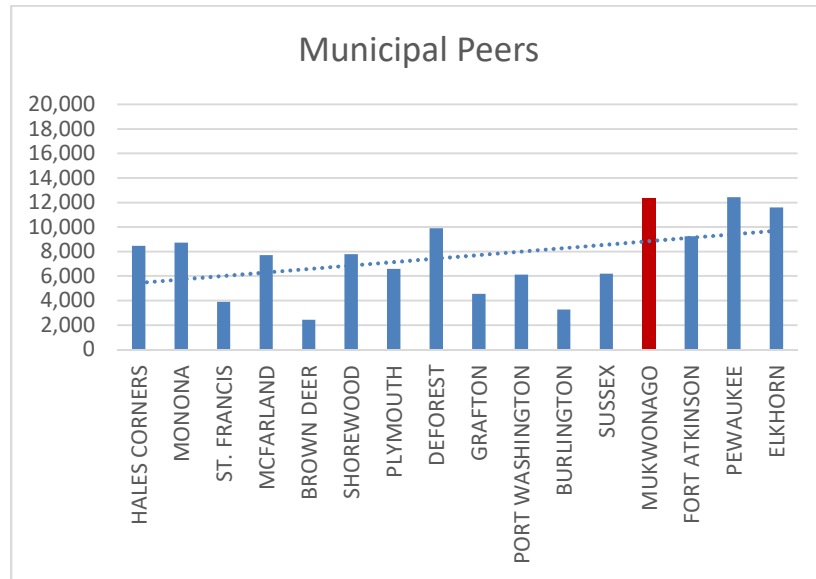
## 13 Program Offerings - Annual Number, Per Capital

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



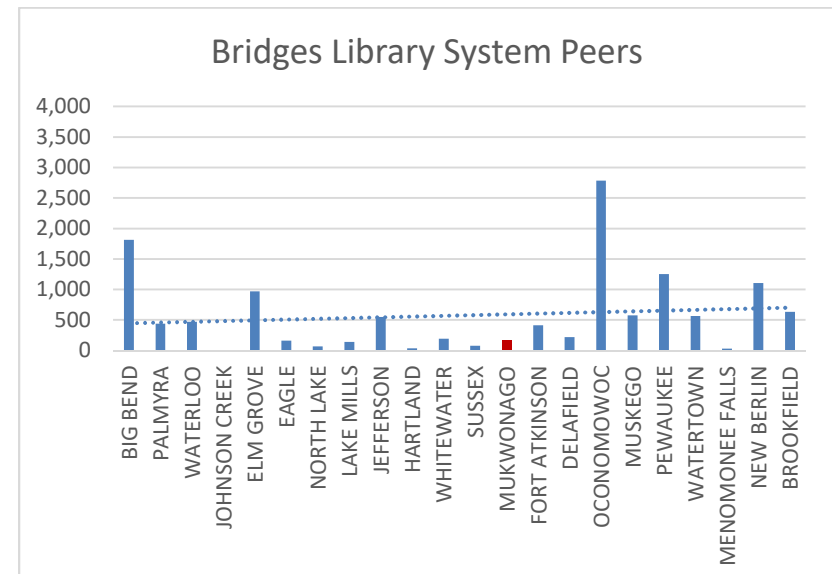
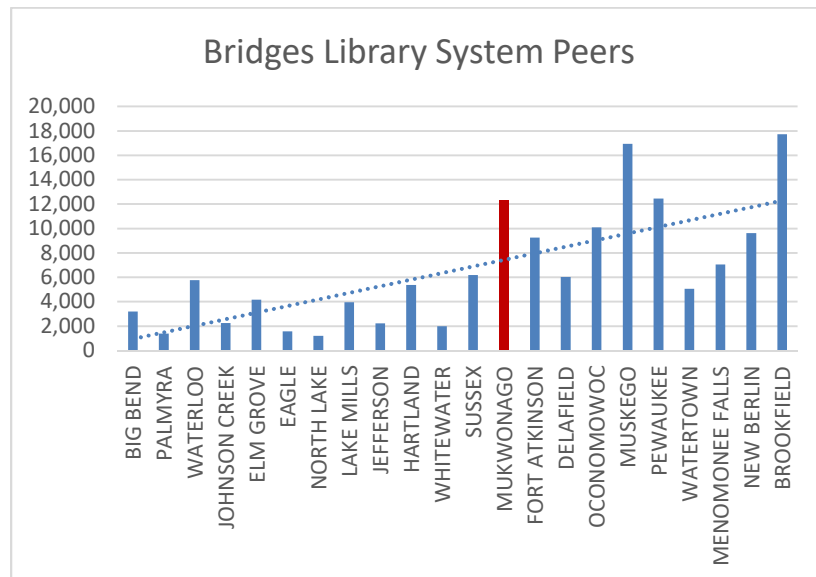
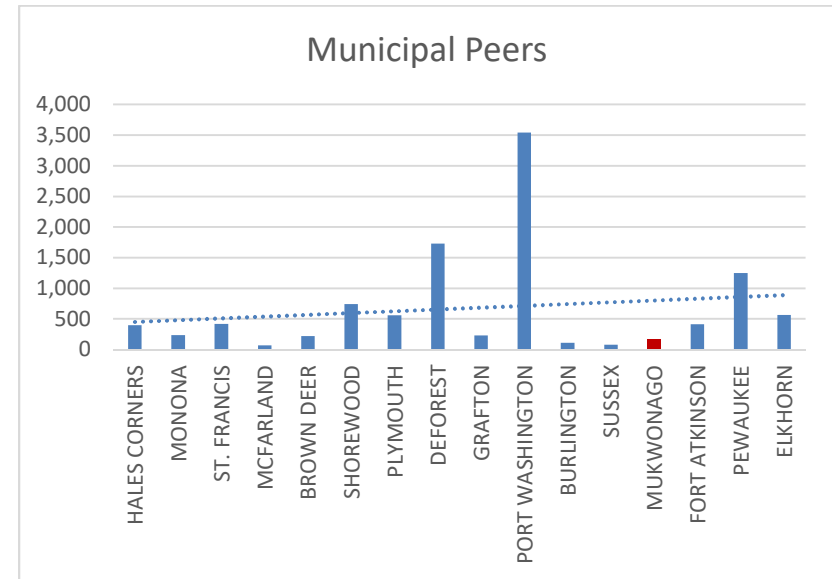
## 14 Program Attendance - Children, Annual, Per Capita

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



## 15 Program Attendance - Young Adults, Annual, Per Capita

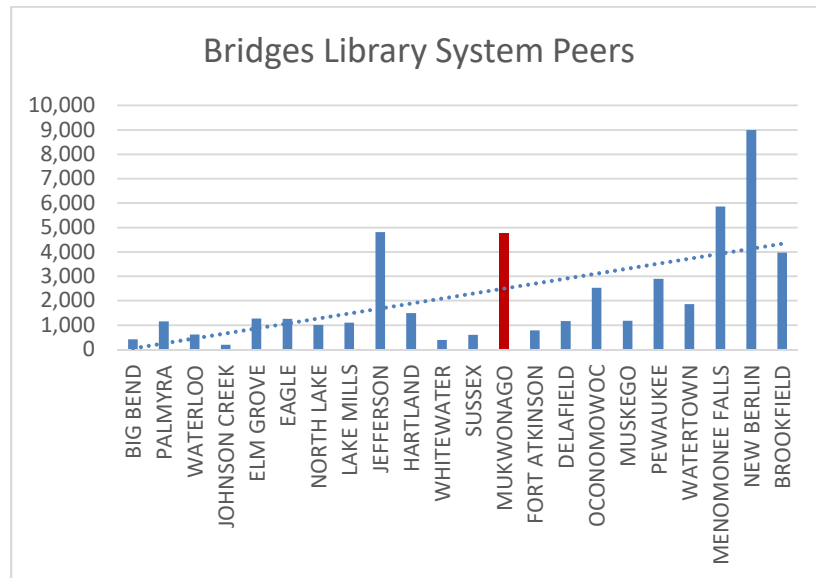
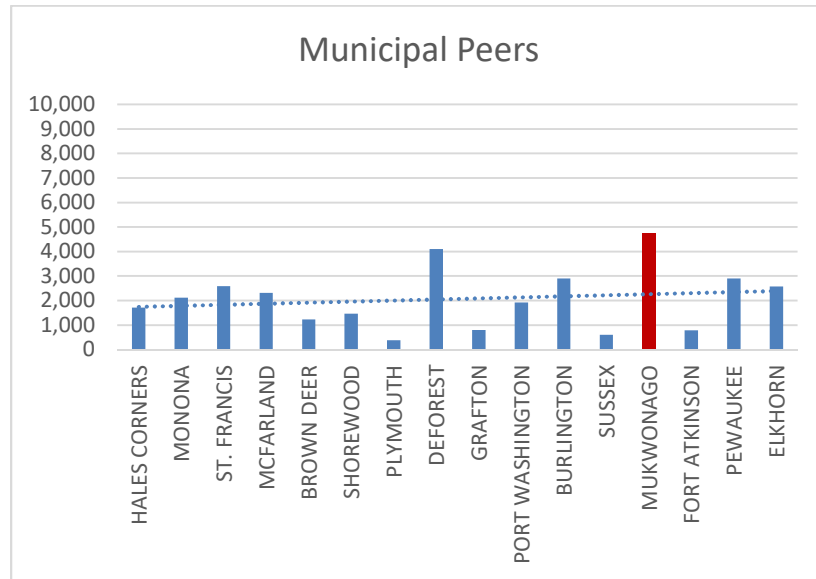
MCL performs well below the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



Note that the vertical axis for Program attendance graphs varies by age group to promote legibility. Comparisons are intended to focus on performance with respect to other libraries, not to performance between age groups within a library.

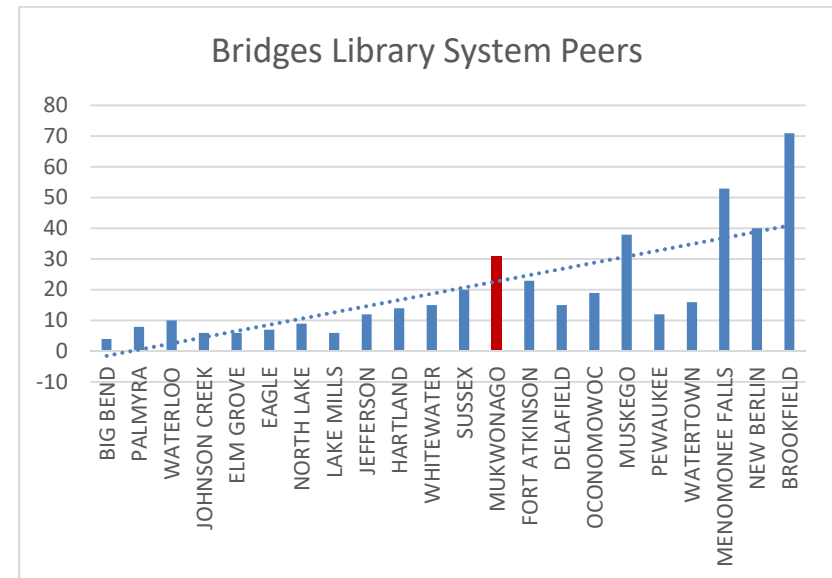
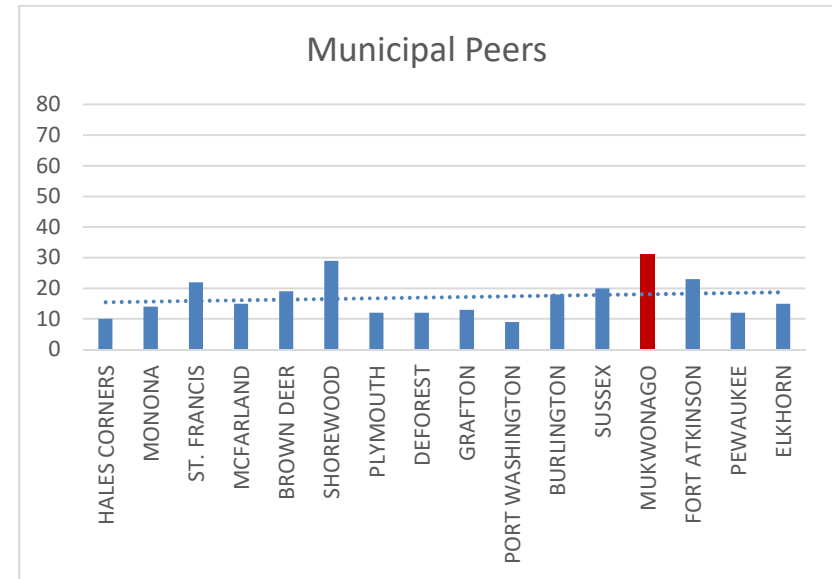
## 16 Program Attendance - Adults, Annual, Per Capita

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



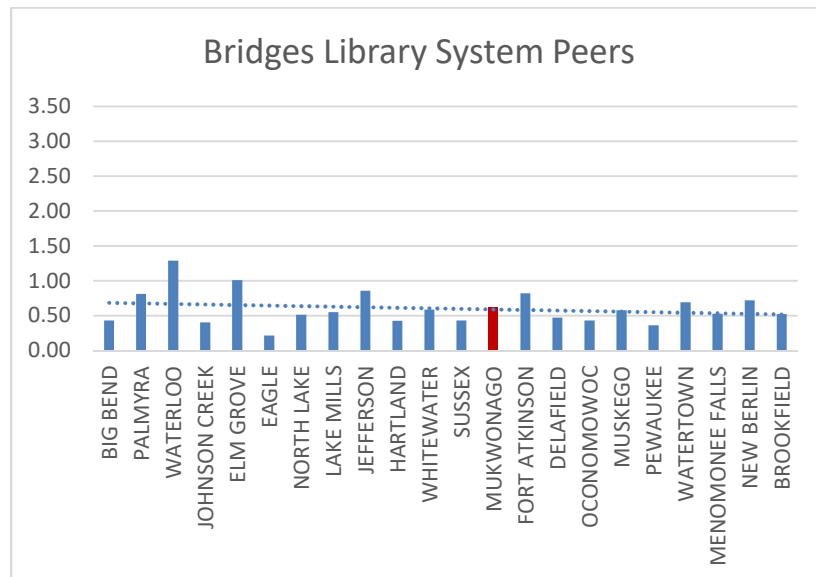
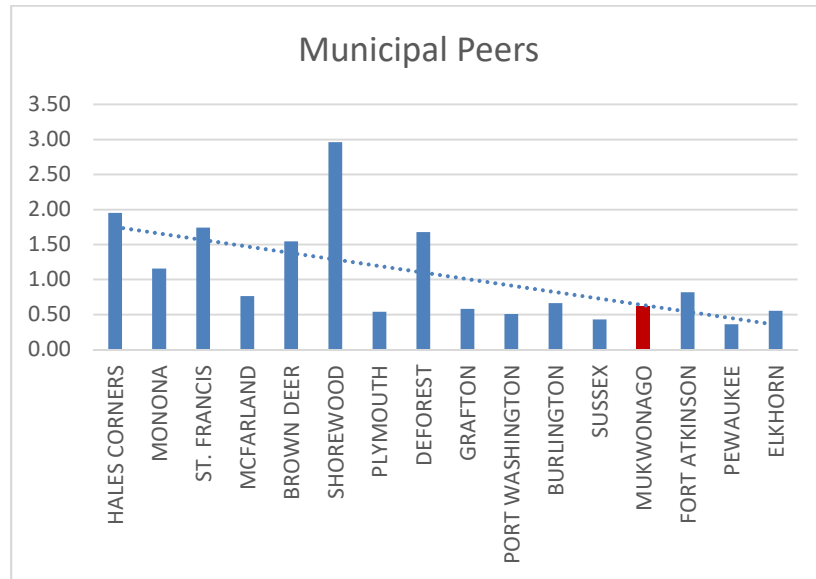
## 17 Public Computing – PCs Per Capita

MCL performs well above the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



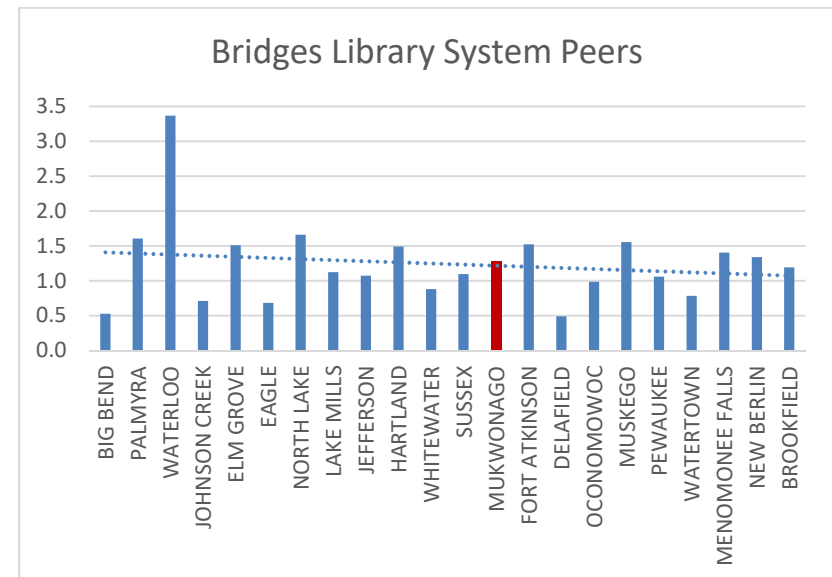
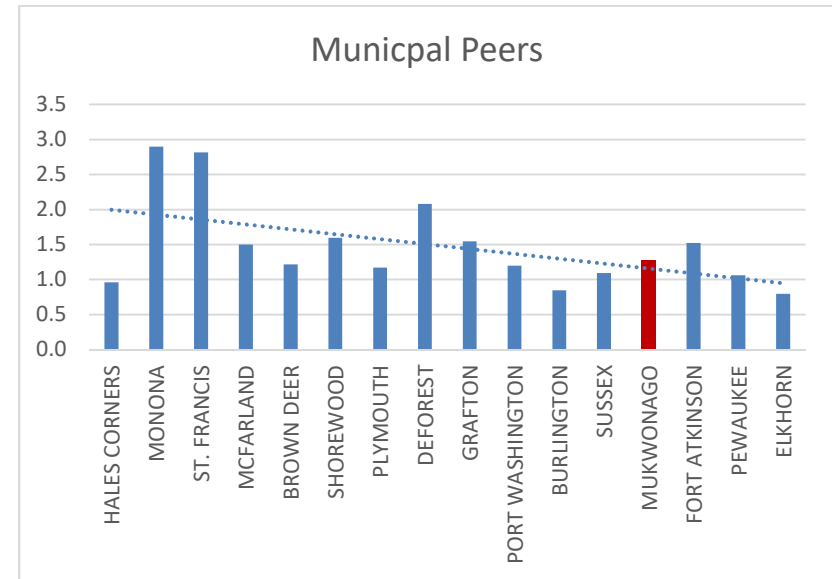
## 18 Public Computing – PC Uses Per Capita

MCL performs at or near the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



## 19 Space – Building Area Per Capita

MCL has space available at or the level predicted by both the municipal peer group trendline and the Bridges peer trendline.



Mukwonago Community Library  
Space Needs Analysis and Study

# Appendix 2: Long-Term Library Space Needs

June 17, 2019

Prepared with the assistance of  
Engberg Anderson Architects



# Summary of Library Space Needs

Sections of the Space Need Calculation are developed as excel spreadsheets adapted from the text of Public Library Space Needs: A Planning Outline by Anders C. Dahlgren and copyrighted by the Wisconsin Department of Public Instruction. The standards and calculations have been modified to reflect the consultant's experience. Specifically the Standards developed by the Illinois Library Association Serving Our Public are used in analysis and to develop comparative space allocations. Supplemental data from various sources are used in conjunction these standards to define area allocations for certain calculation methods.

Determination of a recommended space allocation is a combination of these standards, various community specific factors, and discussion with the professional staff at the library. Those discussions have focused on the Library's mission in the community, the current strategic plan, as well as an evaluation of regional and national trends in library service. The emerging trends highlight shifts in service that are applicable to differing degrees in many communities. Those applicable to the Mukwonago Public Library have been incorporated into this Needs Statement.

The results of these efforts is summarized in the following table:

08/14/20

Total Space Need through 2040				
Type of Space	Area	Percentage of Subtotal	Special Use allocated	Total Area
Collections	8,390	33%	1,259	9,649
General Seating	4,400	17%	748	5,148
Computers	1,240	5%	161	1,401
Activity Spaces	5,082	20%	662	5,744
Program Spaces	3,018	12%	392	3,410
Staff Areas	3,190	13%	415	3,605
Component Spaces	25,320	100%		28,956
Special Use	3,636			0
Dedicated Allowances	450			450
Subtotal	29,406			29,406
25% Non-Assignable	7,350			7,350
<b>Grand Total</b>	<b>36,756</b>			<b>36,756</b>

Collections	An estimate the collection inventory the library will provide to meet future service requirements and a calculation of how much floor space is needed to house that collection utilizing contemporary browsing strategies.
General Seating	An estimate the number of general use seats the library will need to accommodate in-house use of the collection and how much floor space these seats will require.
Computer Seats	An estimate of the number of computer seats the library will need to accommodate the use of library provided technology and how much floor space these seats will require.
Activity Seats	An estimate of the number of seats the library will need to accommodate in-library activities of individuals, small- and medium-sized group and how much floor space these seats will require. This includes traditional "Study Rooms" as well as a wide range of active learning and collaborative spaces.
Program Spaces	An estimate of the type and capacity of Multi-Purpose Rooms that the library will need and how much floor space these will require. This is an expansion of the role of the traditional "Meeting Room" to include a broader array of events, exhibits, and activities.
Staff Spaces	An estimate of the number of staff work stations that will be necessary to support the staff's projected routines and how much floor space they will require.
Special Use Spaces	A calculation of miscellaneous public- and staff-use space (called special use space). These are "special" in the sense that they are not included in any of the other sections. Dedicated Allowance are also calculated. These are special.
Non-assignable Area	Calculate an allocation for vestibules, mechanical rooms, rest rooms, and other non-assignable space; columns, wall thickness and other structural elements.

## Summary of Library Space Needs

Key Space Use Components		Sub-Group	Units	Existing	Recommendation			Other Scenarios (Highlights are part of Recommendation)			
					Quantities	Change	Area	Preferred	Better	Average	Minimum
Collections		Books	volumes	80,902	80,902	0	8,090	8,989	8,090	6,742	5,393
		Serials	titles	177	100	-77	100	91	100	100	100
		Audio	discs	7,736	1,000	-6,736	200	222	200	167	133
		Video	discs	12,457	1,000	-11,457					
Reader Seats		Children	seats	33	33	0	4,400	4,400	3,850	3,300	2,750
		Young Adult	seats	12	22	10					
		Adult	seats	55	55	0					
Computers		Children	seats	7	7	0	1,240	1,240	1,085	930	775
		Young Adult	seats	5	5	0					
		Adult	seats	19	19	0					
Activity Space:	Study Rms	Children	seats	0	12	12	440	440	440	440	440
		Young Adult	seats	0	8	8	280	280	280	280	280
		Adult	seats	8	24	16	880	880	880	880	880
		Maker/Media	people	18	24	6	1,180	1,180	1,180	1,180	1,180
		Baby Garden	people	0	8	8	240	240	240	240	240
		Emergent Literacy	people	0	30	30	1,162	1,162	1,162	1,162	1,162
		Story Time		0	30	30	900	900	900	900	900
Program Rms	Multi-Purpose Rms	people	128	130	2	1,400	1,400	1,400	1,400	1,400	1,400
	Demonstration Kitchen	people	0	8	8	800	800	800	800	800	800
	Training Room	people	0	0	0	818	818	818	818	818	818
	Conference Room	people	14	0	-14		0	0	0	0	0
Staff Spaces			work places	23	29	6	3,190	3,915	3,625	3,190	3,190
Special Use Spaces			%	N/A	0		3,636	4,304	3,798	3,292	3,292
Dedicated Allowances	Food pantry		sf		0	0	0	0	0	0	0
	Partner Agency		sf		0	0	0	0	0	0	0
	Exhibit Gallery		sf	250	250	0	250	250	250	250	250
	Friends of the Library		sf	0	200	200	200	200	200	200	200
Area Sub-total							29,406	31,711	29,298	26,270	24,183
Non-Assignable Area		25%					7,351	7,928	7,324	6,567	6,046
TOTAL AREA (TOTAL SPACE NEED FOR 2040)							36,757	39,639	36,622	32,837	30,229

# Planning Population

Planning for an effective library facility begins with determining the library's design population—identifying the population the new or expanded library will be expected to serve. The service population is used to develop or check various elements of the space need.

Population projections should be, and are, a minimum of 20 years. This allows the library to meet the needs of a changing population base.

The Planning Population includes those within the boundaries of the municipality and the population of areas outside those boundaries in areas whose residents regularly use the library. Ignoring the latter group will result in a library that is outgrown before its time.

Population projections are from Village of Mukwonago data, the Village's typical planning projections for growth, plus an allowance for growth of the non-Village population.

## Space Needs Analysis and Study

As fewer space planning elements are tied directly to population, and as fewer categories of space use have historical data from which to build population based projections, more reliance is placed on the local experience of use patterns and service needs. The impact of underestimating population is less severe than that of over estimating population.

Year		Village Population Growth	Non-Resident Population Growth	Service Population
2010				20,642
2011		-371		20,271
2012		1,691		21,962
2013		-56		21,906
2014		58		21,964
2015		-507		21,457
2016		58		21,515
2017		763		22,278
2018		72		22,350
2020		200	100	22,650
2025		700	280	23,630
2030		500	150	24,280
2035		500	100	24,880
August 1, 1905		July 18, 1900	February 9, 1900	October 9, 1968
The Projected Service Population used in subsequent calculation options is:				<b>25,000</b>

# Collection Space

The total are needed to house the optimal collection of					84,002	items is	8,390	SF
Over 20 years, the total physical collection is changed from the current levels by					-17.38%			
Book collections are changed by	0.00%	from	80,902	to	80,902	items;		
Serial collections are changed by	-43.50%	from	177	to	100	items;		
Audio collections are changed by	-87.07%	from	7,736	to	1,000	items;		
Video collections are changed by	-91.97%	from	12,457	to	1,000	items;		
The total change is		-17.38%	from	101,672	to	84,002	items.	

To quantify the space needed to house the Library's collections, the analysis begins with determining an optimal size to meet the village's long term (20 year) needs for various physical collections. Optimal is defined as neither too large or too small. This section covers three collection components commonly found in public library collections—books, periodicals, and audio/visual material. Other types of material, like microforms, are still found in many collections, but these are of a diminishing significance and are only treated indirectly here with further refinements of these estimates are included in the Special Uses section.

Projections of collection change (growth or contraction) have considered multiple planning models to avoid rote calculation and myopic determinations.

## Method 1: Application of Current Standards

The Wisconsin Department of Public Instruction standards are used, partly to reflect varied assumptions about collections size, partly to acknowledge local planning traditions, and partly to acknowledge the wide acceptance of the Wisconsin standards in many parts of the country that do not publish their own references.

Broad standards take time to develop and time to adjust to emerging service patterns. They are not necessarily reflective of more recent use patterns, technologies. This prevents the standards from coming under the influence of trends that turn out to be fads or transitional behaviors. A decade long trend in reduced collections sizes, both in total count and on a per capita basis is one of the areas in which the standards do lag what is widely considered to be an important and long lived trend. For this reason the methodology looks at both the base published standards and at a modified standard that incorporates a reduced collection expectation derived from this decade long and continuing pattern of smaller, less

## Method 2: Projections from Peer Group Trendlines

Peer Groups as a comparative standard narrows the basis of the broader state standards to libraries that have some geographic, political, economic or service similarity to the subject library. For Mukwonago, two peer groups were identified for performance benchmarking and collection comparisons:

Peer Municipality Libraries: A matter of multiple alignments, these are the most likely libraries to be analogous to the typical Mukwonago Library patron's experience and a probable source of comparison for quality of resources and experience.

Bridges System Libraries: These are a larger sample group, incorporating more differences in experience and approach, the most likely to provide relevant perspective in that they are nearby by and know to the community.

## Method 3: Analysis of Component collections

This method looks at specific collections rather than treating the various physical holdings as a monolith. It offers insights from current and recent use levels and is less prone to wild extrapolations than acquisition rate comparison. It is the "most local" analysis. As an example, MCL's collections currently have a void in the resources devoted to Teens/Young Adults. The overall collection needs to be reallocated between various parts to include an effective Teen resource. The assessment of individual collections then is aggregated and the total collection once again becomes a single entity for area calculations.

# Collection Space

## The Impact of Digital Printing

All of these Methods assess the impact of the growing availability of information by way of electronic and digital sources. Some libraries anticipate that electronic resources will slow the rate of growth in traditional collections or even reduce the quantities that will be needed in those traditional collections. Other libraries anticipate little effect. Still others anticipate that some parts of the collection (periodicals, reference holdings) will be affected substantially while other parts (fiction, picture books) will be affected less dramatically. Mukwonago has been increasing the digital collections available to the residents of the village and is not relying on a "print only" approach to serving the community. This effort is in line with the recent and anticipated use patterns observed. These use patterns are consistent with regional trends observed at libraries serving populations with similar demographics.

While embracing digital publishing, the Library is not discounting the role of print as a time tested technology that is affordable, wide ranging, has a low entry threshold of use throughout the country, and is durable. More over recent studies acknowledge the virtues of digital print materials in certain uses but underscore the superiority of physical print in other areas including comprehension and retention. The collection projections take a balanced approach to both physical and digital collection development. The Library discussed the decade long national trend of physical holdings per capita and decreasing annually since. Mukwonago has been an anomaly over this time. The recommended collection size acknowledges the local experience but brings the target collection more in line with the smaller collection trend. Thus the recent national trend is extrapolated over the next decade and applied to the Peer Municipalities trendline utilizing the planning population calculated in the previous step.

## Comparison of Collection Sizes by Various Methods

METHOD →		Target Collection Size Calculation Methods										
		METHOD 1					METHOD 2				METHOD 3	
		Adjusted (1) WI Standards					Adjusted (1) Peer Projections (2035 population)				Detailed Review of Existing	Comparison to Existing
		10,000 to 24,999		25,000 to 49,999		Peer Municipalities		Bridges Library System				
Existing MCL	Basic	Adjusted	Basic	Adjusted	Base	Adjusted	Base	Adjusted				
Books	80,902	79,335	68,533	61,910	53,480	77,500	66,947	87,500	75,586	80,902	100%	
Serials	177	0	0	0	0	150	130	170	147	100	56%	
Audio	7,736	2,027	1,751	1,932	1,669	6,250	5,399	7,700	6,652	1,000	13%	
Video	12,457	1,978	1,709	1,454	1,256	9,200	7,947	8,100	6,997	1,000	8%	
Other	400									1,000	250%	
Total:		101,672	83,339	71,992	65,296	56,405	93,100	80,423	103,470	89,381	84,002	83%
Change from current:			-18%	-29%	-36%	-45%	-8%	-21%	2%	-12%	-17%	

# Collection Space

## TOTAL AREA (TOTAL SPACE NEED FOR 2040)

From these comparisons the planning team made several determinations:

- 1 - The effectiveness of print will keep it part of the array of collections through to the planning horizon.
- 2 - Print collections will become smaller, more tailored to local interests, and arranged in a more browsable configuration.
- 3 - The adjusted peer municipalities reference point provides the best guide for long term planning: these peers are more closely related to Mukwonago than a generic group of cities or towns with similar populations; they are known to the community; and they are more likely to offer relevant comparison over the next decades. They are also the smallest sample group.
- 4 - Physical and Audio are seen as having extended utility in Mukwonago. Formats may vary initially and over time. Some shift to streaming services for both audio and video will add to the base offered by the physical collections.
- 5 - Serials are further reduced to reflect the industry wide shifts from print to digital publishing.

"Other Collections are minimal and dealt with as incidental space in the "Special Use Spaces" section of the calculation.

Recommended 2040 Collection Size			
	MCL Existing	Peer Municipal Libraries (1)	Change from Existing
Books	80,902	80,902	0%
Serials	177	100	-44%
Audio	7,736	1,000	-87%
Video	12,457	1,000	-92%
Other	400	1,000	150%
Total:	101,672	<b>84,002</b>	-17%

## Recommended Space Allocation for Collections

Once the size of the collection has been determined, the amount of space necessary to house that collection can be estimated.

The number of volumes that can be stored in a given space may vary from 5 to 30 volumes per square foot, depending on several factors, including the height of the shelving, the width of the aisles, the type of material. As an example, reference are much thicker than children's picture books. The traditional planning practice has designated a basic average for different types of material housed in different environments at ten volumes per square foot. This is a fairly high density baseline.

This outline recommends something less than ten volumes per square foot to incorporate merchandising principles that support the retail behavior patterns exhibited in the more effective public libraries. Specific principles include wider aisle, lower stacks, eliminating of collection storage on the bottom shelf, more face-out display. Utilizing these principles adds to the area needed to accommodate a specific size collection when compared to more traditional shelving concepts but that extra space will lead to improved browsing conditions and increased circulation numbers compared to the minimum area allocation for a collection of the same number of items. These practices also improve usability for an aging population by bringing collections within reach, improving lighting conditions that support browsing, and permitting easier access for those with mobility issues.

The Americans with Disabilities Act currently specifies that the aisles in a library book stack should be no narrower than 36"—but a 42" aisle is strongly recommended. These dimensions are both supported by the broad allocation of 10 volumes per square foot, although if the library prefers a 42" (or wider) aisle, the allocation allows for less of the compensation mentioned above. (Also note that the ADA currently states that in most parts of the collection, shelf height is unrestricted.)

The overall collection space needed is projected at:

Collection Space Allocation - All Collections					
	Preferred	Better	Average	Minimum	Goal
Total	9,302	8,390	7,009	5,627	<b>8,390</b>

# Collection Space

This is based on the component collections being displayed in the most user-friendly manner as shown in the following tables.

Collection Space Allocation - Books				
	Preferred	Better	Average	Minimum
Volumes/sf	9	10	12	15
Volumes	80,902	80,902	80,902	80,902
Area needed	8,989	8,090	6,742	5,393

Collection Space Allocation - Audio & Video				
	Preferred	Better	Average	Minimum
Items/sf	9	10	12	15
Items	2,000	2,000	2,000	2,000
Area needed	222	200	167	133

Collection Space Allocation - Serials				
	Preferred	Better	Average	Min
Items/sf	1	1	1	1
Items	100	100	100	100
Area needed	91	100	100	100

# General Seating

The area needed for the general reader seat count of						110	seats is	4,400	s.f.
The total general reader seating is changed by						10%	compared to current levels		
Youth seats are changed		0%	from	33	to	33	seats;		
Teen seats are changed		83%	from	12	to	22	seats;		
Adult seats are changed		0%	from	55	to	55	seats;		
The total change is		10%	from	100	to	110	seats.		

The focus on this section is General Seating. These are often thought of as "reader seats" and in many instances they do accommodate readers. As use patterns and technology change, that reading can be accomplished utilizing various patron-provided devices including smart phones, tables, and laptop computers. These devices allow more than reading and can be thought of at certain times as technology seats. Hence we are using "general" as an indicator of a more versatile seating option, set somewhere in the open or fairly open areas of the library. They are distinguished from the computing seats by their lack of a dedicated, library-provided PC or other fixed device, and by not being in an enclosed or semi-enclosed space that also offers formal instruction or group activities. To fully understand the capacity of the building, these seats need to be considered in the context of the full range of seating venues in the facility. This is especially true as the once undifferentiated seat is replaced with various lounge and study seats plus a variety of computing, group and individual activity room seats and a larger variety of programming seats. Although this represents a continuum of seating options, for planning purposes, the program seats are generally kept separate from the others.

## Seating Count Standards

Range limits are established to bracket population groups and allow adjustments of the seating factors. A constant ratio would not reflect the realities of use levels in either small or large communities. To allow for a sliding scale that permits a lower rate of starting capacity as population increases, a four step process is used.

- The projected population range is identified from the demographic analysis.
- The seating allocations at the low limit and high limit are pulled from the tables.
- The relation between the Library's projected population and the lower limit of the population range is calculated.
- This provides an adjustment factor that is then applied to the seating rate associated with the difference between the seating rate for the high and low limits of the population range.

This adjusted seating rate is now specific to the target population. Projected seating needs are a straight application of this adjusted rate to the projected service population.

The calculations using the Wisconsin Standard are repeated to acknowledge that the planning population for MCL falls on the boundary between two of the reference groups. Libraries within certain reference groups tend to have different responses to seating needs that reflect these differing populations. Libraries that fall on the boundary can exhibit characteristics of each group. The parallel assessment using both reference groups to assess which offers the more relevant comparison for the local conditions.

# General Seating

## State Standard Seating Rates Based on Population

Wisconsin Reference Groups	
Seats per 1,000 Population	
Population	Seats
1,000	22.5
2,500	24.1
5,000	10.0
10,000	7.0
25,000	4.5
50,000	3.0
100,000	2.3
250,000	1.5
500,000	1.0

Illinois Reference Groups				
Seats per 1,000 Population				seats for every 1,000 population over...
Population		Base	Plus....	
<	999	20	0	
1,000	4,999	20	5	1,000
5,000	9,999	40	4	5,000
10,000	24,999	60	3	10,000
25,000	49,999	105	2.5	25,000
50,000	74,999	167	1.5	50,000
75,000	99,999	204	1	75,000
100,000		229	1	100,000

Seating Count and Area Requirement using the Wisconsin Standard   Population Milestones of 10,000 and 25,000 Users								
Planning Population	Nearest Population Milestone			Seating Rate				
	Lower	Higher	Relation to Low	Lower	Higher	Adjusted		Seating
25,000	10,000	25,000	100.00%	7.00	4.50	7.00		<b>175</b>

Seating Count and Area Requirement using the Wisconsin Standard   Population Milestones of 25,000 and 50,000 Users								
Planning Population	Nearest Population Milestone			Seating Rate				
	Lower	Higher	Relation to Low	Lower	Higher	Adjusted		Seating
25,000	25,000	50,000	0.00%	4.50	4.50	4.50		<b>113</b>

Seating Count and Area Requirement using the Illinois Standard								
Planning Population	Nearest Population Milestone			Seating Rate				
	Lower	Higher	Relation to Low	Base	Plus Rate	Added Pop.	Added Seats	Seats
25,000	50,000	75,000	-100.00%	167	1.50	-25,000	-38	<b>130</b>

# General Seating

## TOTAL AREA (TOTAL SPACE NEED FOR 2040)

As with collection size, standards have a place in determining seat count, but there is no substitute for understanding the community, the library's mission, and the on-going evolution of library service. Together these components afford the Planning Team an opportunity to develop a MCL-specific seat count. As a baseline, the current seating in the Library is tallied and then used to predict future needs.

Observation of use and behavior patterns in the library suggests major changes to the seating count.

There is a lack of general or reader seating in key areas of the building, in particular Fiction, Audio-Visual area, Teens, and Youth Services.

MCL's vision of the library is focused on maximizing the experience of the physical library. The quality of the experience supports the broad mission of providing quality educational and recreational resources, fostering community building, and promoting a wide range of hands-on group activities. The number of seats in the library is specifically tied to the ability of the library to meet these goals. Significant space for the appropriate seating environments is essential.

Observation of use and behavior patterns in the library suggests minor changes to the general seating count.

There is a lack of general or reader seating in the Teens Services area.

General Seats in the Existing Building				
	Youth	Teen	Adult	Total
Chairs at Tables	22	5	24	51
Lounge Seats	11	7	31	49
Total	33	12	55	100

Projected Seats in the Existing Building				
	Youth	Teen	Adult	Total
Chairs at tables	22	12	24	58
Lounge Seats	11	10	31	52
Total Seats	33	22	55	110
% Change	0%	83%	0%	10%

General seating is planned to total	110	seats
Space is allocated at	40	s.f. / seat
General Seating space totals	4,400	s.f.

This is one part of the overall "people" count of the Need Calculation. The summary of all "people" counts includes

Space Type	Seats	Area
General Seating	110	4,400
Computing Spaces	31	1,240
Group Activity Spaces	136	5,082
Program Spaces	281	3,018
Totals	558	19,939
Typical library utilization averages	50%	279
and tends to reach effective limit* at	67%	374

*\*Effective limit is the occupancy at which people will decide the space is too full and seek other opportunities.*

# Computing Spaces

<b>The total area required for general computer seating of</b>					<b>31</b>	<b>seats is</b>	<b>1,240</b>	<b>s.f.</b>
<b>The total open computer seating is changed</b>					<b>0%</b>	<b>from current levels</b>		
Youth seats are changed	0%	from	7	to	7	computer seats;		
Teen seats are changed	0%	from	5	to	5	computer seats;		
Adult seats are changed	0%	from	19	to	19	computer seats.		
The total change is	0%	from	31	to	31	computer seats.		

Electronic information resources are a significant component of a library's resource. The nature of the access to these electronic resources is changing and includes a wider array of environments. Patrons bringing their own technology (laptops, tablets, smart phones) and effectively supplement the library supplied hardware. Some of the general seating becomes, in effect at certain times, another technology seat. This provides an environment that is different from the standard "carrel" or similar workstation that has to this point been the monoculture response to computing in a library.

The number of general public access terminals is still part of the calculation. the library provides will in turn determine how much space the library will need in support of this function. This does not include computer training seats (included in "Program Spaces,") specialized technology associated with media lab found in "Activity Spaces," or short term catalog stations (included as an allowance in "Special Uses" or staff computers (included in "Staff Spaces".)

Projections for technology seats are projected using multiple considerations:

- Number of visits

- Intensity (duration) of use - connected to the nature of the resource

- Number of platforms

Methods used in determining the needed space for technology seats include:

- Extrapolation method using daily user traffic

- Extrapolation method using peer counts

- Extrapolation method using current MCL use counts

## Extrapolation Method using Daily User Traffic

This method uses the average number daily visits to the Library and the percentage of the visits that generate a PC use count in the Library's tracking system. If this PC use rate remains constant and the population increases as projected, the average number of daily visits to the Library will increase by an equivalent amount. Applying the current PC use rate will provide one measure of the PC needs of the Library.

This assumes that the PC use rate is an acceptable level of service and that the rate is constant over the next 20 years.

Observable pressures on the use rate are considered balanced in this method at this time:

- Use rate might increase as more and more information and services become technology dependent.

- Use rate might decrease as more and more of the access to technology shifts away from library provided desk top terminals.

Assuming the current computer count is adequate for the Library, an X% increase in the number of visits should increase the number of uses by 7% and maintaining the current level of effectiveness would require an X% increase in the number of computers.

# Computing Spaces

Extrapolation Method using Daily User Traffic				
Measure	Value	Notes		
Current Daily Visits	459	Visitors use the library (total visits averaged over 360 days per year)		
Use Rate	7.74%	Of the visits involve a PC use		
Design Population	25,000	users are expected in 2040. This compares to a 2018 population of	22,350	
Future Daily Visits	513	Visitors are expected to use the library in 2035.		
Increase in daily visits	54	additional visits per day, or a	12%	increase in daily visits
Current PC Count	26	total public access internet capable terminals		
Projected PC Count	29	total public access internet capable terminals - baseline		
Platform allowance	3	Additional terminals to accommodate both PC and Mac platforms, add		10%
Queuing allowance	0	Additional terminals to offset extended wait times		0%
Total Computers Needed	<b>32</b>	devices		

## Extrapolation Method using Peer Group Trendlines

Another means of calculating computer seat needs is via trendline projections from the various peer group comparisons. As with the Collections analysis, the peer groups exhibit a range of 50 to 60 devices for the Design Population.

	Design Population	Current PC Count	Daily User Traffic Method	Peer Cities Projection	Population Peers Projection
Future Need	25,000	26	32	<b>18</b>	<b>27</b>
Current Need	22,350	26	30	18	23

## Extrapolation Method Using Current Computer Counts

A third means of calculating computer seat needs is via review of the current Computer Seat count and adjusting to address deficiencies and anticipated changes in uses/services.

	Youth	Teen	Adult	Total		Preferred	Better	Average	Minimum
					Number of devices	31	31	31	31
Current	7	5	19	31	Unit are per device	40	35	30	25
Additional	0	0	0	0	Area required	<b>1240</b>	1085	930	775
<b>Total Proposed</b>	<b>7</b>	<b>5</b>	<b>19</b>	<b>31</b>					

## Recommendation

From these comparisons, the Planning Team was able to make determine that a balance has been attained across the various user populations and affords the right capabilities. This quantity allows the library to:

- Help bridge the digital divide;
- Support multiple platforms;
- Permit extended use;
- Accommodate age specific computing environments; and
- Maintaining realistic wait times for the expanded Design Population.

## Space Need

Using an average allowance of 35 square feet per computer location provides an estimate of the space required to accommodate the open computing functions.

## Group Activity Spaces

The total area required for small group activity seating is					136	seats,	5,082	s.f.		
	Children		Young Adult		"Shared"		Adult		Total Seats	
	Spaces	Seats	Spaces	Seats	Spaces	Seats	Spaces	Seats		
Study rooms	4	12	2	8			8	24	44	
Maker					6	24			24	
Baby Garden	1	8							8	
Emergent Literacy	1	30							30	
Storytime Room	1	30							30	
	7	80	2	8	6	24	8	24	136	

Many public libraries provide activity rooms/zones to accommodate user-driven formal and informal activities. These range from quiet and individual in nature, through small (2-person) intermediate and large group and very active uses. The number and size of the activity rooms should be determined by the library's anticipated programming activities, the demographics of the service area, and by the availability of similar rooms elsewhere in the community for use by other local groups. The planning team has considered various trends, patron requests, and planned activities / services in developing this specific list. As part of the evaluation, multiple uses were required for each room type. Single use spaces were eliminated and the intended solo use reassigned to a similar room type.

The next pages describe two major categories of group activity space.

## Group Activity Spaces

### Group Activity Rooms by Typology

Zone	Type	Unit Area	Room Area	Notes	Quantity	Total Seats	Space Need
Children	2-Person Activity Room	40	80	Quiet	1	2	80
Children	2-Person Activity Room	40	80	Family Technology Room	1	2	80
Children	4-Person Activity Room	35	140	Homework	2	8	280
Children	8-Person Activity Room	30	240		0	0	0
Young Adult	2-Person Activity Room	40	80		0	0	0
Young Adult	4-Person Activity Room	35	140		2	8	280
Young Adult	6-Person Activity Room, Tech	30	180		0	0	0
Young Adult	8-Person Activity Room	30	240		0	0	0
Adult	2-Person Activity Room	40	80		4	8	320
Adult	4-Person Activity Room	35	140		4	16	560
Adult	8-Person Activity Room	30	240		0	0	0
					<b>14</b>	<b>44</b>	<b>1,600</b>

# Group Activity Spaces

## Active Learning Spaces by Typology

Zone	Type	Unit Area	Room Area	Notes	Quantity	Total "Seats"	Space Need
Maker	Fabrication Pod	40	720	Lab table environment	1	18	720
Maker	Studio	40	0	Open	1	0	0
Maker	Storage	100	100	Storage for equipment	1		100
Media	Video Pod	40	40	Editing	2	2	80
Media	Film Studio	60	120	Video production	1	2	120
Media	Recording Booth	30	60	Oral History	1	2	60
Media	Storage	100	100	Storage for equipment	1		100
B Garden	Baby Garden	30	240		1	8	240
Emergent Literacy					1		
	YS Active - Kiosk (3 kids)		80	<i>Preschool</i>	1	3	80
	YS Active - Lego Table (2 kids)		63	<i>Preschool, Early Elementary</i>	1	2	63
	YS Active - Real Play (2 kids)		63	<i>Preschool, Early Elementary</i>	1	2	63
TOTAL AREA (	YS Active - Magnet Wall (3 kids)		94	<i>Preschool, Elementary</i>	1	3	94
	YS Active - Digital (2 kids)		90	<i>Preschool, Elementary,</i>	0	0	0
	YS Active - Puppet Theater		90	<i>Preschool, Elementary,</i>	1	2	90
	YS Active - Dress Up Costumes		90	<i>Preschool, Elementary,</i>	1	2	90
	YS Active - Light Bright (3 kids)		150	<i>Preschool, Elementary,</i>	1	3	150
	YS Active - Digital (2 kids)		90	<i>Preschool, Elementary,</i>	0	0	0
	YS Active - Indoor Playground (10)		463	<i>Preschool, Elementary,</i>	0	0	0
	YS Active - Imagination Playground		313	<i>Preschool, Elementary,</i>	1	10	313
	YS Active - Game Room M (3 kids)		150	<i>Preschool, Elementary</i>	0	0	0
	YS Active - Media Lab M (3 kids)		150	<i>Upper Elementary, Middle</i>	1	3	150
	YS Active - 3d Games (1 kids +)		188	<i>Upper Elementary, Middle</i>	0	0	0
	YS Active - Imagination Playground storage		50		1		50
	Washing Machine		19		1		19
Children	Storytime - Story telling area	15	450	Includes storage	1	30	450
Children	Storytime - Craft area	15	450	Includes storage, sink	1	30	450
					<b>10</b>	<b>122</b>	<b>3,482</b>

## Program Spaces

The total area required for program rooms seating **281** persons is **3,018** s.f.

	Seats	Style	Additions	Area	Notes		
Multi-Purpose Room	100	Assembly	Demonstration Kitchen	2,200	<i>Presenter</i>	<i>Partition</i>	<i>Table/Chair Storage</i>
Small Multi-Purpose Room	15	Training		409	<i>Presenter</i>	<i>Table/Chair</i>	<i>Counter</i>
Small Multi-Purpose Room	15	Training		409	<i>Presenter</i>	<i>Table/Chair</i>	<i>Counter</i>
Demonstration Kitchen	8	Training		800	<i>Prep, cook, store, demonstrate, serve. Teach</i>		
Board/Conference Room	15	Conference	15 Audience	0	<i>Presenter</i>	<i>Counter</i>	<i>Table/Chair Storage</i>

More and more, public libraries provide multi-purpose rooms to accommodate library-sponsored programs and other community meetings. The number and size of meeting rooms should be determined by the library's anticipated programming activities and by the availability of similar rooms elsewhere in the community for use by other local groups.

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The spaces defined for Mukwonago are intended to follow this multi-purpose format. All rooms should be envisioned to have operable entry walls that allow expansion into adjacent flexible areas, high ceilings that can accommodate traveling exhibits, ample adaptable power and lighting, good acoustic separation, storage for all tables and chairs, and the potential to achieve a high degree of interconnection to support larger events.

The Storytime Room is described as an Active Learning Space in the Activity Spaces section of this report. The Young Adult Program Room is described as a Teen Adult Room in the same section. While multi-functional, these descriptions are more consistent with the primary purpose/use.

# Program Spaces

## Program/Event/Exhibit Space Typologies

Type	Unit "Seats"	Unit Area	Room Area	Notes	Quantity	Total "Seats"	Space Need	Group Area
Multi-Purpose Room	100	10	1000		1	100	1,000	2,200
Banquet	50	20			1	50		
Training	67	15			1	67		
Code Maximum Occupancy	143	7			1	143		
Presenter Area			150	15%	1	0	150	
Partition Storage			50	5%	1	0	50	
Table/Chair Storage			200	20%	1	0	200	
Demonstration Kitchen	8		800	Includes storage	1	8	800	
Small Multi-Purpose Room								818
Training	15	15	225		2	30	450	
Presenter Area			34	15%	2	0	68	
Table/Chair Storage			100	10%	2	0	200	
Counter			50	5%	2	0	100	
Board/Conference Room								0
Conference	15	25	375		0	0	0	
Audience	15	10	150		0	0	0	
Presenter Area			56.25	15%	0	0	0	
Table/Chair Storage			100	10%	0	0	0	
Counter			50	5%	0	0	0	

# Staff Spaces

The area required for staff work space includes			29	places totaling	3,190	s.f.
Work Area	Work Spaces	Area	Work Area	Work Spaces	Area	
Circulation Services	7	945	Information Technology	1	135	
Adult Services	5	675	Outreach Services	2	270	
Youth & Young Adult Services	7	945	Administration	4	540	
Technical Services. MetaSpace 511, Thingery	2	270	Building Services	1	135	

To determine the appropriate number of service points and appropriate staffing levels at each service point, the group examined present staff assignments and workloads. Apparent local trends in service patterns— decreasing reference use or increasing Teen use, for example were factors in the evaluation. Comparison of local staffing patterns with those of neighboring libraries and other libraries of comparable size provided context for the projections.

This overall evaluation was comprised of a series of evaluations for all prospective department or service areas—circulation, technical services, reference, children’s services, and so on. Consideration was given to whether a service point is appropriate given present or anticipated workloads / customer use levels; if so, identify how many staff members are or will be needed to meet the projected service need.

Note that these calculations refer not to the number of individual employee's or the number of full-time equivalents (FTEs) on the library payroll, but to the number of staff work stations needed to support the library’s service program. Obviously, several different individuals can occupy a single work station at different times during the week. Conversely, it may be desirable to provide two or more work stations for certain employee's. A children’s librarian, for instance, may work at a public service desk part of the time and have a separate work station or office away from that desk. Concentrating on work stations enables the planning team to focus on the tasks to be performed in a given area and how those tasks relate to other library operations.

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Circulation Services</b>					<b>7</b>	
	Circulation Point - staffed	1	0	0	1	
	Check Out - unstaffed	2	0	0	2	
	Reception - staffed	0	0	0	0	
	Circulation Work Room, Drive-Up	0	0	0	0	
	Circulation Work Room, Walk-in	0	0	0	0	
	Circulation Work Room, Back of House	0	0	4	4	See below
	Manager	0	0	0	0	

Circulation Workroom counts: (1) ILL Sorting, (1) Reserves Clerk, (1) Mail, (1) workstation for sink, copier, printer, etc.

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## Staff Spaces

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Adult Services</b>					<b>5</b>	
	Service Point - Readers Advisory/ Reference	1	0	0	1	
	Service Point - Technology	0	0	0	0	<i>with above</i>
	Manager	0	1	0	1	
	Workroom	0	0	3	3	

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Youth &amp; Young Adult Services</b>					<b>7</b>	
	Service Point - Youth	1	0	0	1	
	Service Point - Young Adults	1	0	0	1	
	Manager	0	1	0	1	
	Workroom	0	0	4	4	<i>See below</i>

*Youth Services Workroom counts: (3) workstations; (1) workstation for shared/group projects, Storage is identified in Special Use* 4

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Technical Services. MetaSpace 511, Thingery</b>					<b>2</b>	
	Manager	0	1	0	1	
	Processing/Catalog/Repair	0	0	1	1	<i>See below</i>

*Technical Services Workroom counts: (1) workstation. MetaSpzce 511 work space is in MetaSpace room/area.* 1

## Staff Spaces

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Information Technology</b>					<b>1</b>	
	Manager	1	0	0	1	
	Workroom	0	0	0	0	See below

IT Workroom counts: (0) workstations for 0 FT staff - does not include manager, (0) workstations for 1 PT staff, (0) repairs, set-up, testing station. All are part of Office. Servers, etc are in IT server room located in basement. 0

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Outreach Services</b>					<b>2</b>	
	Manager	0	0	0	0	
<b>TOTAL AREA (</b>	Workroom	0	0	2	2	See below

Outreach Workroom counts: (0) workstations for PT or FT staff - assumed to be part of circulation services work area, includes inbound processing station and outbound processing station - does not include manager, (1) staging areas for mobile modules, (1) collection storage zones for dedicated outreach materials, (0) Collaboration/Training station 2

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Administration</b>					<b>4</b>	
	Director	0	1	0	1	
	Assistant Director	0	1	0	1	
	Human Resources	0	0	0	0	City service, Asst Director expertise
	Business Office	0	0	0	0	
	Development	0	0	0	0	
	Marketing	0	0	0	0	
	Future	0	0	0	0	
	Workroom	0	0	2	2	See below

Workroom counts: (0) workstations for FT staff - Administrative Assistant, (0) workstations for PT staff, (1) workstation for large format printing, collating, binding, layout, (1) workstation for sink, copier, printer, etc. Storage is identified in Special Use Spaces. 2

# Staff Spaces

Dept	Position	Service Desk	Private Office	Work Stations	Work Places	Notes
<b>Building Services</b>					<b>1</b>	
	Workroom	0	0	1	1	<i>See below</i>
	Manager	0	0	0	0	
	Security	0	0	0	0	<i>See below</i>

10 Building Services Workroom counts: (0) FT workstations for 1 FT staff - does not include manager, (0) PT workstations for 1 PT staff, (1) workstation for repairs, assembly, (0) workstation for sink, copier, printer, etc.

1

11 Security Room counts: (0) PT workstations for 0 PT staff

<b>TOTAL number of staff work places:</b>	<b>29</b>	<b>places</b>
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## Recommended Staff Work Stations and Area Requirement

A typical staff work station will require between 110 and 135 square feet. Some libraries may opt for the minimum allocation while others may opt for the more generous allocation. Larger libraries may find that the number of staff work stations that are needed to meet future service demands produce an economy of scale that permits efficiencies in the layout and design of staff work space that in turn allows them to apply the smaller space allocation. In practice, some work stations will likely be larger and others will likely be smaller. Final space allocations will be determined in a future phase of the project. This next level of refinement will be based on evaluation of the specific routines to be accomplished at each work station and the amount of furniture and equipment necessary to support those routines.

Area Allowance			
Preferred	Better	Average	Target
135	125	110	<b>110</b>
Number of Staff Work Locations			29
3,915	3,625	3,190	<b>3,190</b>

**Preferred**

(from above)

# Special Use Spaces

The total area required for special use space and dedicated allowances is

9,704

s.f.

## Calculation of Special Use Spaces

Special use space must be allotted for elements of an individual library's program of service or for special types of traditional library furnishings that have not been accounted for in earlier sections of this outline. For example, none of the four types of library floor space described thus far includes an allocation for index tables, newspaper racks, pamphlet files, microfilm readers, or photocopiers. Some of these are still found in contemporary libraries. Other items have been replaced by better displays, exhibits, demonstration areas, petting zoos, and other areas designed to engage the public in services or collections.

Special use space typically constitutes about 13 percent of the overall or gross area in a public library building, but depending on a library's anticipated service program, the allocation of special use space may be a little larger or a little smaller. The level of specificity provided in the preceding sections suggests that the 15% allowance is appropriate.

June 17, 2019

Descriptions of Special Use Space			
		13%	0
	Better	15%	3,798
	Preferred	17%	4,304
Minimum			4,304

Type of Space	Area	Special Use Factor	29405
Collections	8,390	Better 15%	1,259
General Seating	4,400	Preferred 17%	748
Computers	1,240	Minimum 13%	161
Activity Spaces	5,082	Minimum 25%	0
Program Spaces	3,018	Minimum 13%	392
Staff Areas	3,190	Minimum 13%	415
	25,320		
The allocation for Special Use Spaces using this method is:			3,635

## Dedicated Allowances

In addition to typical special uses, Libraries can provide space for innovative partnerships that are not reflected in typical allowances. A list of particular functions and space needs is used to make the appropriate allocation of space.

Description				Area
Local History				0
Partner Agency				0
	Offices	0	200	
	Reception	0	150	
	Workroom	0	120	
	Conference	0	350	
	Storage	0	100	
Exhibit / Gallery				250
Friends				200
The space allocation for dedicated allowances is:				450

Additional area is allocated to Thingery or similar physical display/storage of items

Additional area is allocated to Quiet Reading and Local History

# Nonassignable Space

The total area required for non-assignable space is:

9,704

s.f.

Nonassignable space is that portion of a building's floor space that cannot be applied or assigned directly to library service. Some representative types of nonassignable space are furnace rooms, janitor's closets, certain storage rooms, vestibules, corridors, stairwells, elevator shafts, and rest rooms. Such space is necessary to support the operation of the building, but it cannot be used directly for library service.

Nonassignable space generally comprises about 20 to 25 percent of the gross square footage of the finished building. This is arrived at by allocating 25 or 33 percent of the total assignable area to the uses noted above. The final allocation of nonassignable space will depend on the efficiency of the library design, the size of the project, whether the project involves new construction or alterations of an existing building, and possible site constraints, among other factors. A smaller building is more likely to have a larger proportionate nonassignable space allocation. Projects that involve the expansion or adaptation of an existing structure are also more likely to have a larger proportionate nonassignable space allocation.

For this project, a non-assignable space factor of is utilized, producing a non-assignable allowance that is of the building gross area.

33%

25%

			Complicated Building	Simple Building
a	Sub-total-assignable space		29,405	29,405
b	Non-assignable space		33%	25%
c	Non-assignable area	a x b	0	748
d	Gross area required	a + c	0	161
e	Non-assignable as % of total building area	c / d	25%	20.0%

Mukwonago Community Library  
Space Needs Analysis and Study

**Appendix 3:**  
**Budget Summary and Detail**

March 12, 2020

Prepared with the assistance of  
Engberg Anderson Architects



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MUKWONAGO COMMUNITY LIBRARY

EA Project No. 193008  
March 12, 2020

PROJECT SUMMARY	TOTAL COST: \$ 3,297,166
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A PROJECT COSTS (See detailed breakdown)					
		Construction	Furniture	Total	
1	Meeting Room Renovation and Addition	\$ 728,552	\$ 60,620	\$ 789,172	
2a	Staff Area Renovation	\$ 242,490	\$ 78,450	\$ 320,940	
2b	Children's Area Renovation	\$ 479,562	\$ 173,950	\$ 653,512	
3	Meta Space 511 Construction	\$ 278,901	\$ 34,850	\$ 313,751	
4	Renovation north of grid G	\$ 563,474	\$ 101,600	\$ 665,074	
5	Renovation south of grid G	\$ 153,766	\$ 1,600	\$ 155,366	
6	TOTAL	\$ 2,446,745	\$ 451,070	\$ 2,897,815	
	Cost per sf for 28,840 sf	\$85	\$16	\$100	

B SOFT COSTS					
1	AE Design Fees (8% of A6 less Concept Design Fee)	8%	\$	189,525	
2	Site Survey (for parking improvements)	allowance	\$	2,000	
3	Geotechnical Report (for parking drainage design)	allowance	\$	2,000	
4	Plan Review Fee		\$	2,000	
5	Moving Allowance		\$	10,000	
6	Builder's Risk Insurance	2%	\$	48,935	
7	Owners Contingency	5%	\$	144,891	
7	TOTAL		\$	399,351	\$14

# Village of Mukwongo

## Mukwongo Community Library Addition & Renovation

511 Division Street  
Mukwonago, WI 53149

### **Conceptual Estimate**

March 5, 2020

**DRAFT**

Project: 2019A071

### **Prepared For:**

Engberg Anderson Architects  
320 E Buffalo Street  
Suite 500  
Milwaukee, WI 53202

## NOTES REGARDING PREPARATION OF ESTIMATE

This estimate was prepared based on the following documents provided by Engberg Anderson Architects:

1. Concept Design Pricing Package provided by Engberg Anderson Architects dated February 19, 2020.
2. Information regarding the project was also obtained via meetings, phone conversations, and email messages that clarified the project scope.

## BIDDING PROCESS - MARKET CONDITIONS

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been generated from current material/labor rates, historical production data, and discussions with relevant subcontractors and material suppliers. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated.

Pricing reflects probable construction costs obtainable in the Mukwongo, Wisconsin area on the bid date. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors with a minimum of 3 bidders for all items of subcontracted work and a minimum of 3 bidders for a general contractor. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since The Concord Group has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, this statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents The Concord Group's best judgment as professional construction cost consultants familiar with the construction industry. However, The Concord Group cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

## ASSUMED CONSTRUCTION PARAMETERS

The pricing is based on the following project parameters:

1. A bid opening date of January, 2021.
2. A construction notice to proceed date of March, 2021.
3. A substantial completion date of December, 2021.
4. The contract will be competitively bid to multiple contractors.
5. All contractors will be required to pay prevailing wages.
6. There are no phasing requirements.
7. The contractors will have full access to the site during normal working hours
8. Estimate includes pricing as of March 2020.

**EXCLUSIONS**

The following are excluded from the cost of this estimate:

1. Professional Design Fees
2. Testing Fees
3. Owner Contingencies/Scope Changes
4. Construction Contingency
5. Premium Time / Restrictions on Contractor Working Hours
6. Cost Escalation Beyond a Start Date of March 2021
7. Finance and Legal Charges
8. Environmental Abatement Costs
9. Contaminated Soil Removal
10. Structurally Unsuitable Soil Removal
11. Temporary Facilities
12. Loose Furniture
13. Equipment (Owner Furnished/Installed)
14. Artwork
15. Third Party Commissioning
16. Non-fixed Audio/Visual Equipment & Wiring
17. Telephone / Data Equipment
18. Intercom System
19. Window Treatment

COST SUMMARY	GFA SF	\$/SF	BUILDING TOTAL
PROJECT 1	3,171	\$229.75	\$728,552
PROJECT 2A	3,220	\$75.31	\$242,490
PROJECT 2B	5,767	\$83.16	\$479,562
PROJECT 3	1,454	\$191.82	\$278,901
PROJECT 4	8,124	\$69.36	\$563,474
PROJECT 5	3,055	\$50.33	\$153,766
TOTAL ESTIMATED CONSTRUCTION COSTS	24,791	\$98.69	\$2,446,744

PROJECT 1		3,171	GSF	\$/SF	BUILDING TOTAL
<b>01000</b>	GENERAL REQUIREMENTS			\$0.00	\$0
<b>02000</b>	EXISTING CONDITIONS			\$10.63	\$33,694
<b>03000</b>	CONCRETE			\$9.81	\$31,109
<b>04000</b>	MASONRY			\$3.68	\$11,681
<b>05000</b>	METALS			\$8.40	\$26,626
<b>06000</b>	WOODS, PLASTICS & COMPOSITES			\$9.65	\$30,591
<b>07000</b>	THERMAL & MOISTURE PROTECTION SYSTEM			\$9.18	\$29,114
<b>08000</b>	OPENINGS			\$14.69	\$46,571
<b>09000</b>	FINISHES			\$15.12	\$47,953
<b>10000</b>	SPECIALTIES			\$2.26	\$7,154
<b>11000</b>	EQUIPMENT			\$5.69	\$18,053
<b>12000</b>	FURNISHINGS			\$0.00	\$0
<b>13000</b>	SPECIAL CONSTRUCTION			\$0.00	\$0
<b>14000</b>	CONVEYING EQUIPMENT			\$0.00	\$0
<b>21000</b>	FIRE SUPPRESSION			\$4.87	\$15,439
<b>22000</b>	PLUMBING			\$10.92	\$34,630
<b>23000</b>	HEATING, VENTILATING & AIR CONDITIONING			\$27.57	\$87,437
<b>26000</b>	ELECTRICAL			\$30.79	\$97,619
<b>27000</b>	COMMUNICATIONS			\$2.16	\$6,865
<b>28000</b>	ELECTRONIC SAFETY AND SECURITY			\$0.84	\$2,669
<b>31000</b>	EARTHWORK			\$3.17	\$10,044
<b>32000</b>	EXTERIOR IMPROVEMENTS			\$3.10	\$9,815
<b>33000</b>	UTILITIES			\$0.00	\$0
<b>SUBTOTAL</b>				<b>\$172.52</b>	<b>\$547,065</b>
	DESIGN CONTINGENCY		12.0%	\$20.70	\$65,648
	GENERAL CONDITIONS/BOND/INSURANCE		11.0%	\$21.25	\$67,398
	CONTRACTOR'S FEES		3.5%	\$7.51	\$23,804
	ESCALATION TO MID-POINT OF CONSTRUCTION		3.5%	\$7.77	\$24,637
<b>TOTAL ESTIMATED CONSTRUCTION COSTS</b>				<b>\$229.75</b>	<b>\$728,552</b>

PROJECT 2A		3,220	GSF	\$/SF	BUILDING TOTAL
<b>01000</b>	GENERAL REQUIREMENTS			\$0.00	\$0
<b>02000</b>	EXISTING CONDITIONS			\$9.10	\$29,307
<b>03000</b>	CONCRETE			\$1.49	\$4,803
<b>04000</b>	MASONRY			\$0.00	\$0
<b>05000</b>	METALS			\$0.00	\$0
<b>06000</b>	WOODS, PLASTICS & COMPOSITES			\$4.81	\$15,504
<b>07000</b>	THERMAL & MOISTURE PROTECTION SYSTEM			\$0.14	\$450
<b>08000</b>	OPENINGS			\$0.85	\$2,727
<b>09000</b>	FINISHES			\$12.28	\$39,543
<b>10000</b>	SPECIALTIES			\$0.35	\$1,140
<b>11000</b>	EQUIPMENT			\$0.00	\$0
<b>12000</b>	FURNISHINGS			\$0.00	\$0
<b>13000</b>	SPECIAL CONSTRUCTION			\$0.00	\$0
<b>14000</b>	CONVEYING EQUIPMENT			\$0.00	\$0
<b>21000</b>	FIRE SUPPRESSION			\$2.98	\$9,604
<b>22000</b>	PLUMBING			\$3.23	\$10,406
<b>23000</b>	HEATING, VENTILATING & AIR CONDITIONING			\$7.61	\$24,494
<b>26000</b>	ELECTRICAL			\$13.34	\$42,951
<b>27000</b>	COMMUNICATIONS			\$0.13	\$433
<b>28000</b>	ELECTRONIC SAFETY AND SECURITY			\$0.22	\$722
<b>31000</b>	EARTHWORK			\$0.00	\$0
<b>32000</b>	EXTERIOR IMPROVEMENTS			\$0.00	\$0
<b>33000</b>	UTILITIES			\$0.00	\$0
<b>SUBTOTAL</b>				<b>\$56.55</b>	<b>\$182,084</b>
	DESIGN CONTINGENCY	12.0%		\$6.79	\$21,850
	GENERAL CONDITIONS/BOND/INSURANCE	11.0%		\$6.97	\$22,433
	CONTRACTOR'S FEES	3.5%		\$2.46	\$7,923
	ESCALATION TO MID-POINT OF CONSTRUCTION	3.5%		\$2.55	\$8,200
<b>TOTAL ESTIMATED CONSTRUCTION COSTS</b>				<b>\$75.31</b>	<b>\$242,490</b>

PROJECT 2B		5,767	GSF	\$/SF	BUILDING TOTAL
01000	GENERAL REQUIREMENTS			\$0.00	\$0
02000	EXISTING CONDITIONS			\$6.59	\$37,994
03000	CONCRETE			\$1.54	\$8,875
04000	MASONRY			\$0.00	\$0
05000	METALS			\$0.00	\$0
06000	WOODS, PLASTICS & COMPOSITES			\$6.52	\$37,609
07000	THERMAL & MOISTURE PROTECTION SYSTEM			\$0.14	\$806
08000	OPENINGS			\$1.46	\$8,413
09000	FINISHES			\$19.82	\$114,289
10000	SPECIALTIES			\$0.20	\$1,140
11000	EQUIPMENT			\$0.00	\$0
12000	FURNISHINGS			\$0.00	\$0
13000	SPECIAL CONSTRUCTION			\$0.00	\$0
14000	CONVEYING EQUIPMENT			\$0.00	\$0
21000	FIRE SUPPRESSION			\$3.28	\$18,895
22000	PLUMBING			\$0.00	\$0
23000	HEATING, VENTILATING & AIR CONDITIONING			\$2.72	\$15,706
26000	ELECTRICAL			\$17.17	\$99,033
27000	COMMUNICATIONS			\$2.16	\$12,485
28000	ELECTRONIC SAFETY AND SECURITY			\$0.84	\$4,855
31000	EARTHWORK			\$0.00	\$0
32000	EXTERIOR IMPROVEMENTS			\$0.00	\$0
33000	UTILITIES			\$0.00	\$0
SUBTOTAL				\$62.44	\$360,100
	DESIGN CONTINGENCY		12.0%	\$7.49	\$43,212
	GENERAL CONDITIONS/BOND/INSURANCE		11.0%	\$7.69	\$44,364
	CONTRACTOR'S FEES		3.5%	\$2.72	\$15,669
	ESCALATION TO MID-POINT OF CONSTRUCTION		3.5%	\$2.81	\$16,217
TOTAL ESTIMATED CONSTRUCTION COSTS				\$83.16	\$479,562

PROJECT 3		1,454	GSF	\$/SF	BUILDING TOTAL
01000	GENERAL REQUIREMENTS			\$0.00	\$0
02000	EXISTING CONDITIONS			\$2.08	\$3,018
03000	CONCRETE			\$1.49	\$2,168
04000	MASONRY			\$0.00	\$0
05000	METALS			\$0.00	\$0
06000	WOODS, PLASTICS & COMPOSITES			\$19.03	\$27,663
07000	THERMAL & MOISTURE PROTECTION SYSTEM			\$0.14	\$203
08000	OPENINGS			\$26.78	\$38,939
09000	FINISHES			\$29.27	\$42,564
10000	SPECIALTIES			\$0.47	\$684
11000	EQUIPMENT			\$0.00	\$0
12000	FURNISHINGS			\$0.00	\$0
13000	SPECIAL CONSTRUCTION			\$0.00	\$0
14000	CONVEYING EQUIPMENT			\$0.00	\$0
21000	FIRE SUPPRESSION			\$2.98	\$4,337
22000	PLUMBING			\$23.86	\$34,690
23000	HEATING, VENTILATING & AIR CONDITIONING			\$18.46	\$26,834
26000	ELECTRICAL			\$18.08	\$26,286
27000	COMMUNICATIONS			\$1.18	\$1,713
28000	ELECTRONIC SAFETY AND SECURITY			\$0.22	\$326
31000	EARTHWORK			\$0.00	\$0
32000	EXTERIOR IMPROVEMENTS			\$0.00	\$0
33000	UTILITIES			\$0.00	\$0
SUBTOTAL				\$144.03	\$209,425
	DESIGN CONTINGENCY		12.0%	\$17.28	\$25,131
	GENERAL CONDITIONS/BOND/INSURANCE		11.0%	\$17.74	\$25,801
	CONTRACTOR'S FEES		3.5%	\$6.27	\$9,112
	ESCALATION TO MID-POINT OF CONSTRUCTION		3.5%	\$6.49	\$9,431
TOTAL ESTIMATED CONSTRUCTION COSTS				\$191.82	\$278,901

PROJECT 4		8,124	GSF	\$/SF	BUILDING TOTAL
01000	GENERAL REQUIREMENTS			\$0.00	\$0
02000	EXISTING CONDITIONS			\$2.78	\$22,592
03000	CONCRETE			\$1.56	\$12,692
04000	MASONRY			\$0.00	\$0
05000	METALS			\$0.00	\$0
06000	WOODS, PLASTICS & COMPOSITES			\$1.25	\$10,148
07000	THERMAL & MOISTURE PROTECTION SYSTEM			\$0.14	\$1,136
08000	OPENINGS			\$5.12	\$41,625
09000	FINISHES			\$10.76	\$87,432
10000	SPECIALTIES			\$0.08	\$684
11000	EQUIPMENT			\$0.00	\$0
12000	FURNISHINGS			\$0.00	\$0
13000	SPECIAL CONSTRUCTION			\$0.00	\$0
14000	CONVEYING EQUIPMENT			\$0.00	\$0
21000	FIRE SUPPRESSION			\$2.98	\$24,231
22000	PLUMBING			\$0.00	\$0
23000	HEATING, VENTILATING & AIR CONDITIONING			\$11.47	\$93,173
26000	ELECTRICAL			\$14.77	\$119,963
27000	COMMUNICATIONS			\$0.94	\$7,612
28000	ELECTRONIC SAFETY AND SECURITY			\$0.22	\$1,821
31000	EARTHWORK			\$0.00	\$0
32000	EXTERIOR IMPROVEMENTS			\$0.00	\$0
33000	UTILITIES			\$0.00	\$0
SUBTOTAL				\$52.08	\$423,109
DESIGN CONTINGENCY			12.0%	\$6.25	\$50,773
GENERAL CONDITIONS/BOND/INSURANCE			11.0%	\$6.42	\$52,127
CONTRACTOR'S FEES			3.5%	\$2.27	\$18,410
ESCALATION TO MID-POINT OF CONSTRUCTION			3.5%	\$2.35	\$19,055
TOTAL ESTIMATED CONSTRUCTION COSTS				\$69.36	\$563,474

PROJECT 5		3,055	GSF	\$/SF	BUILDING TOTAL
01000	GENERAL REQUIREMENTS			\$0.00	\$0
02000	EXISTING CONDITIONS			\$1.62	\$4,935
03000	CONCRETE			\$1.57	\$4,808
04000	MASONRY			\$0.00	\$0
05000	METALS			\$0.00	\$0
06000	WOODS, PLASTICS & COMPOSITES			\$0.93	\$2,855
07000	THERMAL & MOISTURE PROTECTION SYSTEM			\$0.14	\$427
08000	OPENINGS			\$8.97	\$27,406
09000	FINISHES			\$6.60	\$20,154
10000	SPECIALTIES			\$0.19	\$570
11000	EQUIPMENT			\$0.00	\$0
12000	FURNISHINGS			\$0.00	\$0
13000	SPECIAL CONSTRUCTION			\$0.00	\$0
14000	CONVEYING EQUIPMENT			\$0.00	\$0
21000	FIRE SUPPRESSION			\$2.98	\$9,112
22000	PLUMBING			\$0.00	\$0
23000	HEATING, VENTILATING & AIR CONDITIONING			\$4.12	\$12,587
26000	ELECTRICAL			\$10.32	\$31,512
27000	COMMUNICATIONS			\$0.13	\$411
28000	ELECTRONIC SAFETY AND SECURITY			\$0.22	\$685
31000	EARTHWORK			\$0.00	\$0
32000	EXTERIOR IMPROVEMENTS			\$0.00	\$0
33000	UTILITIES			\$0.00	\$0
SUBTOTAL				\$37.79	\$115,462
DESIGN CONTINGENCY			12.0%	\$4.54	\$13,855
GENERAL CONDITIONS/BOND/INSURANCE			11.0%	\$4.66	\$14,225
CONTRACTOR'S FEES			3.5%	\$1.64	\$5,024
ESCALATION TO MID-POINT OF CONSTRUCTION			3.5%	\$1.70	\$5,200
TOTAL ESTIMATED CONSTRUCTION COSTS				\$50.33	\$153,766

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
PROJECT 1				
02000 EXISTING CONDITIONS				
02100 Selective Demolition				
Remove exterior storefront	193	SQFT	5.30	1,023
Remove exterior masonry wall	544	SQFT	5.53	3,008
Remove partition	1,288	SQFT	1.37	1,761
Remove ceiling	2,102	SQFT	0.86	1,806
Remove flooring	2,289	SQFT	1.19	2,730
Remove door and frame, double	2	EACH	150.39	301
Remove door and frame, single, salvage door	2	EACH	225.59	451
Remove and salvage panel partition	13	LNFT	137.63	1,789
Remove steel beam	45	LNFT	39.76	1,789
Remove steel column	1	EACH	1,192.80	1,193
Saw cut concrete slab on grade, at trench	112	LNFT	11.58	1,296
Remove and replace concrete slab on grade, at trench	110	SQFT	12.94	1,423
SUBTOTAL: Selective Demolition				\$18,571
02800 Temporary Construction				
Temporary shoring allowance	1	LSUM	5,000.00	5,000
Temporary partitions	798	SQFT	8.69	6,936
Temporary door, frame & hardware	1	EACH	1,454.03	1,454
Remove temporary partition	798	SQFT	2.01	1,600
Remove temporary door, frame & hardware	1	EACH	132.53	133
SUBTOTAL: Temporary Construction				\$15,122
TOTAL: EXISTING CONDITIONS				
03000 CONCRETE				
03100 Concrete Formwork				
Formwork for strip footings	141	SQFT	9.37	1,321
Formwork for isolated column footings	64	SQFT	10.70	685
Formwork for piers	48	SQFT	12.66	608
Formwork for foundation walls	648	SQFT	10.19	6,604
SUBTOTAL: Concrete Formwork				\$9,218
03200 Concrete Reinforcement				
Reinforcement in strip footings	350	LBS	2.69	943
Reinforcement in isolated column footings	200	LBS	2.89	579
Reinforcement in piers	150	LBS	5.52	828
Reinforcement in foundation walls	1,400	LBS	2.69	3,772
SUBTOTAL: Concrete Reinforcement				\$6,122
03300 Cast in Place Concrete				
Concrete in strip footings	5	CUYD	236.91	1,185
Concrete in isolated column footings	2	CUYD	244.63	489
Concrete in piers	1	CUYD	283.23	283

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Concrete in foundation walls	12	CUYD	206.03	2,472
Concrete slab on grade, 5" thk, with W6x6-2.9x2.9	784	SQFT	5.97	4,682
CA-6 base, 4" thk, at concrete slab on grade	10	CUYD	78.06	781
Vapor barrier at slab	784	SQFT	1.52	1,189
SUBTOTAL: Cast in Place Concrete				\$11,081
03900 Miscellaneous Concrete				
Prep floor for new surface	2,962	SQFT	1.58	4,688
SUBTOTAL: Miscellaneous Concrete				\$4,688
TOTAL: CONCRETE				
04000 MASONRY				
04100 Exterior Masonry				
Brick facade, utility, 4"x12"x4" thk	716	SQFT	16.31	11,681
SUBTOTAL: Exterior Masonry				\$11,681
TOTAL: MASONRY				
05000 METALS				
05100 Structural Steel				
Structural steel beams, W-Shapes, at panel partition	500	LBS	3.48	1,742
Structural steel beams, W-Shapes, at addition	3,500	LBS	2.55	8,940
Structural steel columns, W-Shapes, at panel partition	400	LBS	4.03	1,611
Structural steel columns, HSS Tubes, at addition	1,700	LBS	2.73	4,637
SUBTOTAL: Structural Steel				\$16,930
05200 Structural Metal Stud Framing				
Structural metal studs, 6" thk	716	SQFT	9.80	7,015
SUBTOTAL: Structural Metal Stud Framing				\$7,015
05900 Miscellaneous Metals				
Miscellaneous angles, channels, lintels, etc.	1	LSUM	2,680.29	2,680
SUBTOTAL: Miscellaneous Metals				\$2,680
TOTAL: METALS				
06000 WOODS, PLASTICS & COMPOSITES				
06100 Structural Wood				
Premanufactured roof trusses, sloped roof, 24" OC	555	LNFT	14.31	7,941
SUBTOTAL: Structural Wood				\$7,941
06200 Rough Carpentry				
5/8" exterior gypsum sheathing, at cavity wall	716	SQFT	1.46	1,043
SUBTOTAL: Rough Carpentry				\$1,043
06300 Millwork				
Wood veneer base cabinets with quartz countertops	15	LNFT	440.81	6,612
Wood veneer mobile base cabinets with quartz countertops	16	LNFT	465.81	7,453
P-lam base cabinets and quartz countertops	8	LNFT	342.62	2,741

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
P-lam wall hung cabinets	8	LNFT	229.78	1,838
SUBTOTAL: Millwork				\$18,644
<b>06900</b> Miscellaneous Woods, Plastics & Composites				
Miscellaneous wood blocking & rough carpentry	3,171	SQFT	0.93	2,963
SUBTOTAL: Miscellaneous Woods, Plastics & Composites				\$2,963
TOTAL: WOODS, PLASTICS & COMPOSITES				\$30,591
<b>07000</b> THERMAL & MOISTURE PROTECTION				
<b>07100</b> Dampproofing & Waterproofing				
Air/vapor barrier, at caity wall	716	SQFT	3.07	2,200
Air/vapor barrier, at attic	1,021	SQFT	3.17	3,234
SUBTOTAL: Dampproofing & Waterproofing				\$5,434
<b>07200</b> Thermal Insulation				
Rigid insulation 2" thk, at cavity wall	716	SQFT	2.30	1,649
Batt insulation, at attic	1,021	SQFT	2.69	2,744
SUBTOTAL: Thermal Insulation				\$4,393
<b>07300</b> Non-Metallic Panels Systems				
Exterior fiber cement siding	214	SQFT	21.32	4,562
SUBTOTAL: Non-Metallic Panels Systems				\$4,562
<b>07400</b> Roofing				
Asphalt roof singles on plywood sheathing and ice/water barrier	1,106	SQFT	5.65	6,247
Aluminum wrapped fascia board	90	LNFT	24.19	2,177
Aluminum flashing, at sloped roof	136	LNFT	19.28	2,622
SUBTOTAL: Roofing				\$11,047
<b>07500</b> Roofing Specialties				
Aluminum gutter	90	LNFT	21.77	1,960
Aluminum downspout	48	LNFT	26.57	1,276
SUBTOTAL: Roofing Specialties				\$3,235
<b>07800</b> Caulking & Sealants				
Miscellaneous caulking & sealants	3,171	SQFT	0.14	443
SUBTOTAL: Caulking & Sealants				\$443
TOTAL: THERMAL & MOISTURE PROTECTION				\$29,114
<b>08000</b> OPENINGS				
<b>08200</b> Curtainwall & Storefront				
Exterior storefront	295	SQFT	79.44	23,436
SUBTOTAL: Curtainwall & Storefront				\$23,436
<b>08300</b> Exterior Doors, Frames, & Hardware				
AL/GL door, frame & hardware, single	2	EACH	3,340.52	6,681
SUBTOTAL: Exterior Doors, Frames, & Hardware				\$6,681
<b>08400</b> Interior Doors, Frames, & Hardware				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Install salvaged WD door w/ full lite, single, at storefront	2	EACH	255.39	511
WD door, HM frame, & hardware, single	1	EACH	1,725.65	1,726
WD door, HM frame, & hardware, double	1	EACH	2,881.04	2,881
SUBTOTAL: Interior Doors, Frames, & Hardware				\$5,117
<b>08500 Interior Glazing</b>				
Interior HM storefront	226	SQFT	50.16	11,336
SUBTOTAL: Interior Glazing				\$11,336
TOTAL: OPENINGS				\$46,571
<b>09000 FINISHES</b>				
<b>09100 Plaster &amp; Gypsum Board</b>				
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard each side, 3" batt insulation	965	SQFT	10.23	9,876
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard one side, 3" batt insulation	212	SQFT	7.83	1,659
Gypboard backup, 5/8" thick	716	SQFT	2.22	1,588
SUBTOTAL: Plaster & Gypsum Board				\$13,124
<b>09200 Floor Finishes</b>				
Wood base board	465	LNFT	6.28	2,921
Luxury vinyl tile	231	SQFT	8.86	2,048
Carpet tile	2,731	SQFT	4.96	13,549
SUBTOTAL: Floor Finishes				\$18,518
<b>09400 Ceiling Finishes</b>				
ACT system, 2'-0" x 2'-0"	2,726	SQFT	4.46	12,165
SUBTOTAL: Ceiling Finishes				\$12,165
<b>09600 Paints &amp; Coatings</b>				
Paint walls	4,188	SQFT	0.99	4,147
SUBTOTAL: Paints & Coatings				\$4,147
TOTAL: FINISHES				\$47,953
<b>10000 SPECIALTIES</b>				
<b>10200 Signage</b>				
Interior signage - quantity allowance	10	EACH	113.97	1,140
SUBTOTAL: Signage				\$1,140
<b>10300 Movable Partitions</b>				
Rework and reinstall panel partition, extend 3'-0"	1	EACH	6,014.20	6,014
SUBTOTAL: Movable Partitions				\$6,014
TOTAL: SPECIALTIES				\$7,154
<b>11000 EQUIPMENT</b>				
<b>11300 Food Service Equipment</b>				
Coffee maker	2	EACH	985.52	1,971

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST	
Microwave	2	EACH	835.52	1,671	
Refrigerator	1	EACH	1,666.29	1,666	
Commercial range	1	EACH	5,665.16	5,665	
Commercial range hood	1	EACH	1,832.58	1,833	
Dishwasher	1	EACH	3,127.60	3,128	
Ice maker	1	EACH	2,119.73	2,120	
SUBTOTAL: Food Service Equipment				\$18,053	
TOTAL: EQUIPMENT					\$18,053
21000 FIRE SUPPRESSION					
21300 Sprinkler Heads & Piping					
Reconfigure existing wet sprinkler system for renovation/buildout	3,171	SQFT	2.98	9,458	
SUBTOTAL: Sprinkler Heads & Piping				\$9,458	
21900 Special Fire Suppression					
Kitchen hood fire suppression system, ANSUL-type	1	EACH	5,981.00	5,981	
SUBTOTAL: Special Fire Suppression				\$5,981	
TOTAL: FIRE SUPPRESSION					\$15,439
22000 PLUMBING					
22100 Selective Demolition					
Remove existing self-rimming sinks and piping	1	EACH	287.58	288	
SUBTOTAL: Selective Demolition				\$288	
22200 Plumbing Fixtures					
Sink, commercial kitchen, triple basin, 2-drainboard, self-supporting	1	EACH	4,981.50	4,982	
Icemaker water and waste connection incl. BFP and hub drain	1	EACH	1,966.88	1,967	
SUBTOTAL: Plumbing Fixtures				\$6,948	
22300 Plumbing Equipment & Specialties					
Floor sinks - kitchen duty	1	EACH	1,453.38	1,453	
Grease interceptor	1	EACH	3,575.16	3,575	
SUBTOTAL: Plumbing Equipment & Specialties				\$5,029	
22400 Domestic Water, Waste & Vent, & Storm Drainage Piping					
Domestic water pipe, fittings, and supports, 3/4" type L copper - allowance	200	LNFT	25.06	5,013	
Pipe insulation, 3/4" domestic water piping - allowance	200	LNFT	7.68	1,536	
Sanitary/waste pipe, fittings, and supports, PVC, AG, 3"	55	LNFT	61.84	3,401	
Vent pipe, fittings, and supports, PVC, AG, 2"	100	LNFT	46.06	4,606	
Tie new domestic water piping into existing	2	EACH	633.44	1,267	
Tie new sanitary/waste piping into existing	1	EACH	679.30	679	
Tie new vent piping into existing	1	EACH	563.44	563	
Slab cutting, excavation, bedding, backfill, and patching - UG piping	55	LNFT	92.27	5,075	
Pipe and valve tagging	200	LNFT	1.12	225	
SUBTOTAL: Domestic Water, Waste & Vent, & Storm Drainage Piping				\$22,366	
TOTAL: PLUMBING					\$34,630

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>23000 HEATING VENTILATION &amp; AIR CONDITIONING</b>				
<b>23100 Selective Demolition</b>				
Disconnect and remove fan-powered terminal w/reheat coil	1	EACH	198.10	198
<b>SUBTOTAL: Selective Demolition</b>				<b>\$198</b>
<b>23200 Ventilation &amp; Exhaust</b>				
Makeup air unit, rooftop, packaged, DX coil, gas heat, fans, filters, condenser section	1	EACH	15,669.60	15,670
Kitchen exhaust fan, rooftop, w/curb, backdraft damper, 1/4 hp	1	EACH	1,144.30	1,144
Variable air volume terminals w/HW reheat coil	2	EACH	1,096.20	2,192
Reheat coil connections, VAV - valves, fittings, and insulation	2	EACH	962.35	1,925
Galvanized steel duct, rectangular	2,000	LBS	9.61	19,226
Kitchen grease exhaust duct, welded black iron w/2-layer firewrap	50	LNFT	300.00	15,000
Duct insulation	1,200	SQFT	4.28	5,131
Registers, grilles and diffusers - allowance	3,171	SQFT	0.57	1,804
<b>SUBTOTAL: Ventilation &amp; Exhaust</b>				<b>\$62,092</b>
<b>23400 Heating &amp; Ventilating Terminals</b>				
Fintube radiators, HW - rework/replace existing	25	LNFT	142.47	3,562
<b>SUBTOTAL: Heating &amp; Ventilating Terminals</b>				<b>\$3,562</b>
<b>23500 HVAC Piping</b>				
HHWS/R pipe, type L copper pipe, fittings, and supports, 3/4"	60	LNFT	24.77	1,486
Natural gas piping to MAU, std. wgt. blk. steel pipe, fittings, and supports, threaded	100	LNFT	27.39	2,739
Pipe insulation, HHWS/R, 3/4"	60	LNFT	8.21	493
Pipe and valve tagging - interior bldg HVAC piping	60	LNFT	1.12	67
<b>SUBTOTAL: HVAC Piping</b>				<b>\$4,785</b>
<b>23600 Temperature Controls</b>				
DDC controls - makeup air units	1	EACH	3,000.00	3,000
DDC controls - exhaust fan, kitchen	1	EACH	2,000.00	2,000
DDC controls - VAV terminals w/reheat coil; zone controls w/radiators	2	EACH	3,000.00	6,000
Thermostats/temperature sensors	2	EACH	400.00	800
<b>SUBTOTAL: Temperature Controls</b>				<b>\$11,800</b>
<b>23700 Testing, Balancing, &amp; Commissioning</b>				
Clean and rebalance air systems	1	LSUM	5,000.00	5,000
<b>SUBTOTAL: Testing, Balancing, &amp; Commissioning</b>				<b>\$5,000</b>
<b>TOTAL: HEATING VENTILATION &amp; AIR CONDITIONING</b>				
<b>\$87,437</b>				
<b>26000 ELECTRICAL</b>				
<b>26100 Selective Demolition</b>				
Selective demolition and removal	1	LSUM	2,644.68	2,645
<b>SUBTOTAL: Selective Demolition</b>				<b>\$2,645</b>
<b>26200 Main Power Distribution</b>				
Rework/Upgrade/Relabel existing panelboards	1	EACH	367.21	367

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>26500 Lighting</b>				
Lighting System - Light fixtures including installation and hook up - 1x4	42	EACH	329.07	13,821
Lighting System - Light fixtures including installation and hook up - downlights	7	EACH	309.07	2,163
Lighting System - Emergency and Exit Light fixtures including installation and hook up	3,171	SQFT	0.31	989
Lighting Control System - dual level, dimmed switching, occupancy sensors, daylight sensors	3,171	SQFT	1.75	5,564
Lighting System - Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	3,171	SQFT	2.38	7,537
New LED exterior wall mount sconces and recessed downlights and controls - allowance	1	LSUM	50,000.00	50,000
<b>SUBTOTAL: Main Power Distribution</b>				<b>\$367</b>
<b>26600 Branch Power Distribution &amp; Devices</b>				
Branch Power - Miscellaneous receptacles and electrical equipment hook up and associated conduit and wiring	3,171	SQFT	2.82	8,933
<b>SUBTOTAL: Lighting</b>				<b>\$80,075</b>
<b>26700 Mechanical Equipment Connections &amp; Feeders</b>				
Motors connection, disconnect switches and associated feeders - Kitchen exhaust fan, rooftop	1	EACH	2,400.00	2,400
Motors connection, disconnect switches and associated feeders - Makeup air unit, rooftop	1	EACH	3,200.00	3,200
<b>SUBTOTAL: Branch Power Distribution &amp; Devices</b>				<b>\$8,933</b>
<b>TOTAL: ELECTRICAL</b>				
<b>\$97,619</b>				
<b>27000 COMMUNICATIONS</b>				
<b>27200 Tele/Data Systems</b>				
Telecommunication/Data & Television System, rough-in	3,171	SQFT	1.12	3,556
<b>SUBTOTAL: Tele/Data Systems</b>				<b>\$3,556</b>
<b>27600 Audio/Visual &amp; Television System</b>				
Audio/visual System, rough-in only	3,171	SQFT	1.04	3,309
<b>SUBTOTAL: Audio/Visual &amp; Television System</b>				<b>\$3,309</b>
<b>TOTAL: COMMUNICATIONS</b>				
<b>\$6,865</b>				
<b>28000 ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>28200 Fire Alarm Systems</b>				
Fire alarm System, upgrades per new layout	3,171	SQFT	0.84	2,669
<b>SUBTOTAL: Fire Alarm Systems</b>				<b>\$2,669</b>
<b>TOTAL: ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>\$2,669</b>				
<b>31000 EARTHWORK</b>				
<b>31200 Site Grading</b>				
Regrade drainage swale	2,500	SQFT	1.68	4,202

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>31300 Foundation Excavation &amp; Fill</b>	<b>SUBTOTAL: Site Grading</b>			<b>\$4,202</b>
Excavate for foundations	105	CUYD	17.29	1,815
Backfill with excavated material	75	CUYD	10.56	792
Haul off excavated material as CCDD	30	CUYD	40.63	1,219
<b>31800 Site Demolition</b>	<b>SUBTOTAL: Foundation Excavation &amp; Fill</b>			<b>\$3,826</b>
Remove landscaping	2,570	SQFT	0.78	2,015
	<b>SUBTOTAL: Site Demolition</b>			<b>\$2,015</b>
<b>TOTAL: EARTHWORK</b>				<b>\$10,044</b>
<b>32000 EXTERIOR IMPROVEMENTS</b>				
<b>32100 Pavement</b>				
CA-6 base, 6" thk at concrete walk	2	CUYD	243.30	487
Concrete walk, 5" thk	70	SQFT	11.11	778
	<b>SUBTOTAL: Pavement</b>			<b>\$1,265</b>
<b>32600 Landscaping</b>				
Restore landscaping at reggraded drainage swale	2,500	SQFT	3.42	8,550
	<b>SUBTOTAL: Landscaping</b>			<b>\$8,550</b>
<b>TOTAL: EXTERIOR IMPROVEMENTS</b>				<b>\$9,815</b>
<b>TOTAL: PROJECT 1</b>				<b>\$547,065</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>PROJECT 2A</b>				
<b>02000 EXISTING CONDITIONS</b>				
<b>02100 Selective Demolition</b>				
Remove partition	434	SQFT	1.37	593
Remove ceiling	612	SQFT	0.86	526
Remove flooring	3,112	SQFT	1.19	3,712
Remove base cabinets & countertops	29	LNFT	26.51	769
Remove countertops	54	LNFT	15.90	859
Create opening for single door in gypboard partition	1	EACH	1,009.54	1,010
Remove and reinstall book drop, lower by 16", rework masonry to match adjacent	1	EACH	1,593.65	1,594
<b>SUBTOTAL: Selective Demolition</b>				<b>\$9,062</b>
<b>02800 Temporary Construction</b>				
Temporary partitions	1,596	SQFT	8.69	13,871
Temporary door, frame & hardware	2	EACH	1,454.03	2,908
Remove temporary partition	1,596	SQFT	2.01	3,200
Remove temporary door, frame & hardware	2	EACH	132.53	265
<b>SUBTOTAL: Temporary Construction</b>				<b>\$20,245</b>
<b>TOTAL: EXISTING CONDITIONS</b>				
<b>03000 CONCRETE</b>				
<b>03900 Miscellaneous Concrete</b>				
Prep floor for new surface	3,035	SQFT	1.58	4,803
<b>SUBTOTAL: Miscellaneous Concrete</b>				<b>\$4,803</b>
<b>TOTAL: CONCRETE</b>				
<b>06000 WOODS, PLASTICS &amp; COMPOSITES</b>				
<b>06300 Millwork</b>				
P-lam base cabinets and P-lam countertops	22	LNFT	338.17	7,440
P-lam wall hung cabinets	22	LNFT	229.78	5,055
<b>SUBTOTAL: Millwork</b>				<b>\$12,495</b>
<b>06900 Miscellaneous Woods, Plastics &amp; Composites</b>				
Miscellaneous wood blocking & rough carpentry	3,220	SQFT	0.93	3,009
<b>SUBTOTAL: Miscellaneous Woods, Plastics &amp; Composites</b>				<b>\$3,009</b>
<b>TOTAL: WOODS, PLASTICS &amp; COMPOSITES</b>				
<b>07000 THERMAL &amp; MOISTURE PROTECTION</b>				
<b>07800 Caulking &amp; Sealants</b>				
Miscellaneous caulking & sealants	3,220	SQFT	0.14	450
<b>SUBTOTAL: Caulking &amp; Sealants</b>				<b>\$450</b>
<b>TOTAL: THERMAL &amp; MOISTURE PROTECTION</b>				
<b>08000 OPENINGS</b>				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>08400 Interior Doors, Frames, &amp; Hardware</b>				
WD door w/ full lite, HM frame, & hardware, single	1	EACH	2,425.65	2,426
<b>SUBTOTAL: Interior Doors, Frames, &amp; Hardware</b>				<b>\$2,426</b>
<b>08500 Interior Glazing</b>				
Interior HM storefront	6	SQFT	50.16	301
<b>SUBTOTAL: Interior Glazing</b>				<b>\$301</b>
<b>TOTAL: OPENINGS</b>				<b>\$2,727</b>
<b>09000 FINISHES</b>				
<b>09100 Plaster &amp; Gypsum Board</b>				
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard each side, 3" batt insulation	739	SQFT	10.23	7,563
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard one side, 3" batt insulation	154	SQFT	7.83	1,205
<b>SUBTOTAL: Plaster &amp; Gypsum Board</b>				<b>\$8,769</b>
<b>09200 Floor Finishes</b>				
Wood base board	622	LNFT	6.28	3,907
Luxury vinyl tile	1,035	SQFT	8.86	9,175
Carpet tile	2,000	SQFT	4.96	9,922
<b>SUBTOTAL: Floor Finishes</b>				<b>\$23,005</b>
<b>09400 Ceiling Finishes</b>				
ACT system, 2'-0" x 2'-0"	296	SQFT	4.46	1,321
Rework ACT 2'-0" x 2'-0", at new partition	174	SQFT	4.41	768
<b>SUBTOTAL: Ceiling Finishes</b>				<b>\$2,089</b>
<b>09600 Paints &amp; Coatings</b>				
Paint walls	5,737	SQFT	0.99	5,680
<b>SUBTOTAL: Paints &amp; Coatings</b>				<b>\$5,680</b>
<b>TOTAL: FINISHES</b>				<b>\$39,543</b>
<b>10000 SPECIALTIES</b>				
<b>10200 Signage</b>				
Interior signage - quantity allowance	10	EACH	113.97	1,140
<b>SUBTOTAL: Signage</b>				<b>\$1,140</b>
<b>TOTAL: SPECIALTIES</b>				<b>\$1,140</b>
<b>21000 FIRE SUPPRESSION</b>				
<b>21300 Sprinkler Heads &amp; Piping</b>				
Reconfigure existing wet sprinkler system for renovation/buildout	3,220	SQFT	2.98	9,604
<b>SUBTOTAL: Sprinkler Heads &amp; Piping</b>				<b>\$9,604</b>
<b>TOTAL: FIRE SUPPRESSION</b>				<b>\$9,604</b>
<b>22000 PLUMBING</b>				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>22200 Plumbing Fixtures</b>				
Sink, stainless steel, single basin self-rimming, manual faucet	1	EACH	1,664.17	1,664
<b>SUBTOTAL: Plumbing Fixtures</b>				<b>\$1,664</b>
<b>22400 Domestic Water, Waste &amp; Vent, &amp; Storm Drainage Piping</b>				
Domestic water pipe, fittings, and supports, 3/4" type L copper - allowance	50	LNFT	25.06	1,253
Pipe insulation, 3/4" domestic water piping - allowance	50	LNFT	7.68	384
Sanitary/waste pipe, fittings, and supports, PVC, AG, 3"	55	LNFT	61.84	3,401
Vent pipe, fittings, and supports, PVC, AG, 2"	20	LNFT	46.06	921
Tie new domestic water piping into existing	2	EACH	633.44	1,267
Tie new sanitary/waste piping into existing	1	EACH	679.30	679
Tie new vent piping into existing	1	EACH	563.44	563
Coring and fireproofing	1	EACH	216.72	217
Pipe and valve tagging	50	LNFT	1.12	56
<b>SUBTOTAL: Domestic Water, Waste &amp; Vent, &amp; Storm Drainage Piping</b>				<b>\$8,742</b>
<b>TOTAL: PLUMBING</b>				<b>\$10,406</b>
<b>23000 HEATING VENTILATION &amp; AIR CONDITIONING</b>				
<b>23200 Ventilation &amp; Exhaust</b>				
Variable air volume terminals w/HW reheat coil	2	EACH	1,096.20	2,192
Reheat coil connections, VAV - valves, fittings, and insulation	2	EACH	962.35	1,925
Registers, grilles and diffusers - allowance	3,220	SQFT	0.57	1,832
<b>SUBTOTAL: Ventilation &amp; Exhaust</b>				<b>\$5,949</b>
<b>23400 Heating &amp; Ventilating Terminals</b>				
Fintube radiators, HW - rework/replace existing	40	LNFT	142.47	5,699
<b>SUBTOTAL: Heating &amp; Ventilating Terminals</b>				<b>\$5,699</b>
<b>23500 HVAC Piping</b>				
HHWS/R pipe, type L copper pipe, fittings, and supports, 3/4"	60	LNFT	24.77	1,486
Pipe insulation, HHWS/R, 3/4"	60	LNFT	8.21	493
Pipe and valve tagging - interior bldg HVAC piping	60	LNFT	1.12	67
<b>SUBTOTAL: HVAC Piping</b>				<b>\$2,046</b>
<b>23600 Temperature Controls</b>				
DDC controls - VAV terminals w/reheat coil; zone controls w/radiators	2	EACH	3,000.00	6,000
Thermostats/temperature sensors	2	EACH	400.00	800
<b>SUBTOTAL: Temperature Controls</b>				<b>\$6,800</b>
<b>23700 Testing, Balancing, &amp; Commissioning</b>				
Clean and rebalance air systems	1	LSUM	4,000.00	4,000
<b>SUBTOTAL: Testing, Balancing, &amp; Commissioning</b>				<b>\$4,000</b>
<b>TOTAL: HEATING VENTILATION &amp; AIR CONDITIONING</b>				<b>\$24,494</b>
<b>26000 ELECTRICAL</b>				
<b>26100 Selective Demolition</b>				
Selective demolition and removal	1	LSUM	2,644.68	2,645



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Selective Demolition				
<b>26200 Main Power Distribution</b> Rework/Upgrade/Relabel existing panelboards	1	EACH	122.34	122
SUBTOTAL: Main Power Distribution				
<b>26500 Lighting</b> Lighting System - Replace with new LED light fixtures throughout the building - per narrative	3,220	SQFT	7.34	23,643
Lighting System - Emergency and Exit Light fixtures including installation and hook up	3,220	SQFT	0.31	1,004
Lighting Control System - dual level, dimmed switching, occupancy sensors, daylight sensors - per narrative	3,220	SQFT	1.75	5,650
Lighting System - Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	3,220	SQFT	2.38	7,654
SUBTOTAL: Lighting				
SUBTOTAL: \$37,952				
<b>26600 Branch Power Distribution &amp; Devices</b> Branch Power - Miscellaneous receptacles and electrical equipment hook up and associated conduit and wiring	3,220	SQFT	0.69	2,233
SUBTOTAL: Branch Power Distribution & Devices				
SUBTOTAL: \$2,233				
TOTAL: ELECTRICAL				
\$42,951				
<b>27000 COMMUNICATIONS</b>				
<b>27200 Tele/Data Systems</b> Telecommunication/Data & Television System, rough-in	3,220	SQFT	0.13	433
SUBTOTAL: Tele/Data Systems				
\$433				
TOTAL: COMMUNICATIONS				
\$433				
<b>28000 ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>28200 Fire Alarm Systems</b> Fire alarm System, upgrades per new layout	3,220	SQFT	0.22	722
SUBTOTAL: Fire Alarm Systems				
\$722				
TOTAL: ELECTRONIC SAFETY & SECURITY				
\$722				
TOTAL: PROJECT 2A				
\$182,084				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
PROJECT 2B				
02000 EXISTING CONDITIONS				
02100 Selective Demolition				
Remove partition	1,750	SQFT	1.37	2,393
Remove ceiling	5,072	SQFT	0.86	4,358
Remove flooring	5,692	SQFT	1.19	6,789
Remove door and frame, single	4	EACH	112.79	451
Remove service desk	57	LNFT	31.39	1,789
Saw cut concrete slab on grade, at trench	196	LNFT	11.58	2,269
Remove and replace concrete slab on grade, at trench	192	SQFT	12.94	2,484
SUBTOTAL: Selective Demolition				\$20,534
02800 Temporary Construction				
Temporary partitions	1,484	SQFT	8.69	12,898
Temporary door, frame & hardware	1	EACH	1,454.03	1,454
Remove temporary partition	1,484	SQFT	2.01	2,976
Remove temporary door, frame & hardware	1	EACH	132.53	133
SUBTOTAL: Temporary Construction				\$17,460
TOTAL: EXISTING CONDITIONS				\$37,994
03000 CONCRETE				
03900 Miscellaneous Concrete				
Prep floor for new surface	5,608	SQFT	1.58	8,875
SUBTOTAL: Miscellaneous Concrete				\$8,875
TOTAL: CONCRETE				\$8,875
06000 WOODS, PLASTICS & COMPOSITES				
06300 Millwork				
Custom p-lam bench w/ solid wood edges	19	LNFT	325.67	6,188
Reception desk	24	LNFT	463.51	11,124
P-lam work surface w/ solid wood edge	44	LNFT	167.57	7,373
Wood cap at partial height partition	60	LNFT	80.90	4,854
Cubicle seat at entry structure	2	EACH	1,340.52	2,681
SUBTOTAL: Millwork				\$32,220
06900 Miscellaneous Woods, Plastics & Composites				
Miscellaneous wood blocking & rough carpentry	5,767	SQFT	0.93	5,389
SUBTOTAL: Miscellaneous Woods, Plastics & Composites				\$5,389
TOTAL: WOODS, PLASTICS & COMPOSITES				\$37,609
07000 THERMAL & MOISTURE PROTECTION				
07800 Caulking & Sealants				
Miscellaneous caulking & sealants	5,767	SQFT	0.14	806
SUBTOTAL: Caulking & Sealants				\$806

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>TOTAL: THERMAL &amp; MOISTURE PROTECTION</b>				
<b>08000 OPENINGS</b>				<b>\$806</b>
<b>08400 Interior Doors, Frames, &amp; Hardware</b>				
WD door w/ full lite, HM frame, & hardware, single	2	EACH	2,425.65	4,851
<b>SUBTOTAL: Interior Doors, Frames, &amp; Hardware</b>				<b>\$4,851</b>
<b>08500 Interior Glazing</b>				
Interior HM storefront	71	SQFT	50.16	3,561
<b>SUBTOTAL: Interior Glazing</b>				<b>\$3,561</b>
<b>TOTAL: OPENINGS</b>				
<b>\$8,413</b>				
<b>09000 FINISHES</b>				
<b>09100 Plaster &amp; Gypsum Board</b>				
Gypboard soffit	761	SQFT	12.73	9,688
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard each side, 3" batt insulation	1,047	SQFT	10.23	10,716
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard one side, 3" batt insulation	407	SQFT	7.83	3,185
<b>SUBTOTAL: Plaster &amp; Gypsum Board</b>				<b>\$23,589</b>
<b>09200 Floor Finishes</b>				
Wood base board	510	LNFT	6.28	3,204
Carpet tile	5,608	SQFT	4.96	27,822
<b>SUBTOTAL: Floor Finishes</b>				<b>\$31,026</b>
<b>09300 Wall Finishes</b>				
Wood look wall finish, at entry structure	335	SQFT	18.13	6,074
Specialty wall finish, at curved wall - allowance	178	SQFT	22.65	4,032
Vinyl/graphic wall covering - allowance	1,000	SQFT	4.33	4,331
<b>SUBTOTAL: Wall Finishes</b>				<b>\$14,437</b>
<b>09400 Ceiling Finishes</b>				
ACT system, 2'-0" x 2'-0"	3,558	SQFT	4.46	15,878
Acoustic ceiling clouds, 2'-0" dia	43	EACH	160.13	6,886
Acoustic ceiling clouds, 4'-0" dia	29	EACH	285.13	8,269
Acoustic ceiling baffles	207	LNFT	21.58	4,467
Wood look ceiling, at entry structure	124	SQFT	31.48	3,903
<b>SUBTOTAL: Ceiling Finishes</b>				<b>\$39,402</b>
<b>09600 Paints &amp; Coatings</b>				
Paint walls	3,472	SQFT	0.99	3,438
Paint ceiling/soffit	381	SQFT	1.23	469
Paint exposed ceiling	1,412	SQFT	1.37	1,929
<b>SUBTOTAL: Paints &amp; Coatings</b>				<b>\$5,835</b>
<b>TOTAL: FINISHES</b>				
				<b>\$114,289</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>10000 SPECIALTIES</b>				
<b>10200 Signage</b>				
Interior signage - quantity allowance	10	EACH	113.97	1,140
	<b>SUBTOTAL: Signage</b>			<b>\$1,140</b>
<b>TOTAL: SPECIALTIES</b>				<b>\$1,140</b>
<b>21000 FIRE SUPPRESSION</b>				
<b>21300 Sprinkler Heads &amp; Piping</b>				
Reconfigure existing wet sprinkler system for renovation/buildout	6,335	SQFT	2.98	18,895
	<b>SUBTOTAL: Sprinkler Heads &amp; Piping</b>			<b>\$18,895</b>
<b>TOTAL: FIRE SUPPRESSION</b>				<b>\$18,895</b>
<b>23000 HEATING VENTILATION &amp; AIR CONDITIONING</b>				
<b>23200 Ventilation &amp; Exhaust</b>				
Registers, grilles and diffusers - allowance	5,767	SQFT	0.57	3,281
	<b>SUBTOTAL: Ventilation &amp; Exhaust</b>			<b>\$3,281</b>
<b>23400 Heating &amp; Ventilating Terminals</b>				
Fintube radiators, HW - rework/replace existing	10	LNFT	142.47	1,425
	<b>SUBTOTAL: Heating &amp; Ventilating Terminals</b>			<b>\$1,425</b>
<b>23600 Temperature Controls</b>				
DDC controls - Rework/rezone/combine VAV controls w/radiators	1	EACH	3,000.00	3,000
	<b>SUBTOTAL: Temperature Controls</b>			<b>\$3,000</b>
<b>23700 Testing, Balancing, &amp; Commissioning</b>				
Clean and rebalance air systems	1	LSUM	8,000.00	8,000
	<b>SUBTOTAL: Testing, Balancing, &amp; Commissioning</b>			<b>\$8,000</b>
<b>TOTAL: HEATING VENTILATION &amp; AIR CONDITIONING</b>				<b>\$15,706</b>
<b>26000 ELECTRICAL</b>				
<b>26100 Selective Demolition</b>				
Selective demolition and removal	1	LSUM	3,713.52	3,714
	<b>SUBTOTAL: Selective Demolition</b>			<b>\$3,714</b>
<b>26200 Main Power Distribution</b>				
Rework/Upgrade/Relabel existing panelboards	1	EACH	367.21	367
	<b>SUBTOTAL: Main Power Distribution</b>			<b>\$367</b>
<b>26500 Lighting</b>				
Lighting System - Light fixtures including installation and hook up - 1x4	55	EACH	329.07	18,099
Lighting System - Light fixtures including installation and hook up - downlights	11	EACH	309.07	3,400
Lighting System - Light fixtures including installation and hook up - Miscellaneous architectural LED	1	LSUM	31,582.83	31,583
Lighting System - Emergency and Exit Light fixtures including installation and hook up	5,767	SQFT	0.31	1,798

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Lighting Control System - dual level, dimmed switching, occupancy sensors, daylight sensors	5,767	SQFT	1.75	10,120
Lighting System - Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	5,767	SQFT	2.38	13,708
<b>26600 Branch Power Distribution &amp; Devices</b>	<b>SUBTOTAL: Lighting</b>			<b>\$78,707</b>
Branch Power - Miscellaneous receptacles and electrical equipment hook up and associated conduit and wiring	5,767	SQFT	2.82	16,246
<b>SUBTOTAL: Branch Power Distribution &amp; Devices</b>				<b>\$16,246</b>
<b>TOTAL: ELECTRICAL</b>				<b>\$99,033</b>
<b>27000 COMMUNICATIONS</b>				
<b>27200 Tele/Data Systems</b>				
Telecommunication/Data & Television System, rough-in	5,767	SQFT	1.12	6,467
<b>SUBTOTAL: Tele/Data Systems</b>				<b>\$6,467</b>
<b>27600 Audio/Visual &amp; Television System</b>				
Audio/visual System, rough-in only	5,767	SQFT	1.04	6,018
<b>SUBTOTAL: Audio/Visual &amp; Television System</b>				<b>\$6,018</b>
<b>TOTAL: COMMUNICATIONS</b>				<b>\$12,485</b>
<b>28000 ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>28200 Fire Alarm Systems</b>				
Fire alarm System, upgrades per new layout	5,767	SQFT	0.84	4,855
<b>SUBTOTAL: Fire Alarm Systems</b>				<b>\$4,855</b>
<b>TOTAL: ELECTRONIC SAFETY &amp; SECURITY</b>				<b>\$4,855</b>
<b>TOTAL: PROJECT 2B</b>				<b>\$360,100</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>PROJECT 3</b>				
<b>02000 EXISTING CONDITIONS</b>				
<b>02100 Selective Demolition</b>				
Remove ceiling	525	SQFT	0.86	451
Remove flooring	1,454	SQFT	1.19	1,734
Saw cut concrete slab on grade, at trench	35	LNFT	11.58	405
Remove and replace concrete slab on grade, at trench	33	SQFT	12.94	427
<b>SUBTOTAL: Selective Demolition</b>				<b>\$3,018</b>
<b>TOTAL: EXISTING CONDITIONS</b>				
				<b>\$3,018</b>
<b>03000 CONCRETE</b>				
<b>03900 Miscellaneous Concrete</b>				
Prep floor for new surface	1,370	SQFT	1.58	2,168
<b>SUBTOTAL: Miscellaneous Concrete</b>				<b>\$2,168</b>
<b>TOTAL: CONCRETE</b>				
				<b>\$2,168</b>
<b>06000 WOODS, PLASTICS &amp; COMPOSITES</b>				
<b>06300 Millwork</b>				
P-lam base cabinets and P-lam countertops	38	LNFT	338.17	12,851
P-lam wall hung cabinets	38	LNFT	229.78	8,731
P-lam work surface	32	LNFT	147.57	4,722
<b>SUBTOTAL: Millwork</b>				<b>\$26,304</b>
<b>06900 Miscellaneous Woods, Plastics &amp; Composites</b>				
Miscellaneous wood blocking & rough carpentry	1,454	SQFT	0.93	1,359
<b>SUBTOTAL: Miscellaneous Woods, Plastics &amp; Composites</b>				<b>\$1,359</b>
<b>TOTAL: WOODS, PLASTICS &amp; COMPOSITES</b>				
				<b>\$27,663</b>
<b>07000 THERMAL &amp; MOISTURE PROTECTION</b>				
<b>07800 Caulking &amp; Sealants</b>				
Miscellaneous caulking & sealants	1,454	SQFT	0.14	203
<b>SUBTOTAL: Caulking &amp; Sealants</b>				<b>\$203</b>
<b>TOTAL: THERMAL &amp; MOISTURE PROTECTION</b>				
				<b>\$203</b>
<b>08000 OPENINGS</b>				
<b>08400 Interior Doors, Frames, &amp; Hardware</b>				
WD door w/ full lite, HM frame, & hardware, single	4	EACH	2,425.65	9,703
WD pocket door w/ full lite, frame and hardware, single	1	EACH	3,510.78	3,511
WD door w/ full lite, HM frame, & hardware, double	1	EACH	2,425.65	2,426
<b>SUBTOTAL: Interior Doors, Frames, &amp; Hardware</b>				<b>\$15,639</b>
<b>08500 Interior Glazing</b>				
Interior HM storefront	427	SQFT	50.16	21,419
Interior window, 3'-6" x 3'-6"	2	EACH	940.52	1,881

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DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Domestic water pipe, fittings, and supports, 3/4" type L copper - allowance	360	LNFT	25.06	9,023
Pipe insulation, 3/4" domestic water piping - allowance	360	LNFT	7.68	2,765
Sanitary/waste pipe, fittings, and supports, PVC, AG, 3"	80	LNFT	61.84	4,947
Vent pipe, fittings, and supports, PVC, AG, 2"	120	LNFT	46.06	5,527
Tie new domestic water piping into existing	2	EACH	633.44	1,267
Tie new sanitary/waste piping into existing	1	EACH	679.30	679
Tie new vent piping into existing	1	EACH	563.44	563
Slab cutting, excavation, bedding, backfill, and patching - UG piping	80	LNFT	92.27	7,382
Pipe and valve tagging	360	LNFT	1.12	405
<b>SUBTOTAL: Domestic Water, Waste &amp; Vent, &amp; Storm Drainage Piping</b>				<b>\$32,559</b>
<b>TOTAL: PLUMBING</b>				<b>\$34,690</b>

## 23000 HEATING VENTILATION & AIR CONDITIONING

<b>23200 Ventilation &amp; Exhaust</b>				
Variable air volume terminals w/HW reheat coil	3	EACH	1,096.20	3,289
Reheat coil connections, VAV - valves, fittings, and insulation	3	EACH	962.35	2,887
Registers, grilles and diffusers - allowance	1,454	SQFT	0.57	827
<b>SUBTOTAL: Ventilation &amp; Exhaust</b>				<b>\$7,003</b>
<b>23400 Heating &amp; Ventilating Terminals</b>				
Fintube radiators, HW - rework/replace existing	25	LNFT	142.47	3,562
<b>SUBTOTAL: Heating &amp; Ventilating Terminals</b>				<b>\$3,562</b>
<b>23500 HVAC Piping</b>				
HHWS/R pipe, type L copper pipe, fittings, and supports, 3/4"	90	LNFT	24.77	2,229
Pipe insulation, HHWS/R, 3/4"	90	LNFT	8.21	739
Pipe and valve tagging - interior bldg HVAC piping	90	LNFT	1.12	101
<b>SUBTOTAL: HVAC Piping</b>				<b>\$3,069</b>
<b>23600 Temperature Controls</b>				
DDC controls - VAV terminals w/reheat coil; zone controls w/radiators	3	EACH	3,000.00	9,000
Thermostats/temperature sensors	3	EACH	400.00	1,200
<b>SUBTOTAL: Temperature Controls</b>				<b>\$10,200</b>
<b>23700 Testing, Balancing, &amp; Commissioning</b>				
Clean and rebalance air systems	1	LSUM	3,000.00	3,000
<b>SUBTOTAL: Testing, Balancing, &amp; Commissioning</b>				<b>\$3,000</b>
<b>TOTAL: HEATING VENTILATION &amp; AIR CONDITIONING</b>				<b>\$26,834</b>

## 26000 ELECTRICAL

<b>26100 Selective Demolition</b>				
Selective demolition and removal	1	LSUM	2,644.68	2,645
<b>SUBTOTAL: Selective Demolition</b>				<b>\$2,645</b>
<b>26200 Main Power Distribution</b>				
Rework/Upgrade/Relabel existing panelboards	1	EACH	122.34	122
<b>SUBTOTAL: Main Power Distribution</b>				<b>\$122</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>26500 Lighting</b>				
Lighting System - Replace with new LED light fixtures throughout the building	1,454	SQFT	7.34	10,676
Reinstall decorative lights	6	EACH	433.61	2,602
Lighting System - Emergency and Exit Light fixtures including installation and hook up	1,454	SQFT	0.31	453
Lighting Control System - dual level, dimmed switching, occupancy sensors, daylight sensors - per narrative	1,454	SQFT	1.75	2,551
Lighting System - Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	1,454	SQFT	2.38	3,456
<b>26600 Branch Power Distribution &amp; Devices</b>				
Branch Power - Miscellaneous receptacles and electrical equipment hook up and associated conduit and wiring	1,454	SQFT	2.60	3,781
<b>SUBTOTAL: Lighting</b>				<b>\$19,739</b>
<b>SUBTOTAL: Branch Power Distribution &amp; Devices</b>				<b>\$3,781</b>
<b>TOTAL: ELECTRICAL</b>				<b>\$26,286</b>
<b>27000 COMMUNICATIONS</b>				
<b>27200 Tele/Data Systems</b>				
Telecommunication/Data & Television System, rough-in	1,454	SQFT	0.13	196
<b>SUBTOTAL: Tele/Data Systems</b>				<b>\$196</b>
<b>27600 Audio/Visual &amp; Television System</b>				
Audio/visual System, rough-in only	1,454	SQFT	1.04	1,517
<b>SUBTOTAL: Audio/Visual &amp; Television System</b>				<b>\$1,517</b>
<b>TOTAL: COMMUNICATIONS</b>				<b>\$1,713</b>
<b>28000 ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>28200 Fire Alarm Systems</b>				
Fire alarm System, upgrades per new layout	1,454	SQFT	0.22	326
<b>SUBTOTAL: Fire Alarm Systems</b>				<b>\$326</b>
<b>TOTAL: ELECTRONIC SAFETY &amp; SECURITY</b>				<b>\$326</b>
<b>TOTAL: PROJECT 3</b>				<b>\$209,425</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
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### PROJECT 4

#### 02000 EXISTING CONDITIONS

##### 02100 Selective Demolition

Remove interior window	6	EACH	223.65	1,342
Remove partition	602	SQFT	1.37	823
Remove ceiling	446	SQFT	0.86	383
Remove flooring	8,094	SQFT	1.19	9,655
Remove door and frame, single	3	EACH	112.79	338
Remove base cabinets & countertops	12	LNFT	26.51	318
Remove wall hung cabinets	12	LNFT	21.69	260
Remove countertops	5	LNFT	15.90	80
Create opening for single door in gypboard partition	1	EACH	1,009.54	1,010
Modify window opening for single door opening in gyp partition	1	EACH	1,410.06	1,410
Saw cut concrete slab on grade, at trench	118	LNFT	11.58	1,366
Remove and replace concrete slab on grade, at trench	114	SQFT	12.94	1,475
SUBTOTAL: Selective Demolition				\$18,459

##### 02800 Temporary Construction

Temporary partitions	238	SQFT	8.69	2,069
Temporary door, frame & hardware	1	EACH	1,454.03	1,454
Remove temporary partition	238	SQFT	2.01	477
Remove temporary door, frame & hardware	1	EACH	132.53	133
SUBTOTAL: Temporary Construction				\$4,132

#### TOTAL: EXISTING CONDITIONS

\$22,592

#### 03000 CONCRETE

##### 03900 Miscellaneous Concrete

Prep floor for new surface	8,020	SQFT	1.58	12,692
SUBTOTAL: Miscellaneous Concrete				\$12,692

#### TOTAL: CONCRETE

\$12,692

#### 06000 WOODS, PLASTICS & COMPOSITES

##### 06300 Millwork

P-lam work surface	8	LNFT	147.57	1,181
Wood cap at partial height partition	17	LNFT	80.90	1,375
SUBTOTAL: Millwork				\$2,556

##### 06900 Miscellaneous Woods, Plastics & Composites

Miscellaneous wood blocking & rough carpentry	8,124	SQFT	0.93	7,592
SUBTOTAL: Miscellaneous Woods, Plastics & Composites				\$7,592

#### TOTAL: WOODS, PLASTICS & COMPOSITES

\$10,148

#### 07000 THERMAL & MOISTURE PROTECTION

##### 07800 Caulking & Sealants

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Miscellaneous caulking & sealants	8,124	SQFT	0.14	1,136
SUBTOTAL: Caulking & Sealants				\$1,136
TOTAL: THERMAL & MOISTURE PROTECTION				
08000 OPENINGS				
08400 Interior Doors, Frames, & Hardware				
WD door w/ full lite, HM frame, & hardware, single	5	EACH	2,425.65	12,128
WD sliding door w/ full lite, HM frame, & hardware, single	2	EACH	3,010.78	6,022
SUBTOTAL: Interior Doors, Frames, & Hardware				\$18,150
08500 Interior Glazing				
Interior HM storefront	468	SQFT	50.16	23,475
SUBTOTAL: Interior Glazing				\$23,475
TOTAL: OPENINGS				
09000 FINISHES				
09100 Plaster & Gypsum Board				
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard each side, 3" batt insulation	996	SQFT	10.23	10,194
Gypboard partition; 3-5/8" metal studs full-height, (1) 5/8" gypboard one side, 3" batt insulation	165	SQFT	7.83	1,291
SUBTOTAL: Plaster & Gypsum Board				\$11,485
09200 Floor Finishes				
Wood base board	745	LNFT	6.28	4,680
Luxury vinyl tile	310	SQFT	8.86	2,748
Carpet tile	7,710	SQFT	4.96	38,251
SUBTOTAL: Floor Finishes				\$45,679
09400 Ceiling Finishes				
ACT system, 2'-0" x 2'-0"	341	SQFT	4.46	1,522
Wood ceiling, at cafe	101	SQFT	38.49	3,887
SUBTOTAL: Ceiling Finishes				\$5,409
09500 Acoustical Treatments				
Acoustical wall panels	293	SQFT	19.65	5,757
Acoustical ceiling panels	465	SQFT	20.86	9,699
SUBTOTAL: Acoustical Treatments				\$15,456
09600 Paints & Coatings				
Paint walls	6,531	SQFT	0.99	6,466
Paint ceiling/soffit	2,386	SQFT	1.23	2,937
SUBTOTAL: Paints & Coatings				\$9,403
TOTAL: FINISHES				
\$87,432				
10000 SPECIALTIES				
10200 Signage				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Interior signage - quantity allowance	6	EACH	113.97	684
<b>TOTAL: SPECIALTIES</b>			<b>SUBTOTAL: Signage</b>	<b>\$684</b>
<b>21000 FIRE SUPPRESSION</b>				
<b>21300 Sprinkler Heads &amp; Piping</b>				
Reconfigure existing wet sprinkler system for renovation/buildout	8,124	SQFT	2.98	24,231
<b>SUBTOTAL: Sprinkler Heads &amp; Piping</b>				<b>\$24,231</b>
<b>TOTAL: FIRE SUPPRESSION</b>				<b>\$24,231</b>
<b>23000 HEATING VENTILATION &amp; AIR CONDITIONING</b>				
<b>23100 Selective Demolition</b>				
Evac, disconnect and remove 30-ton air-cooled condensing unit	1	EACH	6,169.60	6,170
<b>SUBTOTAL: Selective Demolition</b>				<b>\$6,170</b>
<b>23200 Ventilation &amp; Exhaust</b>				
Retrofit new DX coil into existing AHU-1	1	EACH	8,169.60	8,170
Air-cooled condensing unit, 50 tons capacity, w/refrigerant charge	1	EACH	34,754.40	34,754
Refrigeration tubing, copper	100	LNFT	28.72	2,872
Pipe insulation, refrigeration piping	100	LNFT	10.32	1,032
Fan-powered terminals w/HW reheat coil	1	EACH	1,396.20	1,396
Reheat coil connections, FPB - valves, fittings, and insulation	1	EACH	962.35	962
Registers, grilles and diffusers - allowance	8,124	SQFT	0.57	4,622
<b>SUBTOTAL: Ventilation &amp; Exhaust</b>				<b>\$53,808</b>
<b>23400 Heating &amp; Ventilating Terminals</b>				
Fintube radiators, HW - rework/replace existing	70	LNFT	142.47	9,973
<b>SUBTOTAL: Heating &amp; Ventilating Terminals</b>				<b>\$9,973</b>
<b>23500 HVAC Piping</b>				
HHWS/R pipe, type L copper pipe, fittings, and supports, 3/4"	30	LNFT	24.77	743
Pipe insulation, HHWS/R, 3/4"	30	LNFT	8.21	246
Pipe and valve tagging - interior bldg HVAC piping	30	LNFT	1.12	34
<b>SUBTOTAL: HVAC Piping</b>				<b>\$1,023</b>
<b>23600 Temperature Controls</b>				
DDC controls - air-cooled condensing units	1	EACH	3,000.00	3,000
DDC controls - FPB terminals w/reheat coil; zone controls w/radiators	1	EACH	3,000.00	3,000
Thermostats/temperature sensors	1	EACH	400.00	400
CO2 sensors	2	EACH	400.00	800
<b>SUBTOTAL: Temperature Controls</b>				<b>\$7,200</b>
<b>23700 Testing, Balancing, &amp; Commissioning</b>				
Clean and rebalance air systems	1	LSUM	15,000.00	15,000
<b>SUBTOTAL: Testing, Balancing, &amp; Commissioning</b>				<b>\$15,000</b>
<b>TOTAL: HEATING VENTILATION &amp; AIR CONDITIONING</b>				<b>\$93,173</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>26000 ELECTRICAL</b>				
<b>26100 Selective Demolition</b>				
Selective demolition and removal	1	LSUM	3,713.52	3,714
<b>SUBTOTAL: Selective Demolition</b>				<b>\$3,714</b>
<b>26200 Main Power Distribution</b>				
Rework/Upgrade/Relabel existing panelboards	1	EACH	244.69	245
<b>SUBTOTAL: Main Power Distribution</b>				<b>\$245</b>
<b>26500 Lighting</b>				
Lighting System - Replace with new LED light fixtures throughout the building - per narrative	8,124	SQFT	7.34	59,652
Replace decorative lights	4	EACH	1,978.14	7,913
Lighting System - Emergency and Exit Light fixtures including installation and hook up	8,124	SQFT	0.31	2,533
Lighting Control System - dual level, dimmed switching, occupancy sensors, daylight sensors - per narrative	8,124	SQFT	1.75	14,256
Lighting System - Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	8,124	SQFT	2.38	19,310
<b>SUBTOTAL: Lighting</b>				<b>\$103,664</b>
<b>26600 Branch Power Distribution &amp; Devices</b>				
Branch Power - Miscellaneous receptacles and electrical equipment hook up and associated conduit and wiring	8,124	SQFT	0.87	7,041
<b>SUBTOTAL: Branch Power Distribution &amp; Devices</b>				<b>\$7,041</b>
<b>26700 Mechanical Equipment Connections &amp; Feeders</b>				
Motors connection, disconnect switches and associated feeders - Air-cooled condensing unit, 50 tons	1	EACH	4,750.00	4,750
Motors connection, disconnect switches and associated feeders - Fan-powered terminals	1	EACH	550.00	550
<b>SUBTOTAL: Mechanical Equipment Connections &amp; Feeders</b>				<b>\$5,300</b>
<b>TOTAL: ELECTRICAL</b>				<b>\$119,963</b>
<b>27000 COMMUNICATIONS</b>				
<b>27200 Tele/Data Systems</b>				
Telecommunication/Data & Television System, rough-in	8,124	SQFT	0.27	2,187
<b>SUBTOTAL: Tele/Data Systems</b>				<b>\$2,187</b>
<b>27600 Audio/Visual &amp; Television System</b>				
Audio/visual System, rough-in only	8,124	SQFT	0.67	5,425
<b>SUBTOTAL: Audio/Visual &amp; Television System</b>				<b>\$5,425</b>
<b>TOTAL: COMMUNICATIONS</b>				<b>\$7,612</b>
<b>28000 ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>28200 Fire Alarm Systems</b>				
Fire alarm System, upgrades per new layout	8,124	SQFT	0.22	1,821



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Fire Alarm Systems				\$1,821
TOTAL: ELECTRONIC SAFETY & SECURITY				\$1,821
TOTAL: PROJECT 4				\$423,109

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>PROJECT 5</b>				
<b>02000 EXISTING CONDITIONS</b>				
<b>02100 Selective Demolition</b>				
Remove exterior storefront	208	SQFT	5.30	1,103
Remove flooring	3,055	SQFT	1.19	3,644
Remove and salvage exterior storefront door, double	1	EACH	187.99	188
<b>SUBTOTAL: Selective Demolition</b>				<b>\$4,935</b>
<b>TOTAL: EXISTING CONDITIONS</b>				
<b>03000 CONCRETE</b>				
<b>03900 Miscellaneous Concrete</b>				
Prep floor for new surface	3,038	SQFT	1.58	4,808
<b>SUBTOTAL: Miscellaneous Concrete</b>				<b>\$4,808</b>
<b>TOTAL: CONCRETE</b>				
<b>06000 WOODS, PLASTICS &amp; COMPOSITES</b>				
<b>06900 Miscellaneous Woods, Plastics &amp; Composites</b>				
Miscellaneous wood blocking & rough carpentry	3,055	SQFT	0.93	2,855
<b>SUBTOTAL: Miscellaneous Woods, Plastics &amp; Composites</b>				<b>\$2,855</b>
<b>TOTAL: WOODS, PLASTICS &amp; COMPOSITES</b>				
<b>07000 THERMAL &amp; MOISTURE PROTECTION</b>				
<b>07800 Caulking &amp; Sealants</b>				
Miscellaneous caulking & sealants	3,055	SQFT	0.14	427
<b>SUBTOTAL: Caulking &amp; Sealants</b>				<b>\$427</b>
<b>TOTAL: THERMAL &amp; MOISTURE PROTECTION</b>				
<b>08000 OPENINGS</b>				
<b>08200 Curtainwall &amp; Storefront</b>				
Exterior storefront	208	SQFT	79.44	16,524
<b>SUBTOTAL: Curtainwall &amp; Storefront</b>				<b>\$16,524</b>
<b>08300 Exterior Doors, Frames, &amp; Hardware</b>				
Reinstall salvaged AL/GL door & hardware, double	1	EACH	681.04	681
<b>SUBTOTAL: Exterior Doors, Frames, &amp; Hardware</b>				<b>\$681</b>
<b>08400 Interior Doors, Frames, &amp; Hardware</b>				
WD door w/ full lite, HM frame, & hardware, single	1	EACH	2,425.65	2,426
<b>SUBTOTAL: Interior Doors, Frames, &amp; Hardware</b>				<b>\$2,426</b>
<b>08500 Interior Glazing</b>				
Interior HM storefront	155	SQFT	50.16	7,775
<b>SUBTOTAL: Interior Glazing</b>				<b>\$7,775</b>
<b>TOTAL: OPENINGS</b>				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>09000 FINISHES</b>				
<b>09100 Plaster &amp; Gypsum Board</b>				
Premium for Level 5 finish	125	SQFT	2.33	291
<b>SUBTOTAL: Plaster &amp; Gypsum Board</b>				<b>\$291</b>
<b>09200 Floor Finishes</b>				
Wood base board	252	LNFT	6.28	1,583
Carpet tile	3,038	SQFT	4.96	15,072
<b>SUBTOTAL: Floor Finishes</b>				<b>\$16,655</b>
<b>09600 Paints &amp; Coatings</b>				
Paint walls	2,193	SQFT	0.99	2,171
Blackboard wall paint	125	SQFT	8.29	1,036
<b>SUBTOTAL: Paints &amp; Coatings</b>				<b>\$3,208</b>
<b>TOTAL: FINISHES</b>				<b>\$20,154</b>
<b>10000 SPECIALTIES</b>				
<b>10200 Signage</b>				
Interior signage - quantity allowance	5	EACH	113.97	570
<b>SUBTOTAL: Signage</b>				<b>\$570</b>
<b>TOTAL: SPECIALTIES</b>				<b>\$570</b>
<b>21000 FIRE SUPPRESSION</b>				
<b>21300 Sprinkler Heads &amp; Piping</b>				
Reconfigure existing wet sprinkler system for renovation/buildout	3,055	SQFT	2.98	9,112
<b>SUBTOTAL: Sprinkler Heads &amp; Piping</b>				<b>\$9,112</b>
<b>TOTAL: FIRE SUPPRESSION</b>				<b>\$9,112</b>
<b>23000 HEATING VENTILATION &amp; AIR CONDITIONING</b>				
<b>23200 Ventilation &amp; Exhaust</b>				
Registers, grilles and diffusers - allowance	3,055	SQFT	0.57	1,738
<b>SUBTOTAL: Ventilation &amp; Exhaust</b>				<b>\$1,738</b>
<b>23400 Heating &amp; Ventilating Terminals</b>				
Fintube radiators, HW - rework/replace existing	20	LNFT	142.47	2,849
<b>SUBTOTAL: Heating &amp; Ventilating Terminals</b>				<b>\$2,849</b>
<b>23600 Temperature Controls</b>				
DDC controls - Rework/rezone/combine VAV controls w/radiators	1	EACH	3,000.00	3,000
<b>SUBTOTAL: Temperature Controls</b>				<b>\$3,000</b>
<b>23700 Testing, Balancing, &amp; Commissioning</b>				
Clean and rebalance air systems	1	LSUM	5,000.00	5,000
<b>SUBTOTAL: Testing, Balancing, &amp; Commissioning</b>				<b>\$5,000</b>
<b>TOTAL: HEATING VENTILATION &amp; AIR CONDITIONING</b>				<b>\$12,587</b>

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
<b>26000 ELECTRICAL</b>				
<b>26100 Selective Demolition</b> Selective demolition and removal	1	LSUM	2,644.68	2,645
	<b>SUBTOTAL: Selective Demolition</b>			<b>\$2,645</b>
<b>26200 Main Power Distribution</b> Rework/Upgrade/Relabel existing panelboards	1	EACH	122.34	122
	<b>SUBTOTAL: Main Power Distribution</b>			<b>\$122</b>
<b>26500 Lighting</b> Lighting System - Replace with new LED light fixtures throughout the building - per narrative	3,055	SQFT	7.34	22,432
Lighting System - Emergency and Exit Light fixtures including installation and hook up	3,055	SQFT	0.31	953
Lighting Control System - dual level, dimmed switching, occupancy sensors, daylight sensors - per narrative	3,055	SQFT	1.75	5,361
	<b>SUBTOTAL: Lighting</b>			<b>\$28,745</b>
<b>TOTAL: ELECTRICAL</b>				<b>\$31,512</b>
<b>27000 COMMUNICATIONS</b>				
<b>27200 Tele/Data Systems</b> Telecommunication/Data & Television System, rough-in	3,055	SQFT	0.13	411
	<b>SUBTOTAL: Tele/Data Systems</b>			<b>\$411</b>
<b>TOTAL: COMMUNICATIONS</b>				<b>\$411</b>
<b>28000 ELECTRONIC SAFETY &amp; SECURITY</b>				
<b>28200 Fire Alarm Systems</b> Fire alarm System, upgrades per new layout	3,055	SQFT	0.22	685
	<b>SUBTOTAL: Fire Alarm Systems</b>			<b>\$685</b>
<b>TOTAL: ELECTRONIC SAFETY &amp; SECURITY</b>				<b>\$685</b>
<b>TOTAL: PROJECT 5</b>				<b>\$115,462</b>

# Mukwonago Community Library

SD Phase Furniture Estimate by Program Area

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<b>1</b>	<b>SD TOTAL:</b>		<b>60620</b>
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<b>CAFE/LOUNGE</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-06..	ONE-SEAT LOUNGE.....	1	1800.....1800
CH-07..	THREE-SEAT LOUNGE.....	2	3000.....6000
B-05.....	MEDIUM BENCH.....	1	1000.....1000
CH-01..	STUDY CHAIR AS.....	4	400.....1600
JB-01..	2P TABLE.....	2	700.....1400
CH-05..	LOUNGE CHAIR.....	1	1300.....1300
<b>RoomTotals:</b>			<b>13100</b>

<b>MEETING ROOM 1</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-03..	STACKING CHAIR.....	120	180.....21600
JB-03..	FLIP TOP TABLE.....	12	900.....10800
<b>RoomTotals:</b>			<b>32400</b>

<b>MEETING ROOM 2</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-03..	STACKING CHAIR.....	12	180.....2160
JB-03..	FLIP TOP TABLE.....	6	900.....5400
<b>RoomTotals:</b>			<b>7560</b>

<b>MEETING ROOM 3</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-03..	STACKING CHAIR.....	12	180.....2160
JB-03..	FLIP TOP TABLE.....	6	900.....5400
<b>RoomTotals:</b>			<b>7560</b>

<b>2A</b>	<b>SD TOTAL:</b>		<b>78450</b>
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<b>KID'S WORKROOM</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-04..	TASK CHAIR.....	1	500.....500
WK-01..	L WORKSTATION.....	1	4000.....4000
JB-02..	4P TABLE.....	1	1000.....1000
<b>RoomTotals:</b>			<b>5500</b>

<b>STAFF HELP DESK AREA</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-04..	TASK CHAIR.....	2	500.....1000
JB-07..	ROUND OCCASIONAL TABLE.....	1	850.....850
DSK-01	CIRCULATION DESK.....	1	40000.....40000
CH-05..	LOUNGE CHAIR.....	2	1300.....2600
<b>RoomTotals:</b>			<b>44450</b>

<b>STAFF WORKROOM</b>		<b>SD ESTIMATE</b>	
<b>Code</b>	<b>Item</b>	<b>Qty</b>	<b>Unit Price Extension</b>
CH-04..	TASK CHAIR.....	9	500.....4500
WK-01..	L WORKSTATION.....	6	4000.....24000
<b>RoomTotals:</b>			<b>28500</b>

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<b>2B</b>	<b>SD TOTAL:</b>
	173950

<b>CHILDREN'S COLLECTIONS</b>			<b>SD ESTIMATE</b>		
<b>Code</b>	<b>Item</b>	<b>Prog Qty</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Extension</b>
CH-02...	STUDY CHAIR.YS.....		6	100	600
JB-01...	2P TABLE.....		3	700	2100
JB-05...	COMPUTER TABLE.YS.....		1	1800	1800
R-01.....	OTTOMAN.YS.....		32	750	24000
CH-05...	LOUNGE CHAIR.....		11	1300	14300
JB-07...	ROUND OCCASIONAL TABLE.....		2	850	1700
R-04.....	LARGE BENCH.....		2	1300	2600
INT-01...	INTERACTIVE 1.....		2	10000	20000
INT-02...	INTERACTIVE 2.....		1	10000	10000
INT-03...	INTERACTIVE 3.....		1	10000	10000
INT-04...	INTERACTIVE 4.....		1	10000	10000
BB-01...	BOOK BIN.....		12	2000	24000
DIS-01...	DISPLAY.....		3	2000	6000
SH-03...	SHELF A-FRAME 42" MEDIA.....		10	1550	15500
<b>RoomTotals:</b>					<b>142600</b>

<b>LOBBY</b>			<b>SD ESTIMATE</b>		
<b>Code</b>	<b>Item</b>	<b>Prog Qty</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Extension</b>
R-04.....	LARGE BENCH.....		2	1300	2600
<b>RoomTotals:</b>					<b>2600</b>

<b>TEENS</b>			<b>SD ESTIMATE</b>		
<b>Code</b>	<b>Item</b>	<b>Prog Qty</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Extension</b>
JB-02...	4P TABLE.....		1	1000	1000
CH-01...	STUDY CHAIR.AS.....		3	400	1200
JB-01...	2P TABLE.....		3	700	2100
R-02.....	OTTOMAN.TEEN.....		15	750	11250
CH-07...	THREE-SEAT LOUNGE.....		2	3000	6000
SH-02...	SHELF D.F. 66".....		12	600	7200
<b>RoomTotals:</b>					<b>28750</b>

<b>3</b>	<b>SD TOTAL:</b>
	34850

<b>2P STUDY E-68</b>			<b>SD ESTIMATE</b>		
<b>Code</b>	<b>Item</b>	<b>Prog Qty</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Extension</b>
CH-01...	STUDY CHAIR.AS.....		2	400	800
JB-01...	2P TABLE.....		1	700	700
<b>RoomTotals:</b>					<b>1500</b>

<b>2P STUDY E-69</b>			<b>SD ESTIMATE</b>		
<b>Code</b>	<b>Item</b>	<b>Prog Qty</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Extension</b>
CH-01...	STUDY CHAIR.AS.....		2	400	800
JB-01...	2P TABLE.....		1	700	700
<b>RoomTotals:</b>					<b>1500</b>

<b>AUDIO STUDIO</b>			<b>SD ESTIMATE</b>		
<b>Code</b>	<b>Item</b>	<b>Prog Qty</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Extension</b>
CH-01...	STUDY CHAIR.AS.....		1	400	400

# Mukwonago Community Library

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RoomTotals: 400

<u>META SPACE 511</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	26	400	10400
TR-02	4P TABLE	.....	6	1000	6000
B-01	OTTOMAN.YS	.....	3	750	2250
RoomTotals:					18650

<u>SCHOOL AGE</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
B-05	MEDIUM BENCH	.....	1	1000	1000
B-01	OTTOMAN.YS	.....	6	750	4500
TR-01	2P TABLE	.....	2	700	1400
CH-02	STUDY CHAIR.YS	.....	4	100	400
CH-05	LOUNGE CHAIR	.....	2	1300	2600
CH-06	ONE-SEAT LOUNGE	.....	1	1800	1800
RoomTotals:					11700

<u>VIDEO STUDIO</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	1	400	400
TR-01	2P TABLE	.....	1	700	700
RoomTotals:					1100

<u>4</u>			<u>SD TOTAL:</u>		
					101600

<u>2P STUDY E-95</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	2	400	800
TR-01	2P TABLE	.....	1	700	700
RoomTotals:					1500

<u>2P STUDY E-96</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	2	400	800
TR-01	2P TABLE	.....	1	700	700
RoomTotals:					1500

<u>4P STUDY E-93</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	4	400	1600
TR-02	4P TABLE	.....	1	1000	1000
RoomTotals:					2600

<u>4P STUDY E-94</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	4	400	1600
TR-02	4P TABLE	.....	1	1000	1000
RoomTotals:					2600

<u>ADULT COLLECTIONS</u>			<u>SD ESTIMATE</u>		
Code	Item	Prog Qty	Qty	Unit Price	Extension
CH-01	STUDY CHAIR.AS	.....	36	400	14400

# Mukwonago Community Library

## SD Phase Furniture Estimate by Program Area

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### Engberg Anderson Design Partnership Project No. 193008

IB-01...2P.TABLE.....	8	700	.....	5600
IB-02...4P.TABLE.....	1	1000	.....	1000
IB-04...COMPUTER.TABLE.AS.....	4	2000	.....	8000
CH-05...LOUNGE.CHAIR.....	11	1300	.....	14300
B-03...OTTOMAN.AS.....	6	850	.....	5100
SH-01...SHELF.A.FRAME.42".....	10	1550	.....	15500
IB-06...SIDE.TABLE.....	7	350	.....	2450
DSK-02.HELP.DESK.....	1	6500	.....	6500
RoomTotals:				72850

#### LOCAL HISTORY

Code	Item	Prog Qty	SD ESTIMATE		
			Qty	Unit Price	Extension
CH-01...	STUDY.CHAIR.AS.....		8	400	3200
IB-02...	4P.TABLE.....		1	1000	1000
RoomTotals:					4200

#### QUIET

Code	Item	Prog Qty	SD ESTIMATE		
			Qty	Unit Price	Extension
CH-01...	STUDY.CHAIR.AS.....		12	400	4800
IB-01...	2P.TABLE.....		2	700	1400
IB-02...	4P.TABLE.....		2	1000	2000
CH-05...	LOUNGE.CHAIR.....		6	1300	7800
IB-06...	SIDE.TABLE.....		1	350	350
RoomTotals:					16350

5	SD TOTAL:	1600
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#### KID'S STUDY

Code	Item	Prog Qty	SD ESTIMATE		
			Qty	Unit Price	Extension
CH-02...	STUDY.CHAIR.YS.....		6	100	600
IB-02...	4P.TABLE.....		1	1000	1000
RoomTotals:					1600

Grand Totals:	SD Est.	451070
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# Mukwonago Community Library Space Needs Analysis and Study

## Appendix 4: Select Meeting Minutes

March 12, 2020

Prepared with the assistance of  
Engberg Anderson Architects



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September 18, 2019

## WORKSHOP 1 | STAFF INPUT

Space Needs Analysis and Design Study | Mukwonago Community Library  
Engberg Anderson Project No. 193008

DATE & TIME May 13, 2019  
LOCATION Mukwonago Community Library  
ATTENDEES Library Staff

Item	Description
1	<p>What unique programs and services are offered at the Library?</p> <ul style="list-style-type: none"> <li>• Thingery – need to design a way to display and store diverse collection</li> <li>• Teens – STEM and IT Academies</li> <li>• Senior programs, nowhere else to go, Bluegrass and Movies</li> <li>• Children's area is where parents meet other parents, lots of activity, becomes too loud.</li> <li>• Booths are very popular for adults, more comfortable for working.</li> <li>• Reference librarians consult at desk for privacy, sound is an issue.</li> </ul>
2	<p>What are the needs for meeting space, gathering areas, study and collaboration space?</p> <ul style="list-style-type: none"> <li>• Need more study spaces: 1-2 people, groups of 4 (teens playing games)</li> <li>• Conference Rooms for 12-14, current partitioned spaces are awkward, no windows.</li> <li>• Friday movie typically 30-40, can be up to 70 people.</li> <li>• Bluegrass Jam – 100 people</li> <li>• Indoor Farmers Market</li> </ul>
3	<p>What is impact of evolving technology on collections?</p> <ul style="list-style-type: none"> <li>• Serendipity of browsing</li> <li>• Balance between size of collection and ease of browsing</li> <li>• Some weeding, some depth, some breadth</li> <li>• Note a warehouse, but collections are visible, showcased</li> <li>• ILL reduces need for broad collection</li> </ul>
4	<p>A primary challenge will be building a shared understanding of library service. The group identified anticipated changes based on emerging technologies:</p> <ul style="list-style-type: none"> <li>• Engage the public</li> <li>• Service by walking around</li> <li>• Get staff on floor</li> <li>• Fewer closed in offices</li> </ul>

Item	Description
5	<p>Overview of library collections, what is growing or shrinking?</p> <ul style="list-style-type: none"> <li>• The book collection is important</li> <li>• The AV collection is circulating less, streaming is displacing the need for physical items</li> <li>• The Thingery is growing</li> <li>• Nonfiction could be weeded more</li> <li>• Face out displays should be used more</li> </ul>
6	<p>Describe the future library</p> <ul style="list-style-type: none"> <li>• Friendly, pretty, no crazy colors.</li> <li>• Open with natural light.</li> <li>• Full of activity but also meets expectations of those seeking quiet.</li> <li>• Zones of technology for kids so parents can avoid if desired.</li> </ul>
7	<p>Other thoughts:</p> <ul style="list-style-type: none"> <li>• Children's area could use interactives for infants; sensory area</li> <li>• Children's area needs a Story Hour Room</li> <li>• Meta Space could use separate zones for Art (messy) and Technology (clean), cross advertising and project display spaces with relevant books.</li> <li>• Desks are too long, check in should be able to see desks, distance between reference and circ desk is too great.</li> <li>• Computer area needs space for one on one training, assistance with job searches, resumes, job applications.</li> <li>• The program spaces should be entered from the library.</li> <li>•</li> </ul>

These meeting minutes constitute the author's understanding of the issues discussed and the decisions reached.  
Please contact the undersigned with any additions, deletions or changes.

Prepared by

**Alexandra Ramsey, AIA**  
Partner

September 18, 2019

## WORKSHOP 1 | COMMUNITY MEETING

Space Needs Analysis and Design Study | Mukwonago Community Library  
Engberg Anderson Project No. 193008

DATE & TIME May 13, 2019  
LOCATION Mukwonago Community Library  
ATTENDEES Community Members

Item	Description
1	<p><b>GUIDEBOOK ENTRY</b></p> <p>The assembled group made the following comments when asked to describe the Mukwonago community served by the library:</p> <ul style="list-style-type: none"> <li>• Mukwonago is a small town, and growing.</li> <li>• It is family oriented, organizations and activities</li> <li>• It has a rural atmosphere</li> <li>• It is welcoming</li> <li>• The Chamber sponsors events</li> </ul>
2	<p><b>LIBRARY BIOGRAPHY</b></p> <p>The group identified the following primary user groups of the library:</p> <ul style="list-style-type: none"> <li>• Young families, 40 toddlers at a time for programs</li> <li>• Students both using and working in Meta Space</li> <li>• People who know about the Library</li> <li>• Retirees, attend Bluegrass Jam</li> </ul> <p>The group identified opportunities to grow the audience:</p> <ul style="list-style-type: none"> <li>• The libraries funding formula is based on items circulated, not including digital downloads. It would be more equitable if based on door counts.</li> <li>• Community groups need places to meet</li> <li>• Special needs groups could use programs or could volunteer</li> <li>• The library should partner with churches or middle schools.</li> </ul>

3	<p>KEEP – Aspects of the current library that should be maintained in the future library:</p> <ul style="list-style-type: none"> <li>• Meta-Space, could be expanded</li> <li>• Community Room, could be twice as large</li> <li>• Parking, could use more</li> <li>• Magazines and Newspapers in print, if available</li> </ul> <p>TOSS – These aspects of the library should be removed</p> <ul style="list-style-type: none"> <li>• Drive up too difficult, replace with drop off box</li> <li>• The way sound travels throughout the library.</li> </ul> <p>CREATE – These should be included in the future library:</p> <ul style="list-style-type: none"> <li>• Teen cultural arts show</li> <li>• Memory care programming</li> <li>• New books display, showing cover art</li> <li>• Commercial kitchen, production for Farmers Market</li> <li>• Private collaborative spaces, video conferencing</li> <li>• Outdoor pavilion</li> </ul>
6	<p>HEADLINES:</p> <p>At the end of the project, what will the headlines read announcing the plan?</p> <ul style="list-style-type: none"> <li>• Library Better Serves Community</li> <li>• Bring Library Into the Future</li> <li>• This is Our Library</li> <li>• Library is Center for Community Education</li> <li>• The Library Welcomes Bored Teenagers</li> </ul>

These meeting minutes constitute the author's understanding of the issues discussed and the decisions reached.  
Please contact the undersigned with any additions, deletions or changes.

Prepared by

**Alexandra Ramsey, AIA**  
Partner

September 18, 2019

## KICK-OFF MEETING | SUMMARY

Space Needs Analysis and Design Study | Mukwonago Community Library  
Engberg Anderson Project No. 193008

DATE & TIME April 9, 2019  
LOCATION Mukwonago Community Library  
ATTENDEES Library Board of Trustees

Item	Description
1	<p><b>GUIDEBOOK ENTRY</b></p> <p>The assembled group made the following comments when asked to describe the Mukwonago community served by the library:</p> <ul style="list-style-type: none"> <li>• The village is growing, 5-7,000 residents in the last 10 years.</li> <li>• The community is adding retail, industry, health care, a new high school.</li> <li>• Follow the kids, big district, part of community</li> <li>• The community feels self-sustaining</li> <li>• The community seems to be getting younger</li> <li>• There are lots of activities; sports and music as examples</li> <li>• It is a close knit community, particularly in the Village</li> <li>• It has small town feel – want to keep it, can it be done?</li> <li>• The Library should be unifier of diverse neighborhoods</li> <li>• Synergies with school district are important, Sunday hours</li> <li>• Library contributes to the quality of life for seniors, keep people active, few other options</li> <li>• The library as community center, none other in Mukwonago.</li> </ul>
2	<p><b>LIBRARY BIOGRAPHY</b></p> <p>The group identified the following primary user groups of the library:</p> <ul style="list-style-type: none"> <li>• Families &amp; Youth (Shake Rattle and Roll)</li> <li>• Teens – Target audience in strategic plan, HS interns in Meta Center</li> <li>• Seniors</li> <li>• Home schoolers</li> <li>• Library Programs (Movies, Winter Farmers Market, Bluegrass Jam)</li> <li>• Try to accommodate outside groups (Scouts, Home Owners Associations)</li> </ul> <p>It was noted that other meeting spaces in the community include the Village Hall, a bank, the hospital, the YMCA and churches.</p>

3	<p>KEEP</p> <ul style="list-style-type: none"> <li>• Self-check stations</li> <li>• Customer service focus</li> <li>• Study Rooms – add more</li> <li>• Program Room – make larger</li> <li>• Pop-up and Open space programs</li> </ul> <p>TOSS</p> <ul style="list-style-type: none"> <li>• All staff desks look too big, too much space for circulation, underutilized</li> <li>• Small rooms as part of large program room are not useful sizes</li> <li>• Lighting in program room</li> <li>• Acoustic migration between kids and adults</li> </ul> <p>CREATE</p> <ul style="list-style-type: none"> <li>• Welcoming (less intimidating) atmosphere</li> <li>• Connection between program spaces to the rest of the library</li> <li>• Integration of books with other types of learning in kids</li> <li>• Story Time Room</li> <li>• Service desk that promotes interaction</li> <li>• Roving reference</li> <li>• Use professional staff for value added activities</li> <li>• Outdoor programming space</li> <li>• Local history area – oral history, digitization, local research, welcoming</li> <li>• Shared vision of library service</li> </ul>
4	<p>HEADLINES:</p> <p>At the end of the project, what will the headlines read announcing the plan?</p> <ul style="list-style-type: none"> <li>• Library Listens: Gives Community What It Asked For</li> <li>• Responding to Needs</li> <li>• A Great Adventure</li> <li>• Didn't They Just Build That?</li> <li>• Plan Makes Use of Existing Space</li> </ul>

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Please contact the undersigned with any additions, deletions or changes.

Prepared by

**Alexandra Ramsey, AIA**  
Partner



## MEETING NOTES | Workshop 2

Mukwonago Community Library | Mukwonago, WI  
Engberg Anderson Project No. 193008

DATE & TIME    **September 19, 2019**  
LOCATION        Mukwonago Community Library  
PRESENT:       Library Staff  
                    Mukwonago Community  
                    Mukwonago Board  
                    Engberg Anderson Architects

Item	Description
1	<p><b>STAFF PRESENTATION at 10:00 am – 11:30 am:</b></p> <p>Engberg Anderson began with a brief Inventory analysis of the current state of the Mukwonago Community Library followed by a comparison with proposed space allocation by use and area. Engberg Anderson highlighted several site constraints that will prohibit areas of future expansion on the existing site.</p> <ul style="list-style-type: none"><li>• Existing Sanitary Sewer Line (West side of building)</li><li>• Storm Water Detention Areas (Southwest and North sides of building)</li><li>• Electrical Transformer (South side of building)</li><li>• Drive-up Book Drop (South side of building)</li></ul> <p>Engberg Anderson highlighted three areas of potential future expansion.</p> <ul style="list-style-type: none"><li>• 4,685 sf at west side of building</li><li>• 3,276 sf at east side of building</li></ul> <p>Engberg Anderson outlined and received feedback on staff functions and programmatic space requirements before walking the staff through one renovation option and two expansion options.</p> <p><b>GENERAL STAFF - COMMENTS:</b></p> <ul style="list-style-type: none"><li>• Drive-up book drop is heavily used and valued by community</li><li>• Existing book room acts as storage for everyday use items</li><li>• Maintain designated staff restroom</li><li>• Staff will consider single concentrated staff area vs. split staff areas for patron supervision</li><li>• Desire to optimize basement storage to allow for more space on Level one for public use</li><li>• Maintain Local History Space (microfilm, memory lab)<ul style="list-style-type: none"><li>○ Accommodate groups up to 15</li></ul></li></ul>

Item	Description
	<ul style="list-style-type: none"> <li>• Locate kids play area near Circ desk for staff supervision</li> <li>• Maintain seating by windows</li> <li>• Provide parent waiting zone adjacent craft/story room</li> <li>• Provide access to park at SW corner of building</li> <li>• Create meeting room at existing secondary entry vestibule</li> <li>• New Local History Room in existing Meta Space location</li> <li>• Pull Meta Space closer to main entry for greater visibility and access</li> <li>• Accommodate older users who seek quiet reading spaces within short travel distances</li> </ul> <p><b>RENOVATION PLAN - COMMENTS:</b></p> <ul style="list-style-type: none"> <li>• Rotate teen stacks for lines of sight to teen lounge</li> <li>• Where will Local History be located?</li> <li>• Add staff “outpost” near teen area for supervision</li> </ul> <p><b>EXPANSION PLANS A &amp; B - COMMENTS:</b></p> <ul style="list-style-type: none"> <li>• Segregate teen area from adult lounge</li> <li>• Make Teen Tech and Teen Study adjacent spaces</li> <li>• Bring teens closer to front of library for staff supervision</li> <li>• Additional staff “outpost” areas desired</li> </ul>
2	<p><b>PUBLIC MEETING #1 - 12:00 pm – 1:00 pm:</b></p> <p>Engberg Anderson provided a brief Inventory analysis of the current state of the Mukwonago Community Library followed by a comparison with proposed space allocation by use and area. Several site constraints were identified that will prohibit future expansion on the existing site. One renovation option and two expansion options were presented for consideration.</p> <p>Using colored boxes representing the required square footages of each program space, overlaid on the floor plan, EAA brainstormed alternate layouts for the new library spaces with attendees.</p> <p><b>SPACE PLANNING DISCUSSION &amp; COMMENTS:</b></p> <ul style="list-style-type: none"> <li>• Consideration for Program spaces in the back of the library with adult collection near the entry (despite drawbacks, i.e. no after hour use, excessive foot traffic, equipment hauling, etc.)</li> <li>• Story/craft room (with designated storage area) adjacent to the restrooms</li> <li>• Active play area in existing Meta Space (open to library or with entry doors)</li> <li>• Craft room is required to be an enclosed space <ul style="list-style-type: none"> <li>◦ Storytime could take place on Library floor (not in a designated enclosed room)</li> </ul> </li> <li>• Doors could be added to allow for large program space to spill outside at East side of building</li> <li>• Where are tweens located?</li> <li>• Desire for larger Multi-purpose room than current space provides</li> <li>• Children’s area adjacency to playground on North side of the Library</li> <li>• Teens and Children’s areas on North side, Adults on south side, Meta Space front and center</li> <li>• Use of Demonstration Kitchen as supplemental income for the Library?</li> </ul>

Item	Description
3	<p><b>PUBLIC MEETING #2 - 4:00 pm – 5:30 pm:</b></p> <p>Engberg Anderson provided a brief Inventory analysis of the current state of the Mukwonago Community Library followed by a comparison with proposed space allocation by use and area. Several site constraints were identified that will prohibit future expansion on the existing site. EAA presented three revised concept sketches in taking into consideration comments from the staff and public meetings earlier in the day.</p> <p><b>DISCUSSION &amp; COMMENTS:</b></p> <ul style="list-style-type: none"> <li>• Doors are desirable at current Meta Space for best acoustic isolation (regardless of future use)</li> <li>• Multi-purpose room should remain in current location for after hour use</li> <li>• New Meta space desired close to Library entry for access &amp; visibility <ul style="list-style-type: none"> <li>○ New Meta Space originally planned for at existing curved glass area to take advantage of taller ceiling height and visibility from Library entry</li> <li>○ Some patrons prefer to maintain the existing seating area at the curved glass</li> </ul> </li> <li>• Connection of large multi-purpose space to craft/ storytime spaces is beneficial for shared use</li> <li>• Concept Plan B - Meeting rooms opening to Children's area is preferred</li> <li>• Maintain existing Multi-purpose room but add approximately 5'-0" to existing meeting rooms to optimize the room proportions</li> <li>• Desire for further exploration of patio door concept connecting multi-purpose room to the exterior of the library <ul style="list-style-type: none"> <li>○ Fencing required for material security?</li> <li>○ Open doors with heating &amp; cooling systems?</li> <li>○ Open doors and insects?</li> <li>○ Permeable paving for rainwater detention?</li> </ul> </li> </ul>
4	<p><b>LIBRARY BOARD PRESENTATION – 5:30pm - 6:00 pm:</b></p> <p>Engberg Anderson provided a brief Inventory analysis of the current state of the Mukwonago Community Library followed by a comparison with proposed space allocation by use and area. Several site constraints were identified that will prohibit future expansion on the existing site. EAA presented three revised concept sketches in taking into consideration comments from the staff and public meetings earlier in the day.</p> <p><b>DISCUSSION &amp; COMMENTS:</b></p> <ul style="list-style-type: none"> <li>• Acknowledgment that the staff has a level of expertise within the Library that should be given special consideration above patron preference</li> <li>• A shortened path for kids to reach their area is preferred</li> <li>• Concept B is the preferred option by the Board</li> </ul>

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Prepared by

**Alex Ramsey, AIA**



## MEETING NOTES | Workshop 3

Mukwonago Community Library | Mukwonago, WI  
Engberg Anderson Project No. 193008

DATE & TIME    **November 14, 2019**  
LOCATION        Mukwonago Community Library  
PRESENT:       Library Staff (10 participants)  
                    Community Members (5 participants)  
                    Library Board  
                    Engberg Anderson Architects

Item	Description																																							
1	<p><b>STAFF PRESENTATION at 2:00 – 3:30:</b></p> <p>After reviewing the existing building, space needs and site analysis, Engberg Anderson presented the development of two concept options selected at the Charrette in September. Both plans and initial interior images were shown to illustrate the concepts.</p> <p>After presenting both concepts, Engberg Anderson distributed a ballot to evaluate and compare the options using 12 criteria. The ballot included two tasks; first to rate the importance of each criteria and then to score each option using the criteria. The ballot is attached to these minutes.</p> <p>The staff ranked the criteria as follows in order of importance with the average score noted:</p> <table><tr><th>Rank</th><th>Criteria</th><th>Average</th></tr><tr><td>1</td><td>Teens</td><td>4.6</td></tr><tr><td>2</td><td>Kids</td><td>4.4</td></tr><tr><td>3</td><td>Programs</td><td>4.2</td></tr><tr><td>3</td><td>Meta-Space 511</td><td>4.2</td></tr><tr><td>4</td><td>Overall</td><td>4.0</td></tr><tr><td>5</td><td>Flexibility</td><td>3.8</td></tr><tr><td>5</td><td>Adults</td><td>3.8</td></tr><tr><td>5</td><td>Collections</td><td>3.8</td></tr><tr><td>6</td><td>Quiet</td><td>3.6</td></tr><tr><td>6</td><td>Service</td><td>3.6</td></tr><tr><td>6</td><td>Entry</td><td>3.6</td></tr><tr><td>7</td><td>Natural Light</td><td>3.4</td></tr></table>	Rank	Criteria	Average	1	Teens	4.6	2	Kids	4.4	3	Programs	4.2	3	Meta-Space 511	4.2	4	Overall	4.0	5	Flexibility	3.8	5	Adults	3.8	5	Collections	3.8	6	Quiet	3.6	6	Service	3.6	6	Entry	3.6	7	Natural Light	3.4
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Item	Description																																							
	<p>Next, the staff were asked to rate the two concepts in regards to each criteria with the following results:</p> <table><tr><th></th><th>Average Score</th><th>Weighted Score</th><th>Preference votes</th></tr><tr><td>Concept A</td><td>3.24</td><td>148</td><td>8</td></tr><tr><td>Concept B</td><td>3.37</td><td>156</td><td>7</td></tr></table> <p>Note that while one more staff member preferred option A, option B scored the highest.</p> <p><b>STAFF COMMENTS:</b></p> <ul style="list-style-type: none"><li>• In A, adults are too far from the front door.</li><li>• In A, concern with kid noise next to staff.</li><li>• In B, remove text “Mukwonago Kids”</li><li>• In B, switch location of kids and adults,</li><li>• General consensus that a hybrid would be preferable.</li><li>• The history room needs to be incorporated into the plans, verify equipment.</li><li>• Provide lots of storage for Meta-Space, perhaps half wall on library side.</li><li>• Meta-Space may need to be larger based on proposed equipment.</li><li>• Limit view of technology from play space, some parents resent the temptation.</li><li>• Provide a mini-Meta Space for kids.</li><li>• Need a space for patrons to use computers and phones simultaneously.</li><li>• Rethink the Thingery, need both security and storage.</li><li>• Too many study rooms!</li></ul>		Average Score	Weighted Score	Preference votes	Concept A	3.24	148	8	Concept B	3.37	156	7																											
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2	<p><b>PUBLIC PRESENTATION AT 4:00 – 5:30</b></p> <p>The format of the presentation was the same as for the staff meeting. Results of the survey are as follows:</p> <p>The staff ranked the criteria as follows in order of importance with the average score noted:</p> <table><tr><th>Rank</th><th>Criteria</th><th>Average</th></tr><tr><td>1</td><td>Programs</td><td>4.3</td></tr><tr><td>1</td><td>Overall</td><td>4.3</td></tr><tr><td>2</td><td>Quiet</td><td>4.1</td></tr><tr><td>3</td><td>Meta-Space</td><td>4.0</td></tr><tr><td>4</td><td>Flexibility</td><td>3.9</td></tr><tr><td>4</td><td>Service</td><td>3.9</td></tr><tr><td>5</td><td>Adults</td><td>3.6</td></tr><tr><td>6</td><td>Kids</td><td>3.5</td></tr><tr><td>6</td><td>Collections</td><td>3.5</td></tr><tr><td>7</td><td>Entry</td><td>3.2</td></tr><tr><td>7</td><td>Natural Light</td><td>3.2</td></tr><tr><td>8</td><td>Teens</td><td>3.1</td></tr></table>	Rank	Criteria	Average	1	Programs	4.3	1	Overall	4.3	2	Quiet	4.1	3	Meta-Space	4.0	4	Flexibility	3.9	4	Service	3.9	5	Adults	3.6	6	Kids	3.5	6	Collections	3.5	7	Entry	3.2	7	Natural Light	3.2	8	Teens	3.1
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	Average Score	Weighted Score	Preference votes										
Concept A	3.82	175	5										
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3	<p><b>LIBRARY BOARD PRESENTATION – 6:00 – 6:30</b></p> <p>Engberg Anderson provided a summary of the days input for Board consideration.</p> <p><b>DISCUSSION &amp; COMMENTS:</b></p> <ul style="list-style-type: none"><li>• The second staff help desk should be more visible.</li><li>• Verify location of book sale shelves.</li><li>• Keep Memory Lab equipment in the Local History Room, other than audio recording.</li><li>• Meta-Space should be sized for groups up to 30 people.</li><li>• The library should be welcoming and promote patron and staff interactions.</li><li>• Keep adult computers far from the Teen area.</li><li>• Highlight the Thingery, provide ample storage.</li><li>• Provide some separation between noisy kids and staff work areas.</li></ul>												

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Please contact the undersigned with any additions, deletions or changes.

Prepared by

**Alex Ramsey, AIA**  
Partner

November 14, 2019

## OPTIONS EVALUATION BALLOT

Score the importance of each criteria (CI) as follows:

1. The criteria is **not** important
2. The criteria is **less** important than others
3. The criteria is **important** to the success of the project
4. The criteria is **more** important than others
5. This is the **most** important criteria of all

CI	EVALUATION CRITERIA		A	B
	1. ENTRY	Library is welcoming to all		
	2. SERVICE	Layout promotes interactive customer service		
	3. PROGRAMS	Layout provides appropriate meeting spaces		
	4. META-SPACE	Meta Space 511 is welcoming and attractive		
	5. TEENS	Teen space is welcoming and attractive		
	6. KIDS	Kids spaces are welcoming and attractive		
	7. ADULTS	Adult spaces are welcoming and attractive		
	8. QUIET	Layout provides quiet spaces		
	9. COLLECTIONS	Layout appropriately houses collections		
	10. NATURAL LIGHT	Layout takes advantage of natural light		
	11. FLEXIBILITY	Layout allows for future flexibility		
	12. OVERALL	Spaces provided meet community expectations		
	WHICH OPTION DO YOU PREFER? (Check one)			

Score the performance of each option for each criteria as follows:

1. The option **does not** meet the criteria
2. The option **meets** the minimum requirements of the criteria
3. The option does a **good** job of meeting the criteria
4. The option does a **great** job of meeting the criteria
5. The option is the **best** possible solution to address the criteria

## MEETING NOTES | Staff Meeting

Mukwonago Community Library | Mukwonago, WI  
Engberg Anderson Project No. 193008

DATE & TIME    **December 18, 2019**  
LOCATION        Mukwonago Community Library  
PRESENT:      Library Staff

Item	Description
1	<p>Engberg Anderson presented the consolidated library layout based on the input of the last Workshop, a hybrid design with Meta-Space 511 at the prime location in the bay window and other major blocks in locations similar to today; kids at the south, adults at the north and programs with a separate entry from the front lobby.</p> <p>Staff have ongoing concerns with the details of the project and were reassured that this concept design phase is just the beginning. The goal is to understand the overall moves and general locations of collections and spaces, the fine details will be worked out in future phases.</p> <p><b>STAFF COMMENTS:</b></p> <ul style="list-style-type: none"> <li>• Show locations of media shelving, copy area, book sale on plans.</li> <li>• Replace 4 person study rooms with 2 person rooms where possible.</li> <li>• Keep storage room at north wall that houses sprinkler system.</li> <li>• Labels for Men and Women should be switched.</li> <li>• Show space for carts in staff workstation.</li> <li>• Insert window so staff in workstation can see staff at help desk.</li> <li>• Close off teen area from kids area at southeast, provide opening at north east.</li> <li>• Provide (2) self-check stations, (1) standing OPAC and (1) seated OPAC.</li> <li>• Show board book bins below windows at play area, eliminate iPad kiosk.</li> <li>• Show/keep existing storage room at kids activity room</li> <li>• Provide more cabinets, counters and a sink at Meta-Space 511.</li> <li>• Adult computer tables shall be square.</li> </ul>

These meeting minutes constitute the author's understanding of the issues discussed and the decisions reached. Please contact the undersigned with any additions, deletions or changes.

Prepared by

**Alex Ramsey, AIA**  
Partner



## MEETING NOTES | Building Committee

Mukwonago Community Library | Mukwonago, WI  
Engberg Anderson Project No. 193008

DATE & TIME    **January 28, 2020**  
LOCATION        Mukwonago Community Library

Item	Description
1	<p><b>REVIEW OF UPDATED PLANS</b></p> <p>The group reviewed the updated renovation plans developed with input from the staff, community and board at Workshop 3 in November and a staff workshop held in December.</p> <p>The group discussed the following items:</p> <ol style="list-style-type: none"><li>1. The three program rooms at the northeast corner of the building can be joined together for a single large room of 2,700 sf, a 44% increase over the existing 1,870 sf combined community room. The room is enlarged both to the east with a small addition extending 20'-8" into the front yard, and by shifting the west wall further west while leaving the existing operable partition in place.</li><li>2. EA to confirm existing number of restroom fixtures are adequate to serve the renovated library, whose overall area will be expanded by 825 square feet.</li><li>3. A book drop shall be added at the drive through at a lower height to provide accessibility to all vehicles. The current slots are too high.</li><li>4. Staff are concerned with the location of the outgoing book bins. These shall be shown on the plan. The development of the staff work areas is schematic and will be further developed in subsequent design phases.</li><li>5. The larger storage room for Meta Space 511 is included in the current plan.</li><li>6. A view from the entrance thru to the park is preserved in the current plan.</li><li>7. There is some concern with the Teen Lounge space. As shown in the plan, there is a line of sight from the front desk to the space similar to the current arrangement, with the distance reduced from 90 ft. to 50 ft.</li></ol> <p>The group reviewed the matrix comparing the existing program rooms, collections and seating to the program recommendations and the final plan to confirm the plan achieves the correct balance while staying mostly within the existing building footprint. See attached.</p> <p>The group review renderings of the exterior and interior of the renovation design. For the upcoming Board Meeting, the images will be transformed into virtual reality views. See attached.</p>

Item	Description
	The group discussed the need for an implementation plan. EA will develop a phased implementation, breaking the project into logical steps to be priced separately, allowing for incremental improvements as funding becomes available.
2	<p><b>PROPOSED SCHEDULE</b></p> <p>2-13 Plans, renderings and an implementation plan will be presented to the full board.</p> <p>2-14 Approved documents will be sent to the cost estimator.</p> <p>3-05 Submit draft of Final Report for review.</p> <p>3-12 Final presentation to the board.</p>

These meeting minutes constitute the author's understanding of the issues discussed and the decisions reached.  
Please contact the undersigned with any additions, deletions or changes.

Prepared by

**Alex Ramsey, AIA**  
Partner

MUKWONAGO COMMUNITY LIBRARY	EXISTING	PROGRAM	PROPOSED	NOTES
Shared Program Rooms	3	3	3	Capacity of Program Rooms expanded
Creation Rooms	2	4	4	Added Video and Audio Studios
Kids Program Room	0	1	1	
Adult Stacks	267	match	254	Magazines reduced in half, excludes media, new, display
Teen Stacks	31	match	64	
Kids Stacks	218	match	218	Excludes media, new, display
Adult Study Room Seats	8	24	16	
Adult Seats	55	55	57	Excludes café and lounge seating (+11)
Adult Computer Seats	19	19	16	Excludes cataloges and self checks
Teen Study Room Seats	0	8	0	
Teen Seats	12	22	22	
Teen Computer Seats	5	5	4	
Kids Study Room Seats	0	12	6	
Kids Seats	33	33	36	Excludes window seat, story seating, active play area
Kids Computer Seats	7	7	7	

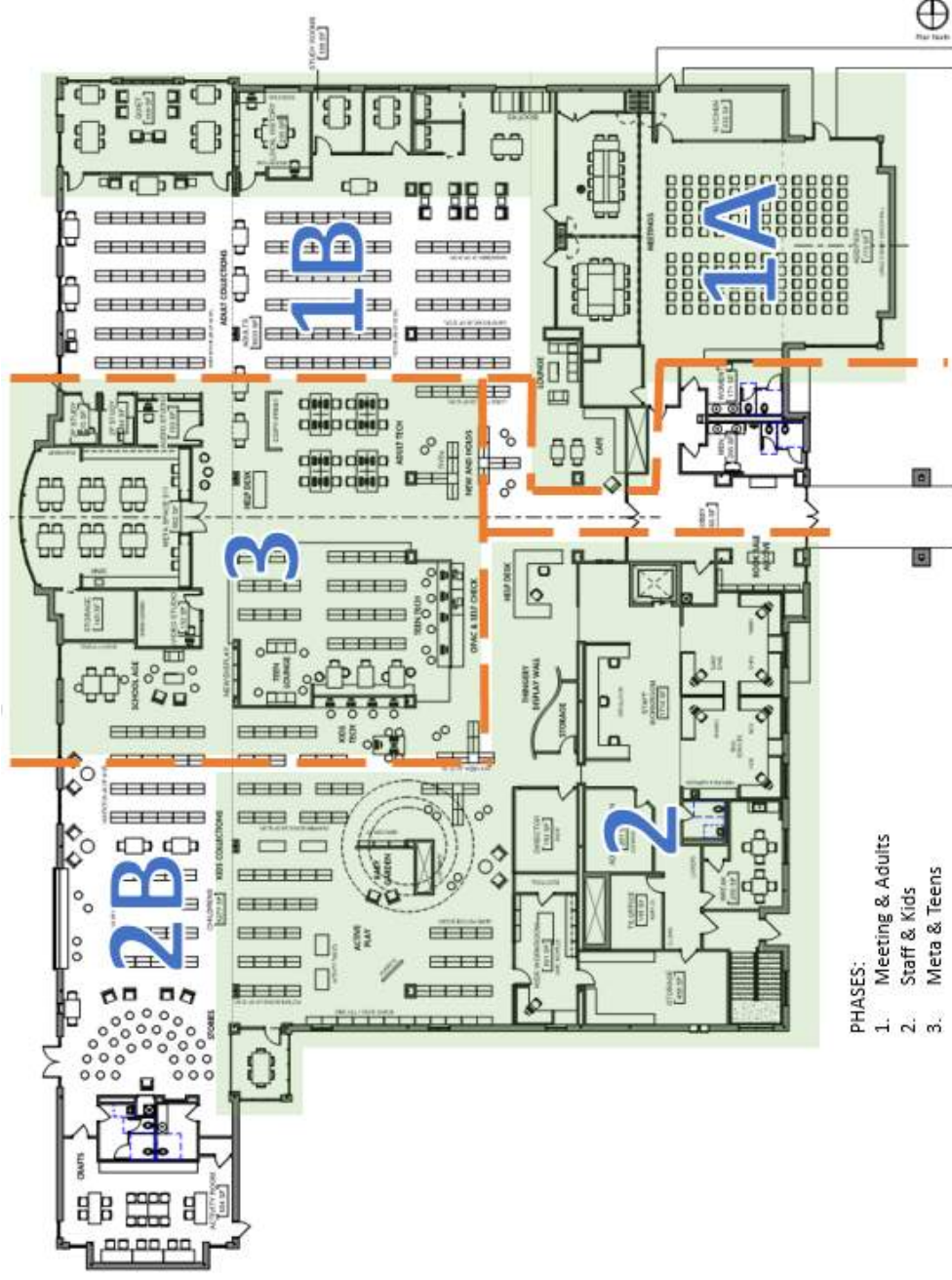


## MEETING NOTES | Board Meeting

Mukwonago Community Library | Mukwonago, WI  
Engberg Anderson Project No. 193008

DATE & TIME    **February 13, 2020**  
LOCATION        Mukwonago Community Library  
PRESENT:       Mukwonago Board  
                    Engberg Anderson Architects

Item	Description
1	<p><b>BOARD PRESENTATION - 6:00 pm –7:30 pm:</b></p> <p>Engberg Anderson began by recapping the full scope of the proposed renovations starting at the exterior. The new 825 sf meeting room addition to the east side of the building will provide much needed meeting space and will seek to blend with the existing architecture of the building. On the interior, existing collections will be strategically relocated to accommodate new spaces for new and improved existing library programming.</p> <p>An analysis of existing program rooms, stacks, and seating compared to what is proposed in the renovation plans was presented to demonstrate the impact that the renovation will have on the library, it's future programming ambitions, and the enhanced library experience for future patrons.</p> <p>A series of still schematic renderings were presented and the board had the opportunity to visually experience the space virtually using panorama images on their smart phone devices and using VR headsets. See attached handout for QR code links to 3D images.</p> <p>Engberg Anderson proposed and presented a construction phasing plan that would allow the library to remain open and continue to serve its patrons throughout the construction process. In the event that the full scope of the renovation cannot be completed in one construction phase, each phase can be understood as individual smaller projects that can be undertaken incrementally as funding allows.</p> <p>An image of the phases is included at the end of this document.</p> <p><b>COMMENTS:</b></p> <ul style="list-style-type: none"><li>• Desire to close off connection between the new teen space and children's space</li><li>• Overall desire to undertake the entire project scope in one phase of construction understanding that flexibility moving collections and staff work space around will be required throughout the entire construction process</li></ul>
2	<p><b>Next Steps:</b></p> <p>Engberg Anderson will return on March 12 to present the updated cost estimate and finalized concept design report to the library board concluding the Library Renovation Study.</p> <p>PHASING PLAN:</p>



These meeting minutes constitute the author's understanding of the issues discussed and the decisions reached.  
Please contact the undersigned with any additions, deletions or changes.

Prepared by,

**Eric Blowers**  
Designer

## MUKWONAGO COMMUNITY LIBRARY

### ENSCAPE PANORAMA LINKS:

#### View 1 – Entry

<https://api2.enscape3d.com/v3/view/469c7619-a229-40c4-9d14-3a771b021ce3>

#### View 2 – Circ/Thingery

<https://api2.enscape3d.com/v3/view/b8434e47-7531-49f2-ab6c-b647b8f2537f>

#### View 3 – Meta Space

<https://api2.enscape3d.com/v3/view/4e293cfb-1ce4-4705-99fe-531c70740c2c>



## HOW TO VIEW PANORAMA IMAGES:

1. Laptop or Desktop Computer
  - a. Copy and paste URL (above) into your internet browser
  - b. Hit Enter
  - c. Click and drag within the browser page (on the image) to “look around”  
*\*\*\*If your screen goes black and you experience pinwheeling using Internet Explorer, try using a different browser such as Safari, Google Chrome, or Microsoft Edge*
2. Tablet or Smartphone (using QR codes)
  - a. Open your camera app
  - b. Hover over the QR code corresponding to the Panorama that you wish to view
  - c. A notification bar will appear at the top of your screen asking if you would like to “Open ‘enscape3d.com’” in your internet browser
  - d. Tap the notification bar and you will be redirected to the panorama image
  - e. Text will appear reading “Please tap the screen and enable device orientation to look around”
  - f. Tap the screen and hit “allow access”
  - g. Move your device in all directions to “look around”. You can also “look” left and right by touching and moving your finger across the screen.  
*\*\*\*Users with Apple devices running IOS 12 or earlier versions should toggle on the Motion & Orientation Access setting by going to Settings > Safari > Privacy & Security > Motion & Orientation Access. This will allow you to “look around” by moving your device rather than touching and dragging your finger across the screen.*

## MUKWONAGO COMMUNITY LIBRARY

EA Project No. 193008

August 30, 2020

	3/1/2020	8/1/2023
<b>PROJECT SUMMARY</b>	<b>\$ 3,297,166</b>	<b>\$ 4,376,147</b>

<b>A PROJECT COSTS (See detailed breakdown)</b>	Total	Total
1 Meeting Room Renovation and Addition	\$ 789,172	\$ 1,044,154
2a Staff Area Renovation	\$ 320,940	\$ 424,635
2b Children's Area Renovation	\$ 653,512	\$ 864,662
3 Meta Space 511 Construction	\$ 313,751	\$ 415,124
4 Renovation north of grid G	\$ 665,074	\$ 879,959
5 Renovation south of grid G	\$ 155,366	\$ 205,565
6 TOTAL	<b>\$ 2,897,815</b>	<b>\$ 3,834,099</b>
<i>Cost per sf for 28,840 sf</i>	<i>\$100</i>	<i>\$133</i>

<b>B SOFT COSTS</b>		
1 AE Design Fees (8% of A6 less Concept Design Fee)	\$ 189,525	\$ 264,428
2 Site Survey (for parking improvements)	\$ 2,000	\$ 2,646
3 Geotechnical Report (for parking drainage design)	\$ 2,000	\$ 2,646
4 Plan Review Fee	\$ 2,000	\$ 2,646
5 Moving Allowance	\$ 10,000	\$ 13,231
6 Builder's Risk Insurance	\$ 48,935	\$ 64,746
7 Owners Contingency	\$ 144,891	\$ 191,705
7 TOTAL	<b>\$ 399,351</b>	<b>\$ 542,048</b>
	<i>\$14</i>	<i>132.31%</i>