MONTANA STATE UNIVERSITY

RENNE LIBRARY ITC SPACE MODIFICATIONS AND PLANNING

DRAFT REPORT 1-26-14

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BECHTLE ARCHITECTS

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A. EXECUTIVE SUMMARY

INTRODUCTION

The MSU Enterprise Information Technology Center is split among several locations on the MSU Bozeman campus including Montana Hall, AJM Johnson and Renne Library. For the purposes of this report our team has focused on the remodel of the basement of Renne Library. The data center and telephone switchgear room for the campus located in the basement of Renne Library will not be considered in this report. It is assumed that the data center and the telephone switchgear room will remain as is due to the prohibitive expense to move these functions, the fact that they are critical 24/7 operations, and that they cannot be shut down for a remodel project.

PURPOSE OF THE STUDY

Bechtle Architects was asked by Montana State University, Facilities Planning, Design & Construction and the Information Technology Center to provide planning services to investigate remodel possibilities for the existing ITC offices in the basement of Renne Library.

PLANNING PROCESS

Bechtle Architects first visited the ITC space in Renne Library and met with FPDC and ITC staff early September 2013. Follow-up meetings were held with ITC staff and FPDC over the next three months. Several space deficiencies were identified which are detailed later in this report. The basement is very compartmentalized. Our first approach was to consider removing all of the interior walls to see if the space could be reconfigured to work for ITC operations. In general, we thought we could accommodate most functions within the existing space. The organizational structure for the department including future staffing needs were reviewed and a space program created. Information related to the development of the space program is included later in this report. Our team met with ITC staff to develop a concept to remodel the basement space and entry to ITC. The concept developed addresses the deficiencies of the space while also providing for future expansion and growth The space program and concept design were developed with input from Anne Milkovich, Adam Edelman, Heather Griner, William Walker, MSU Facilities, and ITC Staff.

ENGINEERING

After developing a space program and concept floor plan, mechanical and electrical systems were reviewed to determine if the existing basement space could physically be remodeled as proposed. Existing construction drawings were reviewed and a walk-through of the space was conducted. Maintenance personnel and occupants were interviewed. Modification to the existing mechanical and electrical systems for the proposed concept layout was deemed feasible. This was reviewed with MSU facilities staff. A preliminary engineering report and budget cost estimate was created for the proposed remodel. Copies of the engineering reports and the budget estimates are included later in this report.

PROJECT PHASING

Our team believes that the remodel can be phased but has not requested contractor input to confirm the constructability of phases. Phasing can be more accurately defined after detailed construction drawings are created for the proposed project. Our budgeting assumes the space is remodeled in one phase. Depending on the number of phases required, additional costs for mobilization and contractor supervision should be added to budget assumptions. If the remodel is required to be completed in multiple phases, the phases will likely be determined based on availability of temporary office space on campus. Assuming temporary space exists on campus, we would

propose the project be phased in two phases. The first phase includes the space east of the change in floor elevation and the second phase includes the space west of the floor elevation change. Because these two portions of the building we constructed at different times, building systems are separate for each area and provide a clean line for a phasing break. Phasing the project as we propose, would require temporary relocating approximately half of the department or roughly 40 staff. At this point we have not identified space to know for sure how many phases would be required. We have provided a contingency for phasing construction and relocations costs although this has not been verified.

PROPOSED ITC SPACE PROGRAM

The proposed program includes vacant space for future growth. This program was developed based on input by ITC staff and was used as a guide for the redesign of the Renne Library basement. Support space and a non-assignable space (to account for vertical circulation, walls and support functions) were added to create the new construction program. Spaces currently located in Montana Hall were not included in the remodel design for Renne Library. Spaces located in Montana Hall were included in the programing of the new office space option. The renovation program accommodates approximately 87 staff with associated support and bench spaces. The proposed area affected by the remodel is 12,570 sf. As a part of the proposed remodel, spaces in AJM Johnson are proposed to be moved to Renne Library. Offices in Montana Hall would remain in their current location due to lack of space at Renne Library. Our new construction option includes all of ITC's staff including Montana Hall, and we project it requires 18,550 sf to be constructed. This new construction square foot number is larger than the remodel square footage because it includes all of ITC space in one location and includes optimum sizes of programed spaces. It also includes support spaces required in a new building such as restrooms, mechanical, storage, and non-assignable areas such as walls.

The central location of the ITC spaces in Renne Library is desirable due to response times for physical repair. Many spaces such as System Administration, Telephone & Faculty Services, Infrastructure & Operations Administrative Systems, Database Administration, Research Computing, and Finance & Accounting could be located off site in a non-central location. At some point in the future, the library would like to recapture the space in the basement for archive storage and library support space. The remodel of Renne basement would be likely viewed as a short term solution to the ITC space needs. We have considered this and have provided a solution with flexible space that can be easily converted in the future for library use. Entry to the basement is not optimal due to conflicts between service vehicles and pedestrian access to the space. The current entry is not accessible and unsafe during winter months due to the uncovered steep ramp. The space has very limited natural light due to being below grade. Natural light is important in developing productive office spaces. The basement is better suited for storage than office space.

PROPOSED PROJECT BUDGET

The project budget was developed based on preliminary area and material takeoffs. As a comparison to the remodel budget we have developed a budget to construct offices for the Information Technology Offices in a new location.

B. EXISTING CONDITIONS

A. Remodel of the Existing Renne Library Space (12,570 SF)

1. 2014 Construction Cost	$1,709,219
2. Multiple Phases cost (10%)	$170,000
3. Staff Relocation Costs	$50,000
2. 12% Escalation (3 years @ 4%)	$205,106
Proposed Budget	**$2,134,325**

B. Construction of New Office Space (18,603 SF)

1. 2014 Construction Cost	$4,105,232
2. 12% Escalation (3 years @ 4%)	$494,628
Proposed Budget	**$4,597,859**

SPACE DEFICIENCIES

On September 5, 2013, Scott Bechtle and Bill Walker walked through the existing space to familiarize themselves with the space. Later they met with Anne Milkovich to discuss ITC operations and space history. Then at 4:00, Bill, Scott, and Anne joined Walt Banzinger and Bob Lashaway at the FPDC Conference room.

CONCERNS RAISED DURING THE ITC SPACE WALK THROUGH

ITC Public Entrance

- Safety of staff carrying materials down the steep ramp is a concern. Even if covered to make the ramp safer during the winter months, it is steeper than allowed by accessibility code requirements.
- The entrance serves both as a public and service access. Delivery trucks park in front of the ramp for deliveries. Delivery trucks are required to turn off their engines to prevent exhaust fumes from entering the basement. In the past fumes entered the basement through the intake air vent south of the entrance. We should consider separating the vehicular and pedestrian access locations for safety and aesthetic purposes.
- The refuse container for the building is located to the right of the entry which is an undesirable entry element. Anne would like to see the container location moved so it is not the first element customers see as they enter the ITC Entrance.
- The ITC Center entrance is not easily identified and way finding is confusing once one enters the space. Once customers or service personnel enter the space, there is no reception or intuitive hierarchy to guide people where to go.
- The current outdoor service entry is also the back entry to the SUB, Library, and AJM Johnson.
- The long term master plan does not address changing this entry location any time soon.
- If Romney Oval is changed the service area may be impacted or change character.
- Even if we add onto the back of the library to create an entry and address the service and level change issues, the building still needs a back service area. (Currently on east side of the building.)

Accessibility within the Space

• The basement has two different floor heights connected by stairs. A temporary ramp has been installed to aid in deliveries but is not designed to meet required codes and exiting.
• The basement is carved up into multiple rooms and hallways. There are multiple exit paths from the space. Additional investigation on door hardware and locking needs to be verified. Additional measures for ADA accessibility compliance are required. This can be done by ramps or lifts to accommodate the elevation difference. It is likely that the existing bathrooms will need accessibility upgrades if any remodeling is done.
• There is no clear way finding in the space or any clear designation of where ITC starts and ends. It appears that the connection to the Library lobby is locked off at the end of the day but the door hardware does not meet code if it is. There is also a power assist opener on the door for wheelchair access. We did not check to see if it was still functional.
• The existing elevators 009 and 002 are not operational for the public access. There is no accessible access from the lower level (Library Lobby level) to the raised level to the east.
• The data center serves as the server for four campuses. To move the center would be very expensive, so we will keep this in place. The help center located adjacent to the data center moved to as beenn upper floor of the Library to provide better customer/student access. This vacated room has an access floor and is proposed to be used as storage and future data center expansion. Limited access to the data center will be required through this room.
• The desktop service counter in room 068, is not conveniently located near the primary entrance or the Library lobby. Having a desktop service counter at the perimeter of the ITC suite would be beneficial for easier customer/student access. Room 076 is located adjacent to the Library Lower Lobby room 010 and would be a possible location for a service window. There is a large duct that comes through the floor and across the ceiling that possibly could be relocated to allow for a service window access to the Library. Additional investigation to the duct relocation would be required before further pursuing this idea.

SCOPING MEETING (ANNE'S OFFICE)

• When we met with Anne Milkovich, she mentioned that the help desk was being moved upstairs and that they would like to move the AV team from AJM Johnson to the library . This move is primarily to include the AV staff in the core ITC office location. The AV staff needs to be centrally located to campus to provide a 10 minute response time. Some storage is required along with space for 3 people. Additional storage can be located in a remote location from the AV Team office.
• Anne will develop a draft organization chart with staff needs (current and future) for us to develop an area program for use in this planning exercise.
• ITC is currently short on meeting room space.
• The ITC space does not have many rooms with natural light and the space needs additional ventilation. The space has flooded 4 times in the 7 years that Anne has been here.
• Eventually the Library would like to utilize the space ITC occupies for Library core functions.

SCOPING MEETING (FPDC)

The goal of this project is to provide planning for the ITC space in the basement of the Renne Library. The

planning is proposed to investigate three concept options with initial budgets. Those options include:

1. Remodel of the basement for continued operations and ITC stays in their current spaces.
2. Remodel of the basement and, if needed, move portions of the ITC operation to other locations on campus.
3. Move entire ITC Operation (without Data Center) to a new location. That location could be leased or newly constructed space.

A minor "lipstick" remodel will not solve the department's short term issues (paint, furniture and addressing the ramp/stair issue). The ITC Center needs a "sense of place" or lobby presence separate from the shipping and receiving entry. Priorities are as follows:

- Address the Safety/Service Issues in existing space.
- Improve the quality of the space for staff and customers.
- Provide a long term department solution or possible new home.

Consider a Phased Solution:

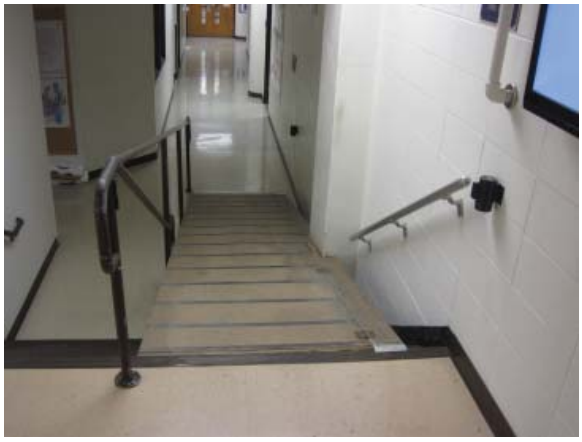
1. Short Term Relief 1-3 year solution
2. Mid Term Relief 4-5 year solution

ADDITIONAL SPACE NEEDS

- Entry Reception Space
- Small and Large Conference room
- Employee break area separate from copy room
- Additional storage
- Outside contractor work space

PHOTOS

Non-accessible entry



Interior change in floor levels

Data Center RM 75

Secondary exterior access (Stairwell RM 71A)

Additional Storage Needed

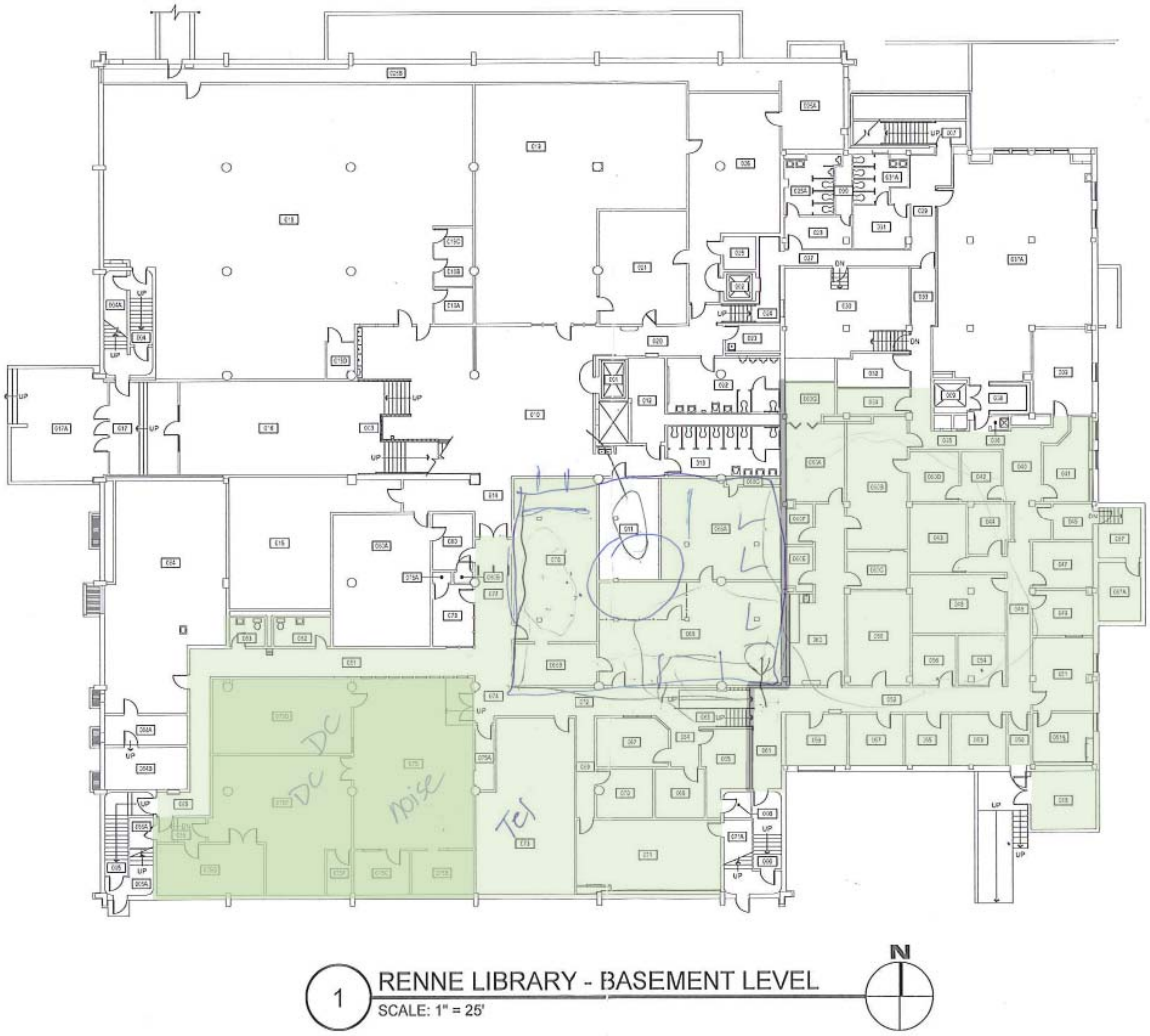
Existing Bench Space

9x9 Asbestos tile

Service elevator RM 2

Telephone switchgear RM 73

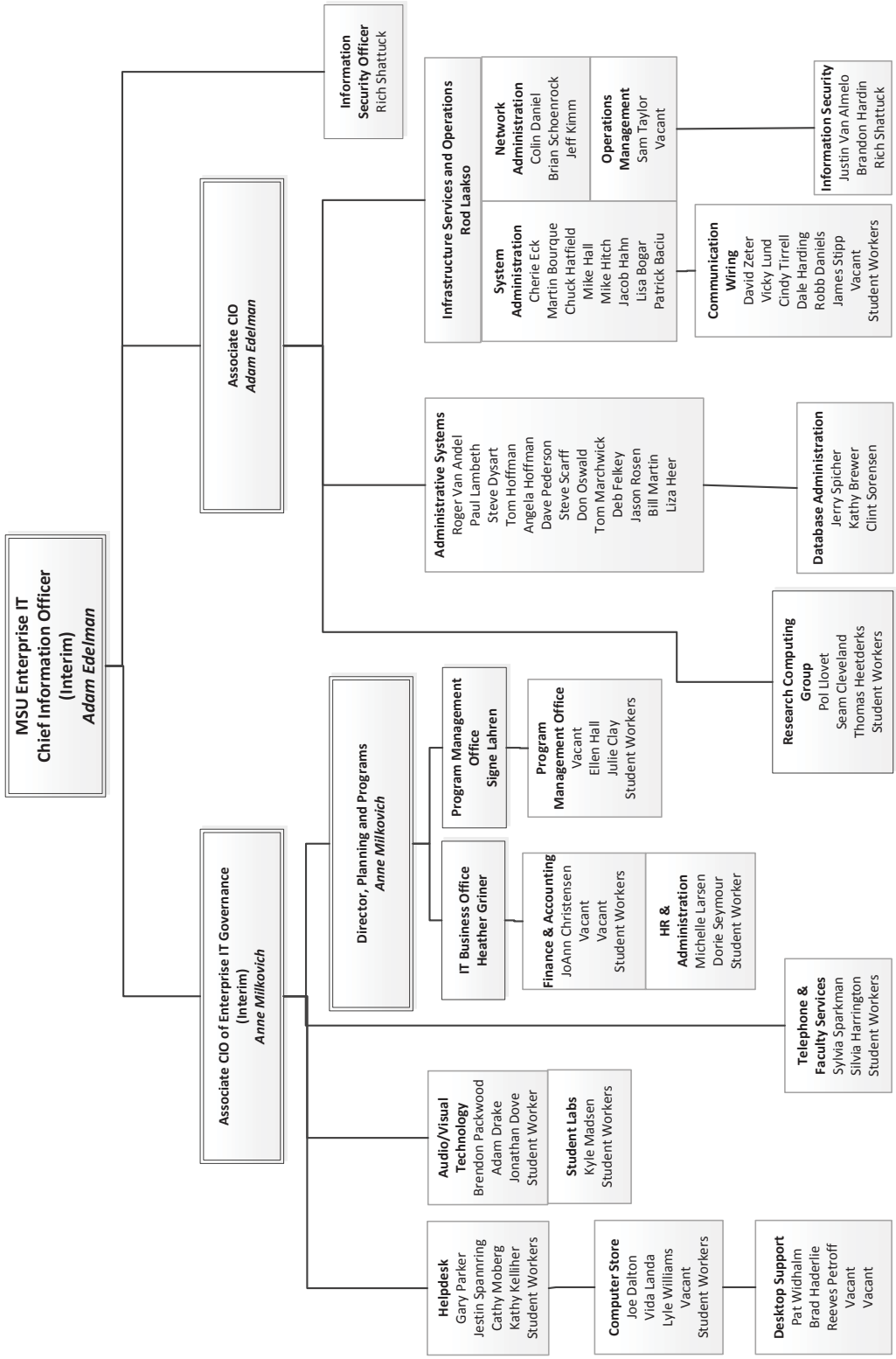
Shared office - lack of natural light



Renne Library basement space occupied by the Information Technology Center.

C. SPACE PROGRAM

ORGANIZATIONAL CHART



Last Update Sept 10, 2013

STAFF SPACE NEEDS

This was developed by ITC staff for use in developing the space program for the project.

IT Center
Space Requirements

Last	First	Function	Org Location	Renne	Montana	AJM	Offsite Possible	Space Req	Adjacencies	Special Needs	Notes
Edelman	Adam	Executive	User Tier 1	1	2	x	No	Private Off			
Milkovich	Anne	Executive	User Tier 1	1	2	x	No	Private Off			1=First choice here with options
Shattuck	Rich	Security	Infrastructure	1	2	x	Yes	Private Off			2=Second choice here if necessary
VanAlmelo	Justin	Security	Infrastructure	1	2	x	Yes	Shared Off		Together	3=could be located here
Hardin	Brandon	Security	Infrastructure	1	2	x	Yes	Shared Off		Together	x=not optimal
Parker	Gary	Service Desk	User Tier 1	1	x	x	No	Private Off			
Spannering	Jestin	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Back Office= Behind the front line, not infrastructure
Moberg	Cathy	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		User Tier 1 & 2 = hands on / user facing
Kelliher	Kathy	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Physical Dependent = must touch physical infrastructure to work
Williams	Lyle	Service Desk/Store	User Tier 1	1	x	x	No	Desk	Customers		Infrastructure= Behind front line, not back office
Landa	Vida	Service Desk/Store	User Tier 1	1	x	x	No	Desk	Customers		PMO= in the PMO, not frontline, not infrastructure, not back office
Student		Service Desk	User Tier 1	1	x	x	No	Desk	Customers		
Student		Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Storage = Proximal to storage
Packwood	Brendon	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Workbench = can be shared, needs hardware workspace
Drake	Adam	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Equipment = special (noisy) equipment on desk
Dove	Jonathan	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Customers = walk-up traffic, customer interaction
Student	Student	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Telephone = answers University telephone
Madsen	Kyle	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Widhalm	Pat	Service Engineering	User Tier 1	1	x	x	No	Private Off			
Haderlie	Brad	Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Petroff	Reeves	Service Engineering	User Tier 2	1	x	x	Maybe	Private Off		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Sparkman	Sylvia	Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk	Storage	Equipment	
Harrington	Sylvia	Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk	Storage	Equipment	
Student		Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk		Telephone	
Student		Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk		Telephone	
Griner	Heather	IBO / PMO	PMO	1	2	x	Maybe	Private Off			
Christensen	JoAnn	IBO	Back Office	1	2	x	Yes	Private Off			
Dalton	Joe	IBO	Back Office	1	2	x	Yes	Desk			
Vacant		IBO	Back Office	1	2	x	Yes	Desk			
Student		IBO	Back Office	1	2	x	Yes	Desk			
Student		IBO	Back Office	1	2	x	Yes	Desk			
Larsen	Michelle	IBO	Back Office	1	2	x	Yes	Private Off			
Seymour	Dorie	IBO	Back Office	1	2	x	No	Desk			
Lahren	Signe	PMO	PMO	2	1	x	Maybe	Private Off			
Hall	Ellen	PMO	PMO	2	1	x	Maybe	Private Off			
Clay	Julie	PMO	PMO	2	1	x	Maybe	Desk			

Updated Sep 2013

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IT Center
Space Requirements

Last	First	Function	Org Location	Renne	Montana	AJM	Offsite Possible	Space Req	Adjacencies	Special Needs	Notes
Felkey	Deb	PMO	PMO	2	1	x	Maybe	Desk			
Vacant		PMO	PMO	2	1	x	Maybe	Desk			
Student		PMO	PMO	2	1	x	Maybe	Desk			
VanAndel	Roger	ASG	Infrastructure	2	1	x	Yes	Desk			
Lambeth	Paul	ASG	Infrastructure	2	1	x	Yes	Desk			
Dysart	Steve	ASG	Infrastructure	2	1	x	Yes	Desk			
Hoffman	Tom	ASG	Infrastructure	2	1	x	Yes	Desk			
Hoffman	Angela	ASG	Infrastructure	2	1	x	Yes	Desk			
Pederson	Dave	ASG	Infrastructure	2	1	x	Yes	Desk			
Scarff	Steve	ASG	Infrastructure	2	1	x	Yes	Desk			
Oswald	Don	ASG	Infrastructure	2	1	x	Yes	Desk			
Marchwick	Tom	ASG	Infrastructure	2	1	x	Yes	Desk			
Rosen	Jason	ASG	Infrastructure	2	1	x	Yes	Desk			
Martin	Bill	ASG	Infrastructure	2	1	x	Yes	Desk			
Heer	Liza	ASG	Infrastructure	2	1	x	Yes	Desk			
Spicher	Jerry	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Brewer	Kathy	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Sorensen	Clint	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Llovet	Pol	RCG	Infrastructure	1	2	x	Yes	Desk			
Cleveland	Sean	RCG	Infrastructure	1	2	x	Yes	Desk			
Heetderks	Tom	RCG	Infrastructure	1	2	x	Yes	Desk			
Student		RCG	Infrastructure	1	2	x	Yes	Desk			
Student		RCG	Infrastructure	1	2	x	Yes	Desk			
Eck	Cherie	Sys Admin	Infrastructure	1	2	x	Yes	Private Off			
Bourque	Martin	Sys Admin	Infrastructure	1	2	x	Yes	Private Off			
Hatfield	Chuck	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hall	Mike	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hitch	Mike	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hahn	Jacob	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Bogar	Lisa	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Baciu	Patrick	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Daniel	Colin	Net Admin	Infrastructure	1	2	x	Maybe	Private Off			
Schoenrock	Brian	Net Admin	Infrastructure	1	2	x	Maybe	Shared Off			
Kimm	Jeff	Net Admin	Infrastructure	1	2	x	Maybe	Shared Off			
Taylor	Sam	Ops Mgmt	Infrastructure	1	2	x	Maybe	Desk			
Vacant		Ops Mgmt	Infrastructure	1	2	x	Maybe	Desk			
Zeter	David	Comm Wiring	Infrastructure	1	2	x	Yes	Private Off			
Lund	Vicky	Comm Wiring	Physical Dependent	1	2	x	No	Desk	Switch Rm		
Tirrell	Cindy	Comm Wiring	Infrastructure	1	2	x	Yes	Desk			
Harding	Dale	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Daniels	Robb	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Stipp	James	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Vacant		Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Students		Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			

Updated Sep 2013

GRAPHIC SPACE PROGRAM

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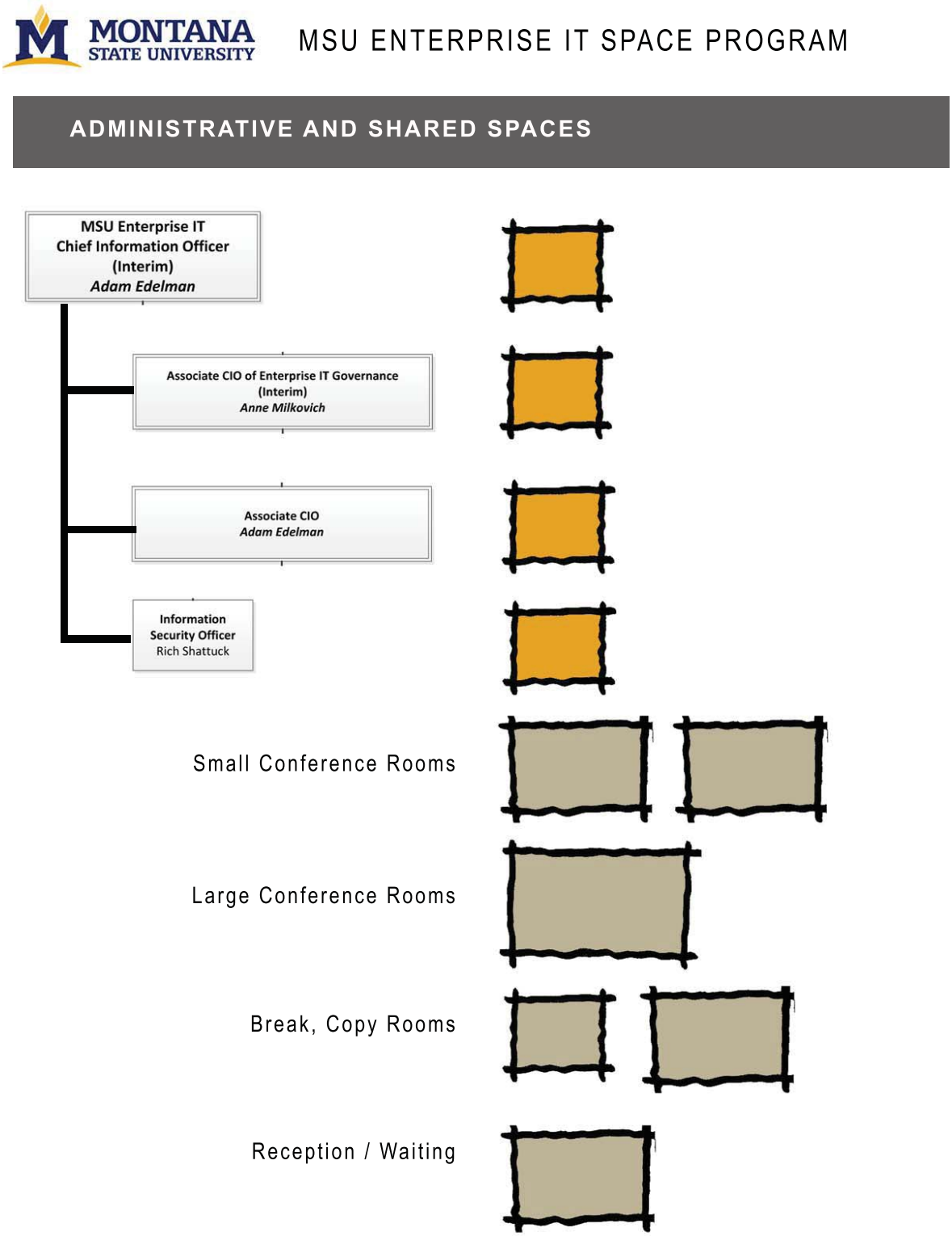

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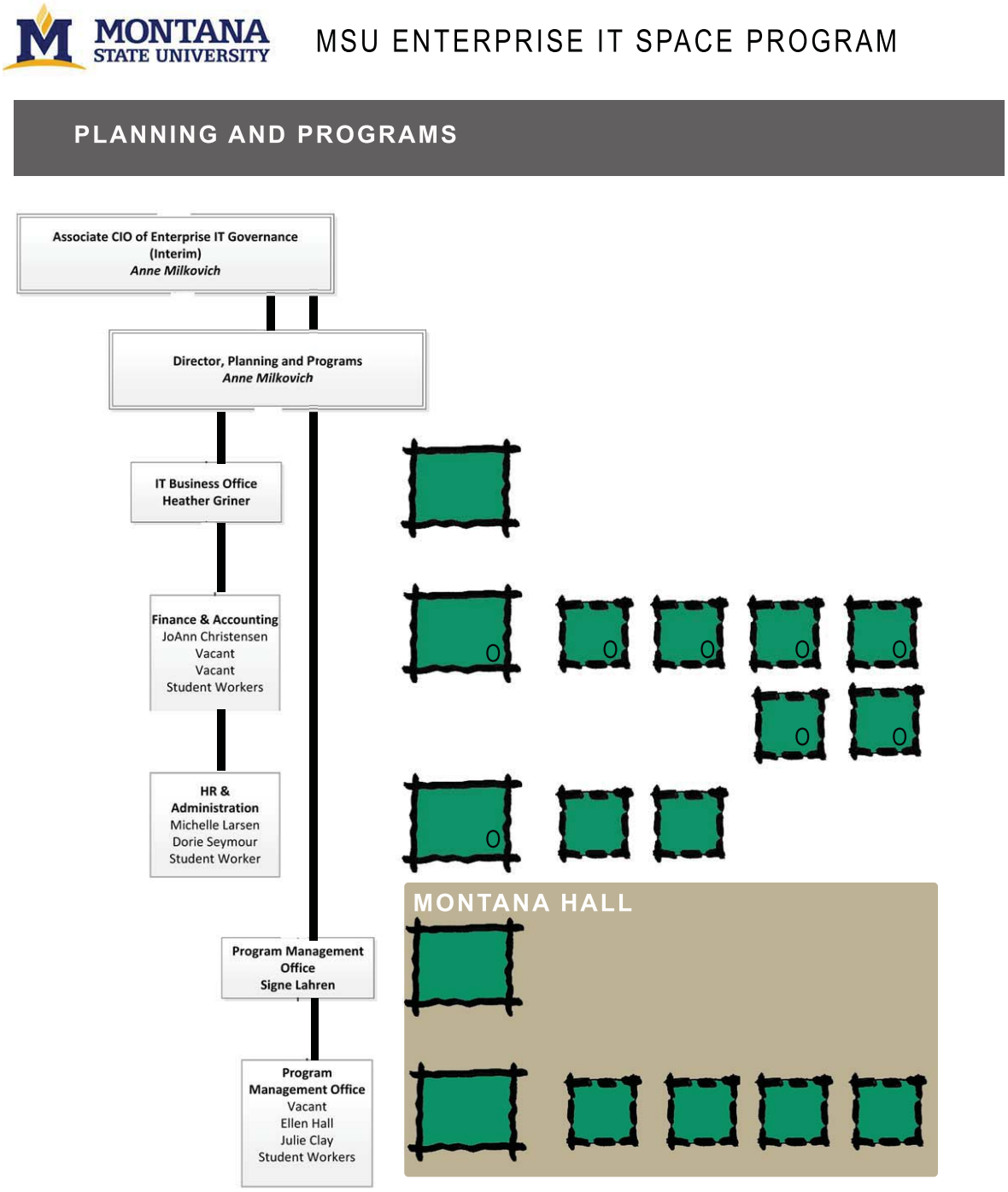

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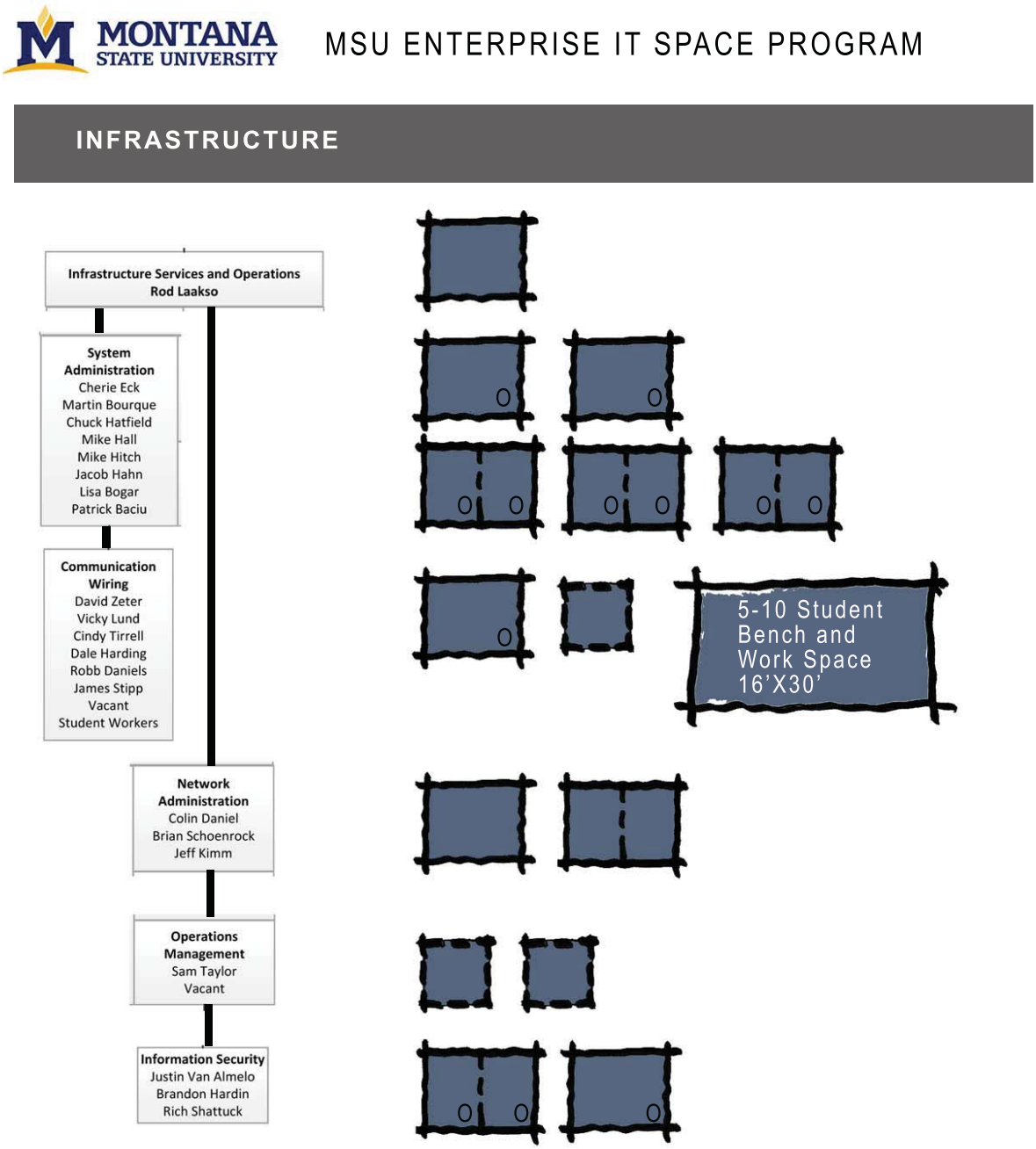

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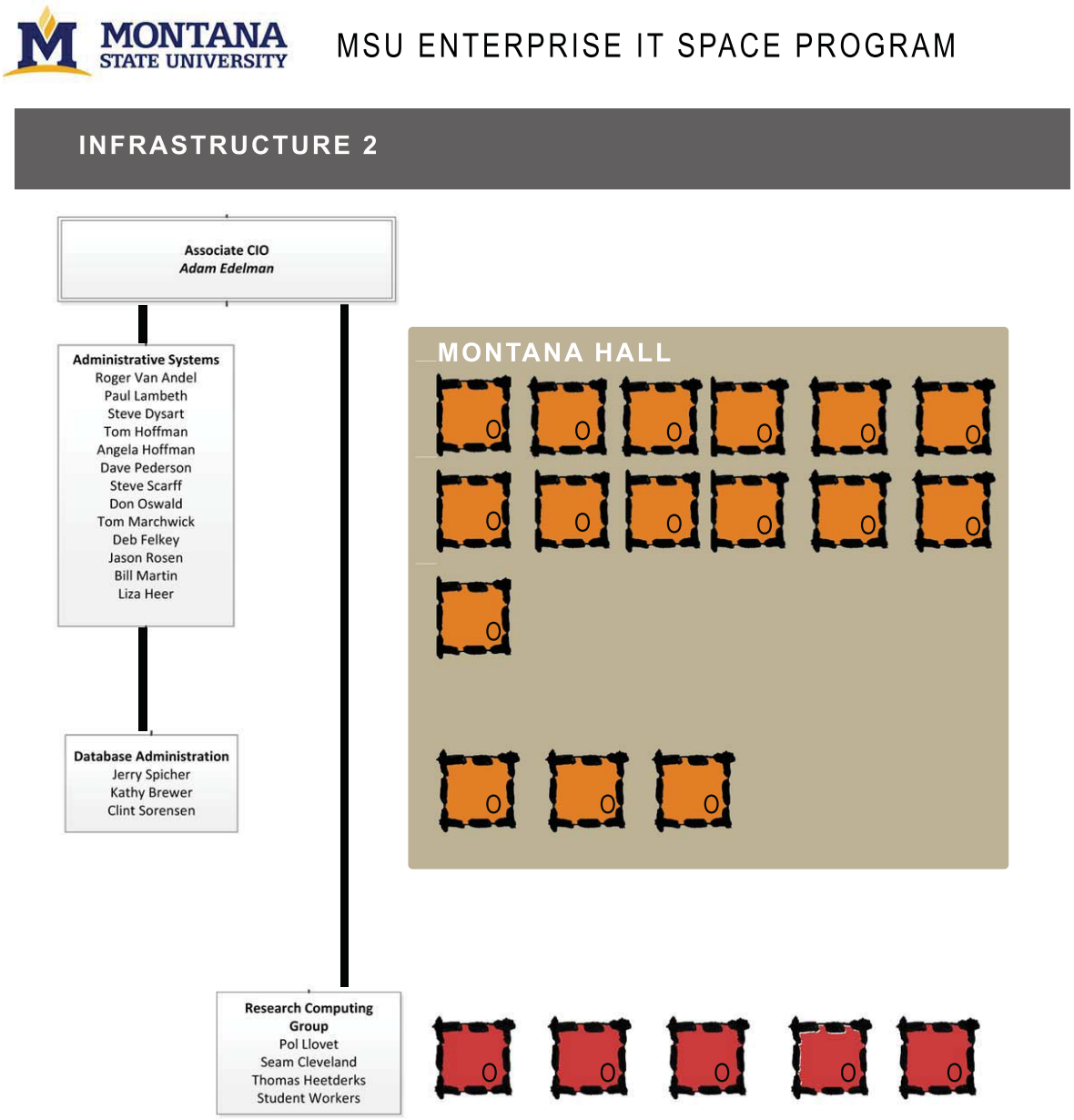

PROPOSED SPACE PROGRAM

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BECHTLE ARCHITECTS

MSU ENTERPRISE SPACE PROGRAM

Janury 24, 2014

ADMINIISTRATIVE AND SHARED SPACES

G1	Msu Enterprise IT Chief Information Officer	1 EA	Closed Room	12	x	14	=	168 SF	Renne
G2	Associate CIO Of Enterprise IT Governance	1 EA	Closed Room	12	x	14	=	168 SF	Renne
G3	Associate CIO	1 EA	Closed Room	12	x	14	=	168 SF	Renne
G4	Small Conference Room	2 EA	Closed Room	12	x	18	=	432 SF	Renne
G5	Large Conference Room	1 EA	Closed Room	14	x	22	=	308 SF	Renne
G6	Break Room	1 EA	Closed Room	12	x	18	=	216 SF	Renne
G7	Copy Room	1 EA	Closed Room	10	x	12	=	120 SF	Renne
G8	Reception	1 EA	Closed Room	10	x	12	=	120 SF	Renne
G9	Waiting	1 EA	Closed Room	10	x	12	=	120 SF	Renne

PLANNING AND PROGRAMS

P1	IT Business Office	1 EA	Closed Room	10	x	12	=	120 SF	Renne
P2	Finance & Accounting	1 EA	Closed Room	10	x	12	=	120 SF	Renne
P3	F&A Vacant & Student Workers	6 EA	Open Workspace	8	x	8	=	384 SF	Renne
P4	HR & Administration	1 EA	Closed Room	10	x	12	=	120 SF	Renne
P5	HR&A Workspaces	2 EA	Open Workspace	8	x	8	=	128 SF	Renne
P6	Program Management Office	1 EA	Closed Room	10	x	12	=	120 SF	Montana Hall
P7	PM Vacant Office	1 EA	Closed Room	10	x	12	=	120 SF	Montana Hall
P8	PM Workspaces & Student Workers	4 EA	Open Workspace	8	x	8	=	256 SF	Montana Hall

USER TIER 1 & 2

U1	Help Desk	1 EA	Closed Room	10	x	12	=	120 SF	Renne (upper floor)
U2	Help Desk workspaces & Student Workers	6 EA	Open Workspace	8	x	8	=	384 SF	Renne (upper floor)
U3	Computer Store	4 EA	Open Workspace	8	x	8	=	256 SF	Renne

PROPOSED SPACE PROGRAM

This was developed through several meetings with ITC staff for use in developing the space program for the project.

BECHTLE ARCHITECTS

U4	Shipping & Receiving	1	EA	Closed Room	10	x	12	=	120	SF	Renne
U5	Desktop Support	1	EA	Closed Room	10	x	12	=	120	SF	Renne
U6	DS Workspaces & Vacant	5	EA	Open Workspace	8	x	8	=	320	SF	Renne
U7	DS Storage	1	EA	Closed Room	20	x	14	=	280	SF	Renne
U8	DS Bench	1	EA	Closed Room	16	x	16	=	256	SF	Renne
U9	Audio/Visual Technology	4	EA	Open Workspace	8	x	8	=	256	SF	Renne
U10	Student Labs	4	EA	Open Workspace	8	x	8	=	256	SF	Renne
U11	SL Storage	1	EA	Closed Room	8	x	20	=	160	SF	Renne
U12	Telephone & Faculty Services	3	EA	Open Workspace	8	x	8	=	192	SF	Renne
U13	DS Bench	6	EA	Closed Room	21	x	21	=	2646	SF	Renne

INFRASTRUCTRURE

I1	Infrastructure Services & Operations	1	EA	Closed Room	10	x	12	=	120	SF	Renne
I2	System Administration	2	EA	Closed Room	10	x	12	=	240	SF	Renne
I3	SA Shared Offices (2 people)	3	EA	Open Workspace	10	x	16	=	480	SF	Renne
I4	Communication Wiring	1	EA	Closed Room	10	x	12	=	120	SF	Renne
I5	CW Workspace	1	EA	Open Workspace	8	x	8	=	64	SF	Renne
I6	CW Student Bench and Work Space	5	EA	Closed Room	16	x	30	=	2400	SF	Renne
I7	Network Administration	1	EA	Closed Room	10	x	12	=	120	SF	Renne
I8	NA Shared Office (2 People)	1	EA	Closed Room	10	x	16	=	160	SF	Renne
I9	Operations Management	2	EA	Open Workspace	8	x	8	=	128	SF	Renne
I10	Information Security	1	EA	Closed Room	10	x	12	=	120	SF	Renne
I11	IS Shared Office (2 People)	1	EA	Closed Room	10	x	16	=	160	SF	Renne
I12	Administrative Systems	13	EA	Open Workspace	8	x	8	=	832	SF	Montana Hall
I13	Datbase Administration	3	EA	Open Workspace	8	x	8	=	192	SF	Montana Hall
I14	Research Computing Group	5	EA	Open Workspace	8	x	8	=	320	SF	Renne

PROPOSED SPACE PROGRAM

This was developed through several meetings with ITC staff for use in developing the space program for the project.

BECHTLE ARCHITECTS

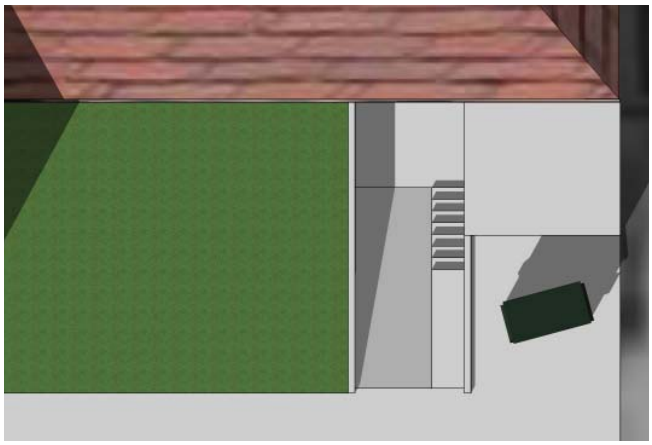
SUPPORT SPACES

S1	Bathrooms		2	EA	Closed Room	12	x	18	=	432	SF	Renne
S2	Mechanical Room		1	EA	Closed Room	10	x	16	=	160	SF	Renne
S3	Electrical Room		1	EA	Closed Room	10	x	16	=	160	SF	Renne
S4	Janitor Room		1	EA	Closed Room	5	x	8	=	40	SF	Renne
S5	Fire Sprinkler Room		2	EA	Closed Room	5	x	8	=	80	SF	Renne
Subtotal Programmed Area										14882	SF	
Non-Assignable Area		25%								3721	SF	
Total Area Required										18603	SF	

D. CONCEPT DESIGN

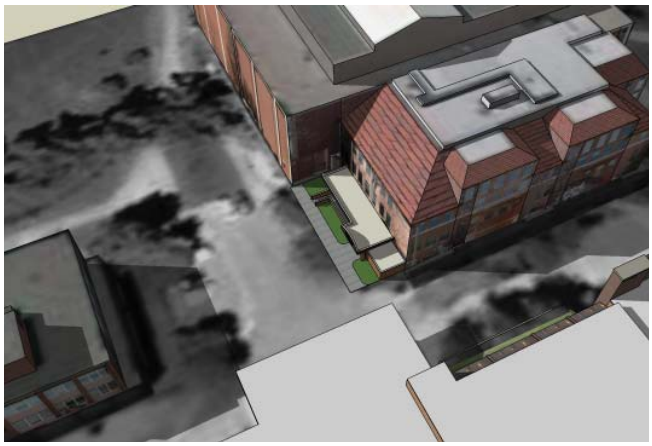
EXTERIOR ENTRY

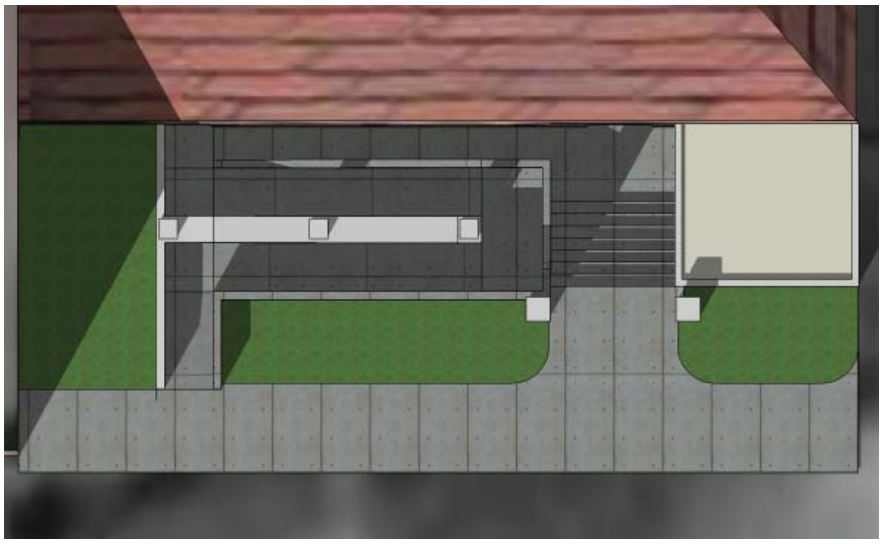
The existing entry was studied in Sketchup (a 3d design program) and a concept design was created for budgeting purposes. The new entry includes covered stairs and entry ramp. After conversations with MSU waste removal personnel, an agreement was made to move the dumpster to the existing loading dock to the North. Brick was used to tie the new entry into the character of the existing building. The new entry is intended to solve the safety issue, provide accessibility from the exterior, to separate service and pedestrian entries, and to create a sense of place and entry for the department.



Existing Entry to the Information Technology Center

EXTERIOR ENTRY

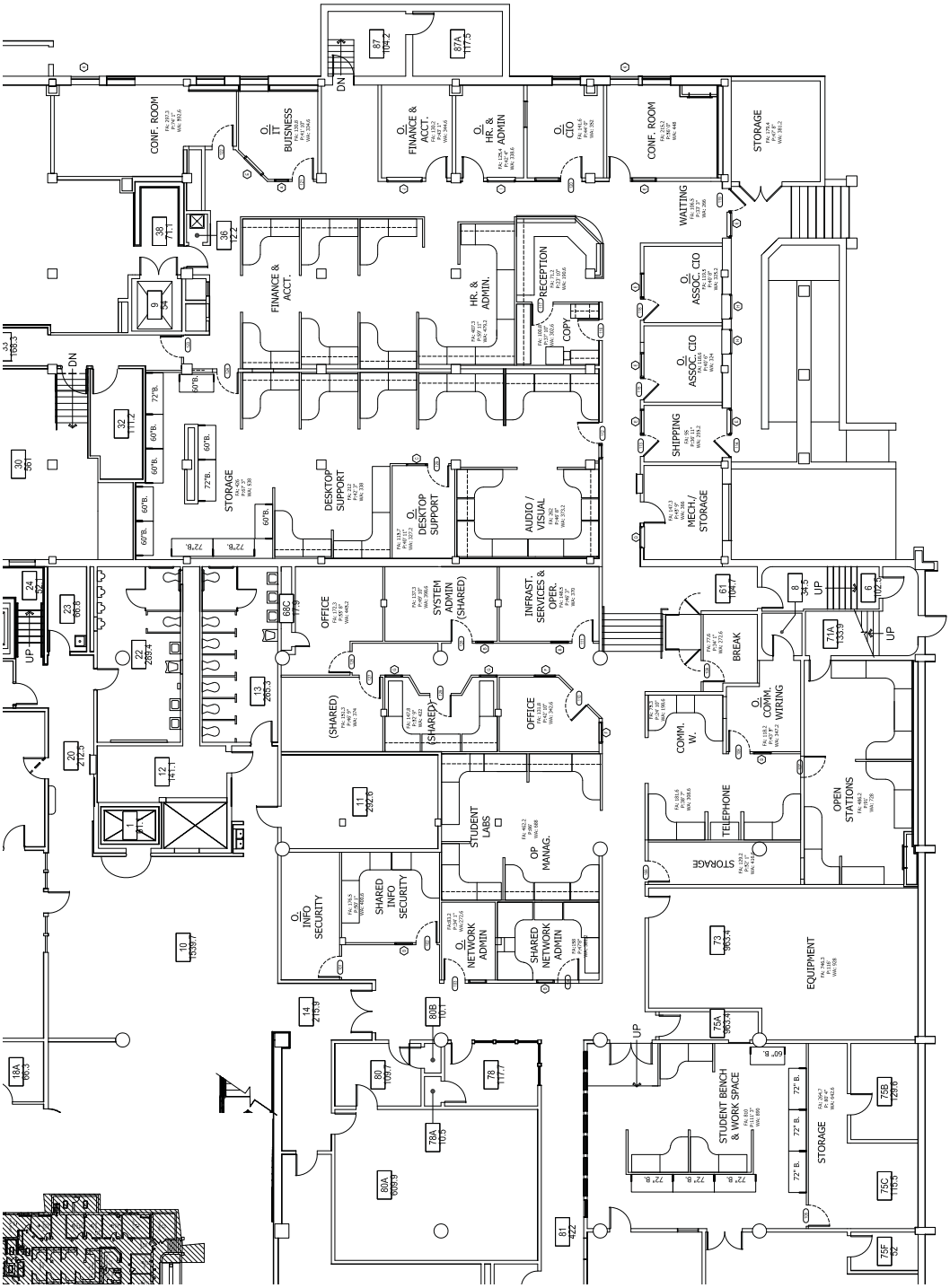




Proposed Entry to the Information Technology Center

REMODEL FLOOR PLAN

Below is the concept plan we developed after reviewing existing construction drawings, interviewing occupants and maintenance personnel, reviewing the plan for exiting, and several meetings with ITC staff. Our budget estimate for the remodel was based on this concept. 360 Office Solutions used this plan to develop a furniture layout for budget purposes. This plan serves as a starting point if the university proposes to move ahead with the remodel of Renne Library basement for ITC offices in the future. Scaled plans are available from Bechtle Architects.



E. ENGINEERING FEASIBILITY REPORTS

Mechanical Renovation Feasibility Report

Renne Library ITC
Montana State University

Prepared for:
Bechtle Architects

Prepared by:

SANDERLIN + EDDEN engineers

February 3, 2014

Mechanical Renovation Feasibility Report

Renne Library ITC

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Appendices

A. Calculations
B. Proposed Zoning Plan

Executive Summary

Scope of Report

This report presents the results of a fact-finding mission assessing the feasibility of modifying the mechanical systems to facilitate the renovation of the ITC department in the Renne Library basement. This assessment only investigates the mechanical systems that serve the area that the ITC department occupies and it is assumed that the other mechanical systems that serve the remaining areas of Renne Library will not be affected by the renovation.

The following outlines the approach to this report:

- Engineering survey of the existing HVAC systems.
- Review of available construction documents.
- Completion of preliminary load calculations.
- Interview with occupants and maintenance personnel.
- Review all applicable codes.

Presentation of the Report

The results of this report are presented in three sections. The executive summary presents the scope of the work, a brief synopsis, and a description of the mechanical modifications required. The remaining sections contain a closer look at the mechanical modifications, a detailed overview of each system involved, the basis of design, preliminary cost estimate and load calculations. All calculations, proposed equipment , and preliminary zoning plan are presented in the appendices.

Synopsis

The mechanical systems that will be affected by the ITC renovation are:

- Existing ductwork rerouting and new termination points.
- Diffusers and grilles to align and match new airflows and ceiling arrangement.
- New ductwork for newly occupied areas.
- New flexible ductwork to relocated and new diffusers.
- Fire/ Smoke damper additions and relocations.
- Multiple thermostat relocation.
- Modify existing computer room unit (Liebert) duct system.
- Test and balance of renovated area.

Executive Summary (continued)

The report reviews the feasibility of these modifications and looks at the first cost and the overall mechanical system effect of each. Due to the existing nature of this project, comprehensive detailed plans and specifications would be required for bidding and implementation.

Existing Conditions

The Renne Library basement consists of the following areas: office areas, restrooms, conference, server and data rooms, and storage areas. The HVAC systems for the building have been replaced and modified many times over the years. It appears that the current systems were last modified/ installed during a project that took place in 1999.

Multizone Air-handler (MZ-1)

HVAC System Overview

Currently there are two air handling systems that serve the majority of the ITC area that is to be renovated. The area to the west of the renovation is served by a multizone air handler (MZ-1) that is located in the basement. This unit has four zones in total and two will be affected by the renovation. The unit utilizes steam for heating and cooling tower water for cooling. MZ-1 also utilizes a direct evaporative cooler as a second stage of cooling. Because this unit is only able to provide 65 deg. F. supply air during the cooling season it has been noted that this unit is currently maxed out on air volume and cooling capacity. Although the unit is original to the building, it appears to be well maintained and should serve the renovation adequately assuming that the occupant, lighting, and equipment loads do not change significantly from what they are currently.

The east side of the renovation is served by a variable air volume (VAV) air handling unit (AHU-1) that is located in the basement. The unit serves twenty-one zones on the basement and first floor levels. This unit has a preheat coil at the outside air intake louver. Zone heating is provided at the zones by way of hot water reheat coils located downstream of each variable air volume box. Cooling is provided by indirect and direct

evaporative cooling. Indirect evaporative cooling is provided by cooling tower water that is pumped through a cooling coil in the air handling unit. The unit also utilizes a direct evaporative cooling section to provide a second stage of cooling. Similar to MZ-1, this unit is only able to provide 69 deg. F. supply air during the cooling season and has been noted to be maxed out on air volume and cooling capacity. AHU-1 appears to be in good condition and should serve the renovation adequately assuming that the occupant, lighting, and equipment loads do not change from what they are currently.

Variable Air Volume Air-handler (AHU-1)

Computer Room Unit (Liebert)

The area previously used as the help desk (Room 75) is served by an older 20 ton Liebert AC unit. This unit also serves the telephone equipment area (Room 73) and as a back-up unit for the operating server room. The Liebert system utilizes ductwork overhead in the old help desk area area and operating telephone equipment rooms. Air is returned back to the unit via transfer ducts. In the event that the operating server room unit (30 ton Liebert AC) becomes inoperable, the Liebert unit supply air will be bypassed to the main computer room unit (Trane system). For this reason and based upon the request of the ITC department to keep the old help desk space available for potential server addition the Liebert unit needs to remain operable.

The ductwork system throughout the basement resides above the ceiling and in some areas below the slab. There are several shafts located throughout the basement that serve the first floor. In many areas in the basement the floor to floor height create low ceiling height conditions. These areas either don't have any ductwork or have ductwork that runs through the occupied space at heights that impede space usage.

Congested Ceiling Plenum

Air diffusers and grilles are used to supply and return air from the space. Many of these were replaced during the 1999 renovation, but there are some that are original to the building. Although these diffusers and grilles are in fair condition, they should be replaced to match the new renovation requirements.

Basis of Design

Summary of Preliminary Load Calculations

Preliminary load calculations indicate that the cooling and heating capacities provided by the existing equipment are adequate if the current occupant, lighting, and equipment loads remain the same. Information from site investigations and existing drawings were utilized to gain further precision in the model. However due to the variable factors such as weather and utilization in the space, actual building loading may vary from the calculated results.

Design Criteria

Conditions and assumptions are tabulated according to the ASHRAE Standards and governing codes in Bozeman, Montana as follows:

- Outside design temperature:
  - Summer 87 Deg. F DB/ 61 Deg. F WB
  - Winter -21 Deg F
- Inside design temperature of mechanically cooled areas:
  - Summer 75 Deg. F
  - Winter 70 Deg. F
- Outside air requirements:
  - Office 20 CFM/ Person
- Elevation 4,810 Feet
- Latitude 45.7 Degrees North

Operating Profiles

A general operating was based upon DOE's typical office building space. Office spaces operate typically from 8 AM to 5 PM, Monday through Friday.

Authorization

This assessment was conducted under the authorization of Bechtle Architects.

Mechanical System Modifications

Mechanical Systems Affected

Because the mechanical systems involved in the renovation are adequately sized to meet the current occupant, lighting, and equipment loads the major mechanical equipment will not need to modified as long as the loads do not change. The systems and equipment that will need to be modified and added to include ductwork, diffusers and grilles, fire smoke dampers, controls, and fire protection systems.

Most of the ductwork changes relate to redistributing the air to the renovated areas. This will be done by extending and modifying branch ductwork or adding lengths of code approved insulated flexible ductwork from the existing duct mains located. The variable air boxes will remain in their current locations and will serve similarly sized zones. (see new Zoning Plan M1.1 in appendix). There are areas on the western side of the renovation that will require new ductwork be routed to serve newly created rooms. These areas in general have limited floor to floor heights so carefully designed and located ductwork will need to routed throughout the space in order to maintain appropriate ceiling heights.

The Liebert system will be used to serve the remodeled Room 75 (former help desk). Currently the system uses a automatic control damper to modulate the air in both the telephone room (Room 73) and Room 75. In order to maintain Room 75's ability to potentially be a server space in the future, this system will remain in operation under its existing condition. The only modification to the area will be to add heated air which can be supplied by a duct from the AHU-1 and a new reheat coil.

Ceilings throughout the renovation area are to be replaced. Because of this and rezoning, it is recommended that all the ceiling diffusers and grilles be replaced. This will ensure that they match the design intent and required air flow changes. The western renovated areas that require new ductwork will also require new diffusers and grilles.

The new zoning will require changing the thermostat locations in order to meet the new zones heating and cooling requirements. This will require some thermostat rewiring. All of the AHU-1 VAV that are to be modified will be provided with new thermostats that interface wight the existing control system.

The fire sprinkler system that serves the renovated area will need to modified. These modifications will include relocating heads to adequately serve the modified areas. Some new areas may need new heads. Most changes will utilize newly added flexible drops to connect to relocated or newly added sprinkler heads.

Test and balance will be required for both MZ-1 and AHU-1 systems. This will ensure that adequate air volume is being delivered.

Preliminary Cost Estimate

Estimated Costs

ITEM	$/SQ.FT.		PRELIMINARY ESTIMATE
Mechanical Renovation	$5.90		$74,165
Fire Protection Renovation	$3.00		$37,710
		Subtotal	**$111,875**
Contractor's Mark-Up (15%)			$16,780
Contingencies (15%)			$16,780
		Total	**$145,435**

Appendix A Calculations

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM MZ-1.1 SECURITY SYSTEM MZ-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
143.1	10.0	11.0	9.0	12	2147	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			1717		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	281	-291		1845		
Lights	7320				7320	
People	3000	2400			3000	
Equipment	5860	0			5860	
Sub Total	16460	2109		1845	16180	
Safety Factor	0	0		0		
Sub Total	16460	2109		1845	16180	
Ventilation	0	0		0		
Total	16460	2109		1845	16180	

General

Area (ft²)	1431
Volume (ft³)	12879
Sen Heat Ratio w/o Vent	.89
Sen Heat Ratio with Vent	.89

Loads

	Cooling	Heating
Total Load (BtuH)	18569	1845
Total Load (BtuH/ft²)	13.0	1.3
Total Load (Ton)	1.5	
Total Load (ft²/Ton)	925	

Flows

	Cooling	Heating
Water (gpm)	3.7	.2
Air Room Peak (cfm)	1290	40
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	1290	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	21	21

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM MZ-1.2 SYSTEM ADMIN SYSTEM MZ-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
114.9	10.0	11.0	9.0	8	1724	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			1379		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	225	-234		1482		
Lights	5877				5877	
People	2000	1600			2000	
Equipment	4706	0			4706	
Sub Total	12808	1366		1482	12583	
Safety Factor	0	0		0		
Sub Total	12808	1366		1482	12583	
Ventilation	0	0		0		
Total	12808	1366		1482	12583	

General

Area (ft²)	1149
Volume (ft³)	10341
Sen Heat Ratio w/o Vent	.90
Sen Heat Ratio with Vent	.90

Loads

	Cooling	Heating
Total Load (BtuH)	14175	1482
Total Load (BtuH/ft²)	12.3	1.3
Total Load (Ton)	1.2	
Total Load (ft²/Ton)	973	

Flows

	Cooling	Heating
Water (gpm)	2.8	.1
Air Room Peak (cfm)	1030	30
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	1030	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	17	17

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM MZ-1.3 OPEN STATIONS SYSTEM MZ-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
108.7	10.0	11.0	9.0	8	1631	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			1304		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	213	-221		1402		
Lights	5562				5562	
People	2000	1600			2000	
Equipment	4452	0			4452	
Sub Total	12227	1379		1402	12014	
Safety Factor	0	0		0		
Sub Total	12227	1379		1402	12014	
Ventilation	0	0		0		
Total	12227	1379		1402	12014	

General

Area (ft²)	1087
Volume (ft³)	9783
Sen Heat Ratio w/o Vent	.90
Sen Heat Ratio with Vent	.90

Loads

	Cooling	Heating
Total Load (BtuH)	13606	1402
Total Load (BtuH/ft²)	12.5	1.3
Total Load (Ton)	1.1	
Total Load (ft²/Ton)	959	

Flows

	Cooling	Heating
Water (gpm)	2.7	.1
Air Room Peak (cfm)	980	30
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	980	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	16	16

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V3A - CONFERENCE SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
10.0	29.3	11.0	9.0	12	440	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			352		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	58	-60		378		
Lights	1500				1500	
People	3000	2400			3000	
Equipment	1200	0			1200	
Sub Total	5758	2340		378	5700	
Safety Factor	0	0		0		
Sub Total	5758	2340		378	5700	
Ventilation	0	0		0		
Total	5758	2340		378	5700	

General

Area (ft²)	293
Volume (ft³)	2637
Sen Heat Ratio w/o Vent	.71
Sen Heat Ratio with Vent	.71

Loads

	Cooling	Heating
Total Load (BtuH)	8098	378
Total Load (BtuH/ft²)	27.6	1.3
Total Load (Ton)	.7	
Total Load (ft²/Ton)	434	

Flows

	Cooling	Heating
Water (gpm)	1.6	.0
Air Room Peak (cfm)	390	10
Air Room Peak (cfm/ft2)	1.3	.0
Air Room Peak (AC/hr)	9	0
Return Air (cfm)	390	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	4	4

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-4A SUPPORT SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
85.4	10.0	11.0	9.0	7	1281	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			1025		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	168	-174		1101		
Lights	4368				4368	
People	1750	1400			1750	
Equipment	3498	0			3498	
Sub Total	9784	1226		1101	9616	
Safety Factor	0	0		0		
Sub Total	9784	1226		1101	9616	
Ventilation	0	0		0		
Total	9784	1226		1101	9616	

General

Area (ft²)	854
Volume (ft³)	7686
Sen Heat Ratio w/o Vent	.89
Sen Heat Ratio with Vent	.89

Loads

	Cooling	Heating
Total Load (BtuH)	11010	1101
Total Load (BtuH/ft²)	12.9	1.3
Total Load (Ton)	.9	
Total Load (ft²/Ton)	931	

Flows

	Cooling	Heating
Water (gpm)	2.2	.1
Air Room Peak (cfm)	770	20
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	770	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	13	13

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-5A SUPPORT SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
85.4	10.0	11.0	9.0	7	1281	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			1025		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	168	-174		1101		
Lights	4368				4368	
People	1750	1400			1750	
Equipment	3498	0			3498	
Sub Total	9784	1226		1101	9616	
Safety Factor	0	0		0		
Sub Total	9784	1226		1101	9616	
Ventilation	0	0		0		
Total	9784	1226		1101	9616	

General

Area (ft²)	854
Volume (ft³)	7686
Sen Heat Ratio w/o Vent	.89
Sen Heat Ratio with Vent	.89

Loads

	Cooling	Heating
Total Load (BtuH)	11010	1101
Total Load (BtuH/ft²)	12.9	1.3
Total Load (Ton)	.9	
Total Load (ft²/Ton)	931	

Flows

	Cooling	Heating
Water (gpm)	2.2	.1
Air Room Peak (cfm)	770	20
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	770	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	13	13

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-6A FINANCE SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
95.7	10.0	11.0	9.0	8	1436	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			1148		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	188	-195		1234		
Lights	4895				4895	
People	2000	1600			2000	
Equipment	3918	0			3918	
Sub Total	11001	1405		1234	10813	
Safety Factor	0	0		0		
Sub Total	11001	1405		1234	10813	
Ventilation	0	0		0		
Total	11001	1405		1234	10813	

General

Area (ft²)	957
Volume (ft³)	8613
Sen Heat Ratio w/o Vent	.89
Sen Heat Ratio with Vent	.89

Loads

	Cooling	Heating
Total Load (BtuH)	12406	1234
Total Load (BtuH/ft²)	13.0	1.3
Total Load (Ton)	1.0	
Total Load (ft²/Ton)	926	

Flows

	Cooling	Heating
Water (gpm)	2.5	.1
Air Room Peak (cfm)	860	30
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	860	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	14	14

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-7A RECEPTION SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
56.0	10.0	11.0	9.0	1	840	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			672		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	110	-114		722		
Lights	2864				2864	
People	250	200			250	
Equipment	2294	0			2294	
Sub Total	5518	86		722	5408	
Safety Factor	0	0		0		
Sub Total	5518	86		722	5408	
Ventilation	0	0		0		
Total	5518	86		722	5408	

General

Area (ft²)	560
Volume (ft³)	5040
Sen Heat Ratio w/o Vent	.98
Sen Heat Ratio with Vent	.98

Loads

	Cooling	Heating
Total Load (BtuH)	5604	722
Total Load (BtuH/ft²)	10.0	1.3
Total Load (Ton)	.5	
Total Load (ft²/Ton)	1199	

Flows

	Cooling	Heating
Water (gpm)	1.1	.1
Air Room Peak (cfm)	500	20
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	500	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	8	8

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-8A ADMIN SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
50.6	10.0	11.0	9.0	3	759	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			607		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	99	-103		653		
Lights	2588				2588	
People	750	600			750	
Equipment	2072	0			2072	
Sub Total	5510	497		653	5411	
Safety Factor	0	0		0		
Sub Total	5510	497		653	5411	
Ventilation	0	0		0		
Total	5510	497		653	5411	

General

Area (ft²)	506
Volume (ft³)	4554
Sen Heat Ratio w/o Vent	.92
Sen Heat Ratio with Vent	.92

Loads

	Cooling	Heating
Total Load (BtuH)	6007	653
Total Load (BtuH/ft²)	11.9	1.3
Total Load (Ton)	.5	
Total Load (ft²/Ton)	1011	

Flows

	Cooling	Heating
Water (gpm)	1.2	.1
Air Room Peak (cfm)	460	10
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	460	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	8	8

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-9A ASSOC. CIO SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
34.3	10.0	11.0	9.0	2	515	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			412		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	67	-70		442		
Lights	1754				1754	
People	500	400			500	
Equipment	1406	0			1406	
Sub Total	3728	330		442	3661	
Safety Factor	0	0		0		
Sub Total	3728	330		442	3661	
Ventilation	0	0		0		
Total	3728	330		442	3661	

General

Area (ft²)	343
Volume (ft³)	3087
Sen Heat Ratio w/o Vent	.92
Sen Heat Ratio with Vent	.92

Loads

	Cooling	Heating
Total Load (BtuH)	4058	442
Total Load (BtuH/ft²)	11.8	1.3
Total Load (Ton)	.3	
Total Load (ft²/Ton)	1014	

Flows

	Cooling	Heating
Water (gpm)	.8	.0
Air Room Peak (cfm)	310	10
Air Room Peak (cfm/ft2)	.9	.0
Air Room Peak (AC/hr)	6	0
Return Air (cfm)	310	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	5	5

Taco Load Program
Renne Library ITC

Room Results

12/02/2013

ROOM V-10A CIO/ CONF SYSTEM AHU-1 TERMINAL

Room Length	Room Width	Wall Height	Clg Height	Nr. People	Total Watts	Roof ID	Roof Area	Roof RA	Flr ID	Partition ID	Partition Lgth	Hr. Avg	AC/Hr Min.	AC/Hr OSA
35.1	10.0	11.0	9.0	8	527	0	0		0	0	.0	2.0		

People Sen.	People Lat.	People Pfl	Lights W/ft2	Lights Pfl	Lights RA	Lights Inc	Equipment Sensible	Equipment Rad.	Equipment Latent	Equipment Pfl	Infil. CFM Summr	Infil. CFM Wintr
250	200		1.5	2			421		0		.1	.1

Exposure	Exp Lgth	Wall ID	Wall Area	Wall Ra	Window ID	Window Nr.	Window RA

PEAK LOAD occurs at 2 PM, July

Heating for -20 DB and 0 WB OSA

	COOLING LOAD Sensible	COOLING LOAD Latent	COOLING LOAD To RA	HEATING LOAD	HEATING LOAD Int. Gain	HEATING LOAD To RA
Window Transmission	0			0		
Window Solar	0					
Wall Transmission	0			0		
Wall Solar	0					
Roof Transmission	0			0		
Roof Solar	0					
Partition	0			0		
Floor	0			0		
Infiltration	69	-71		453		
Lights	1797				1797	
People	2000	1600			2000	
Equipment	1438	0			1438	
Sub Total	5303	1529		453	5235	
Safety Factor	0	0		0		
Sub Total	5303	1529		453	5235	
Ventilation	0	0		0		
Total	5303	1529		453	5235	

General

Area (ft²)	351
Volume (ft³)	3159
Sen Heat Ratio w/o Vent	.78
Sen Heat Ratio with Vent	.78

Loads

	Cooling	Heating
Total Load (BtuH)	6832	453
Total Load (BtuH/ft²)	19.5	1.3
Total Load (Ton)	.6	
Total Load (ft²/Ton)	617	

Flows

	Cooling	Heating
Water (gpm)	1.4	.0
Air Room Peak (cfm)	360	10
Air Room Peak (cfm/ft2)	1.0	.0
Air Room Peak (AC/hr)	7	0
Return Air (cfm)	360	
Exhaust Airflow (cfm)	0	
Infiltration (cfm)	5	5

Duct And Insulation Calculations

SE Engineers

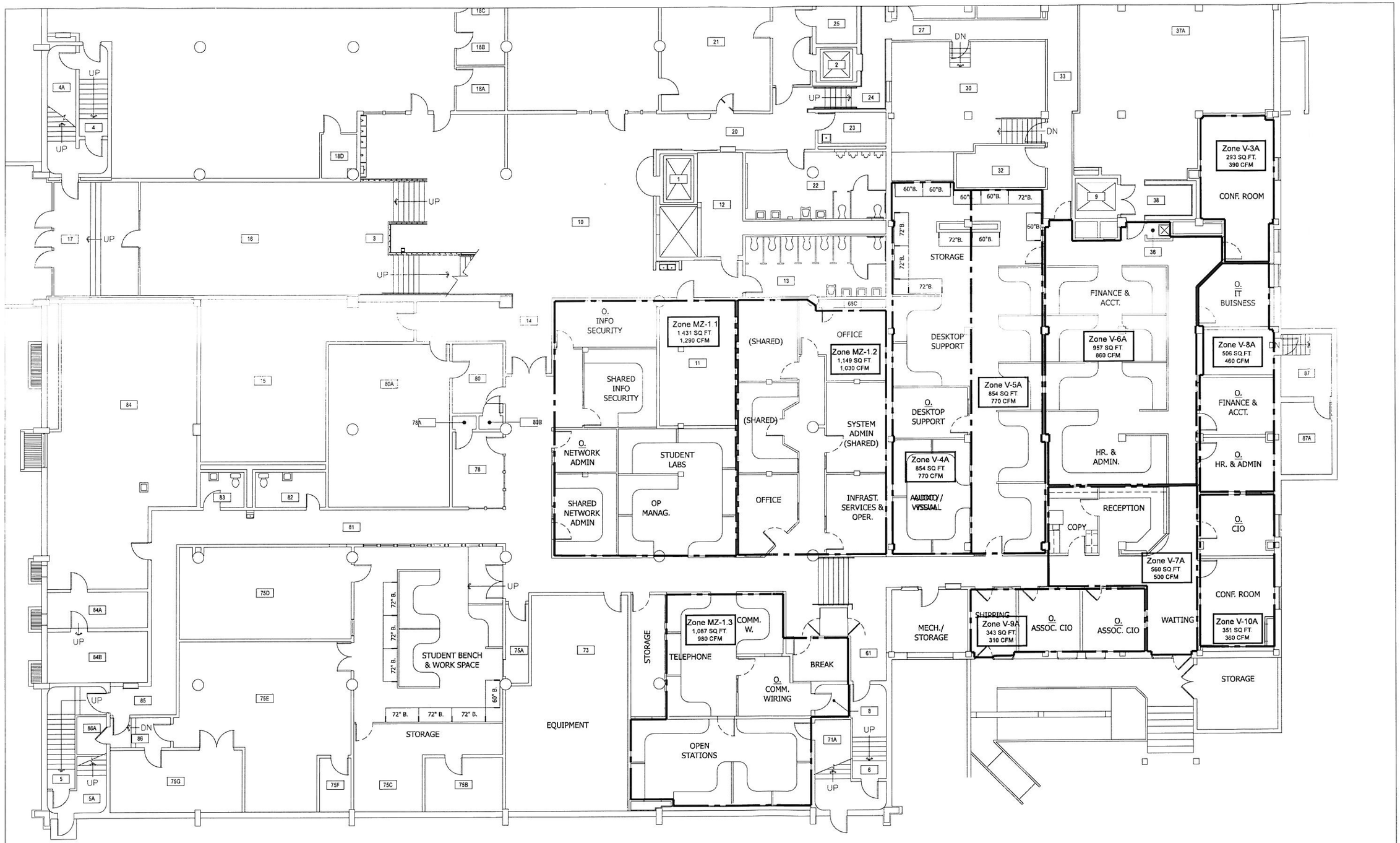
Project: Tinker Commissary **Project #:** DECA-TINK3 **Date:** 10/15/02

Rect. Size Width	Rect. Size Depth	Sheet Metal Gauge	Insulated (x or 0)	Total Length	Fittings Mult.	Corrected Length	LBS Per Sq. Ft.*	LBS Per Lin. Ft.	Total Sq. Ft.	Total LBS	Insulation Sq. Ft.
24	26	26		40	1.1	44	1.01	8.4	366.7	368.7	
12	12	26		250	1.1	275	1.01	4.0	1100.0	1106.2	
								Rect. Totals	**1467**	**1475**	**0**

Round Size Diameter	Sheet Metal Gauge	Insulated (x or 0)	Total Length	Fittings Mult.	Corrected Length	LBS Per Sq. Ft.	LBS Per Lin. Ft.	Total Sq. Ft.	Total LBS	Insulation Sq. Ft.
6	26		200	1.1	220	1.01	1.6	345	347	
8	26		50	1.1	55	1.01	2.1	115	116	
							Round Totals	**461**	**463**	**0**

** Figures include an allowance for scrap (approx. 10%)*

Appendix B Proposed Zoning Plan



RENNE LIBRARY ITC

MSU - Bozeman, Montana

SANDERLIN + EDDEN engineers

PPA#: 12-0136
A/E#: 1316

PRELIMINARY DESIGN

MECHANICAL ZONING PLAN

M1.1

SEPT 12, 2013

REV.

Consulting Design Solutions, Inc.

7540 Churchill Road Manhattan, MT 59741
Phone: (406) 282-7082 Fax: (406) 282-7087
E-mail: selders@cdsiengineering.com

ELECTRICAL FEASIBILITY REPORT

PROJECT: MSU Renne Library ITC Office Remodel Study

Date: February 3, 2014

The following is a description of the electrical systems within the existing Renne Library building, specifically the basement where the current ITC staff is located, on the campus of Montana State University.

The building is currently served by two (2) 208Y/120V, 3 Phase, 4 Wire electrical services. The smaller 600A electrical service enters the basement on the East side of the building and feeds the main distribution panel 'MDA'. The larger 2500A electrical service enters the basement on the West side of the building and feeds the main distribution panel 'MDB'.

The existing 600A service, main distribution panel 'MDA', currently feeds the majority of the documented circuits within the area marked to be remodeled. None of the circuits can be verified without exhaustively tracing each one. Circuits may be traced using specialized tools, tracking conductors through raceways or turning off circuits and recording what terminal locations have lost power. Overlap may exist between equipment fed from 'MDA' and 'MDB' in the basement within the scope of the proposed remodel and we recommend eliminating this. The older panels should be replaced, upgraded to add spare breaker space. Specifically, we recommend upgrading. Panels 'B' and 'C' which are fed from panel 'MDB' and located within room 84.

The peak historical demand for the 500kVA transformer (STA-9A-11), which feeds both the East side of the Renne Library through the 600A service (MDA) and the Strand Union Building (SUB) chiller, was in October 2012, when it was recorded at 238.8kW. Applying a 0.9 power factor is required to convert 238.8kW to 265.3kVA. The SUB chiller consumes 154kVA alone, load was acquired from the load summary on sheet E5.2 of the Renne – Renovation 1999 Project. Subtracting the SUB chiller load from the total, 265.3kVA minus 154kVA, shows the amount of load on the 600A service (MDA), 111.3kVA. 111.3kVA equates to 309 amps at 208Y/120V, 3 phase. Main electrical services are not to be loaded more than 80 percent of their rating, 600A x 80% = 480A. 480 amps minus 309 amps equals 171 amps of remaining capacity.

The peak historical demand for the 750kVA transformer (STA-9A-12), which feeds both the West side of the Renne Library through the 2500A service (MDB), was in July 2010, when it was recorded at 372kW. Applying a 0.9 power factor is required to convert 372kW to 413.3kVA. 413.3kVA equates to 1148 amps at 208Y/120V, 3 phase. Main electrical services are not to be loaded more than 80 percent of their rating, 2500A x 80% = 2000A. 2000 amps minus 1148 amps equals 852 amps of remaining capacity.

Sufficient capacity is available on the existing service(s) for the proposed remodel. The remodel will not add square footage or change the type of occupancy within the basement. In theory, the watts per square foot within the scope should decrease as the occupancy remains and new, more efficient lighting is applied to the same square footage. If an additional panel is needed for new mechanical equipment or receptacles, it is available.

The panel that feeds most of the documented circuits within the remodel area from the main distribution panel 'MDA' is panel 'BN1L'. The panels that feed many of the circuits within this area from the main

distribution panel ‘MDB’ are panel ‘B’, ‘C’, and panel ‘B1’ via panel ‘D’. The emergency panel ‘BE2L’ located within room 30 supplies the emergency lighting circuits within the area.

As mentioned previously, remodeling the basement will drastically improve the electrical disorganization that currently exists. Replacing all the existing circuits feeding lighting and receptacles back to their respective sources will produce a fresh start.

Panel ‘BE2L’ may continue to provide the emergency lighting circuits to the area. Panel ‘B1NL’ may provide the lighting and receptacle circuits for the East side of the remodeled area. Panels ‘B’ and ‘C’ may provide the lighting and receptacle circuits for the West side of the remodeled area. An additional 225A, 208Y/120V, 3 Phase, 4 Wire panel may be fed from the spare 225A/3 pole breaker within the main distribution panel ‘MDB’. This new panel should be located near the center of the remodeled area to minimize the length of the branch circuits.

Electrical bus duct is provided between the main distribution panel ‘MDB’ and panel ‘D’ above ground. The electrical bus duct is installed above the existing ceiling(s) and should not present a problem for future architectural designs; however it will need to be coordinated.

Existing lighting consists of 2x4 recessed fluorescent light fixtures of varying age and style. We recommend that the existing lighting be replaced. A new lighting layout should be designed according to the new floor plan utilizing fluorescent T8 lamps within 2x4 recessed volumetric light fixtures. The new light fixtures will be more efficient and improve aesthetics to the space(s). In effect, new light fixtures provide new ballasts and lamps which will delay incurring maintenance costs.

The existing fire alarm system can be reconfigured and adjusted as needed for a remodel. The Renne Library building was previously provided with a Pyrotronics fire alarm system. In the last couple years the fire alarm control panel and all intelligent devices were replaced with EST fire alarm devices. The existing Pyrotronics NAC booster panels and notification devices are still in place and are controlled by the EST fire alarm control panel.

Existing category cabling is run free air within the accessible ceiling space. The existing cabling does not appear to be physically supported or provided in any uniform method. When removing all ceiling and walls we recommend that the category cabling be removed as well. New category cabling should be provided within the new accessible ceiling space and provided with cable tray to keep an organized distribution system. The new category cabling for voice and data requirements will be provided from the ITC server area in the Southwest corner of the building.

The electrical portion of the 10,500 square foot remodel will cost approximately $247,000 as broken down below:

Electrical Demolition:	$12,000
Panels:	$17,500
Lighting:	$112,000
Receptacles:	$27,500
V/D Rough-in:	$12,000
Fire Alarm:	$25,000
Electrical Remodel Total:	$194,000
20% O&P:	$41,200
Electrical Grand Total:	$247,000

Submitted by:

Scott T. Elders,
Consulting Design Solutions, Inc.

F. BUDGET ESTIMATES

REMODEL ESTIMATE

BECHTLE ARCHITECTS

COST ESTIMATE

DATE 1/24/2014

PROJECT	MSU ENTERPRISE ITC RENNE LIBRARY REMODEL
ARCHITECT	BECHTLE ARCHITECTS
ENGINEERS	SE ENGINEERS, CONSULTING DESIGN SOLUTIONS, INC
AREA	12570 SF BY SCOTT BECHTLE

		QUANTITY		MATERIALS		LABOR		
DESCRIPTION		NO. UNITS	UNITS	UNIT COST	TOTAL	UNIT COST	TOTAL	TOTAL COST
1000 GENERAL REQUIREMENTS								
1000-1	Project Manager (Half time)	26	wks		0.00	1,700.00	44,200.00	44,200.00
1000-2	Project Superintendent	26	wks		0.00	3,200.00	83,200.00	83,200.00
1000-3	O&M Manuals	5	ea	50.00	250.00	100.00	500.00	750.00
1000-4	Temp Heat	8	wks		0.00	500.00	4,000.00	4,000.00
1000-5	Telephone	26	wks	185.00	4,810.00		0.00	4,810.00
1000-6	Covered Pedestrian Walkway	30	lf	20.00	600.00	25.00	750.00	1,350.00
1000-7	Temp Fencing - 6' x 6 mths	80	lf	2.95	236.00	1.95	156.00	392.00
1000-8	Project Sign	1	ea	2,500.00	2,500.00		0.00	2,500.00
1000-9	Mobilization	1	ls		0.00	3,000.00	3,000.00	3,000.00
1000-10	Field Layout	2	days		0.00	800.00	1,600.00	1,600.00
1000-11	Continuous Cleanup	26	wks		0.00	280.00	7,280.00	7,280.00
1000-12	Final Cleanup	12570	sf	0.35	4,399.50		0.00	4,399.50
1000-13	Temp Toilet	26	wks	186.00	4,836.00		0.00	4,836.00
2000 DEMOLITION								
2000-1	Asbestos Tile Remediation	3000	sf		0.00	2.50	7,500.00	7,500.00
2000-2	Dust Partitions	2400	sf	2.50	6,000.00		0.00	6,000.00
2000-3	Gutting of all walls and finishes	12570	sf		0.00	5.00	62,850.00	62,850.00
2000-4	Dump Fees	87	ton	105.00	9,135.00		0.00	9,135.00
2000-5	20 cy dumpster	26	wks	625.00	16,250.00		0.00	16,250.00
2000-6	Remove exterior concrete slab, stairs, ramp	400	sf		0.00	2.00	800.00	800.00
2000-7	Electrical and mechnical demolition included in those divisions.				0.00		0.00	0.00
3000 CONCRETE								
3000-1	Strip Footing 16X8	100	lf	8.30	830.00	14.00	1,400.00	2,230.00
3000-2	8" concrete wall 8' average ht	75	lf	39.50	2,962.50	106.00	7,950.00	10,912.50
3000-3	12 concrete wall	25	lf	52.50	1,312.50	114.00	2,850.00	4,162.50
3000-4	12 x 12 concrete column	2.8	cy	850.00	2,380.00	1,100.00	3,080.00	5,460.00
3000-5	4" slab on grade	1152	sf	2.22	2,557.44	3.09	3,559.68	6,117.12
3000-6	Concrete stairs	56	lf	4.49	251.44	17.75	994.00	1,245.44
4000 MASONRY								
4000-1	Common brick	1324	sf	4.00	5,296.00	8.50	11,254.00	16,550.00
5000 METALS								
5000-1	W-section beams	64	lf	58.00	3,712.00	5.00	320.00	4,032.00
5000-2	Pipe handrail	154	lf	15.50	2,387.00	10.00	1,540.00	3,927.00
5000-3	Metal Joists	640	lf	4.22	2,700.80	5.00	3,200.00	5,900.80
5000-4	Steel Roof Deck	640	sf	2.97	1,900.80	0.50	320.00	2,220.80

6000 WOOD AND PLASTICS								
6000-1	Wood casing and sill	4	ea	50.00	200.00	200.00	800.00	1,000.00
6000-2	Reception Desk	26	lf	250.00	6,500.00	75.00	1,950.00	8,450.00
6000-3	Base Cabinets	30	lf	200.00	6,000.00	73.00	2,190.00	8,190.00
7000 THERMAL MOISTURE PROTECTION								
7000-1	PVC Roofing - adhered with tapered EPS for drainage over 1/2" densdeck	640	SF	6.00	3,840.00	2.50	1,600.00	5,440.00
7000-2	4" Roof edge flashing	72	lf	14.00	1,008.00	10.60	763.20	1,771.20
7000-3	Reglets	40	lf	1.28	51.20	1.63	65.20	116.40
8000 OPENINGS								
8000-1	Hollow metal frame welded/flush wood door, hinges	35	ea	650.00	22,750.00	250.00	8,750.00	31,500.00
8000-2	Lockset	35	ea	118.00	4,130.00	57.00	1,995.00	6,125.00
8000-3	Panic Hardware	2	ea	960.00	1,920.00	113.00	226.00	2,146.00
8000-4	Closer	4	ea	207.00	828.00	95.00	380.00	1,208.00
8000-5	Wall Stop	35	ea	10.00	350.00	15.00	525.00	875.00
8000-6	Weatherstrip and threshold	2	ea	48.00	96.00	89.00	178.00	274.00
8000-7	HM Window frame	18	ea	200.00	3,600.00	50.00	900.00	4,500.00
8000-8	Kick Plates	35	ea	41.00	1,435.00	25.00	875.00	2,310.00
8000-9	Aluminum Door and Sidelite	2	ea	920.00	1,840.00	350.00	700.00	2,540.00
8000-10	New exteior windows, cut opening, trim	2	ea	400.00	800.00	175.00	350.00	1,150.00
9000 FINISHES								
9000-1	3 5/8" Metal stud wall, 2 layers 5/8" type x, light texture, paint, sound insulation	8750	sf	3.28	28,700.00	9.08	79,450.00	108,150.00
9000-2	Prep, texture, paint existing walls	8960	sf	0.25	2,240.00	1.20	10,752.00	12,992.00
9000-3	4" Rubber base	1995	lf	1.26	2,513.70	1.07	2,134.65	4,648.35
9000-4	2x2 ACT tiles and grid	12570	sf	3.12	39,218.40	1.47	18,477.90	57,696.30
9000-5	Carpet tile 24x24	12570	sf	5.00	62,850.00	0.50	6,285.00	69,135.00
10000 SPECIALTIES								
10000-1	Interior signs 6x6 adhesive moun	36	ea	46.50	1,674.00	9.15	329.40	2,003.40
10000-2	Exterior signage - letters	27	ea	48.00	1,296.00	20.50	553.50	1,849.50
10000-3	Exterior sign - MSU logo	1	ea	200.00	200.00	30.00	30.00	230.00
10000-4	Directory Sign	1	ea	234.00	234.00	245.00	245.00	479.00
10000-5	Fire extinguisher and cabinet	2	ex	200.00	400.00	99.50	199.00	599.00
12000 FURNISHINGS								
12000-1	Horizontal Blinds	135	sf	5.50	742.50	2.00	270.00	1,012.50
12000-2	Furniture Quote 360 Office Solutions - state contract pricing	1	ea		0.00	184,703.00	184,703.00	184,703.00
13000 CONVEYING								
13000-1	ADA Lift	1	ea	8,500.00	8,500.00	1,500.00	1,500.00	10,000.00
23000 HVAC, PLUMBING & FIRE SPRINKLERS								
23000-1	Mechanical consultant estimate	1	ea		0.00	145,000.00	145,000.00	145,000.00
26000 ELECTRICAL								
26000-1	Electrical consultant estimate	1	ea		0.00	247,000.00	247,000.00	247,000.00

31000 EARTHWORK								
31000-1	Excavation and backfill	1	ls		0.00	5,000.00	5,000.00	5,000.00
					0.00		0.00	0.00

	CONSTRUCTION TOTAL		$1,262,574.31
		Cost per SF	$ 100.44
Contractor Mark-up	15%		$189,386.15
Subtotal			$1,451,960.46
Builders Risk Insurance	0.35%		$5,081.86
Performance Bond	1%		$14,519.60
Subtotal			$1,471,561.92
Mt Gross Receipts Tax	1%		$14,715.62
Subtotal			$1,486,277.54
Project Contingency	15%		$222,941.63
	GRAND TOTAL		**$1,709,219.17**
	Cost per SF		**$ 135.98**

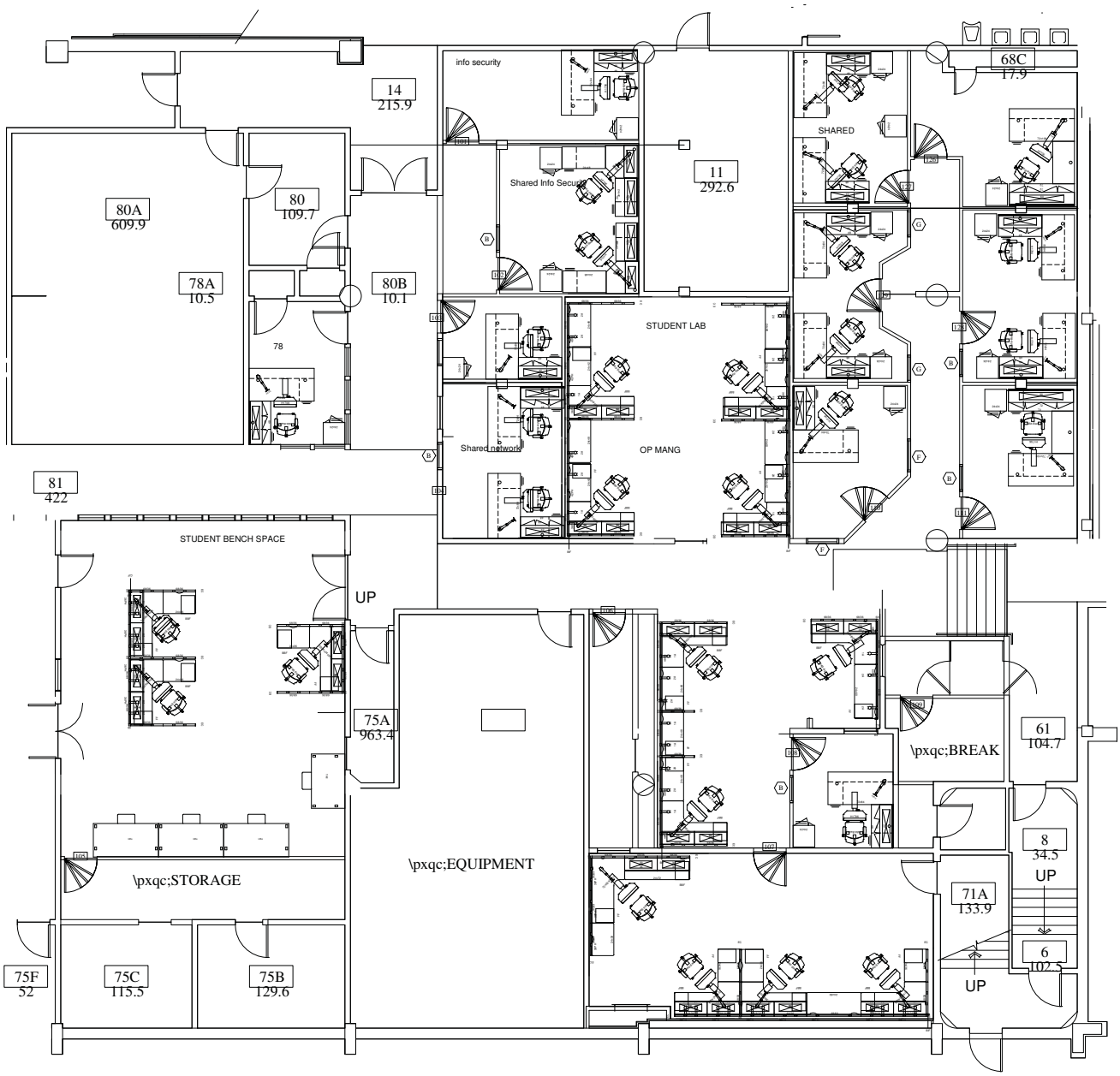
NEW CONSTRUCTION BUDGET

The new construction estimate was based on 2014 RS Means cost estimate guide. The costs for college administration buildings is listed between $164/sf and $212/sf. We averaged the two and used $188/sf for this study. As a comparison, the new MSU College of Business currently under construction is being built for $269/sf. The College of Business Building is proposed to be a signiture building on campus and has a higher level of finishes and systems than expected for this project. We propose a building for IT services will be more standard finishes and systems. The RS Means costs do account for Davis Bacon Wage Rates and public contracting. In addition to the building construction costs, we added furniture costs, builders risk insurance, 1% performance bond, 1% MT gross receipts tax, and a 10% project contingency. This estimate does not include site costs (including land, parking, landscape, and utilities.) The new construction estimate is not escalated for the cost of future construction beyond 2014. See the executive summary for a total including a 3 year escalation.

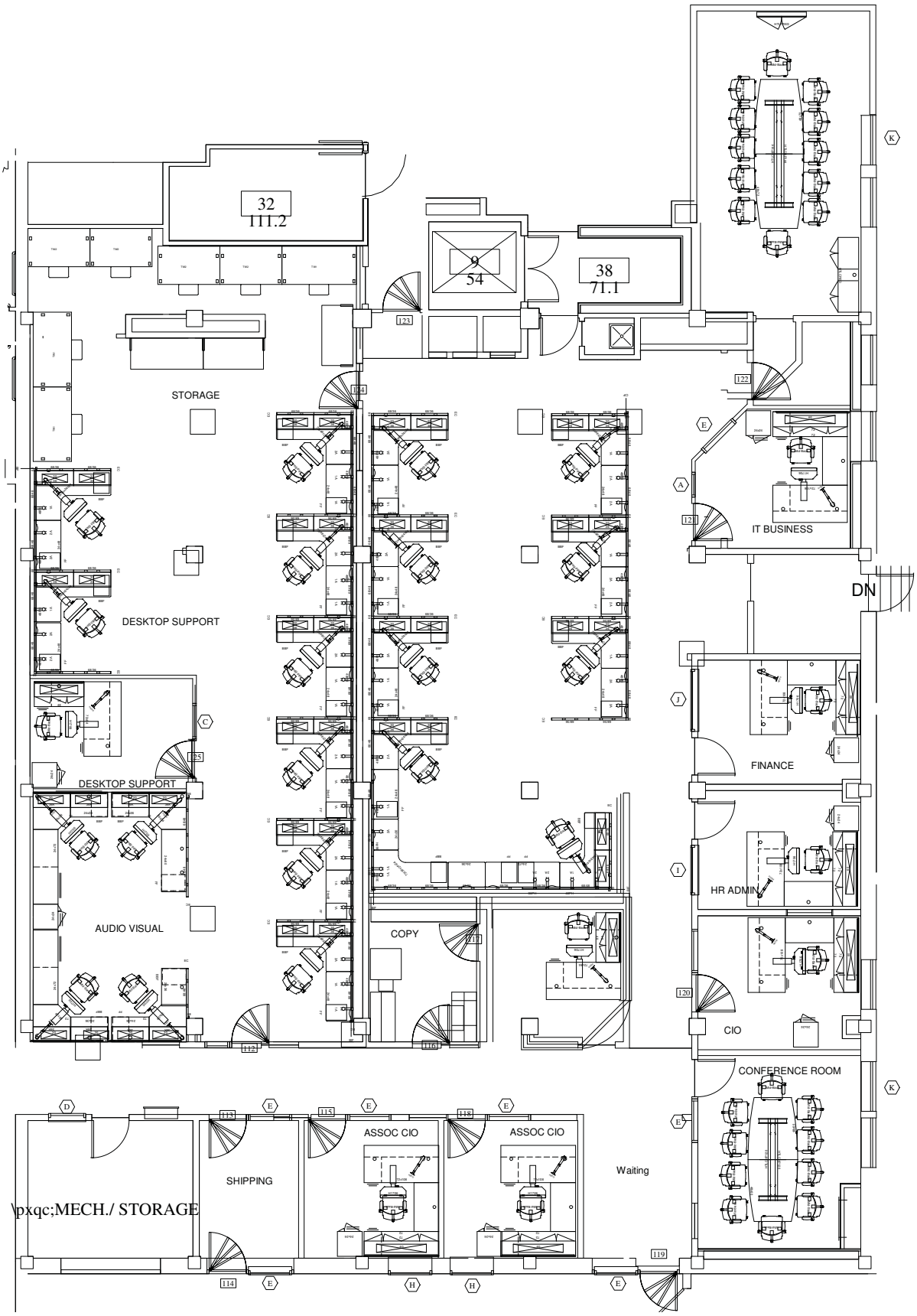
New Construction (18,603 sf x $188/sf)	$3,497,364	(building only)
Furniture Costs	$184,703	(preferred State contract pricing)
Builders Risk .35%	$12,240	
Performance Bond 1%	$34,975	
1% MT Gross Receipts Tax	$34,975	
10% Contingency	$340,975	
Total 2014 New Construction Estimate	**$4,105,232**	

FURNITURE QUOTE

Thanks to Jeremy Turner with 360 Office solutions for spending the time to pull together a detailed quote for this project. Below are the drawings with the detailed quote following the floor plans. We directed that he use items available from the state furniture contract. The retail cost is listed in his quote for comparison if the state contract was not used.



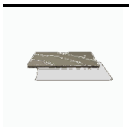
PHASE 1


32
111.2
9
54
38
71.1
STORAGE
DESKTOP SUPPORT
DESKTOP SUPPORT
AUDIO VISUAL
COPY
IT BUSINESS
DN
FINANCE
HR ADMIN
CIO
CONFERENCE ROOM
ASSOC CIO
ASSOC CIO
Waiting
SHIPPING
\pxqc;MECH./ STORAGE

360° Office Solutions
Smart answers everywhere you turn.

Quotation

MSU RENNE PHASE 1 and 2

	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	56	HON	HNR6836F	Initiate Raceway Fabric Panel 68H 36W	$565.00	$31,640.00	$163.85	$9,175.60
	Tag:	phase 1						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				
	6	HON	HWV93AALST	Systems 72x36x24x24 Left Corner Cove T-mold Scallops	$571.00	$3,426.00	$165.59	$993.54
	Tag:	phase1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	7	HON	HWR2436ST	Systems Rectangle Wksfc 36W x 24D Scallops	$257.00	$1,799.00	$74.53	$521.71
	Tag:	phase 1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	17	HON	HH871236A	Electrical Power Harness 36W 3-3-2 System	$171.00	$2,907.00	$49.59	$843.03
	Tag:	phase 1						
	26	HON	HH871501A	Duplex Receptacle Circuit 1 3-3-2 System	$33.00	$858.00	$9.57	$248.82
	Tag:	phase 1						
			.SHDW	PAINT: Shadow				
	22	HON	HH871502A	Duplex Receptacle Circuit 2 3-3-2 System	$33.00	$726.00	$9.57	$210.54
	Tag:	phase 1						
			.SHDW	PAINT: Shadow				
	1	HON	HH871912A	Ceiling In-Feed Cable 144" Long	$197.00	$197.00	$57.13	$57.13
	Tag:	phase 1						
	1	HON	HNPP10	Power Pole 6' 6"	$303.00	$303.00	$87.87	$87.87
	Tag:	phase 1						
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	PAINT: Shadow				
	28	HON	HNOH36FD	Initiate 36Wx14 3/8Dx15H Initiate Flipper Overhead Door	$505.00	$14,140.00	$146.45	$4,100.60
	Tag:	phase 1						
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				

Sales Representative: JEREMY TURNER
Specified By: SHIRLEY

1/20/2014
MSU RENNE PHASE 1.visual.sp4

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	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
			.L	Lock: Lock				
	28	HON	HH870930	Tasklight 30W	$185.00	$5,180.00	$53.65	$1,502.20
	Tag:	phase 1						
	14	HON	HVFB20R	Box/Box/File 28H x 19 7/8D x 15W	$405.00	$5,670.00	$117.45	$1,644.30
	Tag:	phase 1						
			.L	Lock: Lock				
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	Paint: Shadow				
	15	HON	HVFF20R	File/File 28H x 19 7/8D x 15W	$405.00	$6,075.00	$117.45	$1,761.75
	Tag:	phase 1						
			.L	Lock: Lock				
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	Paint: Shadow				
	5	HON	HWV93AARST	Systems 72x36x24x24Rt Corner Cove T-mold Scallops	$571.00	$2,855.00	$165.59	$827.95
	Tag:	phase 1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	17	HON	H1706	Articulating Arm w/Keyboard Platform	$405.00	$6,885.00	$117.45	$1,996.65
	Tag:	phase 1						
	31	HON	HIWM3	Ignition Wk Mid-bck Pneu Syn tilt Bck Adj Tilt Seat Gld	$724.00	$22,444.00	$264.26	$8,192.06
	Tag:	phase 1						
			.A	Arm: Height and Width Adj				
			.H	CASTER: Hard				
			.M	Back: Mesh Back				
			$(3)	GRADE: III UPHOLSTERY				
			.CU	UPH: Centurion				
			24	COLOR: Morel				
			.T	FRAME: Black				
			.SB	Base: Standard Black				
	14	HON	H1706	Articulating Arm w/Keyboard Platform	$405.00	$5,670.00	$117.45	$1,644.30
	Tag:	phase 1						
	7	HON	H105LLH7284C	10500 L-Station Stack-On Storage	$2,504.00	$17,528.00	$926.48	$6,485.36
	Tag:	phase 1						
	6	HON	H105LRH7284C	10500 L-Station Stack-On Storage	$2,504.00	$15,024.00	$926.48	$5,558.88
	Tag:	phase 1						

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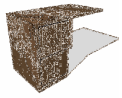
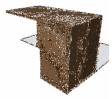
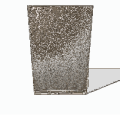
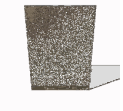
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	2	HON	H105811	10500 SeriesCorner Unit 24x36x36x24x 29-1/2H	$659.00	$1,318.00	$243.83	$487.66
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	1	HON	H105906L	10500 Series 48Wx24Dx29-1/2H Return Lt File/File Ped	$847.00	$847.00	$313.39	$313.39
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	1	HON	H105905R	10500 Series 48Wx24Dx29-1/2H Return Rt File/File Ped	$847.00	$847.00	$313.39	$313.39
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	1	HON	H105908L	10500 Series 42Wx24Dx29-1/2H Return Lt File/File Ped	$828.00	$828.00	$306.36	$306.36
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	1	HON	H105907R	10500 Series 42Wx24Dx29-1/2H Return Rt File/File Ped	$828.00	$828.00	$306.36	$306.36
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	2	HON	H105381K	10500 Series36"x18 1/2" Wall Mount Storage 2-Dr Locking	$683.00	$1,366.00	$252.71	$505.42
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	2	HON	HH870930	Tasklight 30W	$185.00	$370.00	$53.65	$107.30
	Tag:	phase 1						
	2	HON	H105382K	10500 Series42"x18 1/2" Wall Mount Storage 2-Dr Locking	$747.00	$1,494.00	$276.39	$552.78
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	15	HON	HH870942	Tasklight 42W	$200.00	$3,000.00	$58.00	$870.00
	Tag:	phase 1						
	2	HON	H90052	10500 Series Tckbd for 42"W Stack on Strg Bck Enclosure	$186.00	$372.00	$68.82	$137.64
	Tag:	phase 1						

3676 Pierce Parkway ● Billings, Montana 59106 ● 406-248-7881 ph ● 406-252-9718 fax

	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
			$(3) .AR 03	GRADE: Fabric Grade III FABRIC: Arch COLOR: Walnut				
	4	HON	HNR6842F	Initiate Raceway Fabric Panel 68H 42W	$615.00	$2,460.00	$178.35	$713.40
	Tag:	phase 1						
			$(3) .AR 03 $(CORE) .SHDW	GRADE: Fabric Grade III FABRIC: Arch COLOR: Walnut Select Core Paint PAINT: Shadow				
	10	HON	HNR6848F	Initiate Raceway Fabric Panel 68H 48W	$645.00	$6,450.00	$187.05	$1,870.50
	Tag:	phase 1						
			$(3) .AR 03 $(CORE) .SHDW	GRADE: Fabric Grade III FABRIC: Arch COLOR: Walnut Select Core Paint PAINT: Shadow				
	4	HON	HH871242A	Electrical Power Harness 42W 3-3-2 System	$180.00	$720.00	$52.20	$208.80
	Tag:	phase 1						
	10	HON	HH871248A	Electrical Power Harness 48W 3-3-2 System	$180.00	$1,800.00	$52.20	$522.00
	Tag:	phase 1						
	5	HON	HH879072A	Power In-Feed Cable Base 3-3-2 System	$190.00	$950.00	$55.10	$275.50
	Tag:	phase 1						
	4	HON	HWR2442ST	Systems Rectangle Wksfc 42W x 24D Scallops	$294.00	$1,176.00	$85.26	$341.04
	Tag:	phase 1						
			.A5 .SHDW .C SHDW	LAM: Sheer Mesh T-MOLD: Shadow With Cantilever PAINT: Shadow				
	7	HON	HWR2448ST	Systems Rectangle Wksfc 48W x 24D Scallops	$310.00	$2,170.00	$89.90	$629.30
	Tag:	phase 1						
			.A5 .SHDW .C SHDW	LAM: Sheer Mesh T-MOLD: Shadow With Cantilever PAINT: Shadow				
	1	HON	H105ULH72108C	10500 U-Station	$3,130.00	$3,130.00	$1,158.10	$1,158.10
	Tag:	phase 1						

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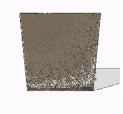
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	1	HON	H105URH72108C	10500 U-Station	$3,130.00	$3,130.00	$1,158.10	$1,158.10
	Tag:	phase 1						
	2	HON	HNR6860F	Initiate Raceway Fabric Panel 68H 60W	$698.00	$1,396.00	$202.42	$404.84
	Tag:	phase 1						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				
	2	HON	HH871260A	Electrical Power Harness 60W 3-3-2 System	$180.00	$360.00	$52.20	$104.40
	Tag:	phase 1						
	2	HON	HWR2460ST	Systems Rectangle Wksfc 60W x 24D Scallops	$357.00	$714.00	$103.53	$207.06
	Tag:	phase 1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	1	HON	HWR2472ST	Systems Rectangle Wksfc 72W x 24D Scallops	$399.00	$399.00	$115.71	$115.71
	Tag:	phase 1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	2	HON	HWV95AALST	Systems 72x48x24x24Left Corner Cove T-mold Scallop	$707.00	$1,414.00	$205.03	$410.06
	Tag:	phase 1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	1	HON	HWV95AARST	Systems 72x48x24x24Rt Corner Cove T-mold Scallops	$707.00	$707.00	$205.03	$205.03
	Tag:	phase 1						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	11	HON	HNREC	Initiate Panel Raceway End Cover	$28.00	$308.00	$8.12	$89.32
	Tag:	phase 1						
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	PAINT: Shadow				

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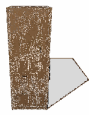
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	19	HON	HNRC68	Initiate Universal Connector 68H	$149.00	$2,831.00	$43.21	$820.99
	Tag:	phase 1						
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	PAINT: Shadow				
	13	HON	H105853	10500 Series Back enclosure for 48"W Stack on Storage	$180.00	$2,340.00	$66.60	$865.80
	Tag:	phase 1						
			.C	LAM: Harvest				
	13	HON	H90053	10500 Series Tckbd for 48"W Stack on Strg Bck Enclosure	$201.00	$2,613.00	$74.37	$966.81
	Tag:	phase 1						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
	7	HON	H105302L	10500 Series Personal Wardrobe/Strg Cab 24W 24D 66-5/8"H	$1,847.00	$12,929.00	$683.39	$4,783.73
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	8	HON	H105301R	10500 Series Personal Wardrobe/Strg Cab 24W 24D 66-5/8"H	$1,847.00	$14,776.00	$683.39	$5,467.12
	Tag:	phase 1						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	2	HON	H105856	10500 Series Back enclosure for 72"W Stack on Storage	$201.00	$402.00	$74.37	$148.74
	Tag:	phase 1						
			.C	LAM: Harvest				
	2	HON	H90056	10500 Series Tckbd for 72"W Stack on Strg Bck Enclosure	$253.00	$506.00	$93.61	$187.22
	Tag:	phase 1						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
	2	HON	HH870960	Tasklight 60W	$216.00	$432.00	$62.64	$125.28
	Tag:	phase 1						
	31	HON	H5220	Dual Monitor Arm-Effortless Adj	$820.00	$25,420.00	$237.80	$7,371.80
	Tag:	phase 1						
	1		INSTALL	INSTALL	$11,643.85	$11,643.85	$11,643.85	$11,643.85
	Tag:	phase 1						

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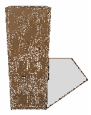
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	4	HON	H105ULH72108C	10500 U-Station	$3,130.00	$12,520.00	$1,158.10	$4,632.40
	Tag:	phase 2						
	6	HON	H105856	10500 Series Back enclosure for 72"W Stack on Storage	$201.00	$1,206.00	$74.37	$446.22
	Tag:	phase 2						
			.C	LAM: Harvest				
	10	HON	H90056	10500 Series Tckbd for 72"W Stack on Strg Bck Enclosure	$253.00	$2,530.00	$93.61	$936.10
	Tag:	phase 2						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
	6	HON	HH870960	Tasklight 60W	$216.00	$1,296.00	$62.64	$375.84
	Tag:	phase 2						
	7	HON	H105301R	10500 Series Personal Wardrobe/Strg Cab 24W 24D 66-5/8"H	$1,847.00	$12,929.00	$683.39	$4,783.73
	Tag:	phase 2						
			.C	LAM: Harvest				
			C	LAM: Harvest				
	12	HON	H1706	Articulating Arm w/Keyboard Platform	$405.00	$4,860.00	$117.45	$1,409.40
	Tag:	phase 2						
	28	HON	HIWM3	Ignition Wk Mid-bck Pneu Syn tilt Bck Adj Tilt Seat Gld	$724.00	$20,272.00	$264.26	$7,399.28
	Tag:	phase 2						
			.A	Arm: Height and Width Adj				
			.H	CASTER: Hard				
			.M	Back: Mesh Back				
			$(3)	GRADE: III UPHOLSTERY				
			.CU	UPH: Centurion				
			24	COLOR: Morel				
			.T	FRAME: Black				
			.SB	Base: Standard Black				
	2	HON	H105URH72108C	10500 U-Station	$3,130.00	$6,260.00	$1,158.10	$2,316.20
	Tag:	phase 2						
	1	HON	H105302L	10500 Series Personal Wardrobe/Strg Cab 24W 24D 66-5/8"H	$1,847.00	$1,847.00	$683.39	$683.39
	Tag:	phase 2						
			.C	LAM: Harvest				
			C	LAM: Harvest				

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	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	1	HON	HTLB48120	Preside 120W x 48D Boat Shaped Laminate Top	$919.00	$919.00	$340.03	$340.03
	Tag:	phase 2						
			.G	2MM/Flat				
			C	LAM: Harvest				
			.N	No Grommets				
			.C	LAM: Harvest				
	1	HON	HTLCHP120	Preside Lam Curved Hollow Panel Base For 120 W Table Tops	$1,750.00	$1,750.00	$647.50	$647.50
	Tag:	phase 2						
			.C	LAM: Harvest				
			.C	Harvest				
	22	HON	HIWM1	Ignition Wk Mid-bck Pneu Swivel tilt Tilt Bck Ht Adj	$619.00	$13,618.00	$225.94	$4,970.68
	Tag:	phase 2						
			.A	Arm: Height and Width Adj				
			.H	CASTER: Hard				
			.M	Back: Mesh Back				
			$(3)	GRADE: III UPHOLSTERY				
			.CU	UPH: Centurion				
			24	COLOR: Morel				
			.T	FRAME: Black				
			.SB	Base: Standard Black				
	1	HON	HTLB48144	Preside 144W x 48D Boat Shaped Laminate Top	$1,029.00	$1,029.00	$380.73	$380.73
	Tag:	phase 2						
			.G	2MM/Flat				
			C	LAM: Harvest				
			.N	No Grommets				
			.C	LAM: Harvest				
	1	HON	HTLCHP144	Preside Lam Curved Hollow Panel Base For 144 W Table Tops	$1,806.00	$1,806.00	$668.22	$668.22
	Tag:	phase 2						
			.C	LAM: Harvest				
			.C	Harvest				
	1	HON	HTLCRED	Preside Laminate Hospitality Credenza	$2,463.00	$2,463.00	$911.31	$911.31
	Tag:	phase 2						
			.G	LAM: 2mm/Flat				
			C	LAM: Harvest				
			.C	LAM: Harvest				
			.C	LAM: Harvest				
			.G	Pull: Loop Black				
	1	HON	HTLPRES	Preside Laminate Presentation Cabinet	$1,393.00	$1,393.00	$515.41	$515.41
	Tag:	phase 2						
			.C	LAM: Harvest				

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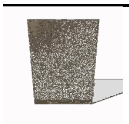
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	2	HON	H105LRH7284C	10500 L-Station Stack-On Storage	$2,504.00	$5,008.00	$926.48	$1,852.96
	Tag:	phase 2						
	2	HON	H105853	10500 Series Back enclosure for 48"W Stack on Storage	$180.00	$360.00	$66.60	$133.20
	Tag:	phase 2						
			.C	LAM: Harvest				
	2	HON	H90053	10500 Series Tckbd for 48"W Stack on Strg Bck Enclosure	$201.00	$402.00	$74.37	$148.74
	Tag:	phase 2						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
	2	HON	HH870942	Tasklight 42W	$200.00	$400.00	$58.00	$116.00
	Tag:	phase 2						
	42	HON	HNR6836F	Initiate Raceway Fabric Panel 68H 36W	$565.00	$23,730.00	$163.85	$6,881.70
	Tag:	phase 2						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				
	34	HON	HNR6848F	Initiate Raceway Fabric Panel 68H 48W	$645.00	$21,930.00	$187.05	$6,359.70
	Tag:	phase 2						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				
	31	HON	HH871248A	Electrical Power Harness 48W 3-3-2 System	$180.00	$5,580.00	$52.20	$1,618.20
	Tag:	phase 2						
	33	HON	HH871501A	Duplex Receptacle Circuit 1 3-3-2 System	$33.00	$1,089.00	$9.57	$315.81
	Tag:	phase 2						
			.SHDW	PAINT: Shadow				
	33	HON	HH871502A	Duplex Receptacle Circuit 2 3-3-2 System	$33.00	$1,089.00	$9.57	$315.81
	Tag:	phase 2						
			.SHDW	PAINT: Shadow				

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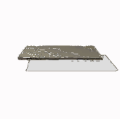
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	4	HON	HH879072A	Power In-Feed Cable Base 3-3-2 System	$190.00	$760.00	$55.10	$220.40
	Tag:	phase 2						
	10	HON	HWV95AALST	Systems 72x48x24x24Left Corner Cove T-mold Scallop	$707.00	$7,070.00	$205.03	$2,050.30
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	15	HON	HWR2448ST	Systems Rectangle Wksfc 48W x 24D Scallops	$310.00	$4,650.00	$89.90	$1,348.50
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	32	HON	HNOH36FD	Initiate 36Wx14 3/8Dx15H Initiate Flipper Overhead Door	$505.00	$16,160.00	$146.45	$4,686.40
	Tag:	phase 2						
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				
			.L	Lock: Lock				
	32	HON	HH870930	Tasklight 30W	$185.00	$5,920.00	$53.65	$1,716.80
	Tag:	phase 2						
	17	HON	HVFB20R	Box/Box/File 28H x 19 7/8D x 15W	$405.00	$6,885.00	$117.45	$1,996.65
	Tag:	phase 2						
			.L	Lock: Lock				
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	Paint: Shadow				
	28	HON	H5220	Dual Monitor Arm-Effortless Adj	$820.00	$22,960.00	$237.80	$6,658.40
	Tag:	phase 2						
	17	HON	HVFF20R	File/File 28H x 19 7/8D x 15W	$405.00	$6,885.00	$117.45	$1,996.65
	Tag:	phase 2						
			.L	Lock: Lock				
			$(CORE)	PAINT: Select Core Paint				
			.SHDW	Paint: Shadow				
	16	HON	H1706	Articulating Arm w/Keyboard Platform	$405.00	$6,480.00	$117.45	$1,879.20
	Tag:	phase 2						

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	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	1	HON	HNR6830F	Initiate Raceway Fabric Panel 68H 30W	$516.00	$516.00	$149.64	$149.64
	Tag:	phase 2						
			$(3)	GRADE: Fabric Grade III				
			.AR	FABRIC: Arch				
			03	COLOR: Walnut				
			$(CORE)	Select Core Paint				
			.SHDW	PAINT: Shadow				
	2	HON	HH871236A	Electrical Power Harness 36W 3-3-2 System	$171.00	$342.00	$49.59	$99.18
	Tag:	phase 2						
	1	HON	HH871230A	Electrical Power Harness 30W 3-3-2 System	$171.00	$171.00	$49.59	$49.59
	Tag:	phase 2						
	6	HON	HWV95AARST	Systems 72x48x24x24Rt Corner Cove T-mold Scallops	$707.00	$4,242.00	$205.03	$1,230.18
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	1	HON	HWV93AALST	Systems 72x36x24x24 Left Corner Cove T-mold Scallops	$571.00	$571.00	$165.59	$165.59
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	1	HON	HWR2430ST	Systems Rectangle Wksfc 30W x 24D Scallops	$247.00	$247.00	$71.63	$71.63
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	1	HON	HWR2472ST	Systems Rectangle Wksfc 72W x 24D Scallops	$399.00	$399.00	$115.71	$115.71
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				
			SHDW	PAINT: Shadow				
	1	HON	HWR2436ST	Systems Rectangle Wksfc 36W x 24D Scallops	$257.00	$257.00	$74.53	$74.53
	Tag:	phase 2						
			.A5	LAM: Sheer Mesh				
			.SHDW	T-MOLD: Shadow				
			.C	With Cantilever				

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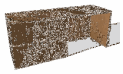
	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
			SHDW	PAINT: Shadow				
	1	HON	HH871912A	Ceiling In-Feed Cable 144" Long	$197.00	$197.00	$57.13	$57.13
	Tag:	phase 2						
	1	HON	HNPP10	Power Pole 6' 6"	$303.00	$303.00	$87.87	$87.87
	Tag:	phase 2						
			$(CORE) .SHDW	PAINT: Select Core Paint PAINT: Shadow				
	2	HON	HNRW68	Initiate Raceway Wall Starter 68H	$129.00	$258.00	$37.41	$74.82
	Tag:	phase 2						
			$(CORE) .SHDW	PAINT: Select Core Paint PAINT: Shadow				
	4	HON	H105811	10500 SeriesCorner Unit 24x36x36x24x 29-1/2H	$659.00	$2,636.00	$243.83	$975.32
	Tag:	phase 2						
			.C C	LAM: Harvest LAM: Harvest				
	5	HON	H105680	10500 Series Return Shell 29-1/2H x 36W x 24D	$423.00	$2,115.00	$156.51	$782.55
	Tag:	phase 2						
			.C C	LAM: Harvest LAM: Harvest				
	1	HON	H105684	10500 Series Return Shell 29-1/2H x 60W x 24D	$547.00	$547.00	$202.39	$202.39
	Tag:	phase 2						
			.C C	LAM: Harvest LAM: Harvest				
	1	HON	H10548L	10500 Series Cred Lateral File Left 72W 24D	$1,209.00	$1,209.00	$447.33	$447.33
	Tag:	phase 2						
			.C C	LAM: Harvest LAM: Harvest				
	1	HON	H10547R	10500 Series Cred Lateral File Right 72W 24D	$1,209.00	$1,209.00	$447.33	$447.33
	Tag:	phase 2						
			.C C	LAM: Harvest LAM: Harvest				
	4	HON	H10502	10500 Series Floorstnd Full Ht Ped B/B/F 15-5/8W x 22-3/4D	$590.00	$2,360.00	$218.30	$873.20
	Tag:	phase 2						
			.C	LAM: Harvest				

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	Qty	Mfg	Part Number	Part Description	List	Ext List	Sell	Ext Sell
	2	HON	H10504	10500 Series Floorstnding Full Ht Ped F/F 15-5/8W x 22-3/4D	$590.00	$1,180.00	$218.30	$436.60
	Tag:	phase 2						
			.C	LAM: Harvest				
	8	HON	H105381K	10500 Series36"x18 1/2" Wall Mount Storage 2-Dr Locking	$683.00	$5,464.00	$252.71	$2,021.68
	Tag:	phase 2						
			.C C	LAM: Harvest LAM: Harvest				
	8	HON	HH870930	Tasklight 30W	$185.00	$1,480.00	$53.65	$429.20
	Tag:	phase 2						
	19	HON	HNRC68	Initiate Universal Connector 68H	$149.00	$2,831.00	$43.21	$820.99
	Tag:	phase 2						
			$(CORE) .SHDW	PAINT: Select Core Paint PAINT: Shadow				
	11	HON	HNREC	Initiate Panel Raceway End Cover	$28.00	$308.00	$8.12	$89.32
	Tag:	phase 2						
			$(CORE) .SHDW	PAINT: Select Core Paint PAINT: Shadow				
	1		INSTALL	INSTALL	$12,743.00	$12,743.00	$12,743.00	$12,743.00
	Tag:	phase 2						
				Grand Totals		**$521,414.85**		**$184,703.73**

PRICING VALID FOR 60 DAYS FROM DATE OF THIS QUOTATION.

PAYMENT TERMS & CONDITIONS ARE AS FOLLOWS
33% down payment to be paid prior to placement of order with manufacturers when order is greater than $3,000.00. Merchandise will be invoiced at SELLER'S warehouse or designated shipping point. Only complete units which are useable by the BUYER will be invoiced.
Invoices are due and payable net 15 days from date of invoice. The down-payment will be applied to the last merchandise invoice. No payment may be withheld by the seller due to changes in shipment dates or partial shipment of orders by manufacturer.
SELLER will accept MasterCard, Visa, Discover and American Express credit card payments. However, BUYER agrees to reimburse SELLER for all credit card processing fees.
A service charge of 1 1/2% per month will be assessed on past-due payments. This is an annual percentage rate of 18%.
CANCELLATION & CHANGES

It is understood and agreed that this order cannot be cancelled expet by mutual consent. This agreement is final and binding and cannot be changed except by mutual concent. Any changes are subject to sellers' ability to conform and are dependent upon factory approval. Resulting additional charges from the manufacturer shall be paid by the BUYER. All requests for changes will quantity or specifications shall be delivered to the SELLER in writing.

I hereby authorize 360 Office Solutions to order the product specified on the above quotation in accordance with the above stated PAYMENT TERMS & CONDITIONS.

Authorized Signature/Title _____ Date _____ Date

Sales Representative: JEREMY TURNER
Specified By: SHIRLEY

1/20/2014
MSU RENNE PHASE 1.visual.sp4

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G. APPENDIX : MEETING NOTES

MEETING NOTES

PROJECT: Renne ITC Space Modifications

MEETING PURPOSE: Project Walk Through and Scoping Meeting

MEETING DATE/TIME: September 5, 2013 3:00-5:30

MEETING LOCATION: Renne Library Basement – Walk through
MSU FPDC upper conference room – Scoping Meeting

ATTENDEES: Bill Walker
Bob Lashaway
Walt Banzinger
Anne Milkovich
Scott Bechtle

Scott Bechtle and Bill Walker walked through the existing space to familiarize themselves with the space. Later they met with Anne Milkovich to discuss ITC operations and space history. Then at 4:00, Bill, Scott, and Anne joined Walt Banzinger and Bob Lashaway at the FPDC Conference room.

ITC SPACE WALK THROUGH

ITC Public Entrance

- Safety of staff carrying product down the steep ramp is a concern. Even if covered to make safer during the winter months, the ramp is steeper than allowed by standard accessible and ramp code requirements.
- The entrance is both the public and service access. Delivery trucks park in front of the ramp to use the ramp for deliveries. A delivery truck policy of not letting their vehicles run was required because exhaust fumes were entering the basement space. We should consider separating the vehicular and pedestrian access locations for safety and aesthetic purposes.
- The refuse container for the building is located to the right of the entry which is an undesirable entry element. Anne would like to see the container location moved so it is not the first element customers see as they enter the ITC Entrance.
- The ITC Center does not have an easily identifiable entry so way finding is confusing. Once customers or service personnel enter there is not reception or intuitive hierarchy of where each should go or a person to ask for directions.

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Access within the Space

- The basement has two different floor heights connected by stairs. A temporary ramp has been installed to aid in deliveries but is not designed to meet required codes and exiting.
- The basement is carved up into multiple rooms and hallways. There are multiple exit paths from the space. Additional investigation on door hardware and locking needs to be verified. Additional measures for ADA accessibility compliance are required. This can be done by ramps or lifts to accommodate the elevation difference. It is likely that the existing bathrooms will need accessibility upgrades if any remodel done.
- There is no clear way finding in the space or any clear designation of where ITC starts and ends. It appears that the connection to the Library lobby is locked off at the end of the day but the door hardware does not meet code if it is. There is also a power assist opener on the door for wheelchair access. We did not check to see if it was still functional.
- The existing elevators 009 and 002 are not operational for the public access. There is not access from the lower level (Library Lobby level) to the raised level to the east.
- The Data Center serves as the server for four campuses. To move the Center would be very expensive so the plan for now is to keep this in its existing location. The help center located adjacent to the Data center is being moved to an upper floor of the Library to provide better customer/student access. This vacated room has an access floor and is proposed to be used as storage and future Data Center expansion. Limited access to the Data Center will be required through this room.
- The desktop service counter is in room 068 which is not conveniently located near the primary entrance or the Library lobby. Having a desktop service counter at the perimeter of the ITC suite would be beneficial for easier customer/student access. Room 076 is located adjacent to the Library Lower Lobby room 010 and would be a good location for this service window. There is a large duct that comes through the floor and across the ceiling that possibly could be relocated to allow for this type of service window access to the Library. Additional investigation to the duct relocation would be required before further pursuing this idea.

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Scoping Meeting (Anne's Office)

- When we met with Anne Milkovich in her office we discussed that the help desk is being moved upstairs and that they would like to move the AV team to the library out of AJM Johnson. This move is primarily to have the staff as a part of the ITC office location. The AV staff needs to be centrally located to campus to provide a 10 minute response time. There requires some storage along with space for 3 people but additional storage can be located in a remote location from the AV Team office.
- Anne will develop a draft organization chart with staff needs current and future for us to develop a department area program for use in this planning exercise. We will meet to go over the program and determine what workgroups need to stay together or can be remote. Also we will determine if the current space being used is adequate or if additional space is required.
- ITC is currently short on meeting room space.
- The ITC space does not have many rooms with natural light access and the space may need additional ventilation. The space had a damp smell. The space has flooded 4 times in the 7 years Anne has been there.
- Eventually the Library would like to utilize the space ITC is in for the Library core function and have ITC move to a new location (excluding the Data Center).

Scoping Meeting (FPDC Conference Room)

- The goal of this project is to provide planning for the ITC space in the basement of the Renne Library. The planning is proposed to investigate three concept options with initial budgets. Those options include:
    1. Remodel of the basement for continued operations and ITC stays in their current spaces.
    2. Remodel of the basement and move portions of the ITC operation to other locations on campus. (Currently ITC is located in Renne Library Basement, AJM Johnson, and Montana Hall.)
    3. Move entire ITC Operation (with our without Data Center) to a new location. That location could be leased or newly constructed space.
- Minor "lipstick" remodel will not solve the department's short term issues (paint, furniture and addressing the ramp/stair issue).
    - The ITC Center needs a "sense of place" or lobby presence separate from the shipping and receiving entry.
    - Priorities
        - Address the Safety/Service Issues in existing space.
        - Improve the quality of the space for staff and customers.
        - Provide a long term department solution or possible new home.
    - Phased Solution:
        - Short Term Relief 1-3 year solution
        - Mid Term Relief 4-5 year solution
    - Entry location – the current service entry is also the entry to the back of the SUB and the back of both the Library and AJM Johnson.
        - The long term master plan does not address changing this any time soon.
        - Depending on what happens with the Romney Oval the service area may be impacted or change character.
        - Even if we add onto the back of the library to create an entry and address the service and level change issues the building still needs a back service area.

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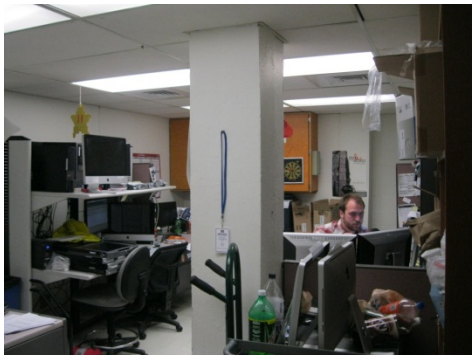
- ITC Existing Space (Net – excluding walls, circulation, restrooms, mechanical, janitor)
  - Renne Library Offices – 5,937 SF Net
  - Renne Library Data Center – 2,877 SF Net
  - Montana Hall Offices – 1,973 SF Net
  - AJM Johnson Offices – 435 SF Net
  - Total Occupied Space – 10,787 SF Net
  - Total Occupied Space Excluding Data Center – 8,145 SF Net
    - Note that the current spaces are over-occupied and should be increased to allow for basic function and storage requirements.



- Needed ITC Space
  - Additional required space to satisfy current needs includes:
    - Entry Reception Space
    - Small and Large Conference room
    - Employee break area separate from copy room
    - Additional storage
    - Outside contractor work space

- ITC Space Requirements (Excluding Data Center)
  - Based on addressing the crowded space issue, future growth (15%), and needed space estimated space required is in the range of 15,000 SF to 16,000 SF net area.

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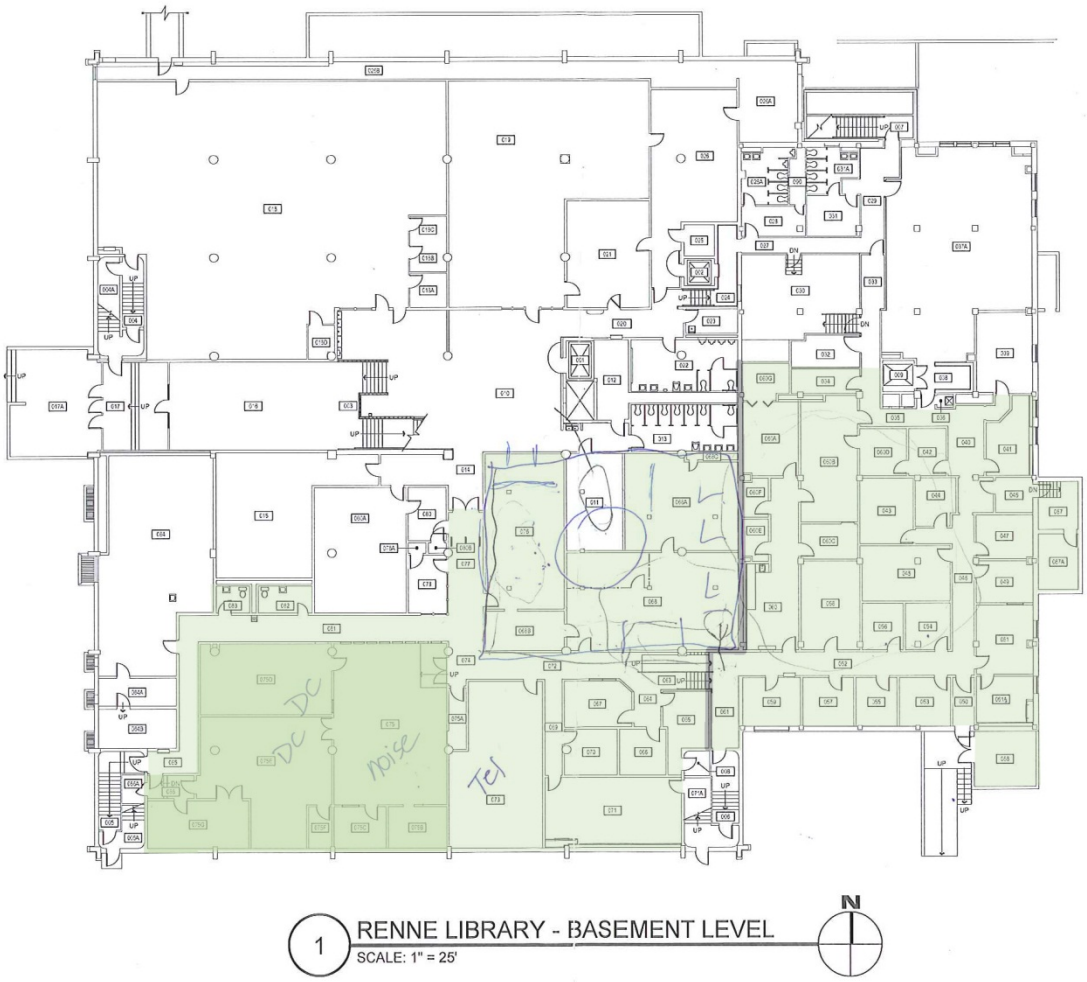
- ((8,145 SF existing) +(3,000 SF +/- needed)) X 1.25 crowding X 1.15 growth)

- Once we add a net-to-gross area multiplier (65% to gross) to account for the walls, corridors, stairs, elevators, storage, and bathrooms this equates to a 23,000 SF to 24,000 SF space required.
- The current gross area of the ITC Department in the basement of Renne Library including hallways, stairs and restrooms is 14,400 GSF. Excluding the data center the current ITC gross area is roughly 11,500 GSF.



- This estimate needs to be qualified further but is a general big picture start.

Next Steps – Proposed Plan

- Determine what the existing 11,500 GSF will accommodate for the ITC department assuming that the Data Center remains in its current space and the help center vacated space becomes storage.
  - Schedule a meeting with Anne Milkovich, Adam Edelman, Bill Walker to determine general program space requirements and what workgroup adjacencies are required for department operation.
  - Determine what workgroups need to be located in the core versus located remote.

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    - Consider opening space to include a combination of closed and open offices.
    - Consider what storage may be located off-site.
- Propose a solution to the step in the building floor levels that allows accessibility from the east to the west of the space. (Change in level shown with gray line in drawing).
- Propose a solution to the entry and service /delivery to the department.
- **Tentative Schedule**:
    - Have a general approach by early October.
- **Develop a scope of work**/fee proposal to be incorporated into the AE contract.
    - First phase – Concept/Programming.
        - Meetings with ITC and FPDC.
        - Review existing space use and building drawings.
        - Develop drawing concepts for proposed solutions.
        - Work with FPDC project architect as required to document short term and long term ITC Department Options.
            - ITC Department stays in basement with remodel of the space
            - Move a portion of ITC Department to new location and remodel space for the remaining staff.
            - Move ITC Department to new location (leased or new).
        - Provide limited MEP engineering to determine budget pricing and system approach narrative for each option.
        - Develop architectural narrative describing approach and finishes included in budget.
        - Provide SF budget pricing for concept options.
        - Document in a report with recommendations.
    - Phase 2 – Schematic Design and Development
        - To be negotiated at a later time.
    - Phase 3 - Construction Drawings
        - To be negotiated at a later time.

Next Meeting

- September 13, 2013, 3:30 PM at Renne Library at ITC conference room.

END OF MEETING MINUTES

The foregoing is the author's understanding of the content of this meeting. If the attendee's understanding differs from the above, please respond to the author within ten working days.

BECHTLE ARCHITECTS, INC.
Scott Bechtle, AIA LEED AP
406-599-1742 m
scottb@bechtlearchitects.com

MEETING NOTES

PROJECT: Renne ITC Space Modifications

MEETING PURPOSE: Project Walk Through and Scoping Meeting

MEETING DATE/TIME: September 13, 2013 3:30-4:30

MEETING LOCATION: Renne Library ITC Conference Room

ATTENDEES: Bill Walker
Scott Bechtle
Adam Edelman

Purpose of Meeting

The purpose of the meeting was to determine the current space needs for the ITC department including Renne Library location, AJM Johnson location and Montana Hall Location. Anne Milkovich was unable to attend and Adam and Anne still needed to get together to develop an organizational chart. Although we did not have the organizational chart we still met with Adam to get his perspective on the project and department since he was not available at the September 5 meeting.

Space Needs

Adam and Anne have been working on an organizational chart to help define their needs. Information to be included with the organizational chart will include needs for:

- hard office, open office, or shared office
- Work Group Designation
- Preference of location in Renne Library (core) or remote location (Montana Hall or AJM Johnson)

Bill Walker handed out a staff directory for the ITC department to help start the space needs discussion. Adam marked each name that needed a closed office but was tentative in saying that he an Anne needed to spend more time before this could be finalized. There were 70 names listed on the directory and 16 were marked as needing closed or shared offices.

Adam discussed some of the groups that would need to stay together.

- The Wiring Group in room 71 will need to stay together. They have 3 full time and 4-10 part time students.
- Desktop Repair needs to stay together.
- Additional requirements will come with their organizational chart.

Additional spaces needed:

- Added space for interns, students, and contract labor. This can be a flex space to 10 stations.
- A conference room for 20
- Break Room

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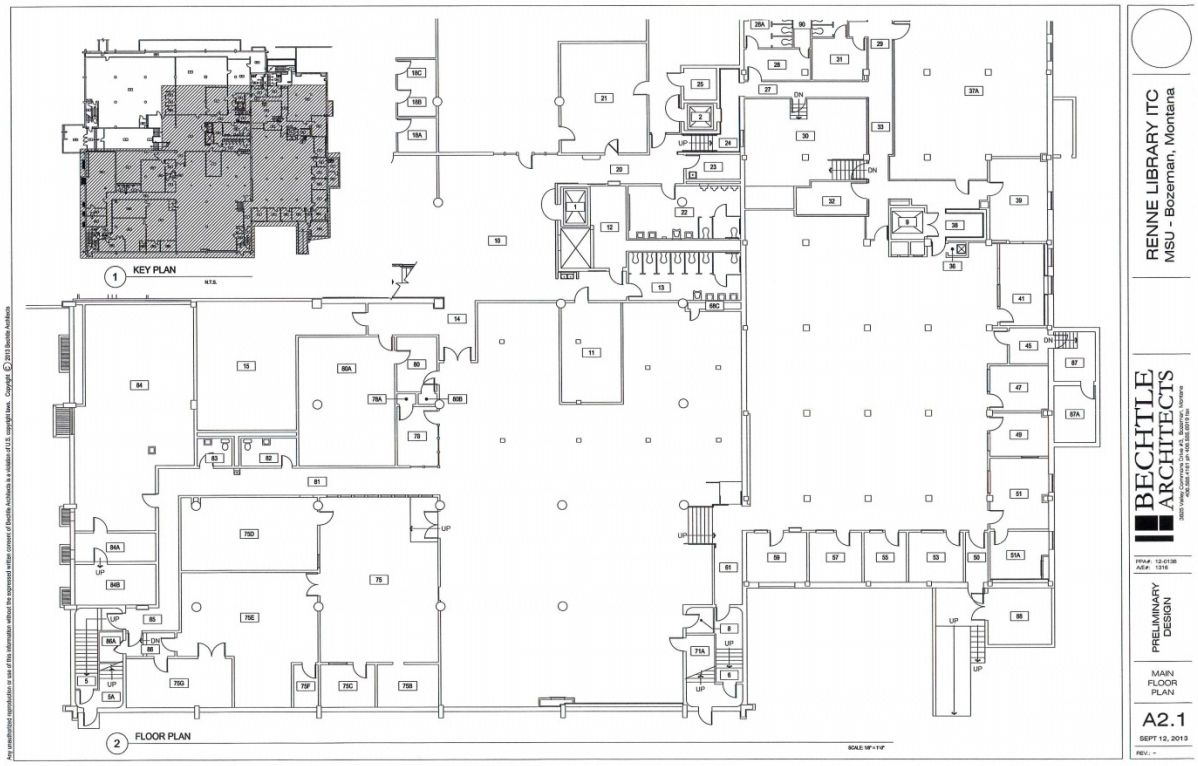
- A separate receiving area from the public entrance. Maybe this could be located near hallway room 61?

Concept Layout

Bechtle Architects developed a open plan layout concept for discussion during the meeting to help with the programming and space needs effort. This concept did not consider existing mechanical or electrical and did not verify that all rooms could be eliminated and still allow the building to function. The purpose was to show the possibility of opening the basement of Renne Library and the maximum possible office spaces that could be available if the entire floor was remodeled in an open office plan.

Some discussion points for the plan included:

- Room 39 conference room although not indicated on MSU Facilities markup as a ITC room is part of the ITC suite so it can remain accessed by the ITC space rather than requiring an additional hallway access as shown on the concept.
- How can we get an entrance to the space and separate the service and public entry?
- Adam was surprised at how many work spaces were possible and was encouraged that a remodel may sovle some of their needs.



Existing plan with walls removed, allowing for an open office plan concept.

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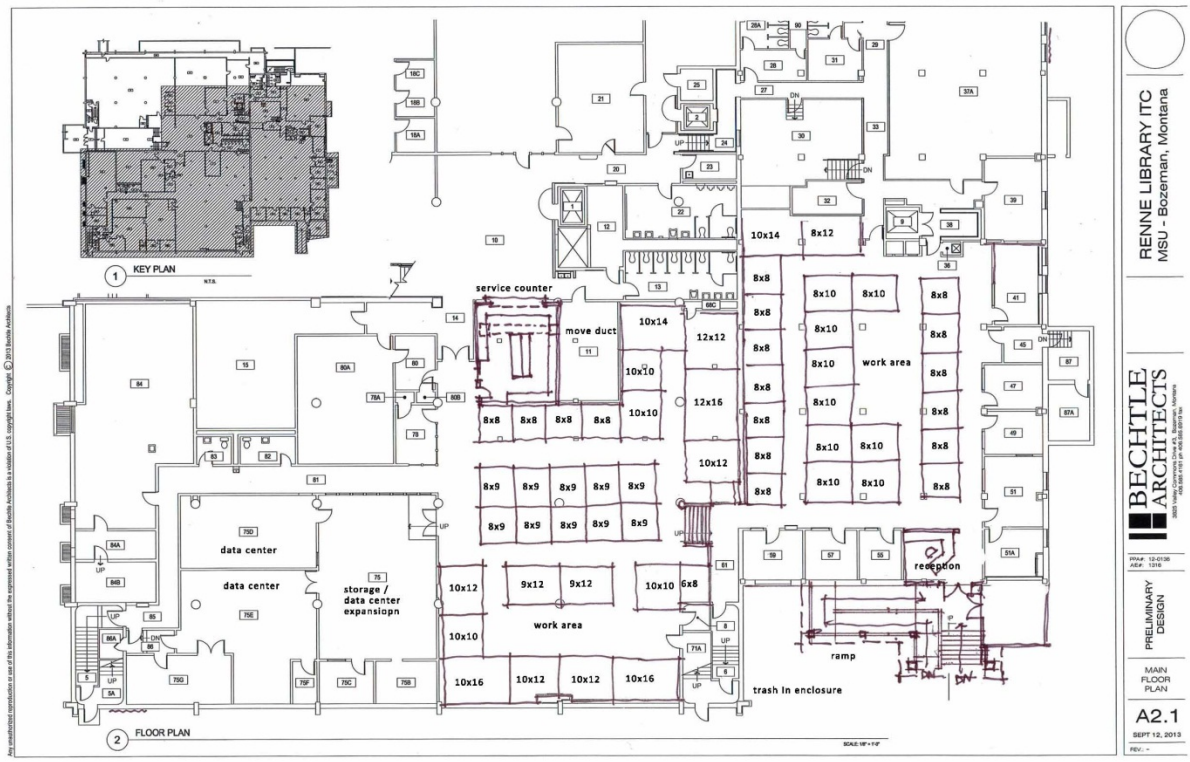

Concept floor plan

Features:

- Service counter connection to the Library. This would require the relocation of a duct in the room. Bill will check with MSU Facilities for verification if this is possible.
- Data Center stays in current location (rooms 75 E and 75 D).
- The room outside of the Data Center will be retained for future Data Center growth and used for storage or other ITC space need. Room 75 is too noisy to hear phone conversations due to the mechanical room noise in room 75 B.
- A lift is included adjacent to the stair close to hallway room 61 to provide accessibility between the two floor levels.
- A reception area is added at the current ITC Department exterior entrance.
- A covered stair and ramp are included at the current ITC Department exterior entrance.
- The trash enclosure is proposed to be moved to exterior east side of stair006. (North is up on plans).

Schedule

- Adam thought there was no rush from the ITC department perspective. If we have a few options by the end of the year this will work. Booth he and Anne need some time to pull together their thoughts and department needs before it will be productive for us to move ahead.

Next Meeting

- To be determined

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- ITC to develop an organizational chart with office and adjacency requirements. Bill Walker will facilitate this with a follow-up meeting then contact Bechtle Architects with results.
- Bechtle Architects to develop a proposed work plan, schedule, and hourly estimated proposal.

END OF MEETING MINUTES

The foregoing is the author's understanding of the content of this meeting. If the attendee's understanding differs from the above, please respond to the author within ten working days.

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BECHTLE ARCHITECTS

MEETING NOTES

PROJECT: Renne ITC Space Modifications

MEETING PURPOSE: Project Walk Through and Scoping Meeting

MEETING DATE/TIME: September 23, 2013 3:30-4:30

MEETING LOCATION: Phone Call

ATTENDEES: Bill Walker
Scott Bechtle

Purpose of the Meeting

The purpose of the meeting was to review the ITC Space requirements spread sheet that Bill reviewed with Anne and Adam to answer any questions. See attached emails for additional information.

Space Requirements 20130923.xls

Last	First	Function	Org Location	Renne	Montana	AUM	Offsite Possible	Space Req	Adjacencies	Special Needs	Notes
Edelman	Adam	Executive	User Tier 1	1	2	x	No	Private Off			
Milkovich	Anne	Executive	User Tier 1	1	2	x	No	Private Off			1=First choice here with options
Shattuck	Rich	Security	Infrastructure	1	2	x	Yes	Private Off			2=Second choice here if necessary
VanAlmelo	Justin	Security	Infrastructure	1	2	x	Yes	Shared Off		Together	3=could be located here
Hardin	Brandon	Security	Infrastructure	1	2	x	Yes	Shared Off		Together	x=not optimal
Parker	Gary	Service Desk	User Tier 1	1	x	x	No	Private Off			
Spannering	Jestin	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Back Office= Behind the front line, not infrastructure
Moberg	Cathy	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		User Tier 1 & 2 = hands on / user facing
Kelliher	Kathy	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Physical Dependent = must touch physical infrastructure to work
Williams	Lyle	Service Desk/Store	User Tier 1	1	x	x	No	Desk	Customers		Infrastructure= Behind front line, not back office
Landa	Vida	Service Desk/Store	User Tier 1	1	x	x	No	Desk	Customers		PMO= in the PMO, not frontline, not infrastructure, not back office
Student		Service Desk	User Tier 1	1	x	x	No	Desk	Customers		
Student		Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Storage = Proximal to storage
Packwood	Brendon	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Workbench = can be shared, needs hardware workspace
Drake	Adam	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Equipment = special (noisy) equipment on desk
Dove	Jonathan	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Customers = walk-up traffic, customer interaction
Student	Student	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Telephone = answers University telephone
Madsen	Kyle	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Widhalm	Pat	Service Engineering	User Tier 1	1	x	x	No	Private Off			
Haderlie	Brad	Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Petroff	Reeves	Service Engineering	User Tier 2	1	x	x	Maybe	Private Off		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Sparkman	Sylvia	Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk	Storage	Equipment	
Harrington	Sylvia	Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk	Storage	Equipment	
Student		Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk		Telephone	
Student		Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk		Telephone	
Griner	Heather	BIO / PMO	PMO	1	2	x	Maybe	Private Off			
Christensen	JoAnn	BIO	Back Office	1	2	x	Yes	Private Off			
Dalton	Joe	BIO	Back Office	1	2	x	Yes	Desk			
Vacant		BIO	Back Office	1	2	x	Yes	Desk			
Student		BIO	Back Office	1	2	x	Yes	Desk			
Student		BIO	Back Office	1	2	x	Yes	Desk			
Larsen	Michelle	BIO	Back Office	1	2	x	Yes	Private Off			
Seymour	Dorie	BIO	Back Office	1	2	x	No	Desk			
Lahren	Signe	PMO	PMO	2	1	x	Maybe	Private Off			
Hall	Ellen	PMO	PMO	2	1	x	Maybe	Private Off			
Clay	Julie	PMO	PMO	2	1	x	Maybe	Desk			

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Last	First	Function	Org Location	Renne	Montana	AJM	Offsite Possible	Space Req	Adjacencies	Special Needs	Notes
Felkey	Deb	PMO	PMO	2	1	x	Maybe	Desk			
Vacant		PMO	PMO	2	1	x	Maybe	Desk			
Student		PMO	PMO	2	1	x	Maybe	Desk			
VanAndel	Roger	ASG	Infrastructure	2	1	x	Yes	Desk			
Lambeth	Paul	ASG	Infrastructure	2	1	x	Yes	Desk			
Dysart	Steve	ASG	Infrastructure	2	1	x	Yes	Desk			
Hoffman	Tom	ASG	Infrastructure	2	1	x	Yes	Desk			
Hoffman	Angela	ASG	Infrastructure	2	1	x	Yes	Desk			
Pederson	Dave	ASG	Infrastructure	2	1	x	Yes	Desk			
Scarff	Steve	ASG	Infrastructure	2	1	x	Yes	Desk			
Oswald	Don	ASG	Infrastructure	2	1	x	Yes	Desk			
Marchwick	Tom	ASG	Infrastructure	2	1	x	Yes	Desk			
Rosen	Jason	ASG	Infrastructure	2	1	x	Yes	Desk			
Martin	Bill	ASG	Infrastructure	2	1	x	Yes	Desk			
Heer	Liza	ASG	Infrastructure	2	1	x	Yes	Desk			
Spicher	Jerry	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Brewer	Kathy	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Sorensen	Clint	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Llovet	Pol	RCG	Infrastructure	1	2	x	Yes	Desk			
Cleveland	Sean	RCG	Infrastructure	1	2	x	Yes	Desk			
Heetderks	Tom	RCG	Infrastructure	1	2	x	Yes	Desk			
Student		RCG	Infrastructure	1	2	x	Yes	Desk			
Student		RCG	Infrastructure	1	2	x	Yes	Desk			
Eck	Cherie	Sys Admin	Infrastructure	1	2	x	Yes	Private Off			
Bourque	Martin	Sys Admin	Infrastructure	1	2	x	Yes	Private Off			
Hatfield	Chuck	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hall	Mike	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hitch	Mike	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hahn	Jacob	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Bogar	Lisa	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Baciu	Patrick	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Daniel	Colin	Net Admin	Infrastructure	1	2	x	Maybe	Private Off			
Schoenrock	Brian	Net Admin	Infrastructure	1	2	x	Maybe	Shared Off			
Kimm	Jeff	Net Admin	Infrastructure	1	2	x	Maybe	Shared Off			
Taylor	Sam	Ops Mgmt	Infrastructure	1	2	x	Maybe	Desk			
Vacant		Ops Mgmt	Infrastructure	1	2	x	Maybe	Desk			
Zeter	David	Comm Wiring	Infrastructure	1	2	x	Yes	Private Off			
Lund	Vicky	Comm Wiring	Physical Dependent	1	2	x	No	Desk	Switch Rm		
Tirrell	Cindy	Comm Wiring	Infrastructure	1	2	x	Yes	Desk			
Harding	Dale	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Daniels	Robb	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Stipp	James	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Vacant		Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Students		Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			

Program Summary:

- 87 positions are listed on the spreadsheet for the entire department. This represents positions to be filled in the next few months. This does not represent 5-10 year growth requirements.
- There are 6 vacant position listings to be filled possibly by independent consultants.
  - IBO 1
  - Ops Management 1
  - PMO 1
  - User Tier 2 3
- 14 of the positions are part time student positions so figure 7 stations for the 14 student positions. This reduces the total space requiring positions to 80.
- Position Locations:
  - Renne Library Preference 62
  - Montana Hall Preference 21 (Could go to Renne if room is available)
  - AJM Johnson Preference 4 (Prefer to go to Renne if room is available)
  - OK Off Site 48 (6 private offices and 8 shared offices)
  - Maybe Off Site 22 (5 private offices and 2 shared offices)
- Office Needs:
  - Renne
    - Private 13
    - Shared 10
    - Open 39
  - Montana Hall

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        - Private 2
        - Shared 0
        - Open 19
    - AJM Johnson
        - Open 4
    - Shared Office means 2-3 positions in one room with a door.
- Summary by Work Group:
    - Back Office:
        - Positions 11
        - Private Offices 2
        - Ok Off Site 10
        - Renne Location Preference 11
        - 2 positions have noisy equipment needs.
        - 2 positions answer university phones so needs limited or no background noise.
        - 2 have storage proximity needs.
    - Infrastructure:
        - Positions 38
        - Private Offices 5
        - Shared Offices 10
        - Ok Off Site 32
        - Renne Location Preference 23
        - Montana Hall Preference 15
    - Physical Dependent:
        - Positions 10
        - Private Offices 0
        - Ok Off Site 5
        - Renne Location Preference 6
        - AJM Johnson Preference 4
        - 4 have storage proximity needs.
        - Represents a roving position that works frequently on site. Requires physical access to place-bound equipment.
    - PMO
        - Positions 7
        - Private Offices 3
        - Maybe Off Site 7
        - Renne Location Preference 1
        - Montana Hall Preference 6
    - User Tier 1:
        - Positions 16
        - Private Offices 4
        - Ok Off Site 0
        - Maybe Off Site 5
        - Renne Location Preference 16
        - 5 have workbench needs to assemble or work on hardware. May be a shared bench location.
        - 7 have walk-up customer contact and requires accessibility to customers.
        - Represents an administrative position with frequent out-of-center contact.

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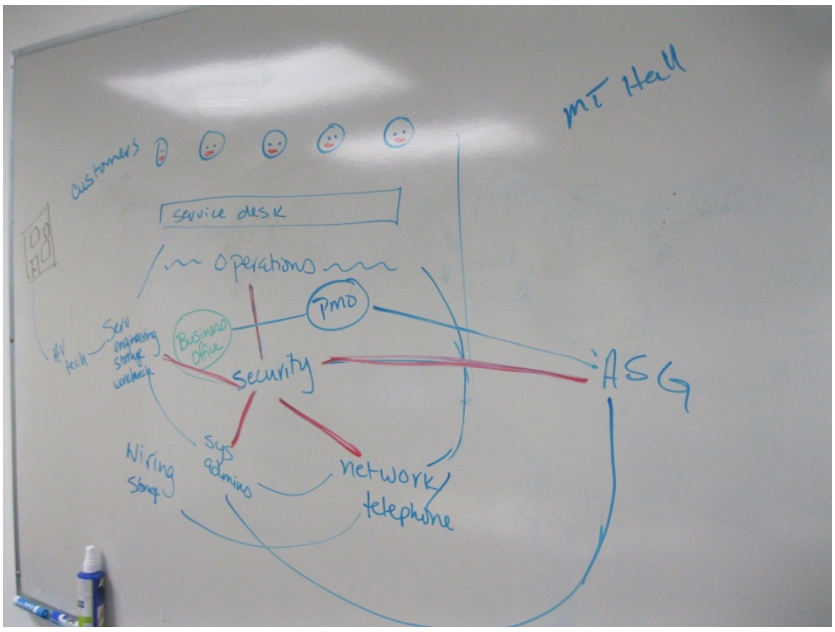
- User Tier 2:
  - Positions 5
  - Private Offices 1
  - Maybe Off Site 5
  - Renne Location Preference 5
  - 5 have workbench needs
  - Represents administrative position with less out-of-center contact.
- Conference Rooms
  - They want larger rooms than they have now.
  - They would like to have 2-3 conference rooms.
  - No need for plumbing.
  - Consider using half of the storage/data room for conference?
    - We would need to find an alternate way to get into the Data Center and adjacent storage.
    - We would need acoustic separation addressed for conference room function but may be ok to have storage between mechanical and conference room?
- Entrance
  - Prefer adjacent to room 51.
  - Separate delivery receiving area from reception.
- Service Counter
  - This is the ITC public face other than the Help Center located in the library on the upper level.
  - Only open a few hours a day except at the beginning of the school year.
  - Room can be smaller than we have shown.
- Break Room
  - Does not need plumbing.
- Storage
  - Does not need to be spread out and can be in one location.



Whiteboard Workgroup Adjacencies

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White Board Adjacencies Chart:

- Service Desk
  - Primary face to face customer contact. This is the intermediate between ITC operations and the customer.
- AV Tech
  - Needs to be close to storage and be central to campus (10 minute response time).
- Service Engineers
  - Work behind the service counter on the computers.
- Security
  - There are no camera needs just privacy needs for protection of passwords etc.
- PMO
  - This represents the Program Management Office and is primarily located in Montana Hall.
- ASG
  - This represents Administrative Support Group and is primarily located in Montana Hall.
- RCG
  - This represents the Research Computing Group primarily located in Renne Library.
- IBO
  - This represents the Information Business Office primarily located in Renne Library.
- Business Office
  - Represents Administrative management, Human Resources, and Accounting functions.

Next Meeting

- Bill is having Allie look into times the week of Sept 30th.

END OF MEETING MINUTES

The foregoing is the author's understanding of the content of this meeting. If the attendee's understanding differs from the above, please respond to the author within ten working days.

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Scott Bechtle

From: Walker, William <william.walker@montana.edu>
Sent: Thursday, September 19, 2013 9:41 AM
To: Scott Bechtle
Subject: FW: ITC Space Study
Attachments: WWAMI Reception Area 3D-2 - 8-14-13.pdf

From: Walker, William
Sent: Monday, September 16, 2013 4:32 PM
To: Milkovich, Anne; Edelman, Adam
Subject: ITC Space Study

Anne and Adam

I'm eager for our next meeting to discuss the needs of individual staff and departments so that we can provide Scott with a program. The first hurdle is to identify the staff members (that Adam did preliminarily on the printout of the directory) who should have an enclosed office. For the remainder of the staff I'll suggest that we consider a typical work station of about seven feet by seven feet, similar to that shown on the attached 3D drawing for another project; this may be too small and we can certainly modify that. If we set a base point it would be helpful to know which staff members need space or more accommodations. For example, who will need which of the following:

- Conference arm (for up to two additional people), for public interface
- Additional counter space for working on computers or other equipment (if staff person needs to keep more than one computer at his/her desk)
- Additional storage or any lockable cabinet storage
- Any special equipment—personal printer, fax, any repair items
- Cart for moving computers between areas
- Other specialized items—stock of accessories for example

What common areas do we need to accommodate? The first few have already been identified.

- Full department conference area/room, say 30 people
- Smaller conference area/room, say 12 people
- Staff lunchroom
- Copier/fax room with supplies storage
- Common workroom for computer assembly/software installation
- Storage for computer arrivals
- Staging area for computer arrivals/shipment
- Unenclosed discussion tables scattered throughout the space for information interaction
- Is there any common filing required

Are there particular divisions that need to be kept together for collaboration, and do they need to be adjacent to other divisions? Are there divisions that might be noisy and should be kept away from others? Can you think about a general work flow process that would allow us to arrange the staff so that work proceeds in a logical progression?

I'll develop some sort of chart/table that will allow us to quickly go through these issues along with any you might think of for our meeting.

Bill

William Walker
Project Architect, Facilities Planning, Design & Construction (*FPDC*)
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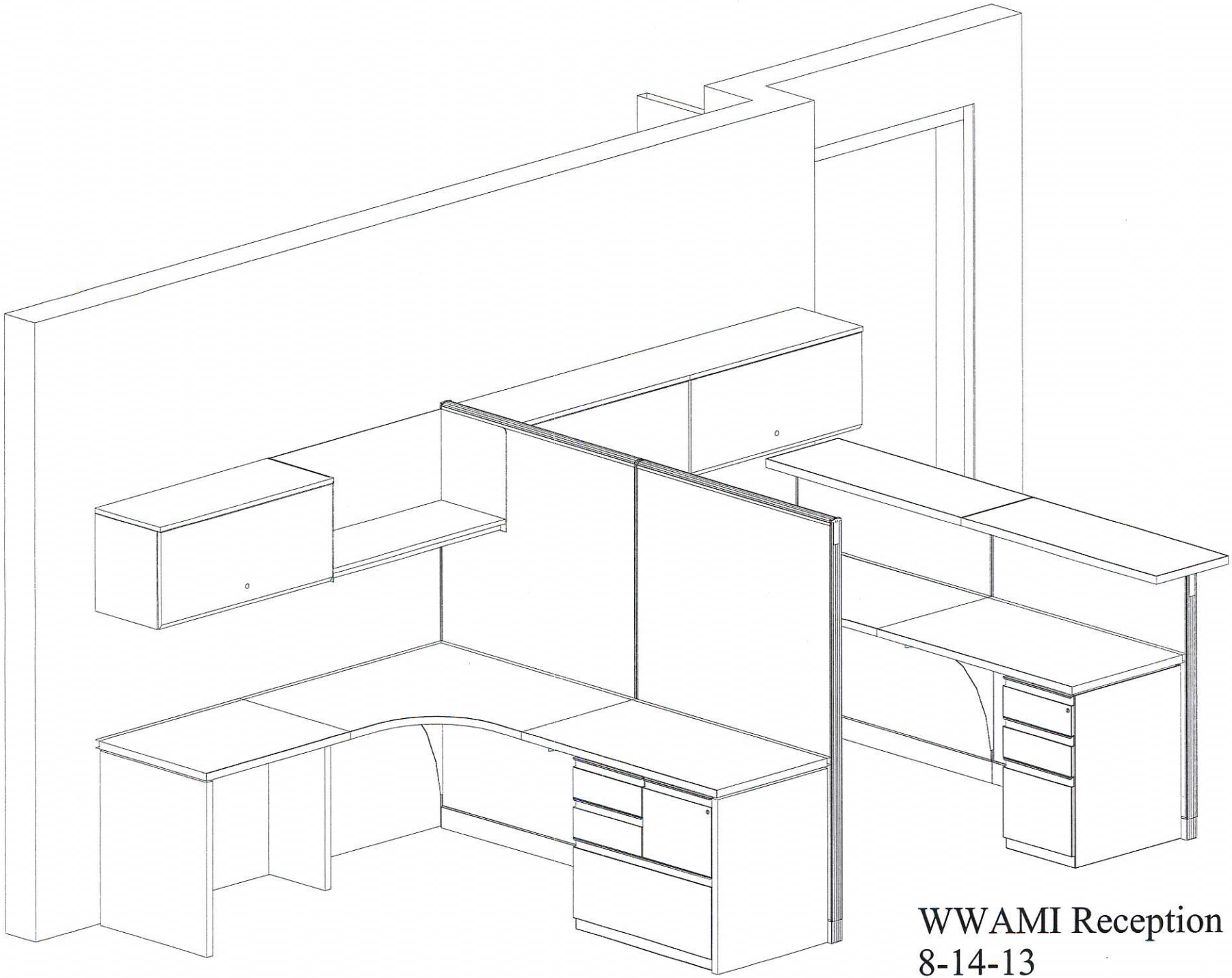

WWAMI Reception Area
8-14-13
KR Office Interiors

Scott Bechtle

From: Walker, William <william.walker@montana.edu>
Sent: Monday, September 23, 2013 10:27 AM
To: Scott Bechtle
Subject: FW: IT Center space sheet PPA 13-0136
Attachments: SpaceList_20130923.xlsx

Scott

Anne and Adam prepared this spreadsheet of needs which we can discuss at your convenience.

Bill

From: Milkovich, Anne
Sent: Monday, September 23, 2013 9:59 AM
To: Walker, William
Subject: IT Center space sheet

--Anne

Anne Milkovich, MBA PMP SPHR
Associate CIO of Enterprise IT Governance
MSU IT Center, Planning and Program Management Office
51a Renne Library, Montana State University
P.O. Box 173240 Bozeman MT 59717-3240
406.994.5715 anne.milkovich@montana.edu

IT Center
Space Requirements

Last	First	Function	Org Location	Renne	Montana	AJM	Offsite Possible	Space Req	Adjacencies	Special Needs	Notes
Edelman	Adam	Executive	User Tier 1	1	2	x	No	Private Off			
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Spannering	Jestin	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Back Office= Behind the front line, not infrastructure
Moberg	Cathy	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		User Tier 1 & 2 = hands on / user facing
Kelliher	Kathy	Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Physical Dependent = must touch physical infrastructure to work
Williams	Lyle	Service Desk/Store	User Tier 1	1	x	x	No	Desk	Customers		Infrastructure= Behind front line, not back office
Landa	Vida	Service Desk/Store	User Tier 1	1	x	x	No	Desk	Customers		PMO= in the PMO, not frontline, not infrastructure, not back office
Student		Service Desk	User Tier 1	1	x	x	No	Desk	Customers		
Student		Service Desk	User Tier 1	1	x	x	No	Desk	Customers		Storage = Proximal to storage
Packwood	Brendon	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Workbench = can be shared, needs hardware workspace
Drake	Adam	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Equipment = special (noisy) equipment on desk
Dove	Jonathan	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Customers = walk-up traffic, customer interaction
Student	Student	Service Eng/AV	Physical Dependent	2	x	1	No	Desk	Storage		Telephone = answers University telephone
Madsen	Kyle	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Student	Student	Student Labs	User Tier 1	1	2	x	Maybe	Desk		Workbench	
Widhalm	Pat	Service Engineering	User Tier 1	1	x	x	No	Private Off			
Haderlie	Brad	Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Petroff	Reeves	Service Engineering	User Tier 2	1	x	x	Maybe	Private Off		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Vacant		Service Engineering	User Tier 2	1	x	x	Maybe	Desk		Workbench	
Sparkman	Sylvia	Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk	Storage	Equipment	
Harrington	Sylvia	Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk	Storage	Equipment	
Student		Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk		Telephone	
Student		Tele/Faculty Svcs	Back Office	1	2	3	Yes	Desk		Telephone	
Griner	Heather	IBO / PMO	PMO	1	2	x	Maybe	Private Off			
Christensen	JoAnn	IBO	Back Office	1	2	x	Yes	Private Off			
Dalton	Joe	IBO	Back Office	1	2	x	Yes	Desk			
Vacant		IBO	Back Office	1	2	x	Yes	Desk			
Student		IBO	Back Office	1	2	x	Yes	Desk			
Student		IBO	Back Office	1	2	x	Yes	Desk			
Larsen	Michelle	IBO	Back Office	1	2	x	Yes	Private Off			
Seymour	Dorie	IBO	Back Office	1	2	x	No	Desk			
Lahren	Signe	PMO	PMO	2	1	x	Maybe	Private Off			
Hall	Ellen	PMO	PMO	2	1	x	Maybe	Private Off			
Clay	Julie	PMO	PMO	2	1	x	Maybe	Desk			

IT Center
Space Requirements

Last	First	Function	Org Location	Renne	Montana	AJM	Offsite Possible	Space Req	Adjacencies	Special Needs	Notes
Felkey	Deb	PMO	PMO	2	1	x	Maybe	Desk			
Vacant		PMO	PMO	2	1	x	Maybe	Desk			
Student		PMO	PMO	2	1	x	Maybe	Desk			
VanAndel	Roger	ASG	Infrastructure	2	1	x	Yes	Desk			
Lambeth	Paul	ASG	Infrastructure	2	1	x	Yes	Desk			
Dysart	Steve	ASG	Infrastructure	2	1	x	Yes	Desk			
Hoffman	Tom	ASG	Infrastructure	2	1	x	Yes	Desk			
Hoffman	Angela	ASG	Infrastructure	2	1	x	Yes	Desk			
Pederson	Dave	ASG	Infrastructure	2	1	x	Yes	Desk			
Scarff	Steve	ASG	Infrastructure	2	1	x	Yes	Desk			
Oswald	Don	ASG	Infrastructure	2	1	x	Yes	Desk			
Marchwick	Tom	ASG	Infrastructure	2	1	x	Yes	Desk			
Rosen	Jason	ASG	Infrastructure	2	1	x	Yes	Desk			
Martin	Bill	ASG	Infrastructure	2	1	x	Yes	Desk			
Heer	Liza	ASG	Infrastructure	2	1	x	Yes	Desk			
Spicher	Jerry	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Brewer	Kathy	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Sorensen	Clint	ASG / DBA	Infrastructure	2	1	x	Yes	Desk			
Llovet	Pol	RCG	Infrastructure	1	2	x	Yes	Desk			
Cleveland	Sean	RCG	Infrastructure	1	2	x	Yes	Desk			
Heetderks	Tom	RCG	Infrastructure	1	2	x	Yes	Desk			
Student		RCG	Infrastructure	1	2	x	Yes	Desk			
Student		RCG	Infrastructure	1	2	x	Yes	Desk			
Eck	Cherie	Sys Admin	Infrastructure	1	2	x	Yes	Private Off			
Bourque	Martin	Sys Admin	Infrastructure	1	2	x	Yes	Private Off			
Hatfield	Chuck	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hall	Mike	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hitch	Mike	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Hahn	Jacob	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Bogar	Lisa	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Baciu	Patrick	Sys Admin	Infrastructure	1	2	x	Yes	Shared Off			
Daniel	Colin	Net Admin	Infrastructure	1	2	x	Maybe	Private Off			
Schoenrock	Brian	Net Admin	Infrastructure	1	2	x	Maybe	Shared Off			
Kimm	Jeff	Net Admin	Infrastructure	1	2	x	Maybe	Shared Off			
Taylor	Sam	Ops Mgmt	Infrastructure	1	2	x	Maybe	Desk			
Vacant		Ops Mgmt	Infrastructure	1	2	x	Maybe	Desk			
Zeter	David	Comm Wiring	Infrastructure	1	2	x	Yes	Private Off			
Lund	Vicky	Comm Wiring	Physical Dependent	1	2	x	No	Desk	Switch Rm		
Tirrell	Cindy	Comm Wiring	Infrastructure	1	2	x	Yes	Desk			
Harding	Dale	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Daniels	Robb	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Stipp	James	Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Vacant		Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			
Students		Comm Wiring	Physical Dependent	1	2	x	Yes	Desk			

Scott Bechtle

From: Walker, William <william.walker@montana.edu>
Sent: Monday, September 23, 2013 11:25 AM
To: Scott Bechtle
Subject: RE: IT Center space sheet PPA 13-0136
Attachments: IMG_0396.JPG

Your choice; I may attend a meeting from 2-3, so it might be a little after 3 that I can talk. We can also start looking into a time to meet again with Anne and Adam at that time. I'm guessing sometime late next week or early the following, and I'll have Allie look into their schedules.

The attached photo is of a whiteboard organizational effort Anne and Adam prepared while we met. I'll try to explain it.

BW

From: Scott Bechtle [mailto:scottb@bechtlearchitects.com]
Sent: Monday, September 23, 2013 11:16 AM
To: Walker, William
Subject: RE: IT Center space sheet PPA 13-0136

Would 3:00 today work to go over the spreadsheet? Do you want to go over in person or over the phone?

BECHTLE ARCHITECTS

Scott Bechtle, LEED AP
3825 Valley Commons Drive #3
Bozeman, Montana 59718
www.bechtle-architects.com
406.585.4161 O
406.599.1742 M

From: Walker, William [mailto:william.walker@montana.edu]
Sent: Monday, September 23, 2013 10:27 AM
To: Scott Bechtle
Subject: FW: IT Center space sheet PPA 13-0136

Scott

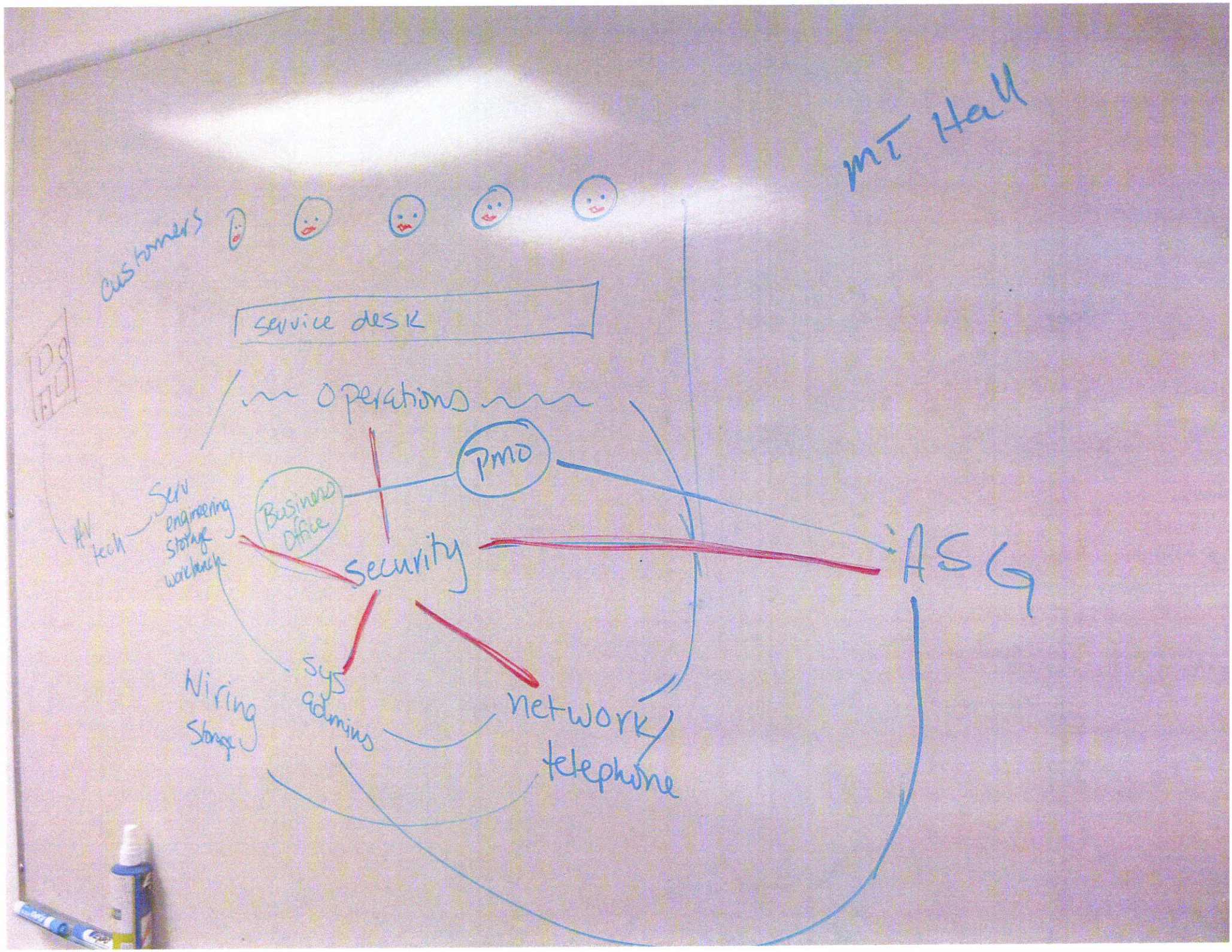
Anne and Adam prepared this spreadsheet of needs which we can discuss at your convenience.

Bill

From: Milkovich, Anne
Sent: Monday, September 23, 2013 9:59 AM
To: Walker, William
Subject: IT Center space sheet

--Anne

Anne Milkovich, MBA PMP SPHR
Associate CIO of Enterprise IT Governance
MSU IT Center, Planning and Program Management Office
51a Renne Library, Montana State University
P.O. Box 173240 Bozeman MT 59717-3240
406.994.5715 anne.milkovich@montana.edu


MT Hall
customers
service desk
Operations
PMO
Business Office
Serv engineering storage workbench
AV tech
security
ASG
Wiring Storage
sys admins
network
telephone

Scott Bechtle

From: Walker, William <william.walker@montana.edu>
Sent: Monday, September 23, 2013 4:54 PM
To: Milkovich, Anne; Edelman, Adam
Cc: Scott Bechtle
Subject: RE: IT Center space sheet

Anne and Adam

Scott and I went over the spreadsheet this afternoon and I think we have a pretty good understanding of what you've laid out. Scott did ask, however, if the staffing level shown was your current level *or* your current level with some growth *or* a level for some time in the future (5 years-10 years?). He also asked if we should consider the vacant spots as representing outside consultants or if we need to make any further provisions for the consultants you have now.

I realize that we didn't discuss the "legend" of spaces exhaustively and I wanted to share my understanding in case you want to correct any misunderstanding I may have.

- 1st tier — administrative position with frequent out-of-center contact
- 2nd tier — administrative position with less frequent outside contact
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- Customers — frequent contact with users, either for repair or installation for example
- Telephone — constant contact with users via the phone

Bill

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To: Walker, William
Subject: IT Center space sheet

--Anne

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Associate CIO of Enterprise IT Governance
MSU IT Center, Planning and Program Management Office
51a Renne Library, Montana State University
P.O. Box 173240 Bozeman MT 59717-3240
406.994.5715 anne.milkovich@montana.edu

Scott Bechtle

From: Walker, William <william.walker@montana.edu>
Sent: Monday, September 23, 2013 5:25 PM
To: Scott Bechtle
Subject: ITC Space Study PPA 13-0136

Scott

IBO	Information Business Office
ASG	Administration Support Group
RCG	Research Computing Group
PMO	Programming Management Office

William Walker
Project Architect, Facilities Planning, Design & Construction (*FPDC*)
Montana State University
406.994.7484
406.548.7676 cell
william.walker@montana.edu

Scott Bechtle

From: Milkovich, Anne <anne.milkovich@montana.edu>
Sent: Tuesday, September 24, 2013 8:18 AM
To: Walker, William; Edelman, Adam; Griner, Heather
Cc: Scott Bechtle
Subject: RE: IT Center space sheet
Attachments: SpaceList_20130923.xlsx

Hi Bill, looping Heather Griner in on this thread as she put most of the spreadsheet together. Now that we're getting past concept stage going forward please keep Heather in the loop, she is our Business Director and doing much of the heavy lifting on space issues.

Heather, can you answer the question about the vacant slots on the space spreadsheet, do those stand in for vacant positions or wishful thinking? Also, see attached updated spreadsheet, we added some information yesterday.

Clarifications on legend:

- 1st tier — Technical or administrative position with frequent out-of-center contact
- 2nd tier — Technical position for advanced issues, less customer contact but does include field calls
- Physical dependent — Work requires physical access to place-bound equipment, e.g. switch room, classrooms
- Customers — Supports walk-up traffic from customers, must be physically customer-accessible
- Telephone — Answers University telephone, noisy background not ideal
- Equipment — Has special equipment needs at desk
- Storage — Needs proximity to equipment storage
- Workbench — Needs proximity to workbench to assemble or work on hardware

Anne

Anne Milkovich, MBA, CGEIT, PMP, SPHR
Associate CIO for Enterprise IT Governance
MSU IT Center, Program Management Office
51a Renne Library Montana State University
P.O. Box 173240 Bozeman, MT 59717
406.994.5715 ofc 406.994.4600 fax

From: Walker, William
Sent: Monday, September 23, 2013 4:54 PM
To: Milkovich, Anne; Edelman, Adam
Cc: Scott Bechtle
Subject: RE: IT Center space sheet

Anne and Adam

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Bill

From: Milkovich, Anne
Sent: Monday, September 23, 2013 9:59 AM
To: Walker, William
Subject: IT Center space sheet

--Anne

Anne Milkovich, MBA PMP SPHR
Associate CIO of Enterprise IT Governance
MSU IT Center, Planning and Program Management Office
51a Renne Library, Montana State University
P.O. Box 173240 Bozeman MT 59717-3240
406.994.5715 anne.milkovich@montana.edu

Scott Bechtle

From: Griner, Heather <heather.griner@montana.edu>
Sent: Tuesday, September 24, 2013 4:56 PM
To: Milkovich, Anne; Walker, William; Edelman, Adam
Cc: Scott Bechtle
Subject: RE: IT Center space sheet

Hey Bill –
Sorry for the delay in responding today – this email got lost in my inbox!

To answer Anne's question – Yes. The "vacant" spots on the list are for current/soon-to-be active recruitments. We hope to have warm bodies in these positions soon.

Please don't hesitate to let me know if I can help you with any other questions.

Heather Griner
Business Director
Information Technology Center
Montana State University
54 Renne Library
PO Box 173240
Bozeman, Montana 59717-3240
(o) 406-994-6886
(c) 404-644-2565
heather.griner@montana.edu

From: Milkovich, Anne
Sent: Tuesday, September 24, 2013 8:18 AM
To: Walker, William; Edelman, Adam; Griner, Heather
Cc: Scott Bechtle
Subject: RE: IT Center space sheet

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Anne

Anne Milkovich, MBA, CGEIT, PMP, SPHR
Associate CIO for Enterprise IT Governance
MSU IT Center, Program Management Office
51a Renne Library Montana State University
P.O. Box 173240 Bozeman, MT 59717
406.994.5715 ofc 406.994.4600 fax

From: Walker, William
Sent: Monday, September 23, 2013 4:54 PM
To: Milkovich, Anne; Edelman, Adam
Cc: Scott Bechtle
Subject: RE: IT Center space sheet

Anne and Adam

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- Telephone — constant contact with users via the phone

Bill

From: Milkovich, Anne
Sent: Monday, September 23, 2013 9:59 AM
To: Walker, William
Subject: IT Center space sheet

--Anne

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P.O. Box 173240 Bozeman MT 59717-3240
406.994.5715 anne.milkovich@montana.edu

Scott Bechtle

From: Walker, William <william.walker@montana.edu>
Sent: Friday, September 27, 2013 9:45 AM
To: Scott Bechtle
Subject: ITC Space Study PPA 13-0136
Attachments: 2013 09 27 MECH DWGS MARKUP.pdf; MECH DEMO.pdf

Scott

I had a chance to examine the 99 renovation drawings. These sheets show the route of that duct we were puzzling over in the ITC space and the location and extent of vertical ducts crossing the space along the north wall of the ITC space in the original library building.

Can you tell me how you're doing? Is there anything else I can get for you?

Bill

William Walker
Project Architect, Facilities Planning, Design & Construction (*FPDC*)
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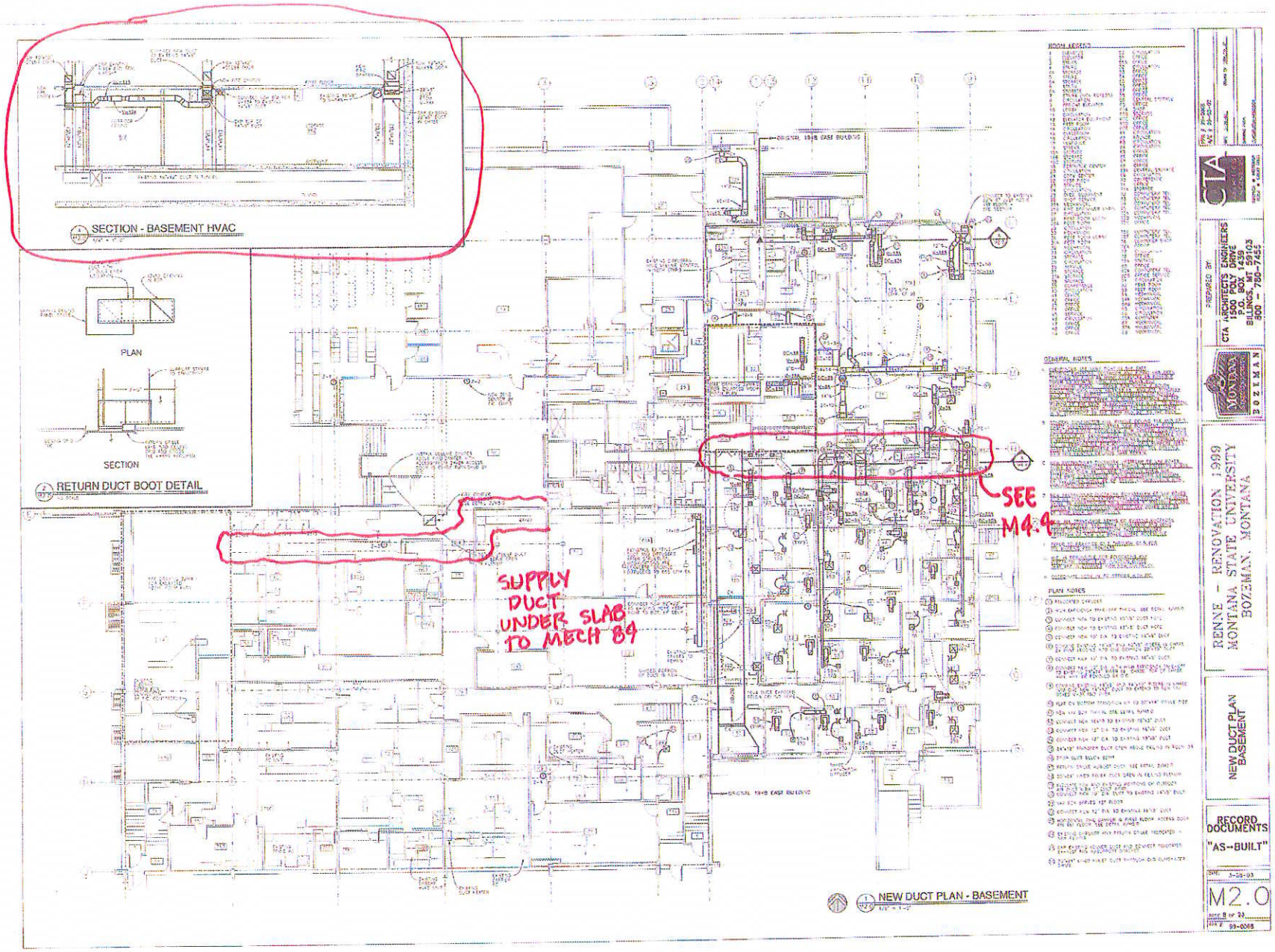
william.walker@montana.edu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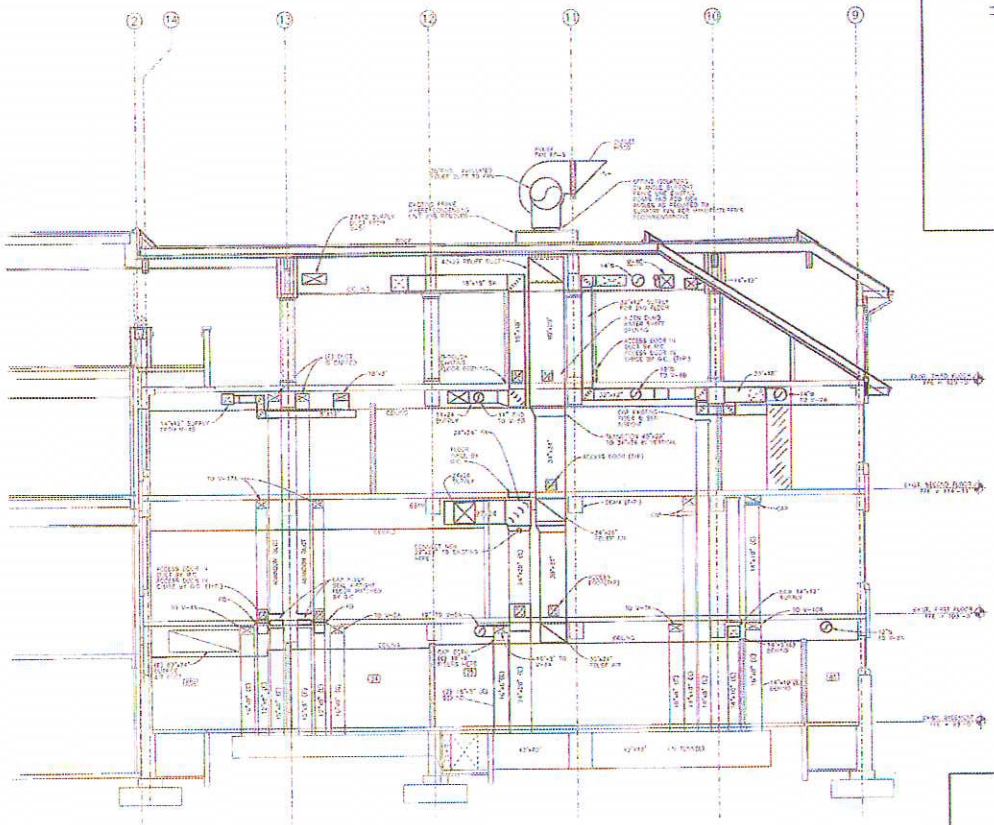
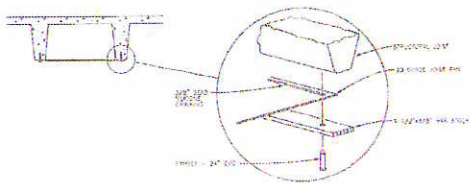
PLAN
SECTION
RETURN DUCT BOOT DETAIL
SUPPLY DUCT UNDER SLAB TO MECH 84
SEE M4.4
ORIGINAL 1948 EAST BUILDING
ROOM KEYNOTES
GENERAL NOTES
PLAN NOTES
NEW DUCT PLAN - BASEMENT
CTA ARCHITECTS ENGINEERS
1500 POLY DRIVE
BILLINGS, MT 59103
800 - 780-7455
MONTANA
BOZEMAN
RENNE - RENOVATION 1999
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
NEW DUCT PLAN
BASEMENT
RECORD DOCUMENTS
"AS-BUILT"
M2.0
99-0088

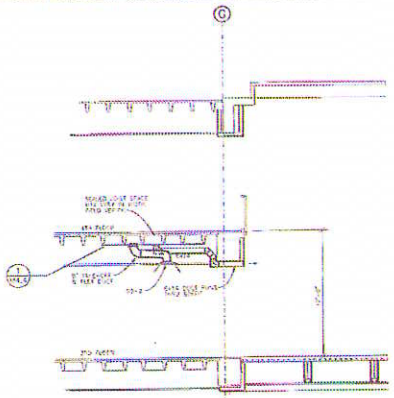


'48 BUILDING RISER SECTION

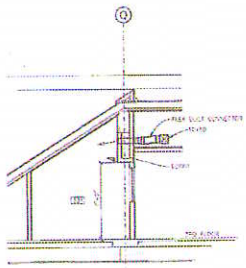
ALONG NORTH WALL OF
ITC SPACE



JOIST PANNING DETAIL



THIRD FLOOR IN-FILL AREA-'60 BLDG



THIRD FLOOR STUDY ROOM-'48 BLDG

PREPARED BY:
CTA ARCHITECTS ENGINEERS
1500 POLY DRIVE
P.O. BOX 7429
BILLINGS, MT 59103
406-252-7453

RENNE - RENOVATION 1999
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA

MECHANICAL SECTIONS

RECORD DOCUMENTS
"AS-BUILT"

M4.4

RECORD DOCUMENTS
"AS-BUILT"

M1.0

MECHANICAL
DEMOLITION PLAN
BASEMENT

MONTANA STATE UNIVERSITY
BOZEMAN

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